

SCIENTIFIC PROCEEDINGS E-BOOK

9th International
Organisation of Physical Therapy
in Mental Health Conference

www.ioptmh2022.com

ATHENS, GREECE

MAY
4-6
2022

CROWNE PLAZA
Athens Hotel,
City Center



Physiotherapy in Mental Health; what's next?



International Organization of
Physical Therapy in Mental Health



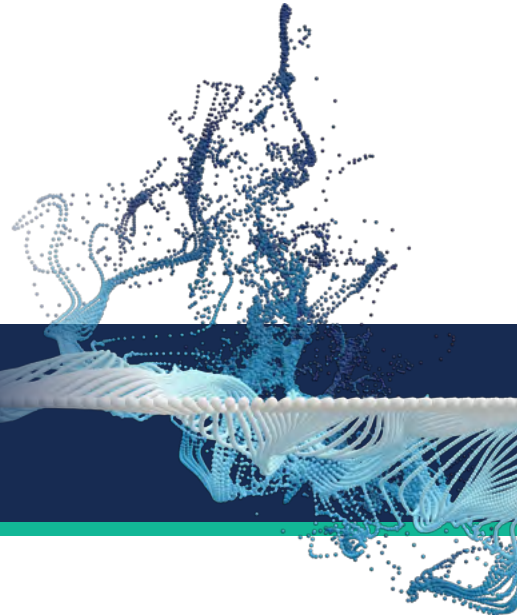
Greek scientific section
"Physiotherapy in mental health"

PanHellenic Physiotherapists'
Association



9th International Organisation of
Physical Therapy in Mental Health
Conference

ATHENS, GREECE
MAY 4-6, 2022



Physiotherapy in Mental Health; _____what's next?_

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9th International Organisation of
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MAY 4-6, 2022

Physiotherapy in Mental Health; _____what's next?_

Organisation

International Organisation of Physical Therapy in Mental Health,
Greek scientific section «Physiotherapy in Mental Health»
of PanHellenic Physiotherapists' Association



International Organization of
Physical Therapy in Mental Health



Greek scientific section
"Physiotherapy in mental health"

PanHellenic Physiotherapists'
Association

Under the auspices of

Ministry of Health



HELLENIC REPUBLIC
MINISTRY OF FOREIGN AFFAIRS
GENERAL SECRETARIAT
FOR GREEKS ABROAD AND PUBLIC DIPLOMACY

Ministry of Tourism



HELLENIC REPUBLIC
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CITY OF ATHENS



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Organizing Committee (OC)

Chair

Stathopoulos, Stavros, PT, Greece

Members

Charonitis, Epameinondas, PT, Greece

Georgakopoulos, Evangelos, PT, Greece

Mastoras, Nikolaos, PT, Greece

Mitsikaris, Georgios, PT, MSc Greece

Patsiris, Stephanos, PT, MSc, PhD candidate, Greece

Scientific Committee (SC)

Chair

Chatzidamianos, Theodoros, PT, PhD, Greece

Members

Canales, Janette Z., PT, PhD, Brazil

Catalán - Matamaros, Daniel, PT, PhD, Spain

Danielsson, Louise, PT, PhD, Sweden

Gálvez Olvera, Norma Elisa, PT, MSc, Mexico

Montoya Hurtado, Olga Lucia, PT, Msc, Colombia

Nyboe, Lene, PT, PhD, Denmark

Sfetsioris, Dimitrios, PT, PhD, Greece

Staub, Cristina, PT, PhD, Switzerland

Van Damme, Tine, PT, PhD, Belgium

Venigalla, Sumanth Kumar, PT, PhD, Singapore

Vera - Salazar, Roberto, PT, Msc, Chile

Yamamoto, Taisei, PT, PhD Japan

Zambo - Andersen, Ellen, PT, PhD, USA



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General Information

Conference Venue

Crowne Plaza Athens - City Centre Hotel

50, Michalakopoulou str. GR 11528 Athens

Phone: + 30 210 727 8000

View the [hotel](#) and the [location](#).

Dates

May 4, 5, 6, 2022

Type of event

Hybrid Conference. The hybrid format enables in-person participation (physical presence) as well as remote (online) participation.

Official language

The official language of the conference is english. No interpretation will be available.

Main Conference & Workshop Hall

Ballroom

Conference Website

<https://www.ioptmh2022.com/>

Social Media Pages



Administration - Communication - Secretariat



Alpha Public Relations & Integrated Marketing S.A

55, Pytheou Str, GR 11743 Athens

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Website: www.apr.com.gr



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Physiotherapy in Mental Health; what's next?_

Welcome Letter



Dear Colleagues,

Isocrates -not Socrates-, one of the most important orators of Classical Greece, who lived in Athens from 436 to 338 BC, stated that:

Πειρώ τω μεν σώματι είναι φιλόπονος, τη δε ψυχή φιλόσοφος.
(You should try to be diligent about the body and a philosopher about the soul).

As Chairman of the Organizing Committee of IOPTMH 2022 conference and on behalf of the **Greek scientific section “Physiotherapy in mental health” of PanHellenic Physiotherapists’ Association**, it is my great pleasure to invite you all in **Athens, Greece in May 4-6, 2022**.

It is the biannual conference of the **International Organization of Physical Therapy in Mental Health (IOPTMH)**, in which we will try to answer the question: **“Physiotherapy in mental health; What's next?”**.

Our highly qualified scientific program, the reputable presenters and the venue altogether form a powerful motivation for both physiotherapists and other mental health professionals to attend the conference.

The 9th Edition will be carried out in a hybrid manner (physical presence & on-line monitoring) in full harmonization with the Greek Ministerial Decisions and the applicable Health Protocols for holding conferences due COVID-19.

You are all warmly welcome to Athens, the place that dialectical science was developed, to share your ideas, your questions, but above all to share our state of the art knowledge of physical therapy in mental health.

Yours truly,

Stavros Stathopoulos

Chair of Organising Committee

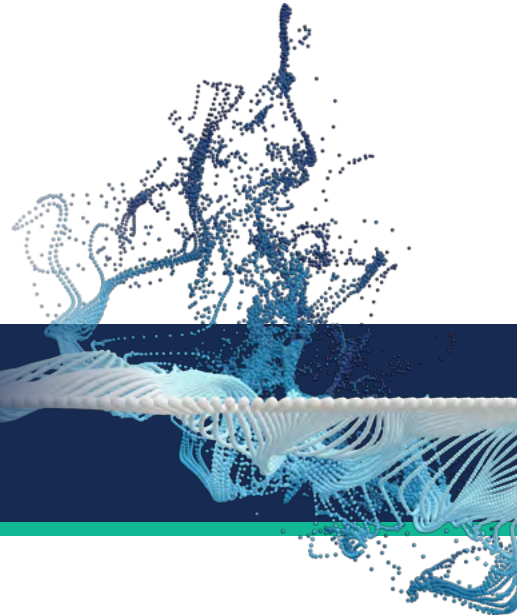
Coordinator of the Greek scientific section “Physiotherapy in mental health”

Wednesday May 4, 2022		Thursday May 5, 2022		Friday May 6, 2022		
		09:45 - 10:30	Workshop III (WKS 03) - Physiotherapy guidelines for patients with eating disorder Probst, Michel (Belgium)	10:00 - 11:00	Session III Chairs: Bournousouzis, Elefterios (Greece), Sfetsioris, Dimitrios (Greece) Early Mobility: a preventing strategy to Post Intensive Care Syndrome. Patsaki, Irini (Greece) Lifestyle as a holistic path to the future. Staub, Cristina (Switzerland) The Process of Establishing the Mental Health Subgroup in Italy. Mazzarotto, Deborah (Italy) The effects of daily movement and sitting time on sleep and health in elderly. Vanderlinden, Julie (Belgium)	
		10:30 - 11:00	KEYNOTE LECTURE I I took the road less traveled by and that has made all the difference. Speaker: Vancampfort, Davy (Belgium) Chairman: Chatzidamianos, Theodoros (Greece)			
		11:00 - 11:30	KEYNOTE SPEAKING: The patients voice --- Mental health & well-being: what your patients are thinking. Speaker: Nomidou, Katerina (Greece) Chairman: Chatzidamianos, Theodoros (Greece)			
		11:30 - 12:40	ORAL PRESENTATIONS II Chairs: Patsaki, Irini (Greece) Patsiris, Stephanos (Greece) From OP-10 to OP-16		11:00 - 11:20	KEYNOTE SPEAKING: Health politics and economic on physiotherapy in mental health --- The impact of COVID-19 on quality of life and mental health in 8 countries across the globe. Speaker: Yfantopoulos, John (Greece) Chairman: Chatzidamianos, Theodoros (Greece)
		12:40 - 13:40	Lunch Break			
		13:40 - 14:00	KEYNOTE LECTURE II Physiotherapy in mental health and Chronic Pain. Speaker: Ryan, Deirdre (Belgium) Chairman: Chatzidamianos, Theodoros (Greece)	11:20 - 12:20	Session IV Chairs: Fordham, Lauren (UK), Rozenbergs, Didsis (Latvia) Is sound therapy the key to efficiency stress management? Stathopoulos, Stavros (Greece) Psychological issues in sport injury physiotherapy rehabilitation. Christakou, Anna (Greece) Sleep for a happy tomorrow. Staub, Cristina (Switzerland), Vanderlinden, Julie (Belgium) Prevalence of persistent postoperative arm pain after breast cancer surgery and the association with functionality and disability of the affected upper limb. Michael - Vargiamidou, Polyxeni (Cyprus)	
14:00 - 14:20	Welcome and meeting colleagues	14:00 - 15:00	Session I Chairs: Skjærven, Liv - Helvik (Norway) Van Damme, Tine (Belgium) The International Clinical Master in Basic Body Awareness Methodology. A post-graduate study programme in Mental Health Physiotherapy. Catalán - Matamoros, Daniel (Spain) Basic body awareness therapy in clinical practice - reflections here-and-now and for the future. Danielsson, Louise (Sweden) Research in the frame of Basic Body Awareness Therapy - research questions, possibilities and challenge. Nyboe, Lene (Denmark) Clinical Models Serving as Maps for Mental Health Physiotherapy Approaching the movement awareness domain - Theory Development in Basic Body Awareness Therapy (BBAT). Skjærven, Liv - Helvik (Norway)	12:25 - 13:25	Lunch break	
14:20 - 15:50	ORAL PRESENTATION I Chairs: Chalari, Efthymia (Greece), Papatsimpas, Vasileios (Greece) Present from OP-01 to OP-09			13:00 - 14:00	KEYNOTE SPEAKING: The Media perspective --- Is physiotherapy important to the mental health of citizens? The Media perspective in the European Union. Speaker: Tsaousidou, Isaia (Greece) Chairman: Chatzidamianos, Theodoros (Greece)	
16:00 - 16:45	Workshop I (WKS 01) - Yoga for Relaxation & Health for People with Psychiatric Conditions. Zambo - Anderson, Ellen (USA)	15:00 - 16:00	Session II Chairs: Canales, Janette Z. (Brazil), Staub, Cristina (Switzerland) Toward Cellular and Metabolism Hallmarks in Mental Disorders. Focus on the Link Between Obesity, Depression and Alzheimer's Disease. Vera - Salazar, Roberto (Chile) The meaning of movement quality in autism - specialized physiotherapists' experiences in a phenomenological study. Bertilsson, Ingrid (Sweden) Access to physical therapy services for people with dementia/cognitive decline during the COVID-19 pandemic. Rosa, Marlene (Portugal)	14:00 - 15:00	Session V: INTERDISCIPLINARY APPROACH TO MENTALLY ILL Chairs: Stathopoulos, Stavros (Greece), Catalán - Matamoros, Daniel (Spain) The role of the psychiatrist in the interdisciplinary team. Gkouvas, Nikolaos (Greece) Mental Health & Occupational Therapy: A long-standing relationship. Kouloumpi, Maria (Greece) The role of psychiatric liaison nurse in a general hospital. Mangoulia, Polyxeni (GR) The Role of Psychological Skills within Physiotherapy. Paschou, Fani (Greece) Comprehensive psychosocial evaluation in the mentally ill. The role of social work in the interdisciplinary approach and in the psychosocial rehabilitation of the mentally ill. Verikaki, Olga (Greece) The Role of Psychological Skills within Physiotherapy. Vancampfort, Davy (Belgium)	
16:45 - 17:00	Coffee Break	16:00 - 16:15	Coffee Break	15:00 - 15:15	Closing ceremony Catalán - Matamoros Daniel (Spain) Stathopoulos, Stavros (Greece)	
17:00 - 17:30	KEYNOTE SPEAKING: Long COVID-19 --- Lessons learned from the COVID-19 Pandemic. Speaker: Stokes, Emma (Ireland) Chairman: Chatzidamianos, Theodoros (Greece)	16:15 - 16:35	KEYNOTE LECTURE III Assessment of the Impact of Pandemic COVID-19 on the Mental Health of Patients with Rheumatic Diseases. Results of the REUMAVID study. Speaker: Garrido - Cumbre, Marco (Spain) Chairman: Chatzidamianos, Theodoros (GR)	15:00 - 15:15		
17:30 - 18:00	Opening remarks Stathopoulos, Stavros Chair of the Organizing Committee of 9 th IOPTMH Conference 2022 Stokes, Emma President World Physiotherapy Catalán - Matamoros, Daniel President of IOPTMH Chatzidamianos, Theodoros Chair of the Scientific Committee of 9 th IOPTMH Conference 2022 Lymeridis, Petros President of the Panhellenic Physiotherapists' Association Rapti, Zoi Deputy Minister for Mental Health	16:40 - 18:00	ORAL PRESENTATIONS III Chairs: Christakou, Anna (Greece), Vera-Salazar, Roberto (Chile) From OP-17 to OP-25			
18:00 - 18:30	KEYNOTE SPEAKING: New Technologies in Mental Health --- The future of the use of technology in Mental health/ The benefits and barriers innovating regarding the use of technology in Mental health. Speaker: Gkouvas, Nikolaos (Greece) Chairman: Chatzidamianos, Theodoros (Greece)	18:00 - 18:20	KEYNOTE LECTURE IV Physiotherapy's role in mental health of people with chronic pain. Speaker: Makri, Souzi (Cyprus) Chairman: Chatzidamianos, Theodoros (Greece)	15:00 - 15:15		
18:30 - 19:00	KEYNOTE SPEAKING: The Institutional Approach --- Physiotherapy in Mental Health: Challenges for the future. Speaker: Probst, Michel (Belgium) Chairman: Chatzidamianos, Theodoros (Greece)					
19:00 - 19:45	Workshop II (WKS02) - Entrustable Professional Activities in PTMH Beker, Esther (Netherlands) Slootweg, Linda (Netherlands)	18:30 - 20:00	G.A. IOPTMH			



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Physiotherapy in Mental Health; _____what's next?_____

Disclaimer

This e-book has been produced for the

**9th IOPTMH 2022 Conference:
Physiotherapy in Mental Health; What's Next?
Athens, May 4-6, 2022, Greece**

using author-supplied copy via conference
Oxford abstract platform.

Editing has been restricted to some corrections of
spelling and style where appropriate.

No responsibility is assumed for any claims,
instructions, methods, results or policy contained in
the abstracts: it is recommended that these shall be
verified independently.



Keynote Lectures



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Keynote Lecture

The future of the use of technology in Mental health/ The benefits and barriers innovating regarding the use of technology in Mental health.

Gkouvas, Nikolaos

Founder / Director of Melapus. Board member & President of Informatics and Innovative Technologies, Hellenic Psychiatric Association, Greece

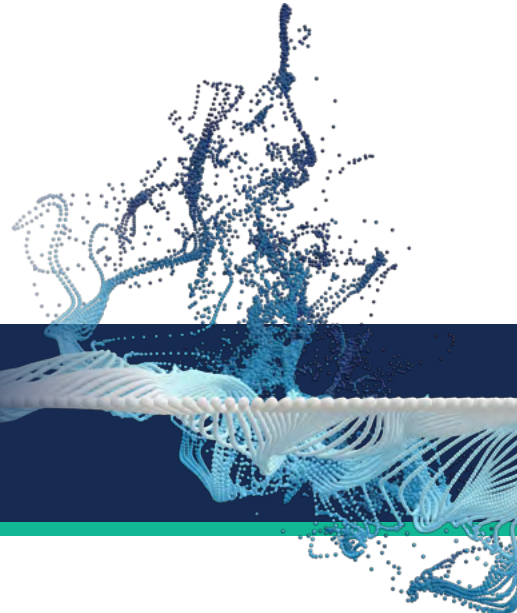
Abstract Text:

Pre covid tech seemed interesting but considered by many a thing for 2030. Covid on the other hand showed that the use of innovative technology is sometimes the only way to give quality services and easy access much needed. The nrs are staggering and change is happening fast. We will talk about the pro's and difficulties that innovation can have when is used in Mental health along side Psysiotherapy.



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Physiotherapy in Mental Health; what's next?_

Keynote Lecture

Physiotherapy in Mental Health: Challenges for the future.

Probst, Michel

Professor at the KU Leuven, Department of Rehabilitation Sciences. Head of the research unit Adapted Physical Activity & Psychomotor Rehabilitation and coordinator of the studies "Rehabilitation Sciences in Mental Health Care, Belgium. KU Leuven.

Abstract Text:

After 16 years, it is time to think about the future directions of physiotherapy in mental health. Due to the fast changing needs in our society, the expiration date of persons, ideas, and products becomes shorter and shorter and new challenges are coming up. For years, I have argued for the profession to break out of its self-imposed shackles.

The biggest challenges in clinical practice, research and education will be the integration of physiotherapy with transdisciplinary health care approach based on the integrative health care or collaborative governance models. 'Integrative health care' aims for well-coordinated care among different providers and institutions by bringing conventional and complementary approaches together to care for the whole person. 'Collaborative governance' builds on mutual interdependencies, shared responsibilities and co-production of goals and strategies by partners in a network. Surely the question will be 'Which health care provider has the best competences, knowledge and skills to give the best evidence based treatment for the needs, preferences and interest of the person who is asking for help ?'

These emerging ideas of cooperation will influence our profession. The borders will fade. Different other health professionals will use our key-elements. Instead of complaining, physiotherapists working in mental health need to cope with the changing roles, to pull the same rope and to work on a clear 'brand identity' using the existing evidence based practice and research. These challenges need to be more integrated into physiotherapy training programs (entry level and specialized training).



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Physiotherapy in Mental Health; _____what's next?_____

Keynote Lecture

I took the road less traveled by and that has made all the difference.

Vancampfort, Davy

Assistant Professor, KU Leuven Department of Rehabilitation Sciences, Research Group for Adapted Physical Activity and Psychomotor Rehabilitation, Belgium

Abstract Text:

Mental health physiotherapists are detectives, teachers, coaches and counselors, all in one person. Although our field is nowadays in the center of the public health agenda, especially following the Covid-19 pandemic, our roles are insufficiently acknowledged by health-policy makers, planners and budget holders across the globe.

Mental health care systems worldwide are not yet taking the road of physiotherapy when improving the quality of life of patients and their families. We, as mental health physiotherapists, should however put the signposts. In this key note lecture, we will discuss how researchers and clinicians should translate the evidence into daily clinical practice and demonstrate that our different roles are of added value.



Lectures



Physiotherapy in Mental Health; what's next?



Chair

Basic Body Awareness Therapy - The Day after?

Skjærven, Liv-Helvik

PT, PhD, Professor in Physiotherapy Emerita, Western Norway University of Applied Sciences, Bergen, Norway.

Abstract Text:

Basic Body Awareness Therapy (BBAT) was accepted in physiotherapy in the 1980ties and clinical implementation has raised interest among physiotherapists, described as “a clinical need” at several continents. BBAT has been through years of clarifying practice and education at bachelor, master and PhD-level, as in Master of PT in Basic Body Awareness Methodology (BBAM). BBAT has research since 1985, today with close to one hundred peer-reviewed research articles, several PhD and a variety of master and bachelor thesis. To professionalize BBAT requires theory, definitions, perspectives, movement vocabulary, strategies and evaluation tools.

BBAT is Person-centered, Process-oriented and Health-directed, focusing human movement: BBAT is promoting movement quality through a movement awareness approach, including bio-psycho-socio-existential perspectives, introducing phenomena, strategies, and movement integration in therapists' own qualification, concerning self-experiences in BBAT.

Clients, clinicians, educators and researchers have contributed, influencing quality in the movement awareness strategy. According to WHO, patients with mental health problems are increasing, worldwide. There is a need to further professionalize, and structure actions to qualify physiotherapists to meet the increasing mental health problems.

What is next? Round Table Discussion is provided, inviting audience to a critical discourse of BBAT in mental health physiotherapy, its professionalization within clinical practice, education and research. Next: Qualifying physiotherapists to have an accepted seat in the psychiatric and community health-care team.

The day after? Three qualified PTs` are invited to participate in a critical discourse with the audience. The debate will center on BBAT principles, including vision, missions and future strategies for Patients and PT professionals.



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Lecture

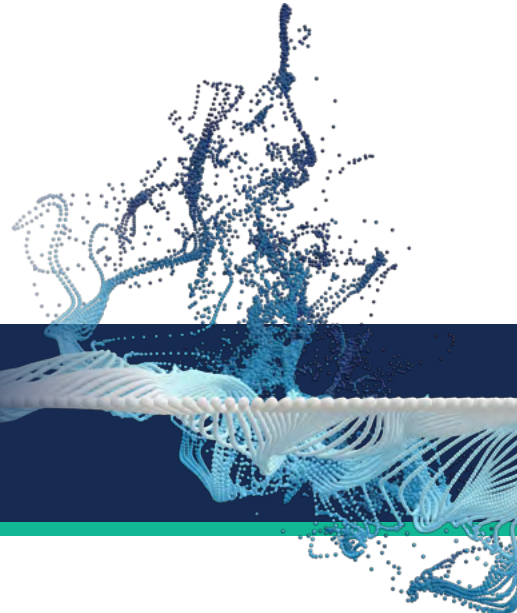
The International Clinical Master in Basic Body Awareness Methodology. A post-graduate study programme in Mental Health Physiotherapy.

Catalán - Matamoros, Daniel

PhD, PT, Professor at Madrid University Carlos III, Spain

Abstract Text:

This 1-year Master program is held at the University of Almeria (Spain). It is the development of the previous postgraduate education for physiotherapists in Basic Body Awareness Methodology (BBAM) that began in 2003 at Bergen University College (Norway) and has been followed by more than 130 physiotherapists from 28 countries. This clinical master program provides tools for physiotherapists to face the challenges of our society such as long-lasting musculoskeletal disorders and mental health problems which are current leading causes of disability. The master aims to understand how life experiences and diseases can foster lack of contact with the body, expressed in human movement and function. The structure of the Master builds on three important educational and therapeutic principles: 1) person centered, 2) health directed and 3) process oriented. This education involves the student and patient, providing practical skills and insight for professional and/or personal use. Our goal, when creating this university program, was to develop an educational program for mental health physiotherapists in need of professional skills, treating persons suffering from long-lasting muscle-skeletal and mental health problems, psychiatric disorders and psychosomatic problems. The goal was also to strengthen the physiotherapists' identity, both from the professional and personal perspectives. The Master of Physiotherapy in BBAM is given during one year combining online courses and intensive practical teaching during blocks. The BBAM education has reached a strong international reputation and it has received a great support by many national physiotherapy associations and universities across the World.



Physiotherapy in Mental Health; _____what's next?_____

Lecture

Basic body awareness therapy in clinical practice - reflections here-and-now and for the future.

Danielsson, Louise

RPT, Associate Professor, Sweden

Abstract Text:

Basic body awareness therapy (BBAT) has been used in Scandinavian physiotherapy for more than 40 years and is now practiced in many other countries worldwide. While fundamental principles and movements are still well rooted in the traditional methodology, new challenges in society, changes in health care and research call for a continuous development and reflection on the clinical practice of BBAT.

The aim of this presentation, which is part of a Round Table discussion about BBAT, is to give an overview and practical examples of how the method is currently being used in clinical practice. Focus will be mainly on mental health in primary health care and pain rehabilitation from a Swedish perspective.

The presentation will be based around narrations of clinical examples, connected to evidence and clinical experience.

The presentation will provide thoughts and forecasts into possibilities and difficulties with clinical practice of BBAT of today and suggest pathways for the future. BBAT in clinical practice will also be discussed linked to other movement modalities such as physical exercise and to recent developments in health care, focusing on person-centered care and digital rehabilitation.

The presentation will hopefully inspire to a Round table discussion among participating conference delegates about the development and future of BBAT in different countries and clinical settings.



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Physiotherapy in Mental Health; _____what's next?_

Lecture

Research in the frame of Basic Body Awareness Therapy - research questions, possibilities and challenge.

Nyboe, Lene

PT, MHSc, PhD, Dep. of Anxiety and Depression, Aarhus University Hospital, Psychiatry, Denmark

Abstract Text

Although Basic Body Awareness Therapy is often applied in the treatment of patients with various mental health problems, and over the last decade more frequently also to patients with musculoskeletal disorders, research in the frame of BBAT is still scarce.

This presentation, will include an overview of research within the field of BBAT, present possible relevant research questions, and discuss the challenges for bringing research within the frame of BBAT further in the future.



Physiotherapy in Mental Health; what's next?_

Lecture

Clinical Models Serving as Maps for Mental Health Physiotherapy Approaching the movement awareness domain - Theory Development in Basic Body Awareness Therapy (BBAT).

Skjærven, Liv-Helvik

PT, PhD, Professor in Physiotherapy Emerita, Western Norway University of Applied Sciences, Bergen, Norway.

Abstract Text:

Background: There is a need to clarify physiotherapeutic components related to processes of promoting movement quality through movement awareness, developing theory to establish professional competence in the mental health field. The purpose of this paper is to present clinical strategic models, as models help spotting patients problems, and serves as tools to identify and communicate movement health potentials.

Method: During 15 years, in-depth, qualitative research has been presented, describing and distinguishing movement phenomena, movement pedagogy and treatment processes: studies of physiotherapy experts in different contexts. The research is inspired from therapeutic strategies in Basic Body Awareness Therapy (BBAT).

Result: From extensive qualitative material, four clinical models was identified, appearing as keys in the health-focused project, presenting clinical intertwined phenomena. The models are: (i) Movement Quality Model, (ii) Movement Vocabulary Model, (iii) Therapeutic Component Model, (iv) Movement Awareness Learning Cycle. Together they include items of clinical importance.

Conclusion: The four models are useful to orient within a complex clinical landscape, including physical, physiological, psychological, cultural/relational and existential perspectives, elements and aspects. To have a coherent conceptualization within the movement awareness domain is important for physiotherapists treating patients with mental disorders. The models cover a diversity of components, with human movement as core.

Implementation: Models are made for clinical practice. Implementing person-centered, process-oriented, health-directed clinical models, presented as maps, are useful in challenging mental health physiotherapy. There is a need for deeper understanding of pattern of human movement, health and wellbeing. The models are a step to develop theory within the movement awareness domain.



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Physiotherapy in Mental Health; _____what's next?_____

Lecture

Toward Cellular and Metabolism Hallmarks in Mental Disorders. Focus on the Link Between Obesity, Depression and Alzheimer's Disease.

Vera-Salazar, Roberto

*Neuroscience Researcher at CAREPUC Clinical Fellow Research Exercise Physiology.
Associate Professor on Neuro-Physiology and Neuroscience at FACIMED-USACH, Chile*

Abstract Text:

Obesity condition in humans triggers a decline of several neuronal functions including cognitive performance, an increase of brain inflammation, decrease of neuronal plasticity and metabolism of glucose, all of which has been related to neuritis architecture changes such a decrease in the formation of new spines. In this regard, obesity has been related to increasing in Alzheimer's disease (AD) hallmarks and depression behavior, which at turns, implicates changes in brain structure including decreased total and gray matter volumes, increased white matter lesions, and reduced white matter integrity. Our laboratory had demonstrated, in a murine model, that the induction of obesity, produces a decrease in cognitive performance and an increase of several histopathological markers of AD in brain, including the rise of inflammation, oxidative stress, and astrocyte activation. At the same time, we have described using a transgenic model mouse of AD, and a protocol to induce like-behavior depression in mice, that several histopathological markers of AD could be improved by voluntary running which is able to partially recover the adult neurogenesis in AD and depression, respectively. Altogether, our result suggests a link between obesity, AD, and depression and an eventual therapeutic tool based on exercise to these mental health pathologies. The goal of this study is to show how some cellular signaling including Wnt and cytokines pathways, could be linked to AD, depression, and obesity in a rational and causal manner in human mental health contexts.



Physiotherapy in Mental Health; what's next?

Lecture

The meaning of movement quality in autism - specialized physiotherapists' experiences in a phenomenological study.

Bertilsson, Ingrid

Physiotherapist, Department of Health Sciences, Lund University, Lund, Sweden

Abstract Text:

Aim: To describe the meaning of movement quality in autism, as experienced by specialized physiotherapists.

Introduction: The body expresses integrated sensory impressions, their psychological interpretation, and emotions related to the experiences - thereby affecting movement quality. Movement quality, represented in unrestricted movements, flow and pleasure, is often lacking in people with autism. Understanding body and movement expressions in people with autism is essential, in the sense of 'I move - I do - I can'.

Method: Ten physiotherapists, specialized in working with people with autism and movement quality, were interviewed. The data were recorded, transcribed verbatim and analysed, using Giorgi's descriptive phenomenological method. The analysis resulted in a general structure of the meaning of the phenomenon movement quality in autism, including key constituents.

Results: The general structure of the movement pattern was described as fragmented, restrained and hesitant.

The eight key constituents were difficulties with:

1. postural control
2. muscle tone
3. sensory processing
4. conscious awareness
5. body boundaries
6. coordinating movements
7. anticipatory preparations
8. automated movements - cognition was needed to control them

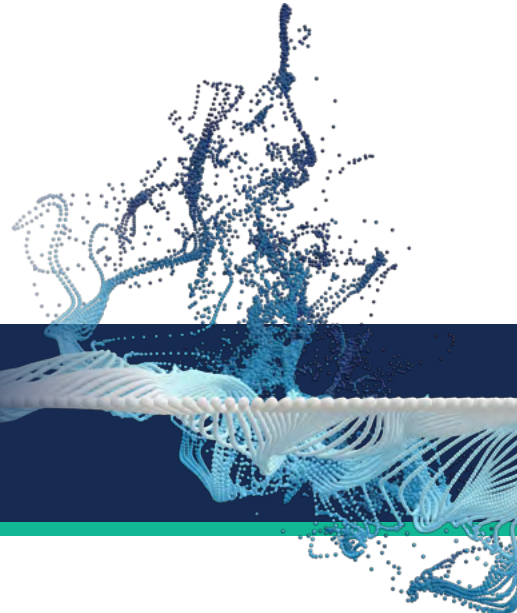
Conclusions:

- People with autism were described living a body, partly unavailable to them
- Their lived bodies needed to protect them from sensory impressions
- The intention and meaning of movements became obscured
- The meaning of movement quality lacked in being whole and vital
- Understanding movement patterns in autism may further improve physiotherapy interventions.



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Physiotherapy in Mental Health; _____what's next?_____

Lecture

Access to physical therapy services for people with dementia/ cognitive decline during the COVID-19 pandemic.

Rosa, Marlene

*PhD, Physiotherapist, Coordinator of the Group of Interest in Physiotherapy in Mental Health
from Physiotherapy Portuguese Association, Portugal*

Abstract Text:

In the context of COVID-19 pandemic, it is vital to provide adequate care to people with dementia. Rehabilitation services are recognized as essential during the pandemic to optimise physical and cognitive functioning to reduce disability. This presentation aimed to characterize the most important barriers in COVID-19 pandemic for the rehabilitation process of people with dementia/cognitive decline, according to the perspective of physiotherapists with expertise in the field. The Portuguese Association of Physiotherapists, in partnership with the Alzheimer Portugal Association, conducted a data collection of the Physiotherapists' perceptions about the access to physical therapy services for people with dementia/cognitive impairment during the first 6 months of the COVID-19 pandemic. The results indicate 3 main barriers to access/obtain good results in the rehabilitation process of these people: interruption of rehabilitation processes/restricted access to specialized follow-up in situations of prophylactic isolation; break in the routine of the person with dementia and caregiver; breaking on social interaction (isolation, distancing from their social networks). According to these barriers and thinking that we may be prepared for future prophylactic scenarios in the COVID-19 context, physiotherapists need to develop adequate and virtual solutions for promoting continuum of physiotherapy care.



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Physiotherapy in Mental Health; _____what's next?_____

Lecture	Early Mobility: a preventing strategy to Post Intensive Care Syndrome.
	<p>Patsaki, Irini <i>Assistant Professor, Department of Physiotherapy, University of West Attica, Athens Greece</i></p> <p>Abstract Text:</p> <p>Survival of critically ill patients has improved in the last years due to advances in critical care medicine and technologies. Some of these survivors often develop cognitive, psychiatric and /or physical disabilities. These are now recognized as post intensive care syndrome (PICS). Given the limited awareness about PICS in the medical faculty this aspect is often overlooked, thus leading to reduced functional ability and quality of life. In the last few years efforts have been directed towards preventing PICS by minimizing sedation and early mobilization of ICU patients. Early mobility along with the use of new innovative technologies such as Immersive Reality have shown to have promising and beneficial effect in depression, anxiety and Post traumatic stress disorder. Nowadays due to COVID pandemic and the increased number of patients being admitted in the ICU, the incorporation of preventing strategies in the daily care of critically ill patients is of great importance.</p>



Physiotherapy in Mental Health; what's next?

Lecture

Lifestyle as a holistic path to the future.

Staub, Cristina

PhD in Neuropsychology, Physiotherapist, President of the Swiss Group of Physiotherapy in Mental Health (SAG PPP), Vice President of Pro Domo Switzerland

Abstract Text:

Background: There exist various healthy lifestyle concepts, including recommendations on physical activity, consumption, sleep and the environment.

Methods: Research review until April 2022: Health parameters are measured through subjective (e.g. quality of life questionnaires), and objective (e.g. blood pressure, body mass index, apnoea-hypopnoea index) data.

Results: The studies show how behavior can promote (mental) health. WHO guidelines exist for physical activity in order to reduce sedentary behavior and inactivity [1]. Regarding consumption, it is crucial that healthy foods are preferred, and that harmful substances are avoided [2,3,4,5,6]. Paying attention to the neuropsychological mechanisms of sleep regulation leads to a more restorative sleep [7,8]. Environmental factors such as noise, poor air quality, extremely hot or cold temperatures and light pollution are also to be considered [9]. Complex studies involve changes in several lifestyle parameters at the same time [10,11].

Conclusion(s): (Mental) health can be optimized if several parameters are included in a healthy lifestyle. Considering several factors reinforces resilience and salutogenesis. These factors unify body and mind in a holistic approach.

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Physiotherapy in Mental Health; _____what's next?_____

Lecture

The Process of Establishing the Mental Health Subgroup in Italy.

Mazzarotto, Deborah

Physical Therapist, Master in Neurorehabilitation and Master in Artificial Intelligence, Italy

Abstract Text:

In 2019 I noticed that in Italy there was no reference physiotherapy group for psychiatric pathologies. Specifically, I observed, on the WCPT website, the presence of a subgroup of Mental Health, already recognized in as many as 20 countries around the world, but not in Italy.

So I started building the first foundations. I contacted, totally unaware of all the bureaucratic procedures, Michel Probst, expressing my interest in establishing this subgroup in Italy, and having it recognized by the WCPT. The President explained to me the simplicity of the procedure, however it was necessary to have the okay from my Italian Association of Physiotherapists, the AIFI.

After several unanswered emails, in the summer of 2020, the National Secretary Donato Lancelotti accepted my requests. He explained to me that for the creation of this sub-group, which in Italy is called Network of Specialized Interest, it was necessary to identify 15 interested parties; then submit the project, defining the context and narrating the motivation, to the AIFI Board of Directors.

Meanwhile, unfortunately, there was the Covid-19 Pandemic, which redefined the Association's priorities. The officials (President, Vice President, etc.) of AIFI and some rules for the establishment of the Italian NIS have also changed. In the end, in the summer of 2021 I identified 16 stakeholders for the constitution of the Italian group, and we sent all the documents to the CDN (National Board of Directors).

To be continued ...



Physiotherapy in Mental Health; what's next?

Lecture

The effects of daily movement and sitting time on sleep and health in elderly.

Vanderlinden, Julie

Public health Researcher - Sleep research, Sleep behavioural therapist, Lecturer Public health, University Leuven (KUL, Belgium), University Brussels (VUB, Brussels), Odisee University for Applied Sciences, Belgium

Abstract Text:

Background and research question: It is expected that by 2050, the world's population aged ≥ 60 years will rise to a total of 2 billion. However, although people are living longer, they are not necessarily living healthier than before. Both physical activity and sleep have been described as important key-indicators for 'healthy aging'. The aim of this research is to examine associations between physical activity, sleep and health outcomes (quality of life, well-being and daily functioning).

Methods: In a 1st phase, a systematic review was conducted to screen for associations between physical activity and sleep in older adults. The 2nd phase consists of an intervention study, focusing on the effects of a community-based multicomponent health program (promoting walking, strength training and healthy nutrition) on sleep, quality of life, well-being and daily functioning in older adults. A first start wave resulted in 10 intervention groups and 10 control groups. Physical activity and sleep of participants from both groups were objectively and subjectively measured before and after the 12-week program by the use of Actigraph™ accelerometers wGT3X-BT and validated self-reported questionnaires (IPAQ, PSQI). Health outcomes were measured with self-reported validated questionnaires (SF-12, WEMWBS).

Results and Conclusion: This research focused on detecting effects from daily movement and sitting time on sleep and health in an elderly population. From the current systematic review, first conclusions show there is clear evidence that physical activity is associated with improved sleep. Reallocating time between movement behaviours does not result in significant changes in sleep in real-life. Participating in a real life exercise program does however increase daily movement and wellbeing. Given the age-related decline in sleep and its effect on health, physical activity is predicted to play an important role in a general lifestyle contributing to active and healthy ageing.

Keywords: Healthy ageing, sleep, physical activity, daily movement, sedentary time, sitting time, health, older adults.



Physiotherapy in Mental Health; what's next?

Lecture

Is sound therapy the key to efficiency stress management?

Stathopoulos, Stavros

Rehabilitation therapist with specialization in Neurology and Neuropsychology, Physiotherapist at the PT Department in "Evangelismos" General Hospital, Athens, Greece, Member of the teaching staff at the Postgraduate Program of the Medical School of NKUA and AUTH, Greece, Participant of the Development Group for Schizophrenia of the WHO Rehabilitation Programme / Package of Interventions for Rehabilitation, Chief Knowledge Officer at Aion Solutions, UK, Active member in the special interest group of sleeping disorders of the World Physiotherapy / Network for Health Promotion in Life, Individual member of the World Federation for Mental Health (WFMH), Coordinator of the scientific section "Physiotherapy in mental Health" of the PanHellenic Physiotherapist Association and its delegate in the IOPTMH, Secretary of the managing board of the European Network of Active Living for Mental Health (ENALMH), Chair of the Organizing Committee 9th IOPTMH 2022 Conference.

Abstract Text:

The use of biofeedback in stress management has been documented for many years, but the use of sound therapy is still under investigation. Considering that the current literature data on the combination of biofeedback with sound therapy at the same time are poor, we tried to investigate their effectiveness in improving anxiety manifestations.

30 persons (15 men and 15 women) with a self-assessment of their stress through the www.psychoscopis.eu were studied.

Group A, consisted of 5 men (mean age 43 years), with a mean score of Zung self-assessment: 70.60 in the first session and 5 women (mean age 42.58 years) with a corresponding Zung self-assessment mean score: 69.80 in the first session, in which 15 sessions SPR biofeedback of 20 minutes each, were administered for 3 times a week.

Group B, consisted of 5 men (mean age 43.60 years), with a mean score of Zung self-assessment: 70.20 in the first session and 5 women (mean age 42.60 years) with a corresponding Zung self-assessment mean score: 70.60 in the first session, in which 15 sessions of sound therapy (ALPHA waves at 9hz) of 20 minutes each, for 3 times a week, were applied.

Group C, consisted of 5 men (mean age 43.40 years) with a mean score of Zung self-assessment: 70.80 in the first session and 5 women (mean age 43.40 years) with a corresponding Zung self-assessment mean score: 70.20 in the first session, in which 15 sessions of SPR biofeedback & sound therapy (ALPHA waves at 9hz), were applied simultaneously, 20 minutes each, for 3 times a week.

All data were analyzed using IBM SPSS v28 statistical software, with quality variables in the form of frequencies and percentages and quantitative variables based on their mean \pm standard deviation (mean \pm SD). The variables were compared with the Student's T-test and the correlation between the variables was investigated. There was a statistically significant improvement of group C compared to groups B and A (48 ± 2.3 vs 54.6 ± 0.5 vs 53 ± 2 p < 0.001). From the above, it results that the combination of SPR biofeedback & sound therapy (ALPHA waves at 9 Hz) at the same time, has positive results in the more effective management of stress.

We hope that our research will trigger further efforts in this direction so that the improvement of anxiety manifestations becomes short, without dependencies and side effects.



Physiotherapy in Mental Health; _____what's next?_____

Lecture

Psychological issues in sport injury physiotherapy rehabilitation.

Christakou, Anna

Ass. Professor, Department of Physiotherapy, University of Peloponnese, Greece

Abstract Text:

Rehabilitation from sport injury involves not only physical, but also psychological considerations. When athletes return to sport field after a serious musculoskeletal injury, they may have negative emotions. The psychophysiological risk model outlines how the fear of injury or re-injury can lead to physiological and psychological consequences. Athletes with previous injury had re-injury worry and low confidence for avoidance of re-injury.

An athlete who worries about sustaining a new injury may have poor performance through decreased efficiency in the biomechanics of skill execution, decreased self-confidence, and decreased attention. Attention plays an important role in athletes' return to sport following an injury. On returning to competition, rehabilitated athletes may have narrowing attention onto injured area, thus there is an increased risk of re-injury. Valid and reliable tools used to assess the psychological readiness of an injured athlete.

Due to the role of mind-body connection to rehabilitation process, techniques during and/or after the rehabilitation process such as mental imagery have been used as an alternative and complementary therapy to physical therapy programs. Studies reported imagery during patients' rehabilitation process lead to significantly greater strength and less re-injury anxiety. Gaps in the current literature are highlighted and directions for future research are provided.



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Physiotherapy in Mental Health; what's next?_

Lecture

Sleep for a happy tomorrow

Staub, Cristina

PhD in Neurophysiology, Physiotherapist, President of the Swiss Group of Physiotherapy in Mental Health (SAG PPP), Vice President of Pro Dormo Switzerland

Vanderlinden, Julie

Public health Researcher- Sleep research, Sleep behavioural therapist, Lecturer Public health, University Leuven (KUL, Belgium), University Brussels (VUB, Brussels), Odisee University for Applied Sciences, Belgium

Abstract Text:

Background: There is a reciprocal relationship between sleep problems and mental health. Therapies are needed for both mental health problems and sleep disorders.

Methods: Treatment options are illustrated and neurophysiological explanations for the effects of sleep and body treatments on mental disorders are provided. The review is based on the scientific literature until April 2022.

Results: There exist a lot of complementary therapies for sleep and mental health disorders that can be applied in physiotherapy. They can e.g. be treated by cognitive behavior therapy (CBT) and diverse body treatments.

Therapeutic effects can be explained by changes in long-term potentiation at the synapses, by restoration of the balance in the stages of the autonomic nervous system and by influencing the hypothalamic-pituitary-adrenal axis (HPA axis). Communication has an essential function; all of the at least nine nonverbal modalities have to be included. However, it is crucial that the therapy is person-centered, holistic and adapted to the context and the current situation.

Conclusion(s): The implementation of sleep and body treatments in patients with mental illness can support their recovery.



Physiotherapy in Mental Health; what's next?_

Lecture

Prevalence of persistent postoperative arm pain after breast cancer surgery and the association with functionality and disability of the affected upper limb.

Michael - Vargiamidou, Polyxeni

Physiotherapist, Ma in Social and Developmental Psychology, Nicosia General Hospital, Nicosia, Cyprus

Abstract Text:

Background: Many women who underwent breast cancer surgery experience persistent postoperative pain, and shoulder impairments that influence the quality of their life.

Purpose: This study aimed to investigate the prevalence of pain in patients who underwent breast cancer surgery after the passage of the healing time (e.g., three months) and to examine potential differences in cognitive, social, and emotional functioning (assessed with EORTC-QLQ30) between those who experience pain versus those without pain. A further aim was to investigate the relationship between shoulder active movement and the self-reported measures of arm disability and pain derived from the EORTC-BR23 and the QuickDash.

Method: A sample of 107 women who visited outpatients and physiotherapy departments completed quality of life measures and measures of physical functioning. Additionally arm functionality was assessed by measuring the shoulders' flexion and adduction.

Results: More than half of the participants reported pain and shoulder impairment at least three months after their breast cancer surgery. Pain vs. no pain group presented differences in quality-of-life parameters of functionality. Self-reported pain and arm disability were associated with decreased shoulder flexion and adduction.

Although there were differences in quality of life parameters between the pain and no pain group, in total the women who participated in this survey were primarily active and functional despite evident shoulder impairment.

Keywords: breast cancer surgery, persistent pain, shoulder impairment.



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Physiotherapy in Mental Health; _____what's next?_____

Lecture

The role of the psychiatrist in the interdisciplinary team.

Gkouvas, Nikolaos

Founder / Director of Melapus. Board member & President of Informatics and Innovative Technologies, Hellenic Psychiatric Association, Greece

Abstract Text:

Mental health is one of the key factors that contribute to the quality of life for patients with issues under Physiotherapy treatments.

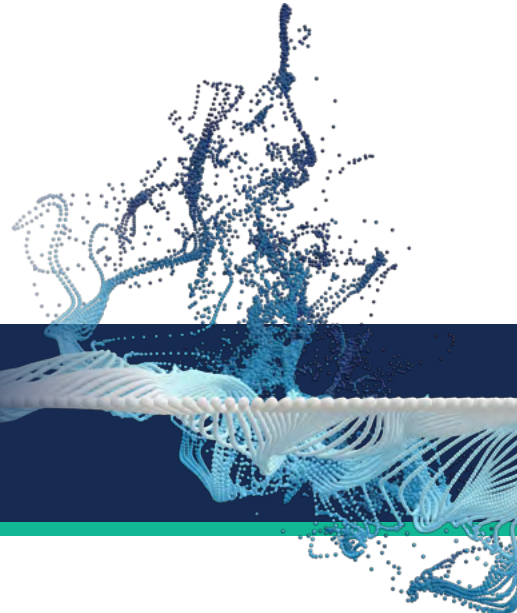
The role of psychiatry in the interdisciplinary team seems very crucial on providing solutions in patients that their mental health is the barrier for a quick and healthy recovery, either because they have anxiety about the outcome of their treatment, or because they already suffer from depression or other disorders that are met in more than 25% of the general population. Physiotherapy is a crucial part of the treatment for many patients with depression that are not active in day-to-day operations, don't walk, stay in bed due to melancholy, or refuse to participate in their own life. All members of the interdisciplinary team and new approaches are needed to help those patients.

A Psychiatrist can be effective using those new approaches through innovative technologies. Artificial Intelligence (AI), or Virtual Reality (VR), or telepsychiatry tools are giving new data and ways of understanding and treat mental health disorders, making the Psychiatrist a key member of the team.



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Physiotherapy in Mental Health; what's next?

Lecture

Mental Health & Occupational Therapy: A long-standing relationship.

Kouloumpi, Maria

MSc OT, PhD in Queen Margaret University, Edinburgh, Lecturer of Applied Science in Occupational Therapy Department, Faculty of Health and Caring Sciences, Member of the Research Laboratory of Musculoskeletal Physiotherapy, University of West Attica, Athens Greece

Abstract Text:

According to World Federation of Occupational Therapists, occupational therapy is a client-centered health profession concerned with promoting health and well-being through occupation. Main ideas of the profession are developed around issues of independence, enablement of participation, sense of identity, everyday life, occupational engagement, quality of life and community empowerment.

Mental health is historically at the core of the development of Occupational Therapy. Their relationship has evolved through the ideas of moral treatment in 19th century, to the therapeutic use of activities in early 1900's, and the consequent rehabilitation movement, the de-institutionalization processes and psychiatric reformation movement. The evolution of mental health care and treatment has developed greatly world-wide, with unique catalysts prompting new treatments in different countries. In Greece, the occupational therapy profession has a long-standing relationship to mental health with the gradual encompassment of occupational therapy into the mental health services evolving throughout the decades.

Occupational therapy as a dynamically moving profession, is a central member of the inter-disciplinary mental health team. As the philosophical underpinnings of occupational therapy are perceived by the synergy of various professionals, the facilitation of interprofessional collaboration is at the heart of the occupational therapists' practice. What's next, other than to accept the ongoing challenge of integrating treatment inter-disciplinary approaches within the community, and incorporate knowledge of these practices in inter-disciplinary academic courses?



Physiotherapy in Mental Health; _____what's next?_____



Lecture

The role of psychiatric liaison nurse in a general hospital.

Mangoulia, Polyxeni

Registered Nurse, MSc, PhD Liaison Psychiatric Department, Coordinator of Education Intensive and Emergency Nursing Specialty, Evangelismos General Hospital of Athens

Abstract Text:

Psychiatric consultation liaison nursing is a subspecialty of psychiatric mental health nursing initiated in the early 1960s. Usually the psychiatric consultation liaison nurse (PCLN) has a master's degree and a background in psychiatric and medical nursing. The PCLN functions as a consultant to other health professionals in managing psychological concerns and symptoms of psychiatric disorders and as a clinician who works directly to help the patient deal more effectively with physical and emotional problems.

The PCLN is a resource for members of a nursing staff who feel who feel unable to intervene therapeutically with a patient who presents a management problem or has problems that impede care. Psychological factors have been found to influence a variety of physical illnesses. Stressful life events may result in further health risk and increase disability through stress-related physiological responses. When psychiatric disorders are present along with general medical conditions, they may increase the likelihood of adverse events, length of stay, and cost; they also may negatively impact on outcomes and increase morbidity and mortality.

Growing support for the role of the PCLN in assisting general nurses in caring for patients experiencing mental health problems in the general hospital environment is evident from the relevant literature. However, there remains a paucity of research which examines the process of this nursing role or its impact on outcomes for nurses and patients.



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Physiotherapy in Mental Health; _____what's next?_____

Lecture

The Role of Psychological Skills within Physiotherapy.

Paschou, Fani

Psychologist, Athens, Greece.

Abstract Text:

Psychological principles have application to all spheres of physiotherapy rehabilitation, especially for physiotherapists working in the chronic pain field. They support the need for an integrated approach (physical, psychological, and psychopathological) that takes into account the subjective experience of the single patient. Problems can arise with very anxious patients, those who appear to have little 'motivation' for making changes, dropping off in improvement after discharge from rehabilitation, and seeking further referral.

For that reason, the contribution of diagnostic material such as the use of M.M.P.I., could become a useful method in the evaluation of psychogenic factors in patients as well as in the understanding of patients' pain coping behaviors. The development of therapeutic interventions should be able to fuse different perspectives into a tailor-made interdisciplinary management approach in a single patient and the development of a quality body of research on the topic are future challenges in order to improve the subjective well-being of patients with chronic pain and psychopathological signs and symptoms.



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Physiotherapy in Mental Health; _____what's next?_____

Lecture

Comprehensive psychosocial evaluation in the mentally ill. The role of social work in the interdisciplinary approach and in the psychosocial rehabilitation of the mentally ill.

Verikaki, Olga

Social Worker, MSc, General Hospital Evangelismos, Athens, 2nd Vice President, Hellenic Association of Social Workers.

Abstract Text:

The main feature that differentiates clinical social work from psychiatry or psychology, as an approach to the mentally ill, is the emphasis placed on the social context of behavior and its deviation from the normal. Although severe mental disorders are characterized as having a neurobiological origin, the distinct mission of social work is to address the potential negative social effects of mental illness (Moxley, 1997). In essence, her practice is about exploring and correlating social-external factors with emotions related to the treatment of the disease. The skills of the clinical social workers to listen, understand, relate, explain and support is vital in helping individuals achieve a unification of physical, emotional, and social well-being and this requires their own ongoing training and clinical supervision (Moxley, 1997).

Social Work focuses on the dynamic interactions of individuals and the relationship between formal and informal support systems. Therefore, the social worker brings to the interdisciplinary team the social dimension of each case, the social factors that influenced the onset of the disease and those that will enhance the most effective treatment and rehabilitation, considering the level of functionality and factors that can positively affect this. That means that the choice of the therapeutic approach must be closely linked to the objective conditions and the real needs of the patient. The "person-in-environment" theoretical framework requires the professional social worker not to associate the mental disorder only with genetic, metabolic, or biological factors, but to be able through specific tools to strengthen the individual, in what the Towle (1965) said, the fulfillment of common human needs (Gray, 2005).

One of the key tools is the development of a close therapeutic alliance, with the aim of activating the "ego" and the possible environmental elements, as well as the adoption of skills that will enhance the feeling of personal self-sufficiency and self-worth in the mentally ill.



Workshops



Physiotherapy in Mental Health; what's next?

WKS 01

Yoga for Relaxation & Health for People with Psychiatric Conditions.

Zambo - Anderson, Ellen

PT, PhD, GCS, RYT Professor Emerita, Rutgers, The State University of New Jersey, USA

Abstract Text:

This workshop will be taught by an interprofessional team of two physical therapists and one licensed mental health professional. Both physical therapists are yoga teachers who have worked with a variety of patient populations and who have a Yoga Alliance Approved Yoga Teacher Training Program for Health Care Professionals. The mental health professional has implemented and researched programs that integrate mental health services with physical activity for people with severe mental illness. The workshop includes a brief description of yoga philosophy and a presentation of the scientific literature that 1) supports the safety and efficacy for the application of yogic principles in persons with mental illness and 2) demonstrates the psychological and health benefits of yoga for people with schizophrenia, bipolar disorder, depression, and anxiety disorder. Participants will learn and perform selected forms of pranayama (breath), meditation, and asanas (physical postures) derived from clinical trials that have included people with a range of mental health concerns and psychiatric diagnoses. All participants will be asked to wear comfortable, loose-fitting clothing and to bring a yoga mat or large towel.

Background:

Yoga is an ancient practice that promotes "...equanimity of the mind, perfection in action and severance from union with pain..." (from the Mahabharata) and a state "where you are missing nothing"...(Shri Brahmananda Sarasvati). Modern-day researchers are now demonstrating the positive effect yogic practices can have on the autonomic nervous system, gene expression, and areas of the brain (amygdala, insula, anterior cingulate cortex, medial prefrontal cortex) related to emotional regulation. Used as an intervention, yoga has been found to be generally safe and efficacious when applied in people with mental health and psychiatric conditions.

During this workshop, participants will be taught different yogic practices that can be incorporated into a physical therapy plan of care to help patients and clients integrate their mind and body for self-care and health. Precautions for applying different yogic practices will also be discussed. Physical therapists can benefit from learning about specific breathing practices, meditations and physical postures that promote improvement in both physical and mental health.



Physiotherapy in Mental Health; what's next?

Purpose:

This workshop was developed to demonstrate the benefit of incorporating yogic practices into physical therapy to promote health and wellness in persons with mental health and psychiatric conditions. Objectives

At the end of this workshop, participants will be able to:

1. Explain the scientific basis for breathing practices, meditation, and asanas (physical postures).
2. Explain the evidence for applying yoga in people with depression, anxiety, schizophrenia, and bipolar disorder.
3. Perform breathing practices, meditations, and asanas for schizophrenia, bipolar disorder, and symptoms of depression and anxiety.

Methods:

This workshop will begin with a lecture followed by an experiential lab. There will be a brief review of yoga philosophy and its relationship to rehabilitation followed by a presentation of the scientific literature that supports the physiological and psychological effects that yoga. After a review of the clinical trials in which yoga has been applied in people with mental health and psychiatric conditions, participants will learn and practice the breathing techniques, meditations, and asanas (physical postures) included in those studies.

Instruments:

This is a participatory workshop and will not include data collection.

Analysis:

This is a participatory workshop and will not include data collection.

Results:

At the end of this workshop, participants will be able to:

1. Explain the scientific basis for breathing practices, meditation, and asanas (physical postures).
2. Explain the evidence for applying yoga in people with depression, anxiety, schizophrenia, and bipolar disorder.
3. Perform breathing practices, meditations, and asanas for schizophrenia, bipolar disorder, and symptoms of depression and anxiety.

Conclusions and implication:

This workshop supports the inclusion of yogic practices into physical therapy plans of care for people with mental health and psychiatric conditions. Physical therapists should develop skills in being able to provide a variety of yogic practices to best serve their patients' physical and emotional well-being.

Key Words:

yoga, mental illness, breathing practices, meditation, asanas

Funding acknowledgements (if applicable):

None

Ethical approval:

This workshop does not include human subject research conducted by the presenters.



Physiotherapy in Mental Health; what's next?

WKS 02

Entrustable Professional Activities in PTMH

Beker, Esther

Lecturer, Department of Physiotherapy in Mental Health, University of Applied Sciences Utrecht, Netherlands

Slootweg, Linda

Head of Department, Department of Physiotherapy in Mental Health, University of Applied Sciences Utrecht, Netherlands

Abstract Text:

An important innovation in the world of healthcare education is the transition from learning outcomes to Entrustable Professional Activities (EPAs). In short EPAs are the combination of knowledge, skills and attitudes that a professional needs to do his job well. There are no EPAs described for physiotherapy in psychiatry and mental health yet. In this workshop we try to discover the specific skills and attitudes that we as professionals think are characteristic and essential for our profession.

Background:

An important innovation in the world of healthcare education is the transition from learning outcomes to Entrustable Professional Activities (EPAs). EPAs, defined as “a fundamental unit of professional practice that can be fully entrusted to a trainee once he or she has demonstrated the necessary competence to execute the specific activity unsupervised,” are increasingly forming the cornerstone of educational programs. Focusing on EPAs supports a whole-task approach to education which aims to deal with the complexities of clinical reality in bringing together knowledge, skills and attitudes within the occupational context. For the physiotherapy in psychiatry and mental health students, this means more room for introducing learning experiences and development goals from their own working environment and more attention for translating teaching methods into their personal working environment.

Purpose:

A first step in implementing EPAs in physiotherapy in psychiatry and mental health education is to clarify which skills and attitudes are characteristic and essential within the field of physiotherapy in psychiatry and mental health. The aim of the workshop is to formulate EPAs with which we can define the profession internationally. In this way education can be designed more effectively, and they offer guidance, structure and -above all- a concrete standard for the profession.

Methods:

In the workshop, we organize brainstorm sessions about the skills and activities that are specific to physiotherapy in psychiatry and mental health within a presented case. Each group is given a core activity (anamnesis, physical examination including questionnaires, diagnosis and treatment plan or treatment) that is used as a guideline.

Results:

1. Participants have knowledge about EPAs.
2. Participants can specify important skills of physiotherapy in psychiatry and mental health.



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**Conclusions and
implication:**

When the EPAs of physiotherapy in psychiatry and mental health are clear, education can be designed more effectively. But above all clarification of the profession provides a stronger position in the field of mental health care.

Key Words:

Education, Entrustable Professional Activities, Skills



Physiotherapy in Mental Health; what's next?



WKS 03

Physiotherapy guidelines for patients with eating disorder

Probst, Michel

Professor at the KU Leuven, Department of Rehabilitation Sciences. Head of the research unit Adapted Physical Activity & Psychomotor Rehabilitation and coordinator of the studies "Rehabilitation Sciences in Mental Health Care, Belgium. KU Leuven.

Abstract Text:

Physiotherapy is often overlooked as an adjunctive treatment for patients with weight, eating and trauma related disorders. However, the integration of physiotherapy is based on the physiotherapists' experience in both the body and the body in movement, two important issues integral to these pathologies.

This presentation presents practical guidelines for physiotherapeutic management (anamnesis, assessment and therapy) in primary care. These recommendations are based upon more than 35 years of clinical experience and the available evidence based research.

Background:

Most of the physiotherapists are not familiar with these problems and physiotherapy is often overlooked.

Purpose:

The purpose of this workshop is to propose a clinical framework for physiotherapy in primary care.

Methods:

Based on the literature and 35 years of experience.

Results:

Physiotherapy consists of a lot of important tools that can be integrated in the treatment of these pathologies

Conclusions and implication:

Physiotherapy, as an adjunctive treatment, can have an important positive influence on the treatment of these pathologies.

Key Words:

anorexia nervosa, bulimia nervosa, PTSD, body image, hyperactivity.

Funding acknowledgements (if applicable):

N/A

Ethics approval:

N/A



Oral Presentations



Physiotherapy in Mental Health; what's next?

OP-01

THE FUTURE OF DIAGNOSTICS IN MH

Cristina Staub

Physiotherapist, Ausgeschlafen.ch, Service sans Soucis, Switzerland.

Abstract Text:

Background: The International Organization of Physical Therapy in Mental Health (IOPTMH) published new educational standards in 2020 that included a severity differentiation of MH pathologies stating that depression, anxiety, autism, ADHD, stress, eating disorders and addiction were "common", and PTSD, bipolar disorder and psychotic disorder were "severe" diseases. In MH research, Vancampfort et al (2017) and Werneck et al (2020) stated that schizophrenia, bipolar disorder or major depressive disorder were "severe" diseases. However, the dichotomy of "common" and "severe" is questionable. A disorder can be both "common" and "severe" at the same time. A better distinction of severity usually includes the three groups of "mild", "moderate" and "severe". Additionally, many diseases can show a "mild", "moderate" or "severe" course.

Purpose: Improving the future of the diagnostic approach in MH physiotherapy.

Methods and instruments: Literature review of MH diagnostics until April 2022, and interviews with psychiatrists and psychotherapists

Analysis: Qualitative analysis and discussion.

Results: Severity is not indicated by the name of the disorder, but by further questions and tests. Dimensional diagnostics are proposed to be used in future (APA 2013, WHO 2019) for some disorders, but also a P factor (P for psyche) (Lahey et al 2012, Caspi et al 2014, Smith et al 2020). The P factor further developed results in a PS-factor (PS for psyche and soma). Taken everything together: A dimensional PS factor is proposed including subjective and objective parameters.

Conclusion: The dimensional PS factor helps to find an efficient treatment and to illustrate the treatment success.

Background:

The International Organization of Physical Therapy in Mental Health (IOPTMH) published new educational standards in 2020 that included a severity differentiation of MH pathologies stating that depression, anxiety, autism, ADHD, stress, eating disorders and addiction were "common", and PTSD, bipolar disorder and psychotic disorder were "severe" diseases. In MH research, Vancampfort et al (2017) and Werneck et al (2020) stated that schizophrenia, bipolar disorder or major depressive disorder were "severe" diseases. However, the dichotomy of "common" and "severe" is questionable. A disorder can be both "common" and "severe" at the same time. A better distinction of severity usually includes the three groups of "mild", "moderate" and "severe". Additionally, many diseases can show a "mild", "moderate" or "severe" course.

Purpose:

Improving the future of the diagnostic approach in MH physiotherapy.

Methods and instruments:

Literature review of MH diagnostics until April 2022, and interviews with psychiatrists and psychotherapists

Analysis:

Qualitative analysis and discussion.

Results:

Severity is not indicated by the name of the disorder, but by further questions and tests. Dimensional diagnostics are proposed to be used in future (APA 2013, WHO 2019) for some disorders, but also a P factor (P for psyche) (Lahey et al 2012, Caspi et al 2014, Smith et al 2020). The P factor further developed results in a PS-factor (PS for psyche and soma).



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**Conclusions and
implication:**

Taken everything together: A dimensional PS factor is proposed including subjective and objective parameters.

Key Words:

The dimensional PS factor helps to find an efficient treatment and to illustrate the treatment success.

psychopathology classification, dimensional diagnostics, psyche-soma factor

**Funding
acknowledgements
(If applicable):**

The work was unfunded.

Ethics approval:

Not required.



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OP-02

ADVANCED PHYSIOTHERAPY PRACTICE (APP) IN MH

Cristina Staub

Physiotherapist, Ausgeschlafen.ch, Service sans Soucis, Switzerland.

Abstract Text:

Background: Advanced Physiotherapy Practice (APP) refers to the specialized clinical practice functions of a physiotherapist in an expanded role. The role is considered to be advanced if additional training is required for its practice.

Purpose: Promoting the development of the profession of physiotherapy: What are the conditions required for, what is the impact of, and what are the functions of APP in MH? Presentation of the model tested in everyday practical activities, description of the work with patients and the cooperation with representatives of other professions.

Methods: Analysis of diagnostic procedure and the treatments of 30 patients of an interdisciplinary practice and their health before and after the treatments.

Instruments: Data collection of the subjective assessments (VAS of pain and sleep quality, Beck depression inventory (BDI-II) and fatigue severity scale (FSS)) and of the objective tests (pulse, blood pressure, blood analysis, actigraphy, respiratory polygraphy).

Analysis: Analysis of the therapeutic success by paired t-test or Wilcoxon signed rank test. The significance p is calculated two-tailed.

Results: In addition to professional knowledge, there are other conditions for APP to work. These include taking responsibility and interdisciplinary collaboration, but there exist also other parameters that are pointed out and discussed. The positive consequences on the health of the patients are impressive (significant improvements in various values). Some specific practical examples illustrate the optimal approach.

Conclusion(s) and implication: Especially in the field of MH, the benefits of an APP are obvious. The new activities need to be promoted in the manner presented.

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Conclusions and implication:

Especially in the field of MH, the benefits of an APP are obvious. The new activities need to be promoted in the manner presented.

Key Words:

Advanced Physiotherapy Practice (APP), interdisciplinary and responsibility, optimal strategies, access in the future

Funding acknowledgements (If applicable):

The work was unfunded.

Ethics approval:

The project is approved by the health directorate of the canton of Zurich.

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OP-03

RELIABILITY OF THE GERMAN TRANSLATION OF THE BALANCE EVALUATION SYSTEMS TESTS BY PEOPLE WITH SCHIZOPHRENIA SPECTRUMS DISORDERS AND THEIR HEALTHY CONTROLS

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³Professor, Abtl. für Psychiatrie und Psychotherapie, SRH Klinikum Karlsbad-Langensteinbach, Germany.

⁴Professor, Fakultät für Therapiewissenschaften, SRH Hochschule Heidelberg, Germany.

Abstract Text:

Background: People with Schizophrenia Spectrum Disorders (PwSSD) show motor deficits. Balance deficits are classified as Neurological Soft Signs (NSS). It is important to identify the deficient system of postural control. This is made possible by the Balance Evaluation Systems Test (BESTest).

Purpose: The purpose of the study was to assess the intraclass coefficient (ICC) and Kendall's Coefficients of Concordance (W) to confirm the evaluation objectivity.

Methods: The interrater reliability was calculated. Nine video recordings were selected. Three physical therapists and two physical therapy students in their final year were recruited as raters. Instruments: The BESTest scores on a 4-point scale from zero to three points, with a higher score indicating better balance ability.

Analysis: The calculation of the ICC (3,1), two-way mixed model, adjusted. Kendall's Coefficients of Concordance (W) is also reported.

Results: All agreements are significant and in summary, the overall BESTest shows moderate interrater reliability (ICC (3,1) = .71). The Kendall's Coefficients of Concordance (W) turns out to be higher for the overall test (Kendall's W = .74.)

Conclusion & Implication: In the present work, 9 videos were evaluated on the BESTest with PwSSD and their HCG to calculate the ICC and Kendall's Coefficients of Concordance (W). The objectivity of the evaluation determined by the interrater reliability of the original test is moderate. In further studies, the psychometric properties of the BESTest in PwSSD should be examined.

Background:

People with Schizophrenia Spectrum Disorders (PwSSD) show motor deficits, including motor slowing, spontaneous dyskinesias, parkinsonism, and Neurological Soft Signs (NSS). Balance deficits are classified as NSS. Up to now, apparatus measuring instruments have mostly been used to record the balance performance in PwSSD in the laboratory. In particular, gait has been well studied. However, gait is only a partial component of postural control. Therefore, it would be important to investigate all components of postural control. In order to plan an efficient treatment as a physical therapist, it is important to identify the deficient system of postural control. This is made possible by the Balance Evaluation Systems Test (BESTest). This consists of six systems with 36 items that together cover the postural control system.

1. System: Biomechanical Constraints: Factors affecting static balance: including loss of strength in the stance leg (aot. Item 4: Hip/Trunk Lateral Strength);
2. System: Stability Limits: Movement of the body's center of gravity beyond the support surface (aot. Item 7: Functional Reach Forward);
3. System: Transitions -Anticipatory Postural Adjustment: Change of the body's center of gravity when changing body position (aot. Item 11: Stand On One Leg);
4. System: Reactive Postural Response: Restoration of balance after loss due to an external stimulus (aot. Item 16: Compensatory Stepping Correction - Forward);
5. System: Sensory Orientation: Reduction of somatosensory information and effect on body sway (aot. Item 19 D: Eyes Closed, Foam Surface);
6. System: Stability In Gait: Testing dynamic balance with

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- various additional tasks (aot. Item 27: Timed “Get Up & Go” with Dual Task). The BESTest shows good to excellent reliability and validity in various populations. Two shorter versions of the BESTest exist: the Brief BESTest and the Mini-BESTest. The BESTest was translated and culturally adapted into German.
- Purpose:** The purpose of the study was to assess the Reliability with the intraclass coefficient (ICC) and the Kendall's Coefficients of Concordance (W) to confirm the evaluation objectivity.
- Methods:** To estimate the objectivity of the evaluation, the participants were videotaped during the motor test of the BESTest and the interrater reliability was calculated. Nine video recordings were selected for this purpose, which were characterized by good recording quality for evaluation on the computer. Three physical therapists and two physical therapy students in their final year were recruited as raters.
- Instruments:** Balance Evaluation Systems Tests: The BESTest scores on a 4-point scale from zero to three points, with a higher score indicating better balance ability. The maximum score in all six systems is 108 points, which are distributed among the individual systems with point values between 15 and 21.
- Analysis:** Statistical analysis included the calculation of the ICC (3,1), two-way mixed model, adjusted. Interpretation of the ICC is assessed according to Koo and Li, 2016, with values below .50 indicating poor reliability. Values between .50 to .75 indicate moderate reliability, values between .75 to .90 indicate good reliability, and values greater than .90 indicate very good reliability. The requirement of the ICC that the values of the BESTest are normally distributed was violated. Therefore, Kendall's Coefficients of Concordance (W) is also reported for further validation.
- Results:** Table 1 shows the intraclass correlation coefficient ICC of the five raters for the individual systems and the overall BESTest. All agreements are significant and in summary, the overall BESTest shows moderate interrater reliability. Among them, four systems: system 2 “Stability Limits”, system 3 “Transitions -Anticipatory Postural Adjustment”, system 4 “Reactive Postural Response” and system 5 “Sensory Orientation” show good reliability. No system shows poor reliability. The concordance coefficient W according to Kendall turns out to be higher for the overall test.

Table 1: Interrater reliability of the BESTest by systems and overall test.

BESTest Systems	ICC Mean Value (95% CI)	p-Value	Kendall's Coefficients of Concordance (W)	p-Value
1. System: Biomechanical Constraints	.65 (.52-.76)	<.001	.68	<.001
2. System: Stability Limits	.80 (.73-.86)	<.001	.85	<.001
3. System: Transitions -Anticipatory Postural Adjustment	.80 (.73-.87)	<.001	.78	<.001
4. System: Reactive Postural Response	.81 (.74-.87)	<.001	.82	<.001
5. System: Sensory Orientation	.80 (.72-.87)	<.001	.69	<.001
6. System: Stability In Gait	.56 (.45-.67)	<.001	.63	<.001
BESTest Overalltest	.71 (.67-.75)	<.001	.74	<.001

Notes: ICC = intraclass correlation coefficients, CI = confidence interval.



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Conclusions and implication:

In the present work, 9 videos were evaluated on the BESTest with PwSSD and their HCG to calculate the ICC and the Kendall's Coefficients of Concordance (W). The objectivity of the evaluation determined by the interrater reliability of the original test is moderate.

Similar results have been reported in other populations studied, but the ICC was always higher. The reason for the lower score in this present study may be that only videos were assessed here, rather than assessment in an actual testing situation as in the studies cited above. For the two videos that were rated as poor, it became apparent that the angle to evaluate the Functional Reach was not optimally executable. In addition, due to the lack of space, it was also not possible to have a good perspective to observe the System 6 "Stability in gait". However, through the testing and the video recordings in the field, it shows the difficulties that one also has in "real life" compared to a laboratory situation when assessing a balance performance. Assessing interrater reliability using a video recording has the advantage of being able to rewind the recordings and watch them a second time. This procedure was also allowed to the raters in this present work. In further studies, the psychometric properties of the BESTest in PwSSD should be examined.

Key Words:

People with Schizophrenia Spectrums Disorders; Balance Evaluation Systems Test; Intraclass Coefficient; Kendall's Coefficient of Concordance (W); Interrater Reliability

Funding acknowledgements (If applicable):

The study was supported by the SRH Holding Foundation.

Ethics approval:

A positive ethics vote by the Ethics Committee of the Medical Faculty of Heidelberg University is available (S-624/2016).

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OP-04

THE EFFECTIVENESS OF MOTOR IMAGERY ON REHABILITATION OF MUSCULOSKELETAL INJURIES

Anna Varytimidi¹, Megi Goxho¹, Anna Christakou², George Papathanasiou³

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² Assistant Professor, Physiotherapy, University of Peloponnese, Greece.

³ Professor, Physiotherapy, University of West Attica, Greece.

Abstract Text:

Background: Motor imagery (MI) is an alternative therapeutic beneficial technique, which is used for physiotherapy rehabilitation of neurological diseases, elderly's impairments, musculoskeletal and sports injuries. Only three systematic reviews have examined the effectiveness of MI on the rehabilitation of musculoskeletal injuries and only two outcomes have been measured, pain and range of motion.

Purpose: The purpose of the present systematic review is to examine the effectiveness of MI on the rehabilitation of musculoskeletal injuries.

Methods: The study was carried out based on PRISMA guidelines. PubMed, Scopus, Google Scholar and Cochrane Library, with particular key words and MeSH terms, were used for the selection of randomized controlled trials (RCTs). Specific inclusion and excluded criteria of the studies were defined.

Instruments: The methodological quality of the RCTs was assessed using the PEDro scale, which is a valid and reliable tool.

Results: Eleven RCTs met the inclusion criteria. According to the PEDro evaluation, the methodological quality of the included RCTs was moderate (total score 5.2/10). The majority of the RCTs found that MI had a significant effect on pain ($p < 0.01$) and strength ($p < 0.02$). However, the results for the ROM and functional ability were controversial.

Conclusions and implication: The study suggests that MI can be beneficial for patients with musculoskeletal injuries or patients after orthopedic surgery. When combined with MI training, the effectiveness of physiotherapy on musculoskeletal rehabilitation is enhanced. Due to the limitations of the present study, directions for future research are provided.

Key words: motor imagery, musculoskeletal injuries, pain, strength, functional ability

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Key Words:

motor imagery, musculoskeletal injuries, pain, strength, functional ability

Funding acknowledgements (If applicable):

No funding was used for the present study.



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OP-05

INFLUENCE OF PATIENT-REPORTED DISTRESS AND WEEKDAY OF ADMISSION ON LENGTH OF HOSPITAL STAY IN PATIENTS WITH LOW BACK PAIN: A RETROSPECTIVE COHORT STUDY

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³Dr., FABER, KU Leuven, Belgium.

Abstract Text:

Background: Inpatient care for patients with low back pain (LBP) in primary care hospitals is a challenge. In this setting, interdisciplinary LBP management is often unavailable during the weekend. Delays in therapeutic procedures may result in prolonged length of hospital stay (LoS). The impact of delays on LoS might be strongest in patients reporting high levels of distress.

Purpose: The study investigates which influence the weekday of admission and distress have on LoS.

Methods: Retrospective cohort study conducted between 1 February 2019 and 31 January 2020. In part 1, a negative binomial model was fitted to LoS with weekday of admission as predictor. In part 2, the same model included weekday of admission, distress, and their interaction as covariates.

Results: We identified 173 patients with LBP. Mean LoS was 7.8 days (SD=5.59). Patients admitted on Friday (mean LoS=10.3) and Saturday (LoS=10.6) had longer stays but not those admitted on Sunday (LoS=7.1). Analysis of the weekday effect and planned contrast showed that admission on Friday or Saturday was associated with a significant increase in LoS (log ratio=0.42, 95%CI=0.21 to 0.63). According to the negative binomial model for LoS and planned contrast, the distress effect on LoS was significantly modified (difference in slopes=0.816, 95%CI=0.03 to 1.60) by dichotomic weekdays of admission (Friday/Saturday vs. Sunday-Thursday).

Conclusions: Delays in LBP management over the weekend may prolong LoS. This may particularly affect patients reporting high distress. Our study provides a platform to further explore whether interdisciplinary LBP management addressing patients' psychological needs reduces LoS.

Background:

Low back pain (LBP) is often a complex problem requiring interdisciplinary management to address patients' multidimensional needs. The inpatient care for patients with LBP in primary care hospitals is a challenge. In this setting, interdisciplinary LBP management is often unavailable during the weekend. Delays in therapeutic procedures may result in prolonged length of hospital stay (LoS). The impact of delays on LoS might be strongest in patients reporting high levels of psychological distress.

Purpose:

The study explores which influence the weekday of admission and distress have on LoS of inpatients with LBP.

Methods:

Retrospective cohort study conducted between 1 February 2019 and 31 January 2020, in Switzerland. Included were patients with LBP admitted to a medical unit at the Winterthur Cantonal Hospital.

Instruments:

The German Four-Dimensional Symptom Questionnaire (4DSQ) was used to evaluate patient-reported psychological distress. Information from the hospital electronic medical records was used to record data on LoS.



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Analysis: The statistical analysis was conducted in two parts. In part 1, a negative binominal model was fitted to LoS with weekday of admission as predictor. In part 2, the same model included weekday of admission, distress, and their interaction as covariates. Planned contrast was used in part 1 to estimate the difference in log-expected LoS between group 1 (admissions Friday/Saturday) and the reference group (admissions Sunday-Thursday). In part 2, the same contrast was used to estimate the corresponding difference in (per-unit) distress trends.

Results: We identified 173 patients with LBP. Mean LoS was 7.8 days (SD=5.59). Patients admitted on Friday (mean LoS=10.3) and Saturday (LoS=10.6) had longer stays but not those admitted on Sunday (LoS=7.1). Analysis of the weekday effect and planned contrast showed that admission on Friday or Saturday was associated with a significant increase in LoS (log ratio=0.42, 95%CI=0.21 to 0.63). 101 patients (58%) returned questionnaires, and complete data on distress was available from 86 patients (49%). According to the negative binominal model for LoS and planned contrast, the distress effect on LoS was significantly modified (difference in slopes=0.816, 95%CI=0.03 to 1.60) by dichotomic weekdays of admission (Friday/Saturday vs. Sunday-Thursday).

Conclusions and implication: Delays in interdisciplinary LBP management over the weekend may prolong LoS. This may particularly affect patients reporting high distress. Our study provides a platform to further explore whether interdisciplinary LBP management addressing patients' multidimensional needs reduces LoS in primary care hospitals.

Key Words: pain management, mental health, low back pain, primary care, primary care hospital.

Funding acknowledgements (If applicable): No external funding.

Ethics approval: The study was approved by the Kantonale Ethikkommission Zürich (KEK ZH: 2020-01465).



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OP-06

THE CREATIVE BODY IN PHYSIOTHERAPY. THE UTILIZATION OF EMBODIMENT IN DEVELOPING AN INTERDISCIPLINARY APPROACH IN MENTAL HEALTH

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Abstract Text:

Within the biopsychosocial model of health, physiotherapists changed their approach. From seeing the body mostly from a biomechanical view, they started to include psychosocial aspects in their work. It is clear that each and every one of us is using our body to express our unique individual identity. The body is important for movement but is also the medium through which emotions, thoughts, cultural and philosophical experiences are communicated.

This presentation explores the concept of embodiment and how physiotherapists can benefit from this approach and develop their own way of integrating it into their work. Embodiment refers to the unique way an individual uses its own bodily experience and processes to understand its own emotional experience and the experience of others. It is a creative process by which the individual can explore personal meaning, sense of self and unique relational experience. Here, embodiment is achieved through movement improvisation, a dance based technique, also used by dance movement therapists. Its usefulness is presented through eight case studies that approach in unique ways some of the common issues that patients address in physiotherapy.

Dance Movement Therapy is defined as the psychotherapeutic use of movement to promote emotional, social, cognitive, and physical integration of the individual improving health and well-being. Being creative with the body is a core element in dance, as well as in dance movement therapy. By addressing the creative body, physiotherapists can open up new opportunities for their patients to manage their physical and emotional challenges.

Background:

All that we experience (emotions, thoughts and relationships) is felt through our body. Embodiment is a term that can be confusing as there are so many definitions. It is mostly used in philosophy, psychology and sociology in discipline-specific ways, primarily to imply that an idea is grounded in physical experience (Glossary of Multimodal terms, 2018). One of the agreed main assumptions of embodiment is that it is bi-directional between subjective experience (e.g. of an emotion or situation) and the body's sensations and movements participating in this experience.

Embodiment is at the heart of dance as well as dance movement therapy practice. Dance movement therapy uses body movement as a primary tool to support and improve psycho-social well-being through creative and expressive movement processes. Embodiment offers a guide to deeper understanding of the self, one's relationships, and one's problems. Helen Payne, a professor and researcher in dance movement therapy, suggests that all therapists can benefit from employing embodied perspectives in their practice without having to train in dance movement therapy. However, the physiotherapist interested in using this creative resource needs to practice it, beginning with his/her own body.



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In physiotherapy the concept of embodiment has been explored to a limited degree and it's a topic that needs further research. Physiotherapy practice is an interactive process that involves mainly the examination of specific body functions in order to address the patient's problems. By adding movement improvisation, the physiotherapist can address the patients' innate capacities for creativity. Creativity is sometimes explained as an ability that allows people to discover a new solution to an old problem (Paolo Knill, 2000, p.9). According to Rollo May (1976, p.38) creativity represents the highest degree of emotional health.

Improvisation is play and according to psychiatrist Donald Winnicott (1971) play is significant in psychological healing and stated that it is in playing that the individual child or adult is able to be creative and use the whole personality and that it is in being creative that the individual discovers the self. In this presentation, I understand movement improvisation as a challenging exercise of our 'creative muscles', our creative body. Movement improvisation brings the body-mind connection in therapy and reveals the unique meaning that people give to their lives while living through disease and physical changes. Meaning is grounded in our sensorimotor experience and that it is through embodiment meaning can be extended (Lakof & Johnson, 2002). Finding meaning in therapy is critical. It affects peoples' participation in their recovery, in rehabilitation and in making the changes they need to do, to improve their quality of life. Furthermore, through movement improvisation we focus on how the body can play a significant role in transforming emotional distress.

Purpose:

The embodiment perspective may provide bridges and promote interdisciplinarity between physiotherapy, dance movement therapy and other psychotherapy approaches. This suggests that, in practice, movement improvisation can complement the existing strategies in physiotherapy care. Introducing this creative technique, the physiotherapist helps patients to increase body awareness, to moderate dysfunctional self-perception, to promote emotional expression and interpersonal responsiveness. Additionally, movement improvisation enables patients to explore and manage unpleasant feelings and thoughts (that they bring in therapy), in a less overwhelming way.

In practice, physiotherapists encounter patients experiencing significant emotional distress that often lead them in losing their motivation and meaning in therapy. Seeing things from a creative view may offer insights and solutions. Movement improvisation facilitates people to explore their creative capacities, to develop the ability to be spontaneous, to move in more free, expressive and unique ways, to focus what is happening in the moment, to work with opposites, to work with change, to work with all the available resources (physical and emotional) and to engage in a more confident and dynamic way in therapy. It is not the level of mobility or the level of skill in dance that determines the quality of the experience that one has. Rather the point is, that people of all different sensory and motor abilities can use some form of movement for exploratory creative experimentation in their rehabilitation.



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Methods:

The presentation is based on qualitative research on how the concept of embodiment which is a phenomenological concept, can be applied through movement improvisation in physiotherapy. Merleau - Ponty (2012) put the body at the center of his philosophy and offers a route to phenomenological research, which is about exploring lived experiences. Embodiment here is considered as the foundation of understanding the unique human experience. Merleau-Ponty (2012) wrote that living with illness and disability does not mean a limited way of living but instead, the existence of opportunities, since the body opens us to a great variety of possibilities for new ways of using ourselves.

Data collection came from document study and qualitative observations. I started with the review of the existing literature on how embodiment as a creative resource can be useful and how it is applied in different fields, including dance movement therapy and physiotherapy. In addition, I linked it with my professional experience. I studied my personal notes, written after the sessions. I focused on experiences that patients referred to as 'difficult' and/or 'frustrating'. Specifically, I focused on eight more common difficult and frustrating themes/issues that patients bring in physiotherapy. Eight patients agreed to engage in movement improvisation as a creative way to gain insight in those frustrating experiences.

Instruments:

My approach is a phenomenological one, based on subjective, lived experience. I used movement improvisation, a creative dance based approach to gain insight on how people actually experience their health problems and how I can use this approach therapeutically. The way I used this process is different from a dancer, dance teacher or choreographer. I used it metaphorically, as a way of facilitating awareness, insight and positive change. In such a practice, I focus on the process and not on the outcome or product (the creation of a particular dance) keeping in mind that when people improvise, there are no judgements since there is no right or wrong way of moving. Furthermore, in improvisation, we can try things out without looking for analyze anything as that would impede spontaneity. Additionally, when we improvise, we confront and express feelings that need release and create new ways of moving, learning and expressing.

I propose movement improvisation as a method of using embodiment as a therapeutic process. This creative process has five parts (Halprin Daria, 2003). It may appear linear, as we must follow one step after the other, but in therapy very often there can be a lot of back and forth between the phases.

1. Identification: The patient names an issue in therapy. It can be a physical symptom, an emotional response, a situation, an image etc.

2. Confrontation: The exploration starts with facilitating the patient to use movement, gestures, facial expressions, body postures to 'stay' with this issue in a creative way.

3. Release: Full expression of the issue including body movements, images, metaphors or words. It is a challenging phase because very often people may experience a block, which in fact provide the therapist important material for exploration.



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At this point, we may return to identification and exploration phases. This may happen several times before a full exploration of an issue occur, which has great value and important impact on the person.

4. Change: It refers to the connections between physical experience, emotion, imagination and thoughts and the possibility of seeing with a new perspective the initial issue. We look for any shift the person has when it gets in touch with the same issue. We look for a different body posture, facial expression, body movements, a different tone of the voice, a new sentence (using new words) and help the patient to acknowledge it. The process here is important and can be paralleled with the importance for the patient to recognize, relearn and use even the slight new range of movement that has been achieved in a structured exercise aiming in improving e.g. range of motion.

5. Growth: It is connected with the ability to apply what has been learned in therapy to everyday life experience.

Analysis:

This was a qualitative study based on my personal observation notes and my personal experience working in a rehabilitation center as a physiotherapist for 15 years. The sample is people living with a variety of chronic physical and mental health problems, women and men, aged 30 - 75 years old. The patients had multiple diagnoses and different socio-economic-educational background. In trying to narrow the enormous amount of information, I tried to identify similar themes, common issues that patients struggled with and addressed to them in physiotherapy. Afterwards, I suggested to patients to explore these issues in a creative way through movement improvisation to gain insight, find meaning and possible solutions.

My aim here is not to oversimplify how people embody their experience neither to generalize my findings to other treatment contexts. My aim is to include a creative process in physiotherapy that can enable therapists and patients to understand and manage better frustrating and stressful experience during rehabilitation. Also, it is a learning process that encourages people to explore their struggles and distress further in greater depth, in psychotherapy.

I used content analysis of my observations and my notes. I focused firstly on the physical expression followed by movement exploration and spoken language that evoked by body movement. Specifically, I observed all the body movements that patients chose to represent and express their 'struggle' - the facial expression, gestures, the breathing patterns, the body postures, the body parts they used, how they used the room, any material, time element and myself as a physiotherapist. I also considered my own reactions both physical and emotional as a way of having a better understanding of my patient experience.

My observations were participant, patients would ask to support them e.g. to balance, to walk etc. Written notes were taken after the observations. The content of my notes were interpreted in relation to what is being conveyed by the patient (using patients' words) and how (movement observations). It is important to note that the reporting of findings is ultimately subjective and also unique to the individual experience.



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I chose **eight common issues** that patients chose to address in my physiotherapy practice and how eight different patients were engaged in the movement improvisation process.

1. I am extremely **lazy** in doing my exercises at home. I expect from you as expert to have the solutions. In movement improvisation this 33 year old woman with a diagnosis of multiple sclerosis, needing a wheelchair, used quick start – stop movements which were accompanied with a repeatedly asking ‘what, ‘what’, ‘what’ - I don’t know what is really happening to my body. I am not going anywhere. I am very restricted. The main issue explored included her lack of body awareness and her sense of powerlessness that was expressed with ‘laziness’. As therapist I suggested to explore some different movements and postures - moving from restricted movements, to breakthrough movements and free flow movements. She articulated that she often felt confused, anxious and hopeless about her diagnosis and her rehabilitation process. Those feelings often led her in being very critical on herself as well as health professionals.
2. When I focus on my body, there is only **pain**. To deal with it, I take a lot of medication. I want to feel better quickly. In movement improvisation this 60 years old man with diagnoses of depression, chronic heart failure and chronic neck pain, found difficult to initiate any movement. He struggled with the idea of playing – I didn’t play much when I was a child, so the main focus in movement improvisation was to support him to be spontaneous in moving and find some joy in free movements. He mentioned that he was surprised by the unexpected ‘dancing’ movements he did. Also, he discovered that there were moments during his dance that he was able to ‘feel himself more’ in contrast with his being in a constant state of anxiety in everyday life.
3. Only when I **cry**, people believe me. I give a lot to others, others make fun of me. Movement improvisation with this 53 years old woman with a diagnosis of rheumatoid arthritis enabled her to explore movements and images that represent ‘giving’ actions and feeling ‘empty’ and the opposites (‘receiving’ and feeling ‘full’). This process led her to acknowledge that she has organized herself around a belief that people are likely to make fun of her. As a reaction to this belief, she often pushes herself to support and please others. By adopting different body postures and movement, she experimented with different ways of communicating her needs to other people. Speaking more openly about her health problem to others could help them learn and understand her better.
4. My legs are cut off from my body. I **fear** movement, especially free movement. Fragmentation and whole body movement images were explored with this 53 years old man with a diagnosis of multiple sclerosis, in relation to feeling very anxious and afraid of his physical restrictions. He mentioned of feeling anxious in moving in front of people and especially in front of his son. He connected his anxiety with fear about the social stigma. He referred to the difference he saw between how he thought he was supposed to look like (especially as a father model) and how he looked like in real life. Facilitating free movement enabled him to confront his anxiety and his belief that being disabled doesn’t mean giving up the social roles and the essence of who you are.



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5. I have to be/look Ok for my family – I throw my feelings to the bin. Movement improvisation was an opportunity for this 50 years old woman with diagnoses of chronic lumbar pain and depression, to express in a safe and supportive place the feelings that she usually threw to 'the bin'. She explored in a symbolic way and developed the movements of throwing and falling. She also got in touch with the belief of being somehow the failure of her family and she didn't get the affection she wanted.

6. When I feel sad or angry, people (family, friends, doctors, therapists etc.) say I must relax and keep calm. This helps me for a short while but I miss the opportunity to express my feelings. Movement improvisation was about moving with and explore 'sad' and 'angry' movements, which were associated with the fact that the parents of this 40 year old woman with a diagnosis of multiple sclerosis needing a rollator, treated her like a 'baby' and wanted her to be a 'quiet calm baby' all the time. She shared her complaints about the fact that people have a fixed idea of what disability should look like. She mentioned that there is no place for 'feelings' in the rehabilitation process and that doctors and different therapists prefer a very co – operative, calm patient, an individual without having a personal opinion about one's own recovery

7. I am tired. I can't do many exercises today. Image of carrying a huge burden was emerged and 'letting go' movements of this burden (or part of it) were explored with this 55 years old man with diagnoses of depression and chronic lumbar pain. Tiredness in movement improvisation was connected with a lack of confidence in his body and his difficulty in sharing his mental health problem when the prejudice is so rife. His 'dance' was about how to make new movements – new beginnings on a personal and professional level.

8. I am paying the price of something bad I (or an ancestor) have done in the past. I need to pray more for forgiveness. Movement improvisation started with the image of being very 'small' and 'worthless'. Initially, this 40 years old man did small hand gestures. Feeling shame about his body image (survived a serious head injury after an accident that wasn't responsible for) led him to explore running away, hiding, fighting and balancing movements and the possibility to see himself in a different way in relation to his situation (not to blame himself for the accident) and be more comfortable with his body.

Results: In reflecting upon the unique process of eight individuals, my **main findings** are:

- When they engaged in movement improvisation following the five parts model, themes and patterns from their lives were revealed.
- Movement improvisation opened up opportunities for them to share and express their pain, discomfort, loneliness, sadness, fear, anger, anxiety, disappointment and shame in a less threatening and overwhelming way - transforming it in a creative way.
- Not being able to respond to the creative process was a common issue for the eight individuals and was experienced as an obstacle, a block, a failure or a cut off from their imagination. Learning how to play again as D. Winnicott stated, brings the opportunity to explore the blocks and fears and work through physical and emotional limitations in a creative way.



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- When working through blocks/struggles, a physiotherapist can discover the unique person's style of engagement with a stressful, painful experience. For example, anxiety was expressed in unique ways through movement improvisation and when the patients explored it verbally, it did not mean the same thing. Movement was carrying a unique message (one person connected anxiety with fear, another one with shame, another one with anger).
- This process enabled all of them to acknowledge that many aspects of their experience (emotions, thoughts, actions, behaviors) were being blocked – unexpressed, thus limiting their experience of joy. Joy was seen as a state of fully experiencing the current moment including all the aspects of it.
- This process enabled patients gradually to understand their own frustrating experience and to acknowledge their difficulty to open up emotionally to others. They also encouraged trying different strategies to claim their needs (e.g. letting others know how they feel instead of avoiding their feelings, criticizing themselves and other people). At the end, they mentioned they felt more confident to cope with increased feelings of fear and anxiety.
- This process of giving attention to embodied experience, representing it in movements and images and finally words led me to a greater understanding of how individuals experience, in their unique way, their physical restrictions and emotional pain caused by their health condition and enabled me to intervene in a more holistic way. No external funding.

Conclusions and implication:

In future, physiotherapists may see the body also from a creative aspect and integrate movement improvisation in their education and clinical work. Introducing the concept of embodiment patients can, in a symbolic way, tolerate, explore, find meaning, manage and adapt to ongoing life issues and struggles. The concept of embodiment enables physiotherapists to have a better understanding of patients' experience and work more effectively with the multidimensional nature of pain and dysfunction.

Key Words:

Embodiment, creativity, movement improvisation, physiotherapy

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My work was unfunded

Ethics approval:

I, the author of this presentation, declare that i have no conflicts of interest.

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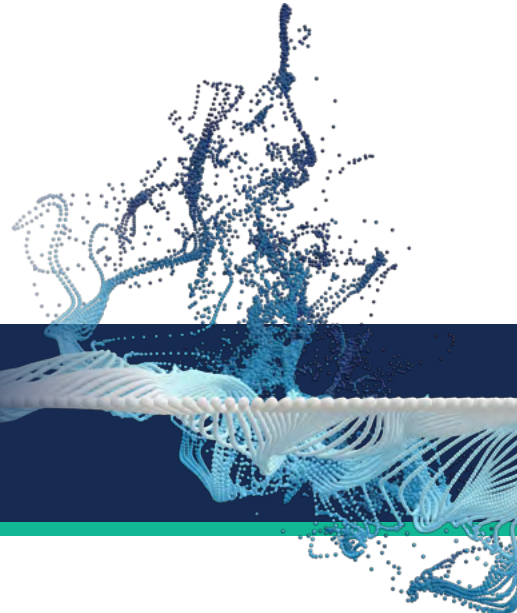


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OP-08

EXHALED BREATH AND MENTAL DISORDERS. IS THERE ANY ASSOCIATION?

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Abstract Text:

Nowadays, more and more people experience mental problems. A great number of factors contribute to that such as genetics, biological, environmental, trauma, (chronic) medical conditions and use of substances (alcohol or drugs). This variability affects diagnosis, monitoring and treatment. Despite the evolution in medicine with the help of technology, understanding their natural course and treatment is still problematic.

Exhaled breath analysis is a new promising method for studying diseases. The exhaled breath is full of compounds mainly volatile organic ones in miniature quantities. Their analysis is capable to provide information on the ongoing metabolic processes taking place in the body which is believed to help in the diagnosis, monitoring and treatment of diseases.

The study of mental disorders via the analysis of exhaled breath is a relatively new field. A comprehensive bibliographic search of the internet through the PubMed web portal showed that the profile of the exhaled breath between healthy subjects and ones with a mental disorder is different. This relies on the association between pathological processes such as inflammation and oxidative stress and mental impairment. Although the number of studies is not big, they are significant because their findings open new approaches in psychiatry.

Further research on both exhaled breath analysis and mental disorders is necessary to obtain a clear picture of their association and their mechanisms.

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Ghosh C et al (2019). 'Recent advances in breath analysis to track human health by new enrichment technologies'. Journal of Separation Science; 43: 226 – 240 doi:10.1002/jssc.201900769

Background:

Diagnosis, monitoring and treatment of mental disorders still have grey areas maybe because of their multifactorial cause and variable course. It seems that the current medical management is not able to provide answers to all issues and especially associate them with pathological processes such as inflammation. Exhaled breath is a source of compounds reflecting the ongoing pathological processes taking place in the body. Its non-invasive character and the obtained picture of the functions of the body make it a promising tool in giving some answers in psychiatry.

Purpose:

The purpose of this work is to present evidence that seems to associate the exhaled breath with mental disorders.

Methods:

A bibliographic search of the internet through the PubMed web portal

Instruments:

See **References**

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Results:

The profile of the exhaled breath presents differences between healthy subjects and patients with mental disorders

Conclusions and implication:

There is evidence showing that patients with mental disorders have a different profile of exhaled breath compared to healthy people. The content of exhaled breath reflects pathological processes such as inflammation that happen in the body. That seems to connect such processes with mental impairment.

Further research is necessary on both exhaled breath analysis and mental disorders to obtain a clear picture of their association.

Key Words:

exhaled breath, mental disorders, inflammation

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OP-09

THE EFFECT OF BASIC BODY AWARENESS THERAPY (BBAT) IN A GROUP OF PERSON-CENTERED PSYCHOTHERAPISTS; TOWARDS A BROADENING OF BOTH PSYCHOTHERAPY AND PHYSIOTHERAPY PERSPECTIVES

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Abstract Text:

Body awareness and movement quality are the key points of Basic Body Awareness Therapy (BBAT), a physiotherapy approach dealing with movement quality and awareness, vastly used in the field of mental health and spreading nowadays worldwide through clinical practice, formal education and research (Skjaerven et al., 2019, 2018). This study addresses the impact of BBAT method on psychotherapists in terms of addressing their own well-being and broadening their health perspective and highlights the subtle aspects in similarities and differences in BBAT and psychotherapeutic processes and the ways they could interact complementary to each other. A phenomenological study design was chosen using Systematic Text Condensation (STC) analysis of person-centered psychotherapists on their experience of the Basic Body Awareness Therapy (BBAT) method. The analysis is based on semi-structured interviews and observation and it has a quantitative aspect regarding the improvement of participants' movement quality, utilizing the Body Awareness Rating Scale -Movement Quality and Experience (BARS-MQE) tool (Skjaerven et al., 2015). The results indicate that BBAT is a salutogenic, process-oriented and holistic approach that can be used as a mean of deep self-reflection and personal growth and thus can play a complementary role to traditional psychotherapy. Also, the quantitative part of the analysis indicates that the quality of movement can be improved through BBAT. The outcomes of such a research could contribute in broadening the scope also for the BBAT therapists, gaining from the experience and specialty of the psychotherapists, as they are considered "experts" in mental health.

Background:

Basic Body Awareness Therapy (BBAT) is a physiotherapy approach that aims to establish new movement habits and a new way of being. It focuses on movement awareness, introducing a movement quality model (Skjaerven et al., 2008, 2010, 2013, 2016), based not only in strictly biomechanical but also in physiological, psycho-socio-cultural and existential movement aspects (Skjaerven et al., 2008, 2010, 2013, 2016, 2018). It is because of this broad scope that it has proved to be very useful in clinical practice, especially in the domain of mental health physiotherapy and in dealing with chronic pain and nonspecific musculoskeletal disorders (Madsen et al., 2015), in preventive healthcare and health promotion (Skjaerven et al., 2019). Despite its broadness, it offers a very well structured strategy (Skjaerven et al., 2019) to be used in individual and group therapy, incorporating a valuable and reliable evaluation tool, called Body Awareness Rating Scale -Movement Quality and Experience (BARS-MQE). BARS-MQE, - developed over years of experiences of using BBAT-, is consisted of two parts of equal importance and assesses movement quality through both qualitative and quantitative aspects (Skjaerven, 2016, Skjaerven et al., 2015, Skatteboe et al., 1989, Hedlund et al., 2016).

Presence and awareness of movement is at the core of the treatment. The approach is person-centered and aims to promote health, with basic coping strategies in treatment



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as well as to enhance contact with the «self». Its salutogenic perspective -inspired by Antonovsky's Salutogenic Model of Health (SMH) (Vinje et al., 2016)- allows it to highlight and empower the healthy aspects of a human being, which can be useful not only when dealing with pathology, but also in the field of prevention and personal growth.

A BBAT session includes simple every day movements (lying, sitting, standing, walking) as well as relational movements, use of sound and massage (Skjaerven 2013). Unlike most physiotherapy methods, self-reflection and writing (with the use of a log) is part of the method. Self-training and incorporating of the lived movement experience in daily life is crucial for the therapeutic process. A main attribute of BBAT is the therapeutic relationship between the therapist and the patient (Skjaerven et al., 2019). The therapist's embodied presence (Skjaerven et al., 2019), being in movement with the patient sets the basis of building trust and working with the healthy aspects of the patient, promoting freedom and movement quality. There is no movement correction nor judgment for right or wrong (Madsen et al., 2015), (Skjaerven et al., 2010); just an invitation to the patient to explore his own inner resources and awaken the optimum elements in them.

Originated by the French Movement educator and psychotherapist Dropsy back in the 1960's with influences from various western and eastern movement awareness traditions (Skjaerven et al., 2019, Matamoros et al., 2011), it was introduced to the physiotherapy world by physiotherapist Dr. Roxendal in the late 1970s (Skjaerven et al., 2019). Ever since it is continuously developing in clinical practice and theory through evidence based research by the International Association of BBAT teachers. (Skjaerven et al., 2013).

The impact of the method has been a research subject for different population. Louise Danielsson et al. (2014) explored its role as an add-on treatment for major depression. Gyllensten et al. (2003) reported that patients with schizophrenia expressed experiencing better own control, which was important for them. Hedlund et al. (2010) also referred to positive effects of BBAT in patients with schizophrenia. Gard, Gunvord (2005), Courtois et al., (2015) and Bravo et al. (2018) explored the use of BBAT for patients with chronic pain and fibromyalgia. Eriksson et al. (2007) suggested BBAT as a complementary therapy for irritable bowel syndrome patients. Ragnhild et al (2007) pointed out how patients with various moderate psychiatric disorders felt strengthening through BBAT process the "sense of belonging to oneself". Mattison et al. (1998) worked upon sexually abused women. Madsen et al (2015) described the effects of BBAT in a group of refugees. There has been lately research referred to the use of BBAT for patients with musculoskeletal disorders, such as hip osteoarthritis (Strand et al, 2016 and Olsen et al., 2017).

There is a body of research regarding the perspectives of expert BBAT therapists (Ambot et al., 2017, Gyllensten et al., 2019). There has never been research into the impact that BBAT would have on a population very closely linked to mental health: psychotherapists, those who play a central role in the group of mental health professionals.

A study concerning the effects of BBAT on a group of psychotherapists would be a most promising topic as a field of exploration. The relation between BBAT and psychotherapy could be even more explicitly highlighted. A poster by Ana Costa et al. (2013) has shown how psychodynamic group psychotherapy and body awareness intervention can be complementary to improve depression and burden of care in family caregivers of AD patients.



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Purpose:

The aim of the present study therefore is broadening the scope of psychotherapists, in a personal and professional level as well as to explore how these two modalities can co-exist and work together. Therefore, the following two research questions were explored:

BBAT method could be useful to psychotherapists in terms of addressing their own well-being and broadening their health perspective.

According to psychotherapists perspectives, BBAT and psychotherapeutic processes could interact complementary to each other.

Methods:

Four experienced person-centered psychotherapists were recruited for this research. In order to participate in this study, they had to satisfy the following requirements: a) to be active person-centered psychotherapist and work in a private office, b) to have at least 5 years of experience as counsellors and c) to not have any current physical disability or a diagnosis that would make working in lying, sitting or standing position inadequate for them. Three of the participants were females and one was male, while their age ranged from 41 to 53 years old.

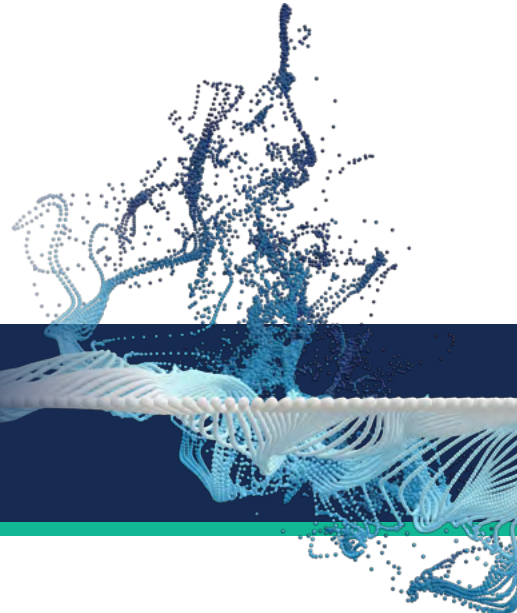
The participants were recruited through e-mail invitations. A list of 10 names were notified through mail invitations, where BBAT, the aim and the process of the project were explicitly explained. The probability of switching to online in case of a Covid lockdown was part of our original contract. The first five who accepted the e-mail invitation, expressing a clear, undoubted wish to be part of the clinical practice, were the ones selected for the realization of the project. One of them had to drop out last moment due to professional time-schedule changes, so the final number of the participants was four and the clinical practice finally was mixed: live (four meetings) and online (eight meetings).

All participants were informed about the reason for the study and the reason of selection. All signed an informed consent prior to sessions including all the meeting details and were assured of confidentiality. In order to ensure confidentiality of the information, all data were kept in a safe place where no one has access. The anonymity is protected by not mentioning participants' names at any point of the project, nor in any data collection form, written, audiotaped or videotaped and no personal information indicative of the participants' identity were mentioned as well. Ethical issues were highlighted, as well as, the right to withdraw from the process whenever someone wished.

Instruments:

Both qualitative and quantitative research design was utilized to examine the experiences of psychotherapists who undergone twelve sessions of BBAT. Qualitative methodology gave space for analysis, interpretation and further elaboration of the experience of the participants while with the quantitative data, a more immediate and objective comparison of the «before and after» promotion of the participants' movement quality could be represented through numbers.

Regarding the quantitative aspect of the study design, data was collected using part one of Body Awareness Rating Scale -Movement Quality and Experience (BARS-MQE).



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Part one of BARS-MQE is designed to evaluate the patient's movement quality based on therapist observation in accordance with defined criteria. (Skjaerven, Gard, Sundal, and Strand, 2015). Quantitative data were collected during part one of BARS-MQE assessment process. Therefore each participant had two individual BARS-MQE sessions, one before the first BBAT group session and one after the last BBAT group session.

Regarding the qualitative study design, a phenomenological interpretive approach was selected. Through the use of phenomenology there was an attempt to examine the lived experience of the mental health professionals, deepen into its understanding and to transform all this to a text. The qualitative data were collected during the part two of BARS-MQE, as well as during the twelve group sessions and through semi structured personal interviews with each of the participants after the end of their last group session. The interviews were videotaped, with the written consent of the participants, so that non verbal nuances -body language- could be studied during the analysis.

Analysis:

The quantitative analysis data was based on part one of BARS-MQE, using average scores before and after the sessions, referring to all twelve movements listed in BARS-MQE.

The qualitative data analysis was performed with the use of Systematic Text Condensation (STC) which is considered as most appropriate for use in a student level (Malterud, 2012). The first step of STC analysis involves becoming familiar with data through transcribing and re-reading. When the researcher becomes familiar with the depth of the content then, they can proceed to the second step when meaning units can be identified and coded. At the third step, these codes are sorted into potential subgroups and condensed into an "artificial quotation" quite different from "the original terminology applied by the participants" (Malterud, 2012). This serves later as a starting point for further reflection and elaboration. The fourth step involves the reconceptualization of the condensed units, in order to develop descriptions and concepts which led to a synthesis (Malterud, 2012) about how the psychotherapists finally experienced BBAT.

Results:

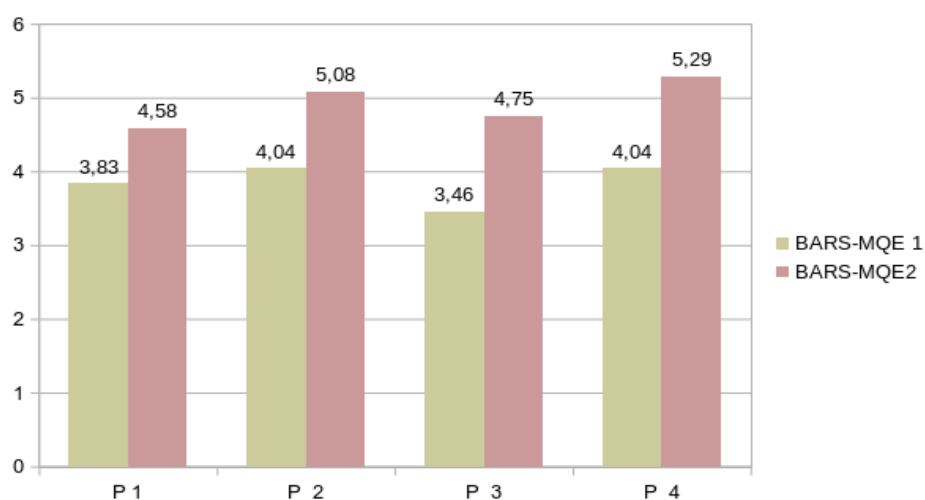
Regarding the quantitative analysis, the results are illustrated at the following table (Table 3.), which shows the average scores of each participant's movement quality before and after the twelve BBAT sessions. It is clearly illustrated that there is a difference between participants' average scores and more specifically, the overall average score of BARS-MQE changed from 3,84 to 4,925.

Conclusions and implication:

All the mental health professionals got significant benefits from the BBAT sessions in all BBAT perspectives and aspects. They become aware of bodily functions and sensed their movement more centered, released and with less pain. BBAT can be used as a mean of deep self-reflection and personal growth. One participant for example got acquainted with her difficulty in enjoying movement and rhythm not compatible to her very innate intention. Even as such, she recognized the utility of the method as a tool for mental process. All of the participants agreed that BBAT would be a very rich therapy to include in mental health care in Greece, clarifying how physiotherapy and psychotherapy could be complementary but noted it will take time for Greece to integrate for reasons that have to do with the mentality and also the socioeconomic status of the country.

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Table 3.:Movement quality scores before and after sessions.



The qualitative analysis, derived from the second part of BARS-MQE and the semi structure interviews, resulted in the following five subcategories and their coded meaning units as shown in the Table 4.

Table 4

SUBCATEGORIES	CODED MEANING UNITS
A Salutogenic physiotherapeutic approach: looking for the positive cues	Minimum effort Enjoy Freedom
A process oriented exploration	From curiosity to boredom to creativity
A holistic approach	Connection leading to unity Use in daily life.
Therapeutic effects and role of BBAT therapist.	Therapeutic traits Therapist's presence The metaphors
BBAT in Greece of 2021. Possibilities and perspectives.	BBAT in today's Greece's multidisciplinary mental health care Online versus live.

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The following table (Table 5.) present the representative quotes for each of the subcategories:

Table 5

Findings for each subcategory	
Minimum effort/Enjoy/ Freedom	<p>Relieving to use minimum effort, not having to prove anything.</p> <p>Activating, energy awakening, soothing, gamelike movement.</p> <p>Freedom of exploring, being and breathing organically.</p> <p>Harmonious movement of limbs.</p> <p>I feel the relief, the longing and the need to get into that situation again.</p> <p>I managed not being at all tired by the movement.</p> <p>I feel warm and fluid and soft.</p> <p>My axis felt having a lot of possibilities; magnificent freedom!</p>
From curiosity to boredom to creativity	<p>New discoveries about the body and the inner self.</p> <p>New perceptions about the axis, the movement center, the body members, the organs, the rhythm, the energy of the movement, the use of the eyes, the balance, the space in, the outer space, the self and the personal needs and boundaries.</p> <p>A chance to recheck preset beliefs .</p> <p>In the beginning, I was aware of my breath. Later on I got in contact with my tomy, the intestines and the liver. Then with my heart, my uterus, my thyroid, my spine. What a wholeness! What a discovery! I am feeling excitement and admiration</p> <p>Awareness has a different quality when deriving from the word curiosity</p> <p>Some very boring moments, but if you stick to them you loose transforming boredom into a creative process.</p> <p>Boredom as a gate for change and deeper connection.</p>
Connection leading to Unity	<p>Coming in contact with subtle bodily sensations in such a group setting refined the connection not only to the body, but the whole self, the space around them and the others.</p> <p>A fluid energy. I also come to realize the mind's distractions are not at all occasional. It's like my mind opens to answers I've been waiting for.</p>
Use in daily life	<p>This "new connectivity" influenced the very way of "being" in daily life.</p> <p>I felt secure carrying my personal sphere around me.</p> <p>A tool that opens up so many choices for me in every day movement, like walking, lying, sitting and standing.</p> <p>A tool for selfreflection and process, something I can always carry with me.</p> <p>To keep it and make it flourish, it needs to be cultivated and further practiced.</p> <p>I became to take care myself as well as the others and to say no with immediate, centered and soft way.</p>



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Key Words:

Body awareness, BBAT, psychotherapy, body psychotherapy

**Funding
acknowledgements
(If applicable)**

The work was unfunded

Ethics approval:

Ethical considerations, according to the Declaration of Helsinki and the European legislation on data protection was followed.



Physiotherapy in Mental Health; what's next?

OP-10

DIFFERENCES BETWEEN EXERGAMING REHABILITATION AND CONVENTIONAL PHYSIOTHERAPY IN QUALITY OF LIFE IN PARKINSON'S DISEASE: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Abstract Text:

Parkinson's Disease is a neurodegenerative condition with motor and non-motor symptoms affecting the quality of life of older adults. Exergaming rehabilitation allows the interaction of the subject with digital games through the realization of repetitive functional activities. Conventional physiotherapy uses patient centered programs that include a variety of active exercises. The aim of this review was to look into the effectiveness of exergaming rehabilitation on the quality of life of people with Parkinson's Disease and compare it with conventional physiotherapy. Five electronics databases were searched for eligible studies until February 2021. For the statistical analysis, the mean, the standard deviation and 95% confidence interval were used to calculate effect sizes between groups. To determine heterogeneity statistical index I^2 were used. A total of 548 participants were included in 14 studies. Exergaming Rehabilitation related with improved quality of life ($p=0.687$, 95% CI -1.682 - -0.734), balance ($p=0.039$, 95%CI 0.364 - 13.689), ($p=0.018$, 95% CI 0.446 - 4.830) and gait ($p=.005$, 95% CI 0.351 - 1.924). No significant deference was found between groups regarding the Unified Parkinson Disease Rating Scale ($p=0.196$, 95% CI -5.970 - 1.225) and for the Time Up and Go Test ($p=0.12$, 95% CI 0.446 - 4.830). Exergames as a rehabilitation method can be used to provide alternative interactive intervention with positive results for quality of life in people with Parkinson. Further investigation is needed to assess the effect on mental health in this population group.

Background:

Parkinson's Disease (PD) is a neurodegenerative condition that usually affects people after their sixth decade of life, creating motor, cognitive, mood and sensory dysfunctions. Both motor and non-motor symptoms can lead to reduced quality of life (QoL) for people living with Parkinson's. Conventional Physiotherapy (CP) and Exergaming Rehabilitation (ER) are therapeutics methods that provide a spectrum of different exercises used for rehabilitation scope.

Purpose:

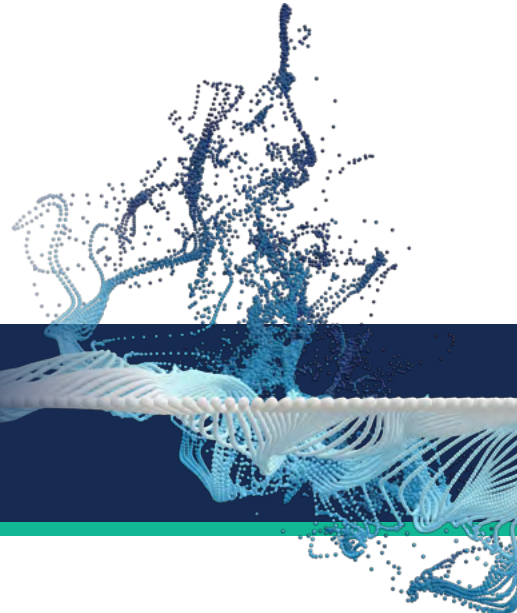
This systematic review aimed to identify, meta-analyze and present the impact of ER on Activities of Daily Living (ADL), physical and cognitive function, and QoL in people with PD. The study also aimed to compare results between the two modes of different rehabilitation intervention, the ER and CPT.

Methods:

The inclusion criteria for this systematic review were: (1) randomized controlled trial (RCT), (2) diagnosis of PD, (3) ER using any type of immersive exergaming tools for the intervention group, (4) CP using any type of exercise for the control group, (5) description of assessment of QoL, physical function and cognition. Two independent reviewers screened the literature for eligible studies.

Instruments:

The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement principles and PICO model have been applied.



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Analysis:

The following electronic databases were searched: Medical Literature Analysis and Retrieval System Online (MEDLINE/PUBMED), Physiotherapy Evidence Database (PEDro), Cochrane Controlled Trials Register (CENTRAL/CCRT), and Scientific Electronic Library Online (SciELO). There was no language or timeline restriction.

For the data synthesis and quantitative analysis the statistical software SPSS. 25.0 was used. Analysis was based on the mean, Standard Deviation (SD) and Confidence Interval (CI) for the evaluation of the effect sizes between groups. Statistically significant difference was set at <0.05 .

To determine heterogeneity, statistical index I^2 for the description of the variation between the studies was used. Significant level of heterogeneity of the index I^2 was set as $>75\%$.

Results:

A total of 228 studies were initially screened and following detailed examination, fourteen RCT's entered the meta-analysis. All studies were published in the last 10 years. Exergaming Rehabilitation related with improved quality of life ($p=0.687$, 95% CI -1.682 - -0.734), balance ($p=0.039$, 95% CI 0.364 - 13.689), ($p=0.018$, 95% CI 0.446 - 4.830) and gait ($p=0.005$, 95% CI 0.351 - 1.924). No significant deference was found between groups regarding the Unified Parkinson Disease Rating Scale ($p=0.196$, 95% CI -5.970 - 1.225) and the Time Up and Go Test ($p=0.12$, 95% CI 0.446 - 4.830).

Conclusions and implication:

Using a methodological approach, this systematic review and meta-analysis identified 14 studies that used Exergaming Rehabilitation and compared it with Conventional Physiotherapy. Analyses showed that usage of ER has a positive impact on function and quality of life in people with Parkinson's Disease. as . However, the identified studies used a variety of different tools to assess the same variables of interest, thus reducing the number of papers used for each meta-analysis conducted.

ER combines modern technology and rehabilitation, and so far, it is shown to improve function and QoL. However, more future studies are needed so the results can be further supported and possibly expanded into other important areas for the patients who use it, like the impact on their mental health.

Key Words:

Parkinson's Disease, VR, Exergaming, Conventional Physiotherapy, QoL, Cognition, Function

Funding acknowledgements (If applicable):

Unfunded work

Ethics approval:

The authors declared that the research was conducted in the absence of conflict of interest.



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OP-12

EFFECT OF A MINDFULNESS-BASED INTERVENTION TO REDUCE LEVELS OF DEPRESSION, ANXIETY AND PERCEIVED STRESS IN PHYSIOTHERAPY STUDENTS

Lizbeth Rodríguez Márquez¹, Norma Elisa Gálvez Olvera², Areli Guadalupe Morales Hernández³, Elizabeth Rodríguez Santillán³, Sergio Palacio Castañeda⁴

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²Mtra., Facultad de Enfermería, UAQ, Mexico.

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Abstract Text:

Background: Early detection and treatment of affective disorders (such as depression, anxiety and stress) in the population is extremely important and became crucial since the COVID-19 pandemic. It is known that, due to the suspension of activities, isolation and restraints that limit the interaction with others, had cause to young people to be affected by depressive disorders and anxiety during the pandemic (Santomauro, 2021).

Objective: The aim of this research is to determine the effect of a mindfulness-based intervention to reduce depression, anxiety, and perceived stress levels, in physical therapy students.

Methods: It is intended to conduct a prospective quasi-experimental study, in physiotherapy undergraduate students of a public university in Mexico in the period of semester 2022-1. The following scales were applied: stress perception (EPP-10), Well-Being (WHO-5 Well-Being Index), DASS-21 and 5 Facets of Mindfulness Questionnaire (FFMQ-M) before and at the end of the intervention along with thermography. The data will be analyzed using inferential statistics with SPSS v.20 software.

Results and Conclusions: In process. They're going to be delivered at the end of the intervention (April 2022).

Implications: The intervention is a program that's intended to be tested and improved so that it can be established periodically with students, seeking to improve their physical and mental health, as well as their academic achievements. This, in the long term, may have an impact on lag or dropout indicators

Acknowledgement of funding: Thanks to the resource ProFIC-UAQ 2021.

Ethical approval: Bioethics Committee of the faculty, including informed consent with the participants.

Background:

Early detection and treatment of affective disorders (such as depression, anxiety and stress) in the population is extremely important and became crucial since the COVID-19 pandemic. It is known that, due to the suspension of activities, isolation and restraints that limit the interaction with others, had cause to young people to be affected by depressive disorders and anxiety during the pandemic (Santomauro, 2021).

Purpose:

The aim of this research is to determine the effect of a mindfulness-based intervention to reduce depression, anxiety, and perceived stress levels, in physical therapy students.

Methods:

It is intended to conduct a prospective quasi-experimental study, in physiotherapy undergraduate students of a public university in Mexico in the period of semester 2022-1.

Instruments:

The following scales were applied: stress perception (EPP-10), Well-Being (WHO-5 Well-Being Index), DASS-21 and 5 Facets of Mindfulness Questionnaire (FFMQ-M) before and at the end of the intervention along with thermography.



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Analysis: The data will be analyzed using inferential statistics with SPSS v.20 software.

Results: In process. They're going to be delivered at the end of the intervention (April 2022).

Conclusions and implication: The intervention is a program that's intended to be tested and improved so that it can be established periodically with students, seeking to improve their physical and mental health, as well as their academic achievements. This, in the long term, may have an impact on lag or dropout indicators.

Key Words: Mindfulness-based methodology, students, stress, anxiety, depression.

Funding acknowledgements (If applicable): Thanks to the resource ProFIC-UAQ 2021.

Ethics approval: Bioethics Committee of the faculty, including informed consent with the participants.



Physiotherapy in Mental Health; what's next?

OP-13

THE EFFECT OF EXERCISE ON MAJOR DEPRESSION DISORDER FOR MULTIPLE SCLEROSIS PATIENTS

Kyriaki Hadjiyiasemi

University of Nicosia, Physiotherapy, University of Nicosia, Cyprus.

Abstract Text:

Aim: The aim of the present systematic review was to search the effectiveness of exercise on major depression in Multiple Sclerosis (MS) population.

Methods: Data was collected from MEDLINE, CINALH and PsycINFO through advance research. At the beginning 62 articles were selected from the titles and then based on the inclusion and exclusion criteria 14 articles were included in the systematic review and 9 in the metanalysis. The articles involved in the review had as an intervention any type of exercise, the MS patients participating in the research were above the age of 18 with major depression disorder or with depressive symptoms. The articles were scored with Pedro scale and the results were organized in tables. The metanalysis result values were presented in percentages for the quality of life (QOL), depression and psychological state. The results were presented in scatter plots.

Results: The quality of the articles on average was high since Pedro scale results were all above 6/11 with most of them scoring 8/11 except two articles. The types of exercises used in the articles were resistance training, aerobic training, walking, yoga, and Pilates. Based on the metanalysis exercise decreases depression, improves psychological state, and increases QOL.

Discussion: The number of articles found was limited to draw conclusions and the results in most articles were not statistically significant however all participants appear to have improvement after treatment. To conclude in comparison to other systematic reviews the results were correlating however more research is needed to be done.

Background:

Multiple sclerosis (MS) is a demyelinating neurodegenerative disorder that affects the central nervous system where as a result the patients appear to have mobility and sensory difficulties, bowel and bladder disfunctions as well as mental pathologies (Korn 2008). In the general population of patients with MS, 50% of them have higher chances to develop an emotional disorder in comparison with healthy individuals or people not diagnosed with MS (Dalgas U et.al 2015). Major depression disorder, manic or hypomanic symptoms can occur due to the medications that MS patients are taking to treat relapses for example high doses of corticosteroids or due to the decrease in the quality of life or due to the physiological progress of the disease (Boeschoten et.al 2017). The main treatments up to now are cognitive behavioral therapy (CBT), certain antidepressant drugs for treating depression and anxiety and dextromethorphan with quinidine (DM/Q) for treating pseudobulbar affect and exercise (Kidd., et.al 2017). Exercise in comparison to the other treatment therapies can improve the symptoms of depression without side effects and improve the quality of life with the patients having an active role for his/her treatment. In conclusion the reason why is important to now the effectiveness of exercise on depression is to minimize the medication and also by keeping through exercise a high level of quality of life increases self-esteem and decreases the chances of developing MS (Razazianet.al 2016).

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Purpose:

Based on these findings the purpose of the present systematic review was to search the quantity and quality of articles that describe the effectiveness of exercise on major depression in MS population. Since in previous years systematic reviews on the same field of research found high risk of bias, a minimum number, and a poor quality of the articles. Moreover the experimental hypothesis tested was two tailed, "If exercise affects the symptoms of major depression in MS population" and the null hypothesis was "If exercise has no effect on the he symptoms of major depression in MS population".

Methods:

The participants from the 14 articles collected were 932. They were all diagnosed with multiple sclerosis were all of them above the age of 18 years old and were facing a mental health problem and more specifically major depression. All participants were able to do exercise and to take care of them self's.

Instruments:

After collecting the articles based on the inclusion and exclusion criteria Pedro scale was used to score the quality of the articles. Then the articles were analyzed in a table. For each article in the table the information's appeared at the table were the title the date of publication, the authors, the number and the characteristics of the sample, the intervention and the instruments used. Then the metanalysis was made by collecting the values before and after the intervention and through the following equations the values were plotted on a scatter graph. «initial value- final value / initial value * 100». Moreover is important to say that for the homogeneity of the sample chi-square test was carried out.

Analysis:

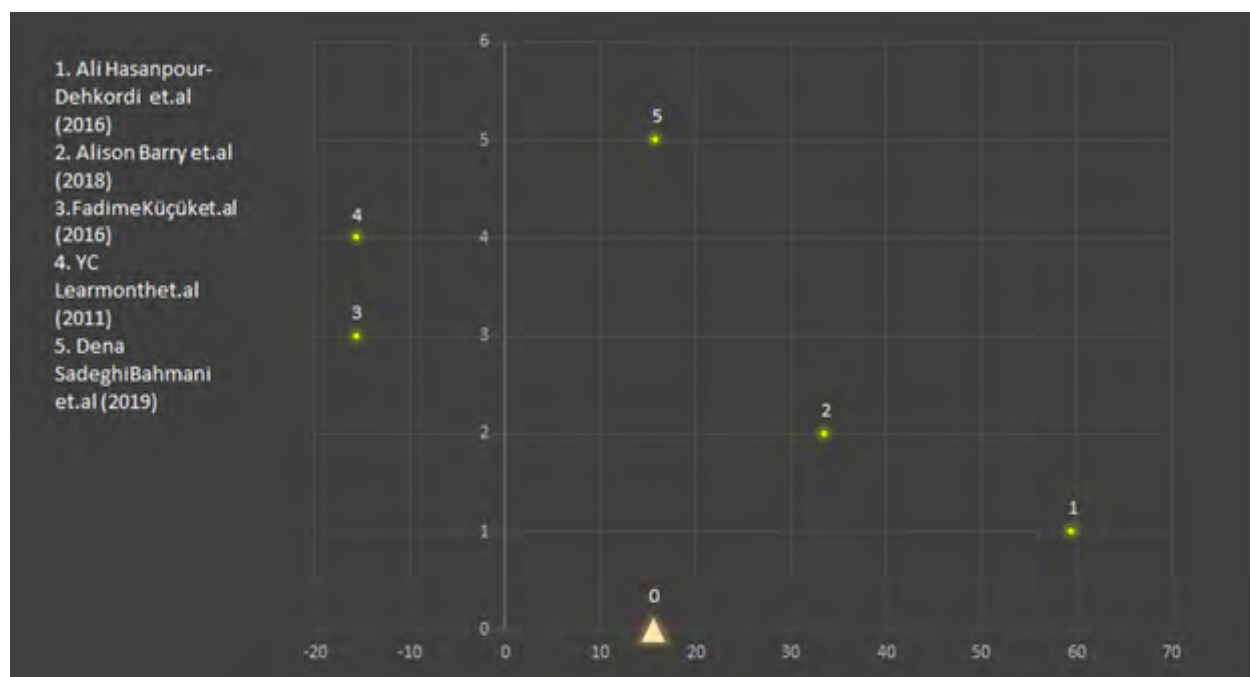
Data was collected from MEDLINE, CINALH and PsycINFO through advance research. At the beginning 62 articles were selected from the titles and then based on the inclusion and exclusion criteria 14 articles were involved in the systematic review and 9 in the meta-analysis which are presented in a flowchart. The articles involved in the research needed to have as an intervention any type of exercise, MS patients above the age of 18 with major depression disorder or with depressive symptoms. Articles were scored with Pedro scale in the results were organized in tables. From the nine articles included in the metanalysis, were collected all the values before and after the treatment (exercise) to find in percentages whether there was an increase or a decrease in the QOL, depression and psychological state. The results were presented in scatter plots.

Results:

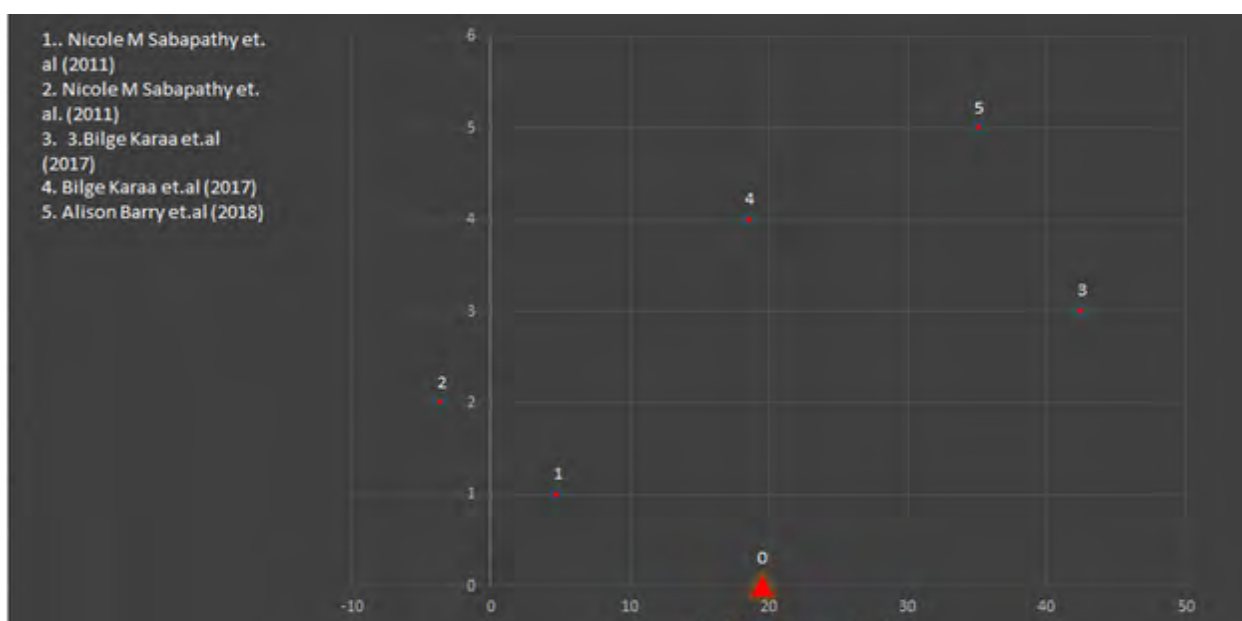


The effectiveness of exercise on depression level

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The effect of exercise on the quality of life



The effect of exercise on the psychological state



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**Conclusions and
implication:**

Exercise is a method to manage depression for people suffering from MS but up to now is not found which type of exercise is more effective, if the type of MS affects the diagnosis of depression and if so how much? Moreover, research is needed to be done for the combination of medication with exercise to discover if is more effective than medication and exercise alone. To sum up the most important is that more search is needed to be done in general because the number of articles in the specific field is limited.

Key Words:

multiple sclerosis, MS, exercise, major depression disorder, depressive symptoms

Ethics approval:

no ethical approval was needed since is a systematic review



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OP-14

THE EFFECTS OF A MINDFULNESS MOVEMENT THERAPY PROGRAMME ON ANXIETY AND DEPRESSION IN PATIENTS WITH STROKE.

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¹Dr., Department of Physical Therapy, Prince of Songkla University, Thailand.

²Physiotherapist, Department of Rehabilitation Medicine, Prince of Songkla University, Thailand.

³Dr., Department of Psychology, University of Essex, United Kingdom.

⁴Professor, School of Sport, Rehabilitation and Exercise Sciences, University of Essex, United Kingdom.

Abstract Text:

Background: Stroke is a major public health problem worldwide. Anxiety and depression are common complications post-stroke. In the last decade, it has been discovered that mindfulness could have potential benefits on anxiety and depression in stroke patients. Therefore, this study proposes a new protocol of a Mindfulness Movement Therapy Programme (MMTP) aimed at improving anxiety and depression in patients with stroke.

Purpose: To examine the efficacy of a MMTP on anxiety and depression in patients with stroke.

Methods: Seven patients with stroke were recruited. They received the usual rehabilitation programme for 4 weeks (control period). After that, they underwent the usual rehabilitation programme combined with the MMTP, which consisted of 1) body scan meditation, 2) sitting meditation, and 3) mindful movement integrated with physical therapy techniques, for 30 minutes, 3 times a week, for 8 weeks (experimental period). The outcome measures employed were the Hospital Anxiety and Depression Scale (HADS), the Philadelphia Mindfulness Scale (PHLMS), and the Stroke Impact Scale (SIS) 3.0.

Results: Significant improvements were detected in the scores of PHLMS ($p=0.027$), perceived recovery domain of SIS ($p=0.045$), as well as the total SIS score ($p=0.043$). However, we found a large effect size for a decrease in the depression domain scores of HADS (Cohen's $d=1.02$).

Conclusions: Our findings suggest that the MMTP has the potential to complement the usual rehabilitation programme's ability to improve the patient's quality of life and mindfulness level. Moreover, a trend of decreasing depression scores in association with this therapy protocol was observed.

Background:

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Conclusions and implication: Our findings suggest that the MMTP has the potential to complement the usual rehabilitation programme's ability to improve the patient's quality of life as well as mindfulness level. Moreover, a trend of decreasing depression scores in association with this therapy protocol was observed.

Key Words: anxiety, depression, mindfulness, stroke

Funding acknowledgements (If applicable): This work is funded by the Faculty of Medicine, Prince of Songkla University, Thailand.

Ethics approval: This study was approved by the Human Research Ethics Committee of Faculty of Medicine, Prince of Songkla University (REC. 64-058-30-2).



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OP-15

THE EFFECTIVENESS OF A COMMUNITY-BASED EXERCISE AND EDUCATIONAL PROGRAMME ON DEPRESSION IN GREEK POPULATION WITH PARKINSON'S DISEASE

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¹Academic Fellow, Physiotherapy, university of West Attica, Greece.

²Senior Lecturer, Physiotherapy, Manchester Metropolitan University, United Kingdom.

³Professor, Physiotherapy, Manchester Metropolitan University, United Kingdom.

⁴Neurologist, Curator of the Neurological Department, 251 Hellenic Air Force General Hospital, Greece.

Abstract Text:

Background: Although depression is among the most common symptoms of Parkinson's disease (PD), there is insufficient evidence to draw strong conclusions about the antidepressant effects of exercise in PD.

Purpose: To examine whether a community-based exercise and educational programme could produce short- and long-term effects in depressed patients with PD.

Methods: A RCT was conducted following the steps of the CONSORT statement. 70 participants, with clinical levels of depression (HADS-D score ≥ 8), were randomly allocated by a computer programme either to an 8-week supervised multimodal, group-based exercise and educational programme (n= 35) or an unsupervised individualised home-based training programme (n= 35) receiving printed material. During the three-month follow-up period, all the participants followed an individualised home-based exercise programme. The HADS-D was the primary tool that was selected to assess depressive levels and a satisfaction questionnaire to collect qualitative data. Quantitative data were analysed using SPSS (version 22.0) and qualitative data by content analysis.

Results: One-way repeated measures of ANOVA showed that the depressive scores were significantly improved only in the intervention group over time (p= .00; t1-t2: p= .00; t1-t3: p= .01), and the magnitude of the effect was medium (t1-t2: r= .40; t1-t3: r= .31). Improvements in mood were also reported by the participants.

Conclusions: Depressed patients with PD are able to obtain short- and longer-term antidepressant benefits from commencing a structured, low-cost exercise and educational programme.

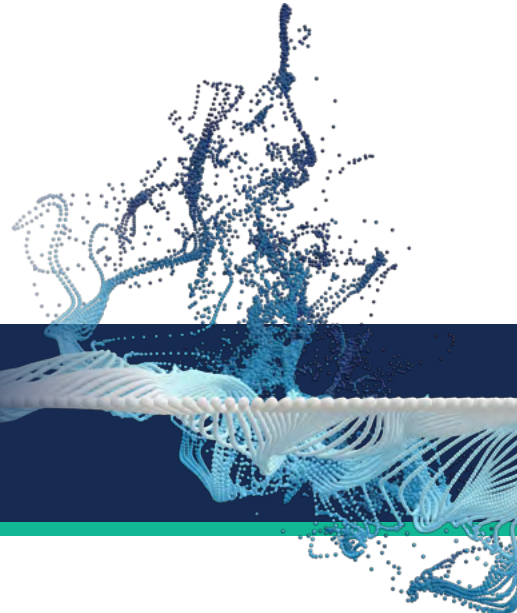
Keywords: depression, exercise, physical activity, Parkinson's disease

Background:

Parkinson's disease (PD) is a movement disorder, that it is also characterised by non-motor symptoms. Depression is among the most common symptoms of the disease and its estimated prevalence in PD population is around 35%. The comorbid depression is associated with a series of impacts and is the strongest predictive value for poor quality of life (QoL) in PD. However, there is insufficient evidence to draw strong conclusions about the antidepressant effects of exercise in PD.

Purpose:

To examine whether a community-based exercise and educational programme could produce short- and long-term effects in depressed patients with PD. Additional objectives were: i) to study the effectiveness of the intervention in terms of participants' satisfaction, using a questionnaire survey, ii) to consider the effectiveness of this programme on anxiety levels, QoL, balance, fear of falling, functional mobility, walking endurance (exercise tolerance) and respiratory function.



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Methods: A RCT was conducted in Athens, following the steps of the CONSORT statement. 70 participants, with clinical levels of depression (HADS-D score ≥ 8), were randomly allocated by a computer programme either to an 8-week supervised multimodal, group-based exercise and educational programme ($n = 35$) or an unsupervised individualised home-based training programme ($n = 35$) receiving printed material. During the three-month follow-up period, all the participants followed an individualised home-based exercise programme.

Instruments: Appropriate tools with high clinimetric properties were selected (HADS-D, HADS-A, PDQ-39, TUG test, BBS, FES-I, 2MWT, spirometry). HADS-D was the primary outcome.

Analysis: Quantitative data were analysed using SPSS (version 22.0) and qualitative data by content analysis. Between group comparison was performed by independent sample t-tests or Mann Whitney U test. The within group comparison was performed by one way ANOVA or Friedman test.

Results: One-way repeated measures of ANOVA showed that the depressive scores were significantly improved only in the intervention group over time ($p = .00$; t_1-t_2 : $p = .00$; t_1-t_3 : $p = .01$), and the magnitude of the effect was medium (t_1-t_2 : $r = .40$; t_1-t_3 : $r = .31$). Improvements in mood were also reported by the participants. In addition, the intervention had positive effects ($p \leq .05$) on anxiety levels, motor function and quality of life.

Conclusions and implication: Depressed patients with PD are able to obtain short- and longer-term antidepressant benefits from commencing a structured, low-cost exercise and educational programme. However, additional studies using rigorous methodology and including PD patients with clinical levels of depression, diagnosed by the DSM criteria, are needed to draw strong conclusions in this field. Lastly, the mechanism of action of exercise and education on mood in people with PD should be explored.

Key Words: depression, exercise, physical activity, Parkinson's disease.

Funding acknowledgements (if applicable): The completion of the doctoral dissertation was co-funded through the » Scholarships IKY «Project from the funds of the OP» Education and Lifelong Learning », the European Social Fund (ESF), NSRF, 2007-2013.

Ethics approval: Ethical approval was granted by the Manchester Metropolitan University Research Ethics Committee and the Greek PD Organisation 'Epikouros-kinisi'.



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OP-16

EXPLORING THE CONFIDENCE AND ATTITUDES OF PHYSIOTHERAPY STUDENTS IN THE UNITED KINGDOM TO WORK WITH PEOPLE EXPERIENCING MENTAL ILLNESS

Erin Byrd¹, Laura Hemmings², Samantha McIver³

¹Senior Lecturer, Sport, Health Sciences and Social Work, Oxford Brookes University, United Kingdom.

²Teaching Fellow, Sport, Exercise and Rehabilitation Sciences, University of Birmingham, United Kingdom.

³Clinical Lead Physiotherapist in Mental Health, Physiotherapy, Midlands Partnership Foundation Trust, United Kingdom.

Abstract Text:

Physiotherapists across specialties are likely to treat patients with comorbid mental illness with potential increased regularity. Positive attitudes and confidence managing people experiencing mental ill health is therefore vital for student physiotherapists to develop.

A mixed methodological study including a web-based survey and 1:1 semi-structured interviews was conducted with UK physiotherapy students (n=148) exploring confidence, perceptions and attitudes to working with people experiencing mental illness.

Overall confidence levels (0-100 scale) to work with people experiencing mental illness was 35.6(± 21.9). Seventy-four percent of students reported <4 hours of curriculum coverage on mental health disorders (MHDs). Of the respondents 11.4% reported experience of a mental health clinical placement. Students who reported spending ≥5 hours covering MHDs within the curriculum compared to <5 hours demonstrated significantly higher confidence levels (t(97) = 2.71, p = .008). Resources identified as beneficial in increasing student confidence included increased clinical experience and more teaching coverage. Analysis of qualitative interviews identified five major themes: Utilising different pedagogical approaches to boost awareness(1); Competence from experience(2); Integrating the physical and the psychological in teaching and practice(3); Time: there is no magic number(4); and Developing the Curricula(5).

Pre-registration physiotherapy students demonstrate a lack of confidence to work with people experiencing mental illness. Increased exposure within teaching and clinical experience was identified both quantitatively and qualitatively to increase confidence levels. Recommendations to increase student confidence include: increasing curriculum coverage through directed teaching, case-based learning, an integrated approach to physical and mental health and simulation experiences.

Background:

Mental health disorders (MHDs) have increased in prevalence and are expected to continue to do so due to the COVID-19 pandemic (Daly, Sutin and Robinson, 2020). People with the experience of severe mental illness have a reduced life expectancy of 10-25 years (Firth et al., 2019) with 2/3 of premature deaths due to preventable physical health comorbidities, such as cardiovascular and respiratory conditions (PHE, 2018).

In the UK physiotherapists are well placed to address the physical health needs of people with mental ill health and reduce physical health risk in this population (Hemmings and Soundy, 2020). Due to increasing prevalence it is likely that physiotherapists within all specialties will treat patients with comorbid mental illness with increased regularity, however, it has not been established to what extent the physiotherapeutic management of people experiencing mental illness is covered in pre-registration physiotherapy curricula in the UK.



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	<p>Prior research has established stigmatizing attitudes, a lack of mental health literacy and an overall lack of preparedness of physiotherapy students to work with people experiencing mental ill health (Yildirim et al., 2014; Dandridge et al, 2014; Probst and Peuskens, 2010; Connaughton and Gibson, 2016) but no studies have established the impact of these factors on confidence levels of physiotherapy students to work with people with mental ill health, or explored potential resources that may improve confidence levels of students to work in this field.</p>
Purpose:	<p>The aim of this study was to explore the confidence, perceptions and attitudes to working with people experiencing mental illness of student physiotherapists in the UK. Objectives included:</p> <ol style="list-style-type: none"> 1. To determine confidence levels of students to undertake clinical placements and work with people experiencing mental illness. 2. To identify internalised perceptions and attitudes to working with people experiencing mental illness. 3. To determine perceived curriculum coverage of mental health and illness within UK pre-registration physiotherapy degree programmes. 4. To explore perceived gaps in knowledge around mental health and identify learning resources and opportunities to increase student physiotherapists' confidence to work with people experiencing mental illness.
Methods:	<p>A mixed methodological cross-sectional study including a web based survey and 1:1 interviews of student physiotherapists was conducted.</p> <p>Participants (n=148) were recruited via email and social media to complete an online survey (stage 1). Upon submission of the e-survey, participants were invited to additionally participate in a virtual 1:1 interview (stage 2) to further explore perceptions and attitudes to working with people experiencing mental illness and explain quantitative findings.</p>
Instruments:	<p>The 23 question online survey was designed to collect the following information:</p> <ul style="list-style-type: none"> • Basic demographics • Experience working with people experiencing mental ill health/perception of MH teaching on course • The Mental Illness Clinicians' Attitudes Scale (MICA-4) questionnaire. <p>1:1 semi-structured interview schedules were developed within the research team with consideration of previous literature and findings from stage 1.</p>
Analysis:	<p>Descriptive statistics were performed to define demographic characteristics of participants, perceived curriculum content, confidence levels and attitudes and beliefs held by student physiotherapists surrounding working with individuals experiencing mental illness. Analysis of the matrix 5-point Likert data was performed using Chi-square and Spearman Rho correlation tests to determine if significant relationships existed between items. Independent t-tests were utilised to determine the difference in confidence levels in relation to time spent covering mental health on the course so far and pedagogical approach, and a one-way analysis of variance (ANOVA), with Bonferroni post hoc-correction, was performed to determine the difference in confidence levels in relation to the perceived total time spent covering mental health within the curriculum. A regression analysis was completed to determine the predictive value of independent variables on confidence levels.</p>



Physiotherapy in Mental Health; what's next?

Results:

An interpretative phenomenological approach framework was followed to explore student experiences and perceptions (stage 2) with use of reflexive thematic analysis following verbatim transcription. This process was completed with a secondary coder to limit bias and included the following stages: familiarisation of data (1), generating initial codes (2), searching for themes (3), reviewing themes (4), defining themes (5), linking themes to quantitative findings within synthesis and tables (6).

One hundred and forty eight survey responses were analysed from physiotherapy students enrolled within pre-registration physiotherapy degree programmes at UK universities (9.4% response rate).

Fifty one percent of students reported that mental health disorders were covered within their pre-registration curriculum, with 74% of respondents reporting that overall curriculum coverage of mental illness was less than 4 hours, 19% reporting 4-10 hours of coverage and 7% reporting >10 hours of coverage within the curriculum.

Overall, 11.4% of respondents had experience of a mental health clinical placement, with the average length of placement being 4.9 weeks.

The mean confidence levels (reported on a scale of 0-100) of student physiotherapists in the UK to work with people experiencing mental illness was 35.6 (\pm 21.9). There was a significant relationship between confidence working with people experiencing mental illness and time covering mental health within the curriculum so far ($r=.316$, $p=.001$), year of study ($r=-.220$, $p=.016$), and overall perceived time spent covering physiotherapeutic management of people experiencing mental illness within the curriculum ($r=0.455$, $p=.000$).

Those students who reported spending 5 hours or more covering the physiotherapeutic management of people experiencing mental illness within the curriculum so far ($M=51.09$, $SD=19.55$) compared to those who reported <5 hours ($M=32.61$, $SD=21.50$) demonstrated significantly higher confidence levels ($t(97)=2.71$, $p=.008$). Regarding the pedagogical approach to teaching around the physiotherapeutic management of people experiencing mental illness, those students who identified the main mode of teaching within the curriculum being specific lectures on the management of patients with mental ill health ($M=52.17$, $SD=22.96$) compared to those who did not ($M=32.57$, $SD=20.52$) demonstrated significantly higher confidence levels ($t(116)=-3.662$, $p=.000$).

Time covering mental health and illness so far in their programme of study ($F=12.6$, $p=.001$) and perceived total curriculum time covering mental health and illness ($F=35.8$, $p=.000$) were both predictors of confidence levels. As perceived, total curriculum time covering mental health and illness moved up categories from <4 hours to 4-10 hours and subsequently to >10 hours confidence levels increased by 17.17 points respectively ($p=.000$).

The most frequently identified resource to increase confidence of student physiotherapists to work with people experiencing mental ill health was clinical experience ($n=111$), followed by more teaching coverage ($n=80$), and directed reading ($n=31$). 3 students reported that nothing would increase their confidence levels.



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Conclusions and implication:

Early analysis of initial qualitative interviews identified five major themes: Utilising different pedagogical approaches to boost awareness (1); Competence from experience (2); Integrating the physical and the psychological in teaching and practice (3); Time: there is no magic number (4); and Developing the Curricula (5).

The results of the current study demonstrate an overall lack of confidence of pre-registration physiotherapy students to work with people experiencing mental ill health. However, in line with the Probst (2010) study of Flemish physiotherapy students, the students in this study showed moderately positive attitudes towards mental illness. The most stigmatizing attitudes displayed by the physiotherapy students within this current study mirrored the Gras (2014) study of stigmatizing attitudes of registered healthcare professionals, with the highest scores related to disclosure of personal mental ill health and protection of the public from people with severe mental illness (MICA items 7 and 12).

Mental health curriculum content was perceived to be low in UK pre-registration physiotherapy programmes, with 74% of respondents reporting <4 hours of curriculum coverage of mental health and illness on the degree course. Qualitative data identified a lack of teaching to have a large impact on student confidence and competence addressing the mental health needs of patients. Within the quantitative data five hours of curriculum coverage was seen to have the greatest impact on student confidence levels increasing this measure by 18.48 points, however, there was a qualitative perception that more than 5 hours was needed to increase confidence and competence. There was a recognition of a need for an overall increase in curriculum coverage of mental health and illness through specific directed lectures on physiotherapeutic management of people experiencing mental illness. It was identified that this would be valuable alongside a more integrated approach to the teaching of mental health and physical health across the curricula, and/or an additional module focusing on mental health diagnoses and considerations for physiotherapeutic management.

Experience and exposure were identified as key to increasing student confidence levels within both quantitative and qualitative data, with 88.8% of students identifying additional clinical experience as the most beneficial resource to increase confidence to work with people with mental ill health. There was recognition that due to lack of placement experience, exposure to individuals experiencing mental illness may be lacking, which is supported by the quantitative finding that only 11.4% of students had completed a placement within mental health services. Although deemed less beneficial than clinical experience, simulation was identified as a potential strategy for enabling students an alternative form of practical experience of working with patients with comorbid physical and mental health illness.

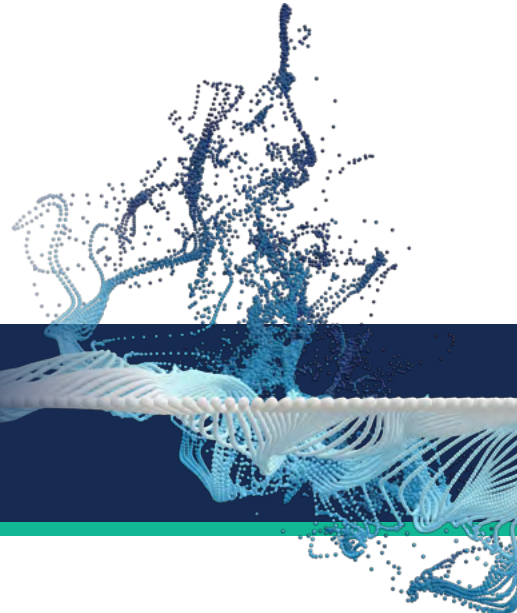
Implications and recommendations for curriculum and practitioner development:

- We recommend a minimum of 5 hours of curriculum coverage of mental health to be implemented in pre-registration physiotherapy programmes, though a dose-response relationship is identified and additional confidence can be achieved through higher levels of curriculum coverage.
- Curriculum coverage should be acquired through a combination of direct lectures on mental health, case based learning and an integration of physical and mental health considerations across all teaching.



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- Consideration of simulated experiences as an additional opportunity to acquire some clinical exposure to the management of people experiencing comorbid physical and mental health illness.
- The development of guidelines and resources to support qualified physiotherapy staff in the management of people experiencing mental ill health.

Key Words: Physiotherapy, Education, Mental Illness

**Funding
acknowledgements
(If applicable):**

This project was supported by Oxford Brookes University and The University of Birmingham

Ethics approval:

This project has been approved by the Health and Life Sciences Faculty Ethics Committee at Oxford Brookes University



Physiotherapy in Mental Health; what's next?

OP-17

CONCEPTUALIZING TRAUMA-FOCUSED PHYSIOTHERAPY: A SPECIALIZED TREATMENT APPROACH FOR SURVIVORS OF TRAUMA

April Gamble¹, Ilona Fricker²

¹Physiotherapy Trainer, Physiotherapy, The Center for Victims of Torture, Iraq.

²Clinical Advisor for Physiotherapy, International Services, The Center for Victims of Torture, USA.

Abstract Text:

Background: The Center for Victims of Torture (CVT) provide 'Trauma- Focused' (TF) physiotherapy services and have conceptualized this as specialized mental health physiotherapy service that directly addresses the physical, psychological, and social effects of psychological trauma and ongoing stress within the unique scope of practice of the physiotherapist. This conceptualization is the first of its kind and can bolster the role of physiotherapy in providing services for survivors of trauma.

Purpose: Conceptualizing TF physiotherapy supports the development and delivery of services in CVT and can drive the physiotherapy profession to increase access to services for survivors of trauma globally.

Methods: The conceptualization includes foundational literature, scope of practice, models and techniques, and examples of applications in treatment and clinical education. CVT has applied it for over 10 years through its international programs with biopsychosocial outcomes evaluated by CVT's research department and additional initiatives.

Results: CVT developed and trained multiple partner organizations globally in treatment programmes that center on this conceptualization of TF physiotherapy. Evaluations of these services reveal TF physiotherapy to be feasible and relevant in a variety of contexts including communities in Jordan, Iraq, Turkey, and Kenya. Higher education physiotherapy institutions globally have requested support in identifying the TF learning needs for students.

Conclusions: This conceptualization has proved relevant for physiotherapy services for survivors of trauma in various areas of the world. It provides a foundation for the mental health physiotherapy community to further drive services that directly address the physical, emotional, and social effects of psychological trauma.

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The Center for Victims of Torture (CVT) provide 'Trauma- Focused' (TF) physiotherapy services and have conceptualized this as specialized mental health physiotherapy service that directly addresses the physical, psychological, and social effects of psychological trauma and ongoing stress within the unique scope of practice of the physiotherapist. This conceptualization is the first of its kind and can bolster the role of physiotherapy in providing services for survivors of trauma.

Purpose:

Conceptualizing TF physiotherapy supports the development and delivery of services in CVT and can drive the physiotherapy profession to increase access to services for survivors of trauma globally.

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The conceptualization includes foundational literature, scope of practice, models and techniques, and examples of applications in treatment and clinical education. CVT has applied it for over 10 years through its international programs with biopsychosocial outcomes evaluated by CVT's research department and additional initiatives.



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Conclusions and implication: This conceptualization has proved relevant for physiotherapy services for survivors of trauma in various areas of the world. It provides a foundation for the mental health physiotherapy community to further drive services that directly address the physical, emotional, and social effects of psychological trauma.

Key Words: Trauma; Biopsychosocial, PTSD, Ongoing-stress

Funding acknowledgements (If applicable): United States Bureau of Population, Refugees, and Migration

Ethics approval: No formal ethical approval is required due to the nature of the programme. However, all activities reviewed internally in CVT.



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OP-18

THE PERSPECTIVE OF ADOLESCENTS WITH AUTISM SPECTRUM DISORDER REGARDING BARRIERS AND FACILITATORS OF PHYSICAL ACTIVITY PARTICIPATION

Anke Arkesteijn¹, Véronique Cornelissen², Jean Steyaert³, Tine Van Damme⁴

¹ PhD student, Rehabilitation Sciences, Research Group for Adapted Physical Activity and Psychomotor Rehabilitation, KU Leuven, Belgium.

² Professor, Rehabilitation Sciences, Research Group for Rehabilitation in Internal Disorders, KU Leuven, Belgium.

³ Professor, Center for Developmental Psychiatry, KU Leuven, Belgium.

⁴ Assistant professor, Rehabilitation Sciences, Research Group for Adapted Physical Activity and Psychomotor Rehabilitation, KU Leuven, Belgium.

Abstract Text:

Background: Adolescents with Autism Spectrum Disorder (ASD) are less physically active compared to their typically developing peers. The reasons underlying this physical inactivity behavior remains to be elucidated. Their lack of participation might be due to social and communication impairments and problems in behavioral, sensory and motor domains. Research to date mainly focused on parents' perspectives to investigate the barriers and facilitators of physical activity (PA) participation in adolescents with ASD. The direct engagement of adolescents with ASD can open novel avenues, which can potentially lead to rich insights that can help to understand their PA behavior.

Purpose: To explore the perspectives of adolescents with ASD with regard to barriers and facilitators of PA participation.

Methods: 24 adolescents with ASD (n=12 boys, 12-18 years) will be included in this qualitative study.

Instruments: One-on-one in-depth interviews will be conducted. The interviews will be semi-structured by using an interview guideline with questions targeting all levels of the socio-ecological model (SEM).

Analysis: Qualitative data analysis with Nvivo 12 software will be conducted. (Sub)codes according to the (sub)levels of the SEM will be used to analyse the data, allowing a comprehensive overview of the different barriers and facilitators of PA participation in this population.

Results/conclusion/implication: Preliminary results/conclusions/implication will be discussed.

Key words: autism spectrum disorder, adolescents, physical activity

Funding acknowledgments: /

Ethics approval: This study was approved by the Ethics Committee Research UZ/KU Leuven.

Background:

Adolescents with Autism Spectrum Disorder (ASD) are less physically active compared to their typically developing peers. The reasons underlying this physical inactivity behavior remains to be elucidated. Their lack of participation might be due to social and communication impairments and problems in behavioral, sensory and motor domains. Research to date mainly focused on parents' perspectives to investigate the barriers and facilitators of physical activity (PA) participation in adolescents with ASD. The direct engagement of adolescents with ASD can open novel avenues, which can potentially lead to rich insights that can help to understand their PA behavior.

Purpose:

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Analysis:	Qualitative data analysis with Nvivo 12 software will be conducted. (Sub)codes according to the (sub)levels of the SEM will be used to analyse the data, allowing a comprehensive overview of the different barriers and facilitators of PA participation in this population.
Results:	Preliminary results will be discussed.
Conclusions and implication:	Preliminary conclusions and implication will be discussed.
Key Words:	Autism spectrum disorder, adolescents, physical activity
Funding acknowledgements (If applicable):	/
Ethics approval:	This study was approved by the Ethics Committee Research UZ/KU Leuven.



Physiotherapy in Mental Health; what's next?

OP-19

THE EFFECTIVENESS OF BBAT AS ADD-ON TO CBT FOR PATIENTS WITH SOCIAL ANXIETY DISORDER

Lene Nyboe

PT/PhD, Anxiety and Depression, Aarhus University Hospital, Denmark.

Abstract Text:

Background: Anxiety disorders are among the most frequent psychiatric disorders presenting major human costs for the individual patient as well as extensive societal expenses, e.g. in frequent sickness leave and increased costs for sickness benefits, and general loss of earnings. Therefore, providing effective treatment for this group of patients is a continuous and highly relevant goal. The most commonly applied psychiatric treatments focus primarily on the psychological and behavioural symptoms of anxiety. However, including interventions focusing also on the bodily symptoms of anxiety might have the potential to improve the outcomes further.

Aim: To compare the effectiveness of Basic Body Awareness Therapy (BBAT) in combination with Cognitive Behavioural Therapy (CBT) to CBT alone in patients Social Anxiety Disorder (SAD). Secondary, to investigate the patients' experiences with BBAT as add-on to CBT.

Methods and material: Patients with an ICD-10 diagnosis of SAD (F40.1) is the study population of interest. The study is a randomised, controlled trial to compare the effectiveness of BBAT as add-on to CBT with CBT ("treatment as usual"). The participants are randomised to: Group 1: 14 weekly, group sessions of CBT ("treatment as usual") or Group 2: 14 weekly, group sessions of CBT + 11 group sessions of BBAT. Primary outcomes are reduction in social anxiety symptoms (Liebowitz Social Anxiety Scale) and improvement in movement quality movement quality (Body Awareness Scale Movement Quality and Experience), including reduction of muscular tension and restricted breathing.

Results: The study's relevance, feasibility as well as the preliminary results will be presented.

Background:

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Purpose:

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Methods:

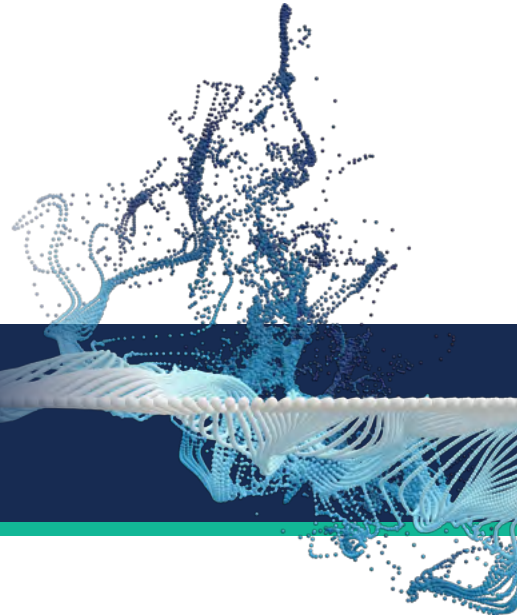
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Results:	The study's relevance, feasibility as well as the preliminary results will be presented.
Conclusions and implication:	The study's relevance, feasibility as well as the preliminary results will be presented.
Key Words:	BBAT, Anxiety Disorders, Group Therapy
Funding acknowledgements (If applicable):	The study's relevance, feasibility as well as the preliminary results will be presented.
Ethics approval:	The study has been approved by the local ethical committee in accordance with The Helsinki Declaration



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OP-20

"IT'S ABOUT SENSING SOMETHING DIFFERENT". A QUALITATIVE STUDY ON PATIENTS' EXPERIENCES OF PHYSICAL THERAPY INTERVENTION IN THE TREATMENT OF SEVERE NON-SUICIDAL SELF-INJURY

Lene Nyboe¹, Mette Kragh², Jane Magleby³

¹PT/PhD, Anxiety and Depression, Aarhus University Hospital, Psychiatry, Denmark.

²Nurse, PhD, Anxiety and depression, Aarhus University Hospital, Psychiatry, Denmark.

³PT, Anxiety and Depression, Aarhus University Hospital, Psychiatry, Denmark.

Abstract Text:

Background: Patients with severe non-suicidal self-injury(NSSI) are primarily treated with psychological and pharmacological treatments with some, yet not sufficient effect; thus there is a need for trying out new treatment modalities. Further, exploring bodily symptoms in patients with NSSI could deepen the understanding of these patients' difficulties.

Aim: Partly to explore bodily symptoms in patients with NSSI, and partly to explore the experiences of patients with severe NSSI receiving physical therapy during hospitalization. Methods Hospitalized patients with severe NSSI were offered physical therapy and were invited to participate in individual in-depth interviews on bodily symptoms and their experiences of physical therapy. Interviews were analysed using qualitative content analyses and using systematic condensation of text into meaningful themes.

Results: In all, 7 patients participated in interviews. Two main themes Bodily discomfort and Focus on own body with the following subthemes restlessness, increased tension, feeling disconnected with own body, and self-injury as coping and distraction, calming down, reducing self-injury, and sensing too much, respectively emerged from the analyses.

Conclusion: Experiences of physical discomfort seem closely related to self-injury in patients with severe non-suicidal self-injury. Physical therapy was experienced as useful for distracting from negative thoughts and emotions as well as for calming restlessness and tension.

Background:

Patients with severe non-suicidal self-injury(NSSI) are primarily treated with psychological and pharmacological treatments with some, yet not sufficient effect; thus there is a need for trying out new treatment modalities. Further, exploring bodily symptoms in patients with NSSI could deepen the understanding of these patients' difficulties.

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Methods:

Partly to explore bodily symptoms in patients with NSSI, and partly to explore the experiences of patients with severe NSSI receiving physical therapy during hospitalization.

Instruments:

Hospitalized patients with severe NSSI were offered physical therapy and were invited to participate in individual in-depth interviews on bodily symptoms and their experiences of physical therapy.

Analysis:

Interviews were analysed using qualitative content analyses and using systematic condensation of text into meaningful themes.



Physiotherapy in Mental Health; what's next?_

Results:

In all, 8 patients participated in interviews. Two main themes Bodily discomfort and Focus on own body with the following subthemes restlessness, increased tension, feeling disconnected with own body, and self-injury as coping and distraction, calming down, reducing self-injury, and sensing too much, respectively emerged from the analyses.

Conclusions and implication:

Experiences of physical discomfort seem closely related to self-injury in patients with severe non-suicidal self-injury. Physical therapy was experienced as useful for distracting from negative thoughts and emotions as well as for calming restlessness and tension.

Key Words:

Self-injury, physical therapy, qualitative research

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OP-21

THE EFFECTS OF A PHYSIOTHERAPEUTIC SCHEME IN THE TREATMENT OF THE ANXIETY DISORDERS AND ANOREXIA NERVOSA IN A TEENAGE GIRL WITH TYPE 1 DIABETES MELLITUS

Pelagia Tsakona

Pediatric Physiotherapist, Physiotherapy, International University of Greece, Greece.

Abstract Text:

Type 1 Diabetes mellitus (T1DM) is a chronic disease that can affect the physical and mental health of children and adolescents, often leading to anxiety disorders with chronic activation of hypothalamic axis (HPA). Moreover, a great proportion of adolescents with T1DM also demonstrate anorexia nervosa (AN). Here, it is describing the first case of a patient diagnosed with T1DM, anxiety disorder (AD), AN and menstrual disorders. A 14-year-old girl with T1DM from the age of 12 years, presented weight loss at age 13 3/12 years and low body mass index (BMI), which did not improve, despite the dietary recommendations and adequate disease control. Additionally, she presented menstrual disorders at the age of 12 11/12 (menstrual age 12 1/12). The purpose was to evaluate the effectiveness of a stress management program in the teenage girl with mental and physical disorders. A psychological evaluation of the teenager was conducted, using a semi-structured interview that assess perceived stress, health status, quality of life and depression. AD and AN were diagnosed. Then, the patient initiated an intervention focusing on psychological health, nutrition and incorporated physiotherapeutic relaxation sessions and breathing exercises. After 3 months of intervention the patient's BMI was ameliorated and a normal menstrual cycle was apparent. These results remain consistent until today. Stress leads to appearance of AN and menstrual disorders. Therefore, physiotherapeutic programs could reduce stress and effectively restore AN, AD and menstrual disorders.

Background:

Type 1 Diabetes mellitus (T1DM) is a chronic disease that can affect the physical and mental health of children and adolescents, often leading to anxiety disorders with chronic activation of hypothalamic axis (HPA). Moreover, a great proportion of adolescents with T1DM also demonstrate anorexia nervosa (AN). Here, it is describing the first case of a patient diagnosed with T1DM, anxiety disorder (AD), AN and menstrual disorders who successfully improved with physiotherapeutic techniques.

Purpose:

The purpose was to evaluate the effectiveness of a stress management program in the teenage girl with mental and physical disorders.

Methods:

A 14-year-old girl with T1DM from the age of 12 years, presented weight loss at age 13 3/12 years and low body mass index (BMI), which did not improve, despite the dietary recommendations and adequate disease control. Additionally, she presented menstrual disorders at the age of 12 11/12 (menstrual age 12 1/12).

Instruments:

A psychological evaluation of the teenager was conducted, using a semi-structured interview that assess perceived stress, health status, quality of life and depression. AD and AN were diagnosed.

Analysis:

The patient initiated an intervention focusing on psychological health, nutrition and incorporated physiotherapeutic relaxation sessions and breathing exercises.

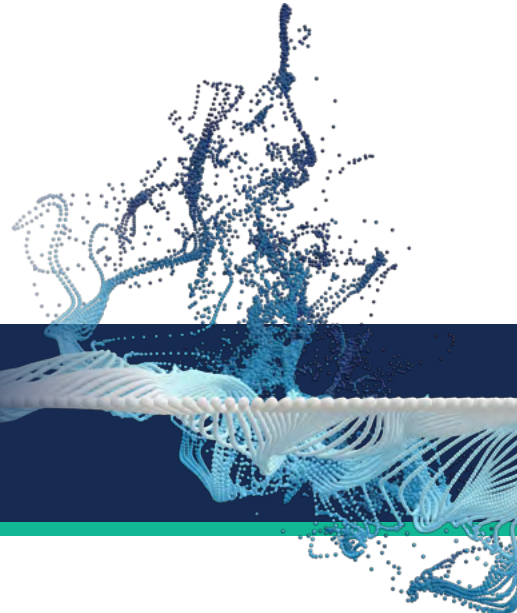
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**Conclusions and
implication:**

Therefore, physiotherapeutic programs could reduce stress and effectively restore AN, AD and menstrual disorders.

Key Words:

Anorexia Nervosa; Anxiety Disorder; Physiotherapy; breathing exercise; diet.

**Funding
acknowledgements
(If applicable):**

This research received no external funding.

Ethics approval:

The study was conducted according to the guidelines of the Declaration of Helsinki and was approved by the Hippokration Hospital



Physiotherapy in Mental Health; what's next?

OP-22

WHERE DOES MOTOR IMPAIRMENT FIT WITHIN THE BROADER FRAMEWORK OF AUTISM SPECTRUM

Tine Van Damme

Assistant Professor, Department of Rehabilitation Sciences, KU Leuven, Belgium.

Abstract Text:

In this contribution, we hope to make a case for why motor impairment should be considered as a specifier within the diagnostic criteria for autism spectrum disorder in the DSM-V.

Background:

A growing body of research suggests that motor problems are evident and clinically significant in individuals with autism spectrum disorder (ASD). Despite the high prevalence of motor impairment in children with ASD, it is not considered among the diagnostic criteria, nor specifiers within the DSM-V. Moreover, clinicians and caregivers do not consistently recognize motor problems in children with ASD and they often remain unaddressed due to a lack of effective motor screening and assessment.

Purpose:

Given the high occurrence rates and the fact that motor problems are easily overlooked and often remain underdiagnosed, it has been recommended to include motor assessment as part of the routine clinical investigation of children with ASD. Due to the heterogenic nature of motor impairment in children with ASD, a comprehensive motor assessment is warranted. However, there is also a subset of children with ASD who do not demonstrate motor problems. In these cases, a comprehensive assessment is time-consuming, expensive, and redundant; especially since the procedures can put a substantial burden on the child as they can be challenging and can cause significant stress. Therefore, screening for motor problems can provide valuable information to guide the decision whether referral to a full motor assessment is required.

Methods:

Children referred to the Expertise Center for Autism (Leuven, Belgium), receive an extensive multidisciplinary diagnostic assessment protocol, allowing a rigorous examination of each developmental domain.

A comprehensive motor assessment battery is included in the standard assessment procedure, which consists of the Movement Assessment Battery for Children - 2, the Developmental Coordination Questionnaire, the Beery Buktenica Developmental Test for Visual Motor Integration - 6 and the systematic detection of handwriting problems.

Results:

We will present data on the prevalence, severity, and heterogeneity of motor problems of children with ASD (aged 4-18 years old; >300 cases), across the full range of cognitive abilities. Furthermore, we will present data on the precision of the Developmental Coordination Disorder Questionnaire (DCDQ) as a screening tool for co-occurring motor problems in children with ASD.

Conclusions and implication:

There is a high prevalence of motor problems in children with ASD. The high levels of heterogeneity in motor profiles and the existing subset of children with ASD without motor problems, suggests that motor impairment should be considered as a specifier within the diagnostic criteria for ASD in the DSM-V.

Key Words:

Autism spectrum disorder, motor problems, children



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OP-23

MOVEMENT IN AUTISM: FROM UNDERSTANDING TO THERAPY

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Abstract Text:

Even though autism is referred to as a social-cognitive disorder, traditional theories interpreting this condition (i.e. theory of the Brain) do not shed light in its most persistent aspects. Simultaneously, sensory- motor deficiencies in autism contest for the disorder's "core" in therapeutic practice. Studies show that 79% of children with ASD have clear motor disorders and a furthermore 10% borderline, postulating that the greater the movement impairments, the greater the social communication deficits of the autistic children. Therapeutic intervention even in autism demands delving into sensory-motor development in the first year of life. Motor learning theory gives satisfactory answer to disorders of motor control, hypotonia, joint hyperextensibility, toe walking, developmental coordination disorder, executive function impairments, dyspraxic phenomena appearing in autism. Behaviours as sensory- motor stereotypes, stereotypical use of objects, but also lack of eye contact, are as well rooted in the first year of life; according to the psychodynamic theory, they consist the auto-sensory defence against "premature stress", grounding the child in primitive motor stages. Physiotherapy, as a dominant therapy in premature and high risk infants, because of high prevalence of ASD among this population, ensures early intervention in autism: it is proven that, due to early concurrent genesis of brain's synapses, movement improvement triggers other areas' development (sensory-knowledge-social). Furthermore, besides occupational therapy, physiotherapy proposes additional therapeutic strategies for complete solution of motor problems in autism. Motor Development as Key to Early Diagnosis, parents' collaboration, interdisciplinary approach, including psychomotor therapy, help to motor improvement in autism.

Background:

Occupational therapy, considered as a first-line therapy in autism, often is unable to propose solutions to motor deficits that are present in this condition, referring children with ASD to physiotherapists.

Purpose:

Paediatric Physiotherapists tend to interfere with motor deficits in autism, in two moments of their lives:

1. They are the first specialists putting hands on very little high risk babies with motor control problems, 25% of whom will end with an ASD diagnosis, in terms of early intervention.
2. They are called to give solutions to motor control deficits, such as deficiencies of muscle tone (hyper-hypotonia), hyperextension of joints, hypermobility, gross-fine coordination dysfunction, toe walking et al.

Methods:

1. We have been doing therapy to 2 infants of 5-6 months each, referred to physiotherapy for retarded milestones acquisition in the first year of life. They were both diagnosed with ASD, later on. Today, at the age of 11 years' old, they study at typical schools with parallel support.
2. We have been doing therapy to 2 children (8 and 16 years'old), because of toe walking (they had never been referred to physiotherapy before). After 3 months of desensitisation and physiotherapeutic intervention, they began to walk on their feet.



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Instruments: 4 case studies, 2 from each target group.

Analysis: a. Observation of qualitative changes after therapy.
b. re-evaluation of therapeutic goals every three months.

Results: Children of both target groups showed a significant shortterm and longterm improvement in their gross and fine motor function.

Conclusions and implication: Early physiotherapeutic intervention during the first year of life in high risk infants may ensure not only motor, but also socio-cognitive improvement of those who will end with an ASD diagnosis. Problems of motor control in autism require an holistic intervention, including Occupational Therapy, Physiotherapy but also Psychotherapy, in elder individuals.

Key Words: motor control & learning, autism, physiotherapy, occupational therapy, psychotherapy

Funding acknowledgements (if applicable)

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OP-24

CROSS-SECTIONAL COMPARISON ON STRESS PHYSIOLOGY BETWEEN ADOLESCENTS ON THE AUTISM SPECTRUM AND TYPICALLY DEVELOPING PEERS

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Abstract Text:

Lower cardiac vagal modulation has been found in individuals on the autism spectrum as compared to control groups. These lower levels have been associated with higher levels of autism-specific symptoms as well as more internalizing symptoms. However, methodological shortcomings in previous research prohibit the formulation of firm conclusions. Therefore, the presented cross-sectional data comparisons provide more insight into differences in autonomic functioning between adolescents on the autism spectrum and their typically developing peers. An age and gender matched group of adolescents on the autism spectrum (n=38) and typically developing peers (n=38) is included in this cross-sectional study, based on an a priori power-analysis with a medium effect size (g=0.59). A standardized stress-provoking protocol is used which contains a baseline measurement and the 'Stroop Word-Color Interference task' and the 'Social Stress Recall Task' as stress-provoking tasks. Cardiac vagal modulation is used as the primary outcome measure to test the hypothesized aberrant levels of cardiac vagal modulation in adolescents on the autism spectrum. Additional physiological and behavioral parameters as well as cortisol measurements are included as secondary outcome measures to evaluate whether aberrant cardiac vagal modulation is associated with clinical and behavioral indices. Data collection is still ongoing but more conclusive evidence will be provided for the hypothesized presence of aberrant cardiac vagal modulation in adolescents on the autism spectrum and its hypothesized associations with physiological and behavioral indices will be clarified.

Background:

Lower cardiac vagal modulation has been found in individuals on the autism spectrum as compared to control groups. These lower levels have been associated with higher levels of autism-specific symptoms as well as more internalizing symptoms. However, methodological shortcomings in previous research prohibit the formulation of firm conclusions. Therefore, further research has been recommended.

Purpose:

Research about this topic in adolescents on the autism spectrum is scarce. Therefore, the presented cross-sectional data comparisons provide more insight into differences in autonomic functioning between adolescents on the autism spectrum and their typically developing peers. To overcome some of the methodological shortcomings of prior research, a standardized stress-provoking protocol is used.

Methods:

An age and gender matched group of adolescents on the autism spectrum (n=38) and typically developing peers (n=38) is included in this cross-sectional study, based on an a priori power-analysis with a medium effect size (g=0.59).



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Instruments:

A standardized stress-provoking protocol is used which contains a baseline measurement and the 'Stroop Word-Color Interference task' and the 'Social Stress Recall Task' as stress-provoking tasks. Physiological data is continuously gathered using the NeXus-10 MKII biofeedback device and Biotrace+ Software to register heart rate, breathing frequency, fingertip temperature and skin conductance. Saliva samples are collected to determine the level of cortisol at three time points during the assessment, reflecting the cortisol level at baseline and after both stress-provoking tasks. Behavioral data on physical activity, autism symptoms and internalizing and externalizing behavior is collected using questionnaires.

Cardiac vagal modulation is used as the primary outcome measure to test the hypothesized aberrant levels of cardiac vagal modulation in adolescents on the autism spectrum. Additional physiological and behavioral parameters as well as cortisol measurements are included as secondary outcome measures to evaluate whether aberrant cardiac vagal modulation is associated with clinical and behavioral indices.

Analysis:

A combination of Kubios HRV Premium (version 3.4.3, University of Eastern Finland, Kuopio, Finland), researcher-developed scripts in MATLAB R2020b (MathWorks, Natick, Massachusetts, USA) and SPSS (IBM SPSS Statistics, version 27) will be used for preprocessing and statistical analyses. A repeated-measures ANOVA with group (adolescents on the autism spectrum versus typically developing peers) as between-group factor will be used on the primary outcome measure. Pearson correlation analysis will be performed to examine correlations between the primary outcome measure and secondary outcome measures.

Results:

The results of this cross-sectional study will be presented in line with the hypotheses as mentioned in the methods-section as data-collection is still on going.

Conclusions and implication:

More conclusive evidence will be provided for the hypothesized presence of aberrant cardiac vagal modulation during baseline measurement and the stress-provoking tasks in adolescents on the autism spectrum. In addition, the hypothesized association between these aberrant values of cardiac vagal modulation and physiological and behavioral indices will be clarified.

Key Words:

Autism Spectrum Disorder, Cross-sectional Study, Physiological Stress

Funding acknowledgements (if applicable):

This research was funded by the Marguerite-Marie Delacroix Foundation

Ethics approval:

Ethical approval was granted by both the Ethics Committee UPC KU Leuven and the Ethics Committee Research UZ/KU Leuven.



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OP-25

MENTAL HEALTH A FUNDAMENTAL PILLAR FOR THE RECOVERY FROM COMPLEX REGIONAL PAIN SYNDROME (CRPS) IN A PROPOSED CLINICAL CONCEPTUAL MODEL

Tracey Pons

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Abstract Text:

Mental health is suggested as a fundamental pillar in a conceptual clinical model for effective recovery from Complex Regional Pain Syndrome (CRPS). This first physiotherapy model is based on evidence from a multi-centre, prospective, longitudinal study across a region. Three components were merged: a) significant Spearman correlations (significance $p < 0.05$), from a cohort of fifty-two female and 14 male participants with CRPS (age range 11-77 years; mean 46 years); associations of variance for continuous or categorical variables; and categories of physiotherapy treatment interventions of pain modulation or functional restoration with recovery; b) incorporating evidence from the literature; c) integrating the essence of previous medical models. Spearman correlation significant relationships of baseline measures found to be associated with a complete recovery were: better mental health; higher score of personality extraversion; a lower score of personality neuroticism; better functional ability and quality of life; and non-Māori ethnicity. A full recovery was associated with a higher intensity of physiotherapy education (recorded in clinical notes as 'education' and calculated as a weekly average intensity for analysis) and concurrent medical prescription of anticonvulsant medication group. This novel, proposed conceptual model for physiotherapy and recovery from CRPS has one key foundation pillar as mental health. It is important that Physiotherapy, and where to next, involves the integration of mental health in all models for assessment or intervention of pain. Since this is the first conceptual model to be presented for CRPS, it remains to be tested with future research.

Background:

The literature shows that clinical models for CRPS management are sparse. Furthermore, no physiotherapy model was found in the literature. No medical models to date have been validated and neither include mental health. This research sought to bridge the gaps in knowledge and to develop a holistic, clinical conceptual model for the physiotherapy management towards a recovery from CRPS.

Purpose:

The purpose was: a) to describe the characteristics of CRPS patients living in the South Island; b) to measure patient outcomes and changes over time/natural history for one year after commencing physiotherapy; c) to document and categorise the standard physiotherapy interventional methods received; d) to identify predictors of patient outcomes or mental health associated with either baseline or intervention factors; e) to investigate the efficacy of the current physiotherapy intervention for CRPS; and f) to develop a conceptual model for physiotherapy CRPS management. The primary hypothesis explored if a positive outcome for CRPS is associated with physiotherapy intervention.

Methods:

This purpose was pursued as an observational, prospective, longitudinal study across a region, meeting the requirements to be defined as a cohort study. The full cohort consisted of 75 participants who signed consent to participate between January 2014 and December 2017. Nine participants were excluded for the following reasons: 1 due to their duration of CRPS being greater than a year; 2 due to diagnoses not being CRPS; 1 due to the language barrier with interviewing; 2 were not able to be contacted for baseline interview; 1 withdrew with no reason given; and 2 withdrew for personal reasons.



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Instruments:

Thirteen were lost to follow up for the final interview for outcome measures one year later. However, their physiotherapy intervention data were available. A total of 66 participants were included in the analyses for categories of physiotherapy applied and 53 for outcome measures. Participants were included if they were confirmed to have a diagnosis of CRPS Type 1 or 2, according to the Budapest criteria. Potential participants were excluded: if their CRPS diagnosis had been longer than 1 year; if they had a terminal co-morbid condition; if they were blind (sight was necessary for graded motor imagery); if they were unable to communicate in English or Māori (including deafness and cognitive impairment); or if they chose to decline to participate.

Written, informed consent was obtained. At starting physiotherapy, a baseline measure was obtained; outcome measures (using an independent telephonic interviewer) were obtained at 6 weeks, 6 months and at 1 year. Outcome measures used were as follows: pain intensity; functional ability; quality of life and satisfaction of care. Physiotherapy records of all the intervention applied were categorised and evaluated for their associations with outcomes by using logistic regression with an alpha of 0.05. Novel potential predictors included the Health Anxiety Index, the Extraversion and Neuroticism scale of the brief-version Eysenck Personality Questionnaire, and the ten-item psychological distress Kessler questionnaires. A complete recovery occurred in those who obtained a zero Pain Rating Index score on their McGill Pain Questionnaire-Short Form, and obtained full restoration of their function on the World Health Organisation Disability Assessment Schedule.

Analysis:

Quantitative statistical methods, logistic regression and to detect for significance a power $1 - \beta$ (1-beta) of 0.8, and α (alpha) of 0.05 was used. The nature of this project was exploratory. To determine meaningful information an appropriate sample size was necessary to meet significance. To meet this significance, assuming a small association for physiotherapy intervention of $r = 0.2$, a sample size of 75 was sought as this sample size is relevant to other CRPS studies. Analysis used statistical software Statistica 7.1®. A Spearman correlation matrix was computed to determine the relationships of variance between categorical and continuous variables, and complete recovery. The Spearman correlation assesses non-linear relationships with a significance of $p \leq 0.05$ and provides a measure for the strength of this correlation.

Results:

All changes in outcome measures showed a similar trend with most of the positive changes occurring in the first six weeks, followed by an estimated half as many positive changes occurring by six months. The trend for positive changes for pain reduction slowed between six months and one year and remained stagnant for further gains of both functional ability (using the QuickDASH) and quality of life and function (using the WHODAS2). Further functional gain continued for those with lower limb CRPS as reflected with further improvement in the FFI score. These data showed 24 participants (45%) obtained full recovery. Univariate logistic analysis found small effects for the continuous variables of higher personality neuroticism, poorer baseline WHODAS2 function and poorer mental health to predict a poorer outcome. Higher personality extraversion predicted a better outcome.



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Conclusions and implication:

This proposed conceptual model attempted to address the missing ingredients of the previous models to include mental health. This is because effective prevention was reported as a realistic option and that mental health and well-being as urgent issues needing to be addressed. The clinical relevance is a proposed conceptual model for physiotherapy CRPS management that can be applied in everyday clinical practice with mental health as one securing foundation. The take home message is that addressing mental health for those who have CRPS is an essential ingredient to be addressed and that a recovery from CRPS is possible with physiotherapy. Furthermore, that in physiotherapy, and where to next, involves the integration of mental health in all everyday clinical practice. Research developing models for assessment or intervention of pain needs to consider mental health as fundamental. Since this is the first conceptual model to be presented for CRPS, it remains to be tested with future research.

Key Words:

Mental health, physiotherapy, model, CRPS, recovery

Funding acknowledgements (if applicable):

Funding was obtained from the New Zealand Pain Society for the costs of the Independent Interviewer.

Ethics approval:

Ethical approval was provided by the University of Otago Ethics committee (Reference number H13/103) and also each District Health Board.



e-Posters



Physiotherapy in Mental Health; what's next?_

eP01

THE EFFECT OF THERAPEUTIC EXERCISE ON DEPRESSIVE SYMPTOMS IN PEOPLE WITH MULTIPLE SCLEROSIS

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Abstract Text:

Introduction: Multiple sclerosis (MS) is a neurodegenerative disease of the Central Nervous System including a wide range of symptoms with depression taking part as one of the main sources of disability for patients living with MS.

Purpose: The purpose of this study was to perform a review of the literature on the effects of exercise on depressive symptoms in patients with MS with a great focus on the benefits of physiotherapy, therapeutic exercise, and telerehabilitation.

Methodology: The review was performed using the databases of MEDLINE, PUBMED, and other sources such as Google Scholar and Elsevier. The keywords used for the conduction were therapeutic exercise, physiotherapy, physical therapy, rehabilitation, telerehabilitation, depression, and multiple sclerosis. The inclusion criteria consisted of studies: a) published between 2010-2021, b) looking into the effects of depression and/or therapeutic exercise in patients living with MS, and c) written in English. The exclusion criteria used regarded a) patients who were not diagnosed with MS, b) pilot studies, c) case studies and d) studies published prior to 2010.

Results: Thirty-three studies were included for qualitative synthesis from the detected 211 potentially relative. The full texts of these articles were carefully evaluated by four different examiners in different timeframes.

Conclusion: Utilizing physical therapy through therapeutic exercise or/and with telerehabilitation protocols can help improve depressive symptoms in MS patients. However further research should be conducted regarding the parameters of different forms of intervention in order to create clinical guidelines for therapists and patients to follow.

Background:

Multiple sclerosis (MS) is a neurodegenerative disease of the Central Nervous System including a wide range of symptoms with depression taking part as one of the main sources of disability for patients living with MS.

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Conclusions and implication: Utilizing physical therapy through therapeutic exercise or/and with telerehabilitation protocols can help improve depressive symptoms in MS patients. However further research should be conducted regarding the parameters of different forms of intervention in order to create clinical guidelines for therapists and patients to follow.

Key words: therapeutic exercise, physiotherapy, depression, Multiple Sclerosis



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eP02

IMPACT OF SARS-COV-2 OUTBREAK AND COVID-19 LOCKDOWNS ON EDUCATION AND MENTAL HEALTH OF PHYSIOTHERAPY STUDENTS IN FRANCE: A NATIONAL MULTICENTER CROSS-SECTIONAL AND OBSERVATIONAL SURVEY STUDY

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⁵ Dr, Conseil national, Ordre des masseurs-kinésithérapeutes, France.

Abstract Text:

Question: France had to implement strict lock-down measures in March and November 2020 to deal with the SARS-CoV-2 epidemic. These isolation measures particularly affect the mental health of students.

Design: A national cross sectional survey, collecting demographic and mental health of French physiotherapy students was conducted.

Participants: 2678 pphysiotherapy students throughout 35 french physiotherapy school.

Intervention: The aim was to evaluate the impact of COVID-19 outbreak on experience, education, perceptions of physiotherapy profession and professional project of the French physiotherapist students.

Outcome measure(s): The severity of symptoms of depression, anxiety and insomnia, was assessed by the French version of the PHQ-9, the GAD-7 and the ISI, respectively. We performed a multivariable logistic regression analysis to identify risk factors associated with mental health disorders.

Results: In this survey, among the physiotherapy students asked to participate, we obtained 2678 full answers for a number need to threat fixed to 1,584 respondents. Responders were equally distributed according to their position in their public and private school. Unsurprisingly, a very large proportion of students (84%) consider that the crisis has had a negative impact on the quality of their education. More surprisingly, 26% of the respondents report an increased fear concerning their future career and 30% think that the crisis has put into question their choice of professional orientation in physiotherapy.

Conclusion: COVID-19 period affects severely experience, education, perceptions of physiotherapy profession and professional project of the French physiotherapist students. This is particularly true for students at the end of their studies.

Background:

During COVID-19 period, physiotherapist, were directly involved in the treatment, and care of patients with COVID-19. They are at risk of developing psychological distress and other mental health symptoms which may indirectly impact patients. The health students, seems to be particularly affected by the epidemic and its consequences, notably on hands-on practice training due to and replaced by e-learning sessions during COVID-19 lockdowns. Furthermore, we can make the hypothesis that the consequences of the epidemic will be particularly disastrous for training whose physical contact and social interaction are consubstantial with the development of professional skills, as for physiotherapy. In fact, during lockdowns decided in France on March to May and October to December 2020, physiotherapy schools were closed and the training was assured only by e-learning sessions. However, few data are available over the world and no one study was done on French physiotherapy students for evaluating the real impact of COVID-19 on mental health and training.



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Purpose:	The aim of this study was to evaluate the impact of COVID-19 period and lockdowns on mental health of French physiotherapy students.
Methods:	We conducted a multicenter cross-sectional and observational study using an online survey (disseminated using SurveyMonkey®) for physiotherapy students in France. The survey was shared through the mailing list of national association of physiotherapy-school directors (SNIFMK) and the national association of physiotherapy student (FNEK). Considering the surveyed population and an ideal random sampling strategy the minimum size of the sample should have been 1,584 respondents with a margin error of 3% and a level of confidence in the responses of 99%.
Instruments:	The survey included a first part on demographic characteristics (age, gender, school, social and economic condition of life) and a second part on mental health status. We used a French version of validated depression (PQH-9), anxiety (GAD-7) and insomnia (ISI) scales.
Analysis:	Data analysis was performed using the free software environment for statistical computing and graphic R in version 4.0. The comparisons and regressions presented in the rest of the article are, unless otherwise stated, significant at the 5% threshold and all tests were 2-tailed. Descriptive data has been presented in numbers and percentages. Fisher test was used to compare the different groups. Because they were not normally distributed, depression, anxiety and insomnia scores are presented with their median and the corresponding interquartile range (IQR). Mann-Whitney and Wilcoxon non-parametric test was used to compare the severity of symptoms of depression, anxiety and insomnia between one or more groups according to the number of modalities of the explanatory variables.
Results:	Concerning mental health, 33% of GAD-7, 31% of PHQ-9 and 20% of ISI scores answers are represented in moderate and severe categories. Concerning COVID-19 training experience, 75% of French physiotherapy students didn't have take in charge a COVID-19 patient. 62% of them considered to be not prepare to and well trained for take in charge a COVID-19 patient in rehabilitation. 84% of French physiotherapy students judged that the quality of Physiotherapy study decreased during COVID-19 period. Concerning the perception of the Physiotherapy profession, 78% of French students have the same representation of the profession than before the COVID-19 period. 69 % of them always wanted to become professional physiotherapist. They were 26.4% to have fear of continue physiotherapy study and their future professional career.
Conclusions and implication:	Our results show that mental health of French students are impacted by Covid-19 period and emphases by financial constraints, feeling of a low quality of physiotherapy training study and doubt about their future career. These results are in line with those of the World Physiotherapy Organization (WPO) which has published a briefing paper on the immediate impact of COVID-19 on students. 3840 students were enrolled in over 400 higher education institutions (HEIs) across 52 countries participated in a survey on the early experiences and consequences of COVID-19 on entry level physiotherapist education. A majority of students were worried about their clinical placements (58%) and the effects on their future (38%).
Key words:	COVID-19; Lockdown; Physiotherapy students; Mental health; Education



Physiotherapy in Mental Health; what's next?

eP03

CONCURRENT VALIDITY AND TEST-RETEST RELIABILITY OF A SUBMAXIMAL EXERCISE TEST IN ADOLESCENTS WITH AUTISM SPECTRUM DISORDER

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Abstract Text:

Background: Cardiorespiratory fitness (CRF) is an important modifiable risk factor and indicator of adolescents' current and future health. Previous research indicates that adolescents with Autism Spectrum Disorder (ASD) have lower CRF levels compared to their typically developing peers, increasing their risk to develop adverse health outcomes. To date, no CRF tests have been validated in adolescents with ASD.

Purpose: To examine the concurrent validity and test-retest reliability of a submaximal exercise test (Astrand-Rhyming Test (ART)) in adolescents with ASD.

Methods: 46 adolescents with ASD (n=23 boys, 12-18 years) will be included. Participants will perform the ART twice (test-retest reliability) and execute a maximal exercise test (CardioPulmonary Exercise Test (CPET)), which will be used as the criterion method (concurrent validity). Correlation coefficients will be calculated as the primary measure of agreement between the 2 ART's and between the predicted (ART) and measured (CPET) VO₂ max. Bland-Altman plots will be used to assess the agreement between the ART and CPET and between the two ART's.

Results-conclusion: This is an ongoing study and the preliminary results will be presented.

Keywords: cardiorespiratory fitness, adolescents, autism spectrum disorder

Implications: A field test for adolescents with ASD.

Funding acknowledgement: /

Ethical approval: This study was approved by the Ethics Committee Research UZ/KU Leuven.

References: doi: 10.2522/ptj.20140353, doi: 10.1002/aur.2559, doi: 10.1161/CIR.0000000000000866

Background:

Cardiorespiratory fitness (CRF) is an important modifiable risk factor and indicator of adolescents' current and future health. Previous research indicates that adolescents with Autism Spectrum Disorder (ASD) have lower CRF levels compared to their typically developing peers, increasing their risk to develop adverse health outcomes. To date, no CRF tests have been validated in adolescents with ASD.

Purpose:

To examine the concurrent validity and test-retest reliability of a submaximal exercise test (Astrand-Rhyming Test (ART)) in adolescents with ASD.

Methods:

46 adolescents with ASD (n=23 boys, 12-18 years) will be included. Participants will be mainly recruited from the Autism Expertise Center (UPC Z. org KU Leuven, Belgium), by contacting (special education) schools and autism societies by distributing a summary flyer of the study.



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Instruments: Participants will perform the ART twice (test-retest reliability) and execute a maximal exercise test (CardioPulmonary Exercise Test (CPET)), which will be used as the criterion method (concurrent validity).

Analysis: Correlation coefficients will be calculated as the primary measure of agreement between the 2 ART's and between the predicted (ART) and measured (CPET) VO_2 max. Bland-Altman plots will be used to assess the agreement between the ART and CPET and between the two ART's.

Results: This is an ongoing study and the preliminary results will be presented.

Conclusions and implication: This is an ongoing study and the preliminary conclusions/implication will be presented.

Key words: Cardiorespiratory fitness, adolescents, autism spectrum disorder

Funding acknowledgements (if applicable) /

Ethics Approval: This study was approved by the Ethics Committee Research UZ/KU Leuven.



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eP04

MENTAL HEALTH FACTORS INFLUENCING CHANGES IN PHYSICAL ACTIVITY AMONG UNIVERSITY STUDENTS IN THE COVID-19 PANDEMIC

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Abstract Text:

Lifestyle limitations due to COVID-19 have influenced the amount of physical activity in daily life. Rise in depression and suicide, particularly among the younger generation has been reported. Physical and mental health must know how to cope with stress and maintain active life in a limited situation. This study aims to examine the mental health factors with changes in physical activity among university students. 65 healthy university students (35 males and 30 females, 19.6 ± 2.25 years) who received informed consent between April 2020 and March 2021 were chosen as subjects. In this study, the subjects were asked to complete questionnaires on International Physical Activity Question (IPAQ), Self-rating Depression Scale (SDS), State-Trait Anxiety Inventory (STAI), and sense of coherence (SOC). A logistic regression analysis was used to find the crucial factors with the change in physical activity before and after COVID-19. The analysis showed that the variables influencing the change in physical activity were SDS (odds-ratio = 0.85, $p = 0.0187$), meaningfulness of SOC (odds-ratio = 0.76, $p = 0.0295$), and manageable of SOC (odds-ratio = 1.25, $p = 0.0364$). The results reveal that having a challenging mental attitude can arrest the decrease in physical activity. It is important to be in a good mental state, i.e., a feeling that you can thrive in this situation and the sense you do not need to sacrifice yourself to increase the amount of physical activity.

Background:

Lifestyle restrictions due to Covid-19 are thought to affect the amount of physical activity in daily life. It has been reported that depression and suicide are increasing, especially among the younger generation. The issue of how to keep physical and mental health in the constraint's situation has become a challenge. Although there are many reports of the impact of physical inactivity on mental health, it is not clear what mental health factors are involved in changes in physical activity in the restriction situation. It is important for physical and mental health to know how to cope with stress and to continue active life in the restriction situation such as Covid-19 period.

Purpose:

The purpose of this study is to investigate mental health factors in relation to changes in physical activity among university students.

Methods:

The subjects were 65 healthy students (35 males (53.8%) and 30 females (46.2%), mean age 19.6 ± 2.25 years) from the first to the third year at university who received informed consent during the year from April 2020 to March 2021.

Instruments:

In this study, the subjects were asked to complete questionnaires on the IPAQ regarding the amount of physical activity in daily life, the change in physical activity compared to before and after of covid-19, SDS (depression), STAI (anxiety), and SOC (stress coping).



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Analysis: Subjects were divided into two groups: those who reported no change or an increase in physical activity before and after covid-19 (increase group) and those who reported a decrease in physical activity before and after covid-19 (decrease group). The results were compared using t-tests and Mann-Whitney tests for each study site. A logistic regression analysis was performed to find the importance factors with the change in physical activity before and after covid-19, amount of physical activity as the objective variable and SDS, STAI and SOC as the explanatory variables. There were no conflicts of interest.

Results: In the comparison between the increased and decreased groups, SDS ($t = 2.55$, $df = 62$, $p\text{-value} = 0.0131$, $95\%IC = 1.17 - 9.68$), SOC total score ($t = -2.04$, $df = 62$, $p\text{-value} = 0.0454$, $95\%IC = -12.9 - -0.137$) and manageability ($t = -2.13$, $df = 62$, $p\text{-value} = 0.0367$, $95\%IC = -5.71 - -0.187$) and Meaningfulness ($t = -2.28$, $df = 62$, $p\text{-value} = 0.0259$, $95\%IC = -4.90 - -0.324$) subscale of SOC were shown significant differences. Logistic regression analysis showed that the variables influencing the change in physical activity were SDS (odds-ratio = 0.85, $p = 0.0187$, $95\%IC = 0.746 - 0.967$), SOC meaningfulness (odds-ratio = 0.76, $p = 0.0295$, $95\%IC = 0.583 - 0.955$), manageable (odds-ratio = 1.25, $p = 0.0364$, $95\%IC = 1.03 - 1.59$).

Conclusions and implication: Significant factors for the lack of decrease in activity in this restrictive situation were the absence of depression, manageability, and a low sense of meaningfulness. The results suggest that having a challenging mental attitude can help to prevent a decline in physical activity. To increase the amount of physical activity, it is important to be in a good mental state such as a feel that you can do well in this situation and the sense that you do not have to sacrifice yourself. The sense of manageability and the sense of not wanting to be tied down or forced to make self-sacrificing sacrifices are factors that contribute to an increase in activity even in restrictive situations.

Key words: Covid-19, Mental Health, Physical Health, University students, Physical activity

Funding acknowledgements (if applicable) This work was supported by JSPS KAKENHI Grant Number JP18K10802.

Ethics Approval: This study has been approved by the research ethics committee of Kobe Gakuin University.



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eP05

LET'S GO TO THE BEACH! A LAND AND/OR WATER-BASED FALLS PREVENTION PROGRAM: A PILOT PROJECT

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Abstract Text:

With aging comes changes in strength, balance, flexibility and an increased risk of falls (Guillamon, et al 2019). Whilst traditional falls prevention programs are held within hospital settings, this pilot project utilized alternative outdoor settings near the client's homes. The Community Mental Health Team supporting senior clients with chronic mental health needs living in Bermuda referred clients to physiotherapy for the project. The purpose was to engage a small group of clients with a known history of falls and/or potential falls risk in a falls prevention program at a local beach. Six seniors met weekly for a period of six weeks at a local beach for 45mins where they participated in a variety of land and/or water-based exercises. Pre and post BERG Balance Scales (BBS), Six Minute Walk Test (6MWT) and 30 second Sit to Stand (STS) tests were administered. BBS scores were improved by 4 – 14 points across the client group, whereas 6MWT and 30 second STS scores remained the same (Turner, et al, 2018). Increased confidence with mobility in the community and at home, ability to re-engage in social activities and improved moods were also reported by clients. This project shows that participation in a community-based falls prevention program can have a positive effect on BBS scores by reducing falls risk in participating clients. Program attendance also positively impacted mental health and confidence. This project supports the concept that community-based falls prevention programs are an effective medium for physiotherapy practice (Li, et al, 2016).

Background:

With aging comes changes in strength, balance, flexibility and an increased risk of falls (Guillamon, et al 2019). Whilst traditional falls prevention programs are held within hospital settings, this pilot project utilized alternative outdoor settings near the client's homes. The Community Mental Health Team supporting senior clients with chronic mental health needs living in Bermuda referred clients to physiotherapy for the project.

Purpose:

The purpose was to engage a small group of clients with a known history of falls and/or potential falls risk in a falls prevention program at a local beach. The objective was to reduce their risk of falls through a community based falls prevention program in an outdoor setting.

Methods:

Six seniors met weekly for a period of six weeks at a local beach for 45mins where they participated in a variety of land and/or water-based exercises. Pre and post BERG Balance Scales (BBS), Six Minute Walk Test (6MWT) and 30 second Sit to Stand (STS) tests were administered.

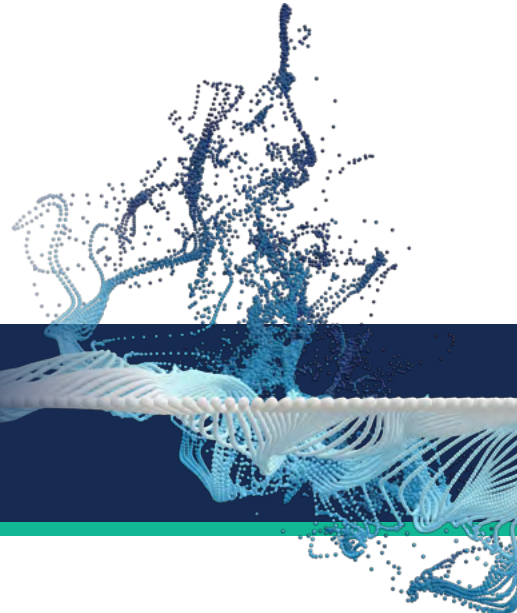
Results:

BBS scores were improved by 4 -14 points across the client group, whereas 6MWT and 30 second STS scores remained the same (Turner, et al, 2018). Increased confidence with mobility in the community and at home, ability to re-engage in social activities and improved moods were also reported by clients.



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Conclusions and implication:

This project shows that participation in a community-based falls prevention program can have a positive effect on BBS scores by reducing falls risk in participating clients. Program attendance also positively impacted mental health and confidence. This project supports the concept that community-based land and/or water-based falls prevention programs at the beach are an effective medium for physiotherapy practice (Li, et al, 2016).

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Key words:

elderly, falls prevention program, BERG Balance Scale, outdoor settings, mental health

Funding acknowledgements (if applicable)

No funding was received for this project.

Ethics Approval:

The Bermuda Hospitals Board Research Ethics Sub-Committee agree to approve this study, finding it ethically sound and appropriate for Bermuda.



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eP06

THE EFFECT OF COGNITIVE BEHAVIORAL THERAPY IN CHRONIC NECK PAIN. A SYSTEMATIC REVIEW WITH META-ANALYSIS

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Abstract Text:

Background: Several conservative treatments have been used in Chronic Neck pain (CNP) management. Cognitive Behavioral Therapy (CBT) has been advocated to be effective in neck pain and disability, however, its effectiveness has not been investigated systematically.

Purpose: To conduct a systematic review evaluation the effectiveness of CBT in adults with CNP.

Methods: Five electronic databases were searched to identify Randomized Control trials (RCT) comparing CBT with or without other additional treatments in pain, disability and kinesiophobia CNP patients. Two reviewers independently screened the RCT's for eligibility, evaluated the study quality using the PEDro scale and rated the certainty of evidence using GRADE approach.

Results: Very low certainty evidence suggests that CBT as a monotherapy produced better results in kinesiophobia at the very short- short- mid-term follow-up compared to other conservative treatments and indicated no significant differences between CBT alone as compared to wait-and-see in all outcome measures. Finally, very low certainty evidence showed that CBT as a domain of a multimodal conservative treatment produced better results in kinesiophobia and depression at very short- and short-term follow-up compared to conservative treatment without CBT.

Conclusions: CBT as a monotherapy or as part of a multimodal conservative approach is more effective than conservative treatments alone in decreasing kinesiophobia and depression up to mid-term and short-term follow-up, respectively.

Implications: CBT is equally effective to conservative management in pain and disability in CNP patients, but may serve a significant role in decreasing kinesiophobia and depression at least in the initial stage of rehabilitation.

Background:

Several conservative treatments have been used in Chronic Neck pain (CNP) management. Cognitive Behavioral Therapy (CBT) has been advocated to be effective in neck pain and disability, however, its effectiveness has not been investigated systematically.

Purpose:

To conduct a systematic review evaluation the effectiveness of CBT in adults with CNP (>3 months).

Methods:

Five electronic databases were searched to identify Randomized Control trials (RCT) comparing CBT with or without other additional treatments in pain, disability and kinesiophobia CNP patients. Two reviewers independently screened the RCT's for eligibility, evaluated the study quality using the PEDro scale and rated the certainty of evidence using GRADE approach.



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Instruments: The search strategy of this systematic review adhered to the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines (Page et al., 2021). Also, we followed recommendations of the Cochrane Handbook for Systematic Reviews (Higgins and Green, 2008). Pubmed, CINAHL, and SportsDiscus databases were independently searched by two reviewers (GP and CK) from database inception to 28 April in 2021 with language restriction (articles only in English). Reference lists, citation tracking results, and systematic reviews were also manually searched. Reference lists, citation tracking results, and systematic reviews were also manually searched.

Analysis: Data were entered into and analyzed using Review Manager V.5.3 statistical software of the Nordic Cochrane Collaboration ("Review Manager (RevMan)," RevMan, 2014). Assuming that the true effect may vary from study to study due to methodological differences and variability in studies' settings, a random effects metanalysis was employed in all comparisons. Between-trial statistical heterogeneity was not only assessed by I² statistic as thresholds for the interpretation can be misleading (Schroll, Moustgaard and Gøtzsche, 2011; Borenstein et al., 2017). Statistical heterogeneity was assessed: (1) overlap (poor or adequate) of CIs presented in forest plots; (2) magnitude and direction of effects; (3) sample sizes and number of studies included (as small number of participants and/or studies included in analysis results in low power of heterogeneity test); and (4) strength of evidence for heterogeneity (p value from χ^2 test, or CI for I², or Q statistic and df, or the between-study variance - Tau²) (Higgins and Green, 2011; Schroll, Moustgaard and Gøtzsche, 2011; Borenstein et al., 2017). If considerable between-group statistical heterogeneity was detected (i.e., I² > 75%), we did not perform a meta-analysis.

Results: Very low certainty evidence suggests that CBT as a monotherapy produced better results in kinesiophobia at the very short- short- mid-term follow-up compared to other conservative treatments and indicated no significant differences between CBT alone as compared to wait-and-see in all outcome measures. Finally, very low certainty evidence showed that CBT as a domain of a multimodal conservative treatment produced better results in kinesiophobia and depression at very short- and short-term follow-up compared to conservative treatment without CBT.

Conclusions and implication: **Conclusions:** CBT as a monotherapy or as part of a multimodal conservative approach is more effective than conservative treatments alone in decreasing kinesiophobia and depression up to mid-term and short-term follow-up, respectively.

Implications: CBT is equally effective to conservative management in pain and disability in CNP patients, but may serve a significant role in decreasing kinesiophobia and depression at least in the initial stage of rehabilitation.

Key words: Chronic neck pain, chronic pain, cognitive behavioral therapy

Funding acknowledgements (if applicable) None



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eP07

THE EFFECT OF COGNITIVE FUNCTIONAL THERAPY IN CHRONIC NECK PAIN. A SYSTEMATIC REVIEW.

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² PhD, Lecturer, Physiotherapy, Department of Health Science, European University, Nicosia, Cyprus.

³ Physiotherapist, Department of Health Science, European University, Nicosia, Cyprus.

⁴ Assistant Professor, Physiotherapist, Musculoskeletal Physiotherapy, Department of Health Science, European University, Nicosia, Cyprus.

⁵ Clinical Lead Physiotherapist, Musculoskeletal Physiotherapy, Orthopaedic and Sports Medicine Hospital, Aspetar, Cyprus.

Abstract Text:

Background: Chronic Neck Pain (CNP) is a multifactorial condition and its manifestations are strongly related with psychosocial and biomechanical components. Cognitive Functional Therapy (CFT) is a multidimensional approach based on the Bio-Psycho-Social model mainly investigated in Chronic Low Back Pain (CLBP). Research in CNP is sparse.

Purpose: To systematically search and evaluate the effectiveness of CFT in adults with CNP.

Methods: Five electronic databases were searched by using the PICO model, and the reporting of this systematic review adhered to the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines. Two authors independently screened, evaluated study and risk of bias by using the PEDro scale, and rated the certainty of evidence using the Best Evidence Synthesis approach.

Results: Three studies met the inclusion criteria, two randomized clinical trials and one case control study. Limited evidence suggests that CFT is more effective than exercise alone or a wait-and-see policy in pain catastrophizing, fear-avoidance beliefs, anxiety, depression, stress, and pain and kinesiophobia at the very short term follow up.

Conclusions: Available data suggests that CFT has the potential to be a useful treatment approach in management of CNP.

Keywords: Chronic neck pain, chronic pain, cognitive behavioral therapy

Implications: CFT presented favorable results when compared to exercise or wait-and-see at the short term; however, given the limited number of available studies, further research is needed in larger groups of CNP patients in a range of neck pain subgroups and condition severity.

Background:

Chronic Neck Pain (CNP) is a multifactorial condition and its manifestations are strongly related with psychosocial and biomechanical components. Cognitive Functional Therapy (CFT) is a multidimensional approach based on the Bio-Psycho-Social model mainly investigated in Chronic Low Back Pain (CLBP). Research in CNP is sparse.

Purpose:

To systematically search and evaluate the effectiveness of CFT in adults with CNP.

Methods:

Three electronic databases were searched by using the PICO model, and the reporting of this systematic review adhered to the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines. Two authors independently screened, evaluated study and risk of bias by using the PEDro scale, and rated the certainty of evidence using the Best Evidence Synthesis approach. 97 participants over 18 years old with chronic neck pain (pain for more than 3 months). Population: neck pain for more than 3 months, Intervention: Cognitive Functional Therapy, Comparison: any available, Outcome measure: any available.



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Instruments:	Preferred Reporting Items for Systematic Reviews (PRISMA) using the extension named Systematic Without Meta-analysis (SWiM), to identify any available studies in adults with CNP.
Analysis:	Systematic Without Meta-analysis (SWiM) guideline. Data were entered into and analyzed using Review Manager V.5.3 statistical software of the nordic cochrane collaboration (RevMan). The mean difference (MD) was calculated using Random effect model. We used Best Evidence Synthesis (BES) to identify the certainty of evidence (Van Tulder et al 2003).
Results:	Three studies met the inclusion criteria, two randomized clinical trials and one case control study. Limited evidence suggests that CFT is more effective than exercise alone or a wait-and-see policy in pain catastrophizing, fear-avoidance beliefs, anxiety, depression, stress, and pain and kinesiophobia at the very short term follow up.
Conclusions and implication:	<p>Conclusions: Available data suggests that CFT has the potential to be a useful treatment approach in management of CNP.</p> <p>Implications: CFT presented favorable results when compared to exercise or wait-and-see at the short term; however, given the limited number of available studies, further research is needed in larger groups of CNP patients in a range of neck pain subgroups and condition severity.</p>
Key words:	Chronic neck pain, chronic pain, cognitive functional therapy
Funding acknowledgements (if applicable)	None



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eP08

WHAT FACILITATES PHYSICAL ACTIVITY IN PEOPLE WITH COMMON MENTAL DISORDERS? - A QUALITATIVE STUDY

Louise Danielsson

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Abstract Text:

Background: Physical activity improves mental health, but there are several identified barriers, such as lack of drive and motivation, fatigue, or fear of movement. There is a need to explore facilitators and how physiotherapists can promote physical activity in people with common mental disorders.

Purpose: To explore experiences of what facilitates physical activity in people with common mental disorders.

Methods: Seven adults with mild to moderate depression or anxiety disorder, codes F32-33, F43 in the ICD-10 classification, were interviewed. Exclusion criteria were high suicide risk or substance abuse. A flexible interview guide was used, with follow up questions to deepen the descriptions. Qualitative content analysis was used.

Results: Four categories were found: *Making it your own thing* reflects how the participants wanted to develop a personal way to be physically active, integrated in their everyday life. *Motivated by bodily sensations* reflects vitalization and increased confidence. *Small steps make a difference* reflects that even simple movements and small bouts of physical activity felt meaningful. *Support is essential* reflects the importance of social support, and that support from health care was desirable.

Conclusions: A person-centered approach may be useful to guide the patient to meaningful physical activity, including the issue of support. Larger studies are needed.

Key words: depression, anxiety, qualitative, motivation

Implications: The results may inspire physiotherapists when they talk to depressed and anxious patients about physical activity.

Funding acknowledgement: Funded by the Healthcare Board, Region Västra Götaland.

Ethical approval: Approved by the Regional Ethics Review Board in Gothenburg.

Background:

Physical activity improves mental health, but there are several identified barriers, such as lack of drive and motivation, fatigue, or fear of movement. There is a need to explore facilitators and how physiotherapists can promote physical activity in people with common mental disorders.

Purpose:

To explore experiences of what facilitates physical activity in people with common mental disorders.

Methods:

Seven adults with mild to moderate depression or anxiety disorder, codes F32-33, F43 in the ICD-10 classification, were interviewed. Exclusion criteria were high suicide risk or substance abuse. A flexible interview guide was used, with follow up questions to deepen the descriptions. Qualitative content analysis was used.

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Four categories were found: *Making it your own thing* reflects how the participants wanted to develop a personal way to be physically active, integrated in their everyday life. *Motivated by bodily sensations* reflects vitalization and increased confidence. *Small steps make a difference* reflects that even simple movements and small bouts of physical activity felt meaningful. *Support is essential* reflects the importance of social support, and that support from health care was desirable.



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**Conclusions and
implication:**

A person-centered approach may be useful to guide the patient to meaningful physical activity, including the issue of support. Larger studies are needed. The results may inspire physiotherapists when they talk to depressed and anxious patients about physical activity.

Key words:

depression, anxiety, qualitative, motivation

**Funding
acknowledgements
(if applicable)**

Funded by the Healthcare Board, Region Västra Götaland.

Ethics Approval:

Approved by the Regional Ethics Review Board in Gothenburg.



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eP09

NATIONAL COMPETENCY PROFILE FOR CLINICAL SPECIALIZATION IN MENTAL HEALTH PHYSIOTHERAPY

Stefan Perner, Manuela Kundegraber, Elisabeth Jelem -Zdravil
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Abstract Text:

Background: The clinical specialization within physiotherapy in Austria has been promoted by the national association in the last years. Following an international consensus, a competency profile was published to characterize the facets of a specialized physiotherapist in the field of mental health physiotherapy (PTMH).

Purpose: To define the competencies and learning outcomes of a specialized physiotherapist in the field of PTMH in Austria.

Methods: A focus group consisting of three members analysed existing competency profiles and discussed specificities from a national and international perspective. Additionally, experts from other fields of physiotherapy and international PTMH experts contributed to the discussion.

Results: Seven roles were specified, describing the competencies and learning outcomes for a specialized physiotherapist in the field of PTMH in Austria. The role of the expert emerged as central, and was described by following subthemes: (1) the specific frame of PTMH, e.g. special clinical reasoning strategies; (2) relevant models from other fields of knowledge, e.g. psychology and psychotherapy; (3) the therapists themselves, e.g. specific own experience, embodiment and supervision. The other roles were described as the communicator, teamworker, manager, health promoter, innovator, and professionalist.

Conclusions: The clinical specialization of PTMH in Austria builds on a wide spectrum of specific competencies and learning outcomes.

Implications: The implementation of the described competency profile may have wide implications on future advanced trainings and second cycle studies.

Funding: The process of development and publication was funded by the national physiotherapy association Physio Austria.

Key words: Competency profile; clinical specialization; learning outcomes.

Background:

Physiotherapy (PT) is a heterogeneous profession and therefore, the clinical specialization in the different fields of PT is an important step of professionalisation. In Austria this process has been recently promoted by the national association, and follows an international consensus of describing competency profiles. The competency profile for a specialization in the field of mental health physiotherapy (PTMH) was published, describing the specificities of this branch of PT in a concise and understandable way to other health professionals.

Purpose:

To define the competencies and learning outcomes of a specialized physiotherapist in the field of PTMH in Austria.

Methods:

A focus group of three experienced members was set up purposefully. Existing competency profiles were studied and discussed from a national and international perspective. Experts from other fields of physiotherapy and international PTMH experts were invited to participate in the focus group discussions.



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Results: The focus group discussions resulted in the identification of seven roles in its specificities in PTMH. Competencies and learning outcomes for a specialized physiotherapist in the field of PTMH were formulated. The role of the expert emerged as central, and was described by following subthemes: (1) the specific frame of PTMH, e.g. special clinical reasoning strategies; (2) relevant models from other fields of knowledge, e.g. psychology and psychotherapy; (3) the therapists themselves, e.g. specific own experience, embodiment and supervision. The other roles were described as the communicator, teamworker, manager, health promoter, innovator, and professionalist.

Conclusions and implication: The clinical specialization of PTMH in Austria builds on a wide spectrum of specific competencies and learning outcomes. The implementation of the described competency profile may have wide implications on future advanced trainings and second cycle studies. It might give substantial added value to the field of PTMH and enable a fruitful international discussion about the specialization in PTMH.

Key words: Mental health; Competency profile; clinical specialization; learning outcomes



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eP10

WHICH EXERCISE CAN INFLUENCE THE PAIN CHARACTERISTICS OF PATIENTS WITH FIBROMYALGIA?

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³MSc/Physiotherapist, Department of Physiotherapy, 401 General Army Hospital of Athens, Greece.

⁴Dr/Physiotherapist, Department of Physiotherapy, General University Hospital of Larissa, Greece.

⁵MSc/Physiotherapist, Faculty of Health Sciences, University of West Attica, Greece.

Abstract Text:

Background: Patients with fibromyalgia experience chronic pain.

Purpose: The aim of this study is to investigate the possible influence and change of the pain characteristics of these patients, if we add to the exercise program that they follow, breathing exercises.

Methods: This is a double-blind randomized trial. The sample consisted of 114 outpatients suffering from fibromyalgia, while the referral orthopaedic had suggested physiotherapy. Assessment of pain characteristics in patients was through completing three questionnaires (FIRST, BRIEF PAIN INVENTORY, and PAIN QUALITY ASSESSMENT SCALE) once before starting the exercise, once one month later and the final, after a three months period of exercise. The patients were divided into 2 groups. Both groups followed the same 10-minute warm-up program of active mobilization and joints stretching. The first group of patients implemented a program of active exercises up to the limits of pain lasting 30 minutes with repetition 2 times a week. Patients of the second group followed the same program with the addition of diaphragmatic breaths, when they reached the pain limit.

Results: In the first and control group, the characteristics associated with neuropathic pain appear persisting while in the second, they appear to be in remission.

Conclusions: Both exercise groups demonstrate a significant improvement in all pain scale characteristics but the improvement of the second group, was significantly higher.

Background:

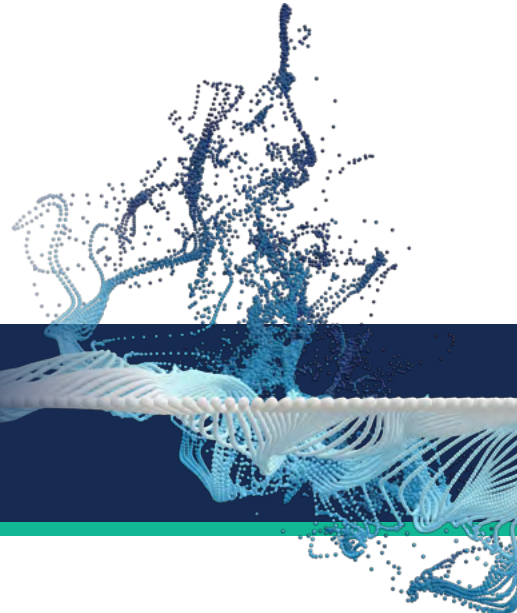
Patients with fibromyalgia experience chronic pain. Is often recommended exercise in combination/or not, with medication treatment, in order to improve patients' physical condition and quality of life.

Purpose:

We investigate the possible influence and change of the pain characteristics of these patients, if we add to the exercise program that they follow, breathing exercises.

Methods:

This is a double-blind randomized trial. The sample consisted of outpatients suffering from fibromyalgia, while the referral orthopaedic had suggested physiotherapy. The total number of patients who were given information was 112 from whom: six patients were excluded (four for not meeting the eligibility criteria and two for refusing to participate). We used equal randomization such as 1:1 for the two groups based on order of entry to the study. An independent research assistant made the allocation. The same physiotherapist implemented therapeutic interventions. An independent physiotherapist, blinded to the study, recorded all data from patients' examinations. Patients' recruitment took place through the 401 General Military Hospital of Athens. Patients with open wounds, pregnant women, patients with any type of neoplastic disease, respiratory, metabolic and rheumatic disease and patients with pacemakers or serious cardiovascular diseases were excluded from the study.



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Assessment of pain characteristics in patients was through completing 3 questionnaires, once before starting the exercise, once three weeks later and once after a three weeks period of exercise. Both groups followed the same 10-minute warm-up program of active mobilization, large joints stretching (shoulders, elbows, wrists, hips, knees, ankles and spine) with each stretch lasting on average for 30 seconds. The first group of patients implemented a program of active exercises up to the limits of pain lasting 30 minutes with repetition 2 times a week for deltoids, quadriceps, trunk extensions, hip extensions, elbow flexors and gastrocnemius. For each muscle, the patient did a set of 10 repetitions. Patients of the second group followed exactly the same programme with the addition of diaphragmatic breaths, when they reached the pain limit. The patient performed the first exercise, discovering what the limit of the trajectory is, the point when the movement becomes painful. At this point, he was instructed to repeat three breaths and then start the program described in the first group.

Instruments:

FIRST (Fibromyalgia Rapid Screening Tool) is a self-completed questionnaire for the detection of fibromyalgia syndrome in patients with diffuse chronic pain. A cut-off score of 5 (corresponding to the number of positive items) gave the highest rate of correct identification of patients.

BPI (Brain Pain Inventory) is a self-report measure that has, over time, become a standard for the assessment of pain and its impact. The interference items were now presented with 0–10 scales, with 0 =no interference and 10=interferes completely.

A recent consensus panel recommended that the two domains measured by the BPI—pain intensity (severity) and the impact of pain on functioning (interference)—be included as outcomes in all chronic-pain clinical trials.

This mean can be used if more than 50% or four out of seven, of the total items have been completed on a given administration.

PQAS (Pain Quality Assessment Scale) Global score ranging from 0 to 10. Computation of a “global” PQAS scale score is not recommended, as this score would likely lose important information regarding specific pain qualities. To understand the pain qualities experienced by the patients, we can rate each item individually. Item 20 on temporal pain is scored categorically (there are three options, or three types of temporal patterns that respondents can indicate) and is for descriptive purposes. Each sub-scale (Paroxysmal, Surface and Deep) score is the arithmetic mean of the items associated with each sub-scale. Sub-scale scores should only be computed for respondents who have provided a response to all the items associated with the scale in question.

Any missing items are treated as missing data and no item score is to be imputed from other items.



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Analysis: The independent student t-test and Mann Whitney-U test were used to compare the two groups before starting the treatment. We examined the effect of the therapeutic intervention using both types of exercise with repeated measurements analysis of variance (ANOVA) between the primary assessment (baseline), after physiotherapy sessions (three weeks later), and after the completion of the therapeutic intervention (three months after the initial assessment). To examine the differences between the two methods of exercise F-between-subjects tests were carried out for all the mentioned variables. Data are presented as means and standard deviation (SD). The statistical significance was set at $P < 0.05$.

Results: A statistically significant improvement in pain was found on all scales, which occurred at the end of the third week and seems to increase but not significantly with the completion of the exercise. There is also a statistically significant difference in the magnitude of the improvement between the two groups despite the fact that in the beginning they presented the same levels of pain.

Conclusions and implication: Both groups demonstrate a significant improvement in all pain scale characteristics but the improvement of the second group, was significantly higher. The fact that this highest improvement in pain that the second group has occurred in a short period of just three weeks is worth mentioned.

Key words: Fibromyalgia, Neuropathic pain, pain characteristics, Brain Pain Inventory, Pain Quality Assessment Scale

Funding acknowledgements (if applicable) No funding

Ethics Approval: All patients provided written informed consent for the study.
Approval from the bioethic committee (Declaration of Helsinki) of 401 GAHA



Physiotherapy in Mental Health; what's next?

eP11

THE EFFECTIVENESS OF PHYSIOTHERAPEUTIC TECHNIQUES ON STRESS MANAGEMENT AMONG FAMILIES OF CHILDREN AND ADOLESCENTS WITH DIABETES MELLITUS TYPE 1

Pelagia Tsakona

Physiotherapist, Department of Physiotherapy, International Hellenic University, Greece.

Abstract Text:

Background: Diabetes Mellitus Type 1 (TD1) is an autoimmune disease and concerns most children and adolescents with diabetes. It disrupts family functioning and causes anxiety for both parents and children, affecting their physical and mental health.

Purpose: The purpose of this study is to evaluate the effectiveness of a physiotherapeutic stress management program in reducing stress symptoms.

Methods: This was a pilot, randomized controlled survey that was carried out in 3rd pediatric endocrinology clinic of Aristotle University at the Hippokrateion General Hospital of Thessaloniki. A total of 107 individuals, an intervention group of 26 children and 28 parents (n = 54) and a control group of 28 children and 25 parents (n = 53) participated. The questionnaires STAIC1,2 for children and DASS 21 for parents were used, to assess the quality of life and depression. The scores of hypoglycemic episodes of children were checked before and after intervention.

Results: After 12 weeks of intervention, the trait anxiety of children was reduced about 5,2 units and the state anxiety about 4,4. Also, it was observed a significant reduction in hypoglycemic episodes of the class 42%. The symptoms of depression, anxiety, and stress in parents of intervention group were significantly reduced about 2,94 units, 1.89, 2.14, respectively.

Conclusions: The physiotherapy program was associated with changes in physical and psychological symptoms of children and adolescents with TD1 and their parents. It turned out to have had a positive impact on depression and stress and a significant improvement on their quality of life.

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Instruments:

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Analysis:

11 statistical tests were performed with IBM SPSS Statistics Version 23



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Conclusions and implication: The physiotherapy program was associated with changes in physical and psychological symptoms of children and adolescents with TD1 and their parents. It turned out to have had a positive impact on depression and stress and a significant improvement on their quality of life.

Key Words: Diabetes Mellitus Type 1, Family, Children and Adolescents, Stress Management, Physiotherapeutic techniques.

Funding acknowledgements (if applicable): The work was unfunded.

Ethics Approval: The study was conducted according to the guidelines of the Declaration of Helsinki and was approved by the Hippokration Hospital.



Physiotherapy in Mental Health; what's next?

eP12

PHYSIOTHERAPY TEACHER STUDENTS' CONCEPTIONS OF TEACHING HUMAN MOVEMENT - A PHENOMENOGRAPHIC STUDY

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² PhD, PT, Faculty of Health and Social Sciences, Western Norway University of Applied Sciences, Norway.

³ PhD, PT, Department of Sport and Health Sciences, University of Jyväskylä, Finland.

Abstract Text:

Human movement is a core phenomenon in physiotherapy to increase health and well-being. Educator's own understanding of teaching human movement in physiotherapy is essential. The aim of this phenomenographic study was to explore the variation in Physiotherapy Teacher Students' conceptions of teaching human movement in physiotherapy context. In accordance with the phenomenographic research method, it was essential to recruit informants who had prior clinical experience as physiotherapists and were students in Health Science Teacher Education, which is conducted at university level in Finland. The informants were five physiotherapy teacher students in Health Science. Three of informants were women and two men. We used a phenomenographic approach to explore variations in informants' conceptions of teaching human movement in physiotherapy context. We collected data through individual interviews. Interviews varied 79 minutes to 51 minutes. The qualitative phenomenographic approach used to analyze the interviews. The research group (SA, LHS, AP, and PV) will constantly evaluate the consistency between the original data and our findings to minimize the influence of their own interpretations. Based on the data, we identified four categories of description conveying the phenomenon of interest, with five themes, illuminating the critical aspects and variation within the categories. The analysis process, however, is still ongoing. The findings of the study may add new insights into understanding human movement teaching in physiotherapy, from the perspective of teacher students. Phenomenography; Conception; Human movement; Teaching; Physiotherapy. This study was unfunded. Ethical guidelines drawn up by the Finnish National Board on Research Integrity TENK were followed.

Background:

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Purpose:

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Methods:

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Instruments:

We used a phenomenographic approach to explore variations in informants' conceptions of teaching human movement in physiotherapy context. We collected data through individual interviews. Interviews varied 79 minutes to 51 minutes.

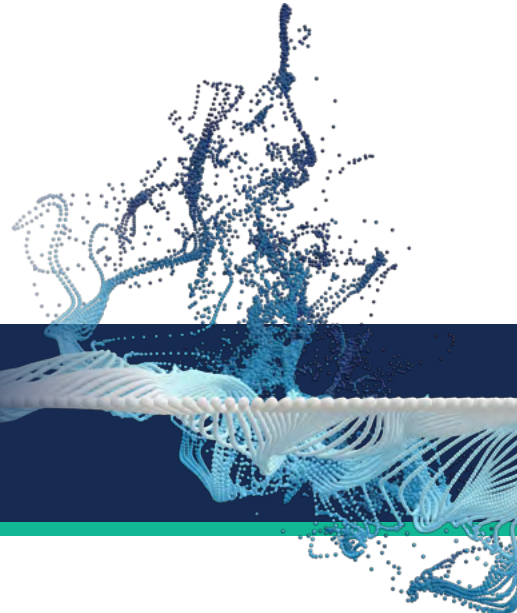
Analysis:

The qualitative phenomenographic approach used to analyze the interviews. The research group (SA, LHS, AP, and PV) will constantly evaluate the consistency between the original data and our findings to minimize the influence of their own interpretations.



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Results: Based on the data, we identified four categories of description conveying the phenomenon of interest, with five themes, illuminating the critical aspects and variation within the categories. The analysis process, however, is still ongoing.

Conclusions and implication: The findings of the study may add new insights into understanding human movement teaching in physiotherapy, from the perspective of teacher students.

Key words: Phenomenography; Conception; Human movement; Teaching; Physiotherapy

Funding acknowledgements (if applicable): This study was unfunded.

Ethics Approval: Ethical guidelines drawn up by the Finnish National Board on Research Integrity TENK were followed.



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eP13

THE EFFECT OF RESISTANCE EXERCISE ON THE COGNITIVE FUNCTION, DEPRESSION AND INSTRUMENTAL ACTIVITIES OF DAILY LIVING IN PEOPLE WITH MILD DEMENTIA

Vasileios Papatsimpas¹, Marianna Papadopoulou², George Papathanasiou³, Christina Bouzineki⁴, Daphne Bakalidou⁵

¹MSc, PhD(c), Academic Fellow, Department of Physiotherapy, LANECA SM Research Lab, University of West Attica, Greece.

²Assistant Professor, Department of Physiotherapy, LANECA SM Research Lab, University of West Attica, Greece.

³Professor, Department of Physiotherapy, LANECA SM Research Lab, University of West Attica, Greece.

⁴MSc(c), Physiotherapist, Day Care Center, Athens Alzheimer Association, Greece.

⁵Associate Professor, Department of Physiotherapy, LANECA SM Research Lab, University of West Attica, Greece.

Abstract Text:

Background: There is an increasing interest of physical exercise as a treatment strategy for managing people with dementia.

Aim: To evaluate the effect of resistance exercise on the cognitive function, depression and activities of daily living in people with mild dementia.

Methods: Thirty participants from a day care center with mild Alzheimer's disease (age ≥ 65 years old, MMSE 20-24) were randomly allocated to two groups: resistance exercise intervention (n=15) and controls (n=15). The intervention took place three times/week for about 40 minutes, for 12 weeks. Exercise performed on main muscle groups at moderate intensity, while controls carried on their usual daily activities (no exercise). Cognitive function (Mini Mental State Examination - MMSE), depression (Geriatric Depression Scale-GDS-15) and activities of daily living (Instrumental Activities of Daily Living Scale-IADL) were evaluated in all participants twice, before and immediately after intervention. Repeated measures statistical analysis was performed with SPSS 22.0.

Results: The intervention group scored significantly higher than controls at second time point on MMSE score ($p < 0.001$). IADL score significantly deteriorated at the second time point in controls ($p < 0.001$). GDS-15 score was significantly increased in controls ($p < 0.05$). MMSE score before intervention was significantly correlated to MMSE score after intervention ($r = 0.762$, $p = 0.001$). IADL score at second time point was positively and significantly related to MMSE ($r = 0.686$, $p < 0.001$).

Conclusion: MMSE score were significantly improved within the intervention group, while GDS-15 and IADL were indicative of better performance in the intervention group. Intervention may have a significant positive influence on mental and daily living activities.

Background:

Dementia is a clinical syndrome characterized by impaired cognition functions, neuropsychiatric symptoms and gradual deterioration of physical function. In recent years, there is an increasing interest in the role of physical exercise as a treatment strategy for managing people with dementia.

Purpose:

To evaluate the effect of resistance exercise on the cognitive function, depression and activities of daily living in people with mild dementia.

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- Methods:** This is intervention study. Thirty participants from a day care center with mild Alzheimer's disease were randomly allocated to two groups: one group resistance exercise intervention (n=15) and one control group (n=15).
Inclusion criteria: a) age ≥ 65 years old b) diagnosis of mild Alzheimer's dementia, as determined by the treating physician c) Mini-Mental State Examination (MMSE): 20-24 /30 d) ability to move to the intervention place e) existence of a caregiver f) sufficient hearing and vision g) medical consent to participate in the exercise h) absence of any other exercise program i) without medication change for at least 2 months j) ability of consent k) have already been considered as capable for consent from the treating physician and the treatment team.
Exclusion criteria: a) other dementia type b) neurological disease with severe motor and cognitive problems c) serious diseases where is inappropriate participation in exercise, in consultation with the treating physician such as severe psychiatric illnesses, uncontrolled blood pressure severe cardiorespiratory problems, severe musculoskeletal problems d) malignancy e) recent surgery (<12 months) f) severe vision / hearing problems g) alcoholism h) drug use.
The intervention took place three times/week about for 40 minutes, for 12 weeks. Exercise included main muscle groups and was performed with ankle and wrist weights at moderate intensity and with a gradual increase of the load. Also, the intervention included warm-up and cool down lasting 5-10 minutes respectively, which will involve active exercises for the head, limbs, torso and stretching. The control group carried on their usual daily activities (no exercise). Cognitive function (Mini Mental State Examination - MMSE), depression (Geriatric Depression Scale-GDS-15) and activities of daily living (Instrumental Activities of Daily Living Scale-IADL) were evaluated in all participants twice, before and immediately after intervention by an independent, research-related neuropsychologist/psychologist and physiotherapist.
- Instruments:** Mini Mental State Examination (MMSE): MMSE is the most common assessment tool for diagnosing cognitive disorders. It is used by a large number of professionals and is a point of reference worldwide by both clinicians and researchers. It is also used in clinical practice as a diagnostic tool, in epidemiological studies, in clinical research to monitor the course of the disease, to study the effectiveness of therapeutic interventions, while its score is used as a criterion for inclusion in studies with patients with dementia and Alzheimer's disease (AD).
Geriatric Depression Scale (GDS-15): GDS-15 is a reliable and valid tool for assessing depression in the elderly as well as in patients with mild to moderate dementia.
Instrumental Activities of Daily Living Scale (IADL): IADL is suitable for the evaluation of the complex activities of the daily life of the elderly. It is also a valid and reliable tool for evaluating functions, in both healthy elderly and elderly patients with dementia.
- Analysis:** Repeated measures with post hoc analysis, was performed with SPSS 22.0.
- Results:** The intervention group scored significantly higher than controls at second time point on MMSE score ($p < 0.001$). IADL score significantly deteriorated at the second time point in controls ($p < 0.001$). GDS-15 score was significantly increased in controls ($p < 0.05$). MMSE score before intervention was significantly correlated to MMSE score after intervention ($r = 0.762$, $p = 0.001$). IADL score at second time point was positively and significantly related to MMSE ($r = 0.686$, $p < 0.001$).



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**Conclusions and
implication:**

MMSE score were significantly improved within the intervention group, while GDS-15 and IADL were indicative of better performance in the intervention group. Intervention may have a significant positive influence on mental and daily living activities.

Key words:

Dementia, resistance exercise, daily living activities, depression.

**Funding
acknowledgements
(if applicable):**

No funding

Ethics Approval:

The study approved by the Ethical Committee of the University of West Attica. All participants gave written consent.

Physiotherapy in Mental Health; what's next?

eP14

GUIDED DIAPHRAGMATIC BREATHING: PHYSIOTHERAPY IN INTENSIVE PSYCHIATRIC CARE

Mads Poulsen¹, Benjamin Rosenberg Edelman¹, Gunnhild Lien Kjaer²

¹Physiotherapist, Bispebjerg, Copenhagen Mental Health Services, Denmark.

²Psychologist, Bispebjerg, Copenhagen Mental Health Services, Denmark.

Abstract Text:

Patients admitted to intensive psychiatric care services experience severe distress due to the acute circumstances of their condition and admission. This pilot intervention is initiated due to a curiosity about what measures patients can benefit from in the acute psychiatric phase. Research claims that diaphragmatic breathing can reduce symptoms of distress and improve bodily grounding. The aim is to support patients in achieving bodily grounding including a greater sense of clarity prior to the initial medical assessment. The hypothesis for this study is that a diaphragmatic breathing exercise may decrease bodily discomfort. The present study was conducted in the intensive care units of Copenhagen Mental Health Services. The intervention was performed prior to the initial medical assessment of newly admitted patients displaying symptoms of distress and anxiety. Patients with productive psychotic and manic symptomatology were not included. The VAS scale was used to measure bodily discomfort prior to and after intervention in which the patient was guided through a 10 min. diaphragmatic breathing exercise. Finally, patients were encouraged to share their reflections. A total of 21 patients participated. The results from the pre-intervention VAS ($M = 6.10$, $SD = 2.11$) and post-intervention VAS ($M = 4.12$, $SD = 2.15$) indicate that the breathing exercise overall resulted in a significant decrease in bodily discomfort for the sample ($df = 20$, $t = 6.35$, $p < 0.001$). Patients described a greater sense of relaxation, comfort and relief. Two of 21 patients discontinued the intervention due to an increase in bodily discomfort during the exercise.

Background:

Many patients admitted to intensive psychiatric care services experience severe distress due to the acute circumstances of their condition and admission. This pilot intervention is initiated due to a curiosity about what measures patients can benefit from in the acute psychiatric phase.

Purpose:

To evaluate the effect of resistance exercise on the cognitive function, depression and activities of daily living in people with mild dementia.

Methods:

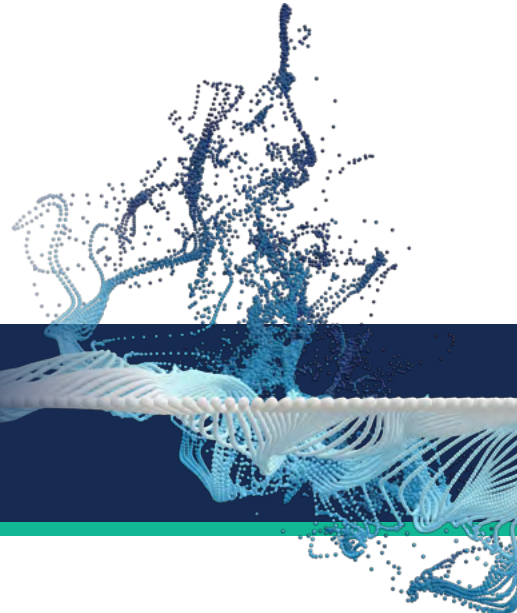
The present study was conducted in the intensive care units of Copenhagen Mental Health Services. The intervention was performed prior to the initial medical assessment of newly admitted patients displaying symptoms of distress and anxiety. Patients with productive psychotic and manic symptomatology were not included. The VAS scale was used to measure bodily discomfort prior to and after the intervention in which the patient was guided through a 10 min. diaphragmatic breathing exercise. Finally, patients were encouraged to share their reflections.

Analysis:

A paired sample t-test on dependent samples (VAS 1 vs. VAS 2) was applied (SAS Institute Inc., Cary, NC, USA).

Results:

A total of 21 patients participated. The results from the pre-intervention VAS ($M = 6.10$, $SD = 2.11$) and post-intervention VAS ($M = 4.12$, $SD = 2.15$) indicate that the breathing exercise overall resulted in a significant decrease in bodily discomfort for the sample ($df = 20$, $t = 6.35$, $p < 0.001$).



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Conclusions and implication:

Patients described experiencing a greater sense of relaxation, comfort and relief. Two of 21 patients discontinued the intervention due to an increase in bodily discomfort during the exercise. No clinical implications yet, since the study is on-going and final results will be awaited.

Key words:

Diaphragmic breathing; Bodily discomfort; Acute psychiatry

Funding acknowledgements (if applicable):

There was no need for funding.

Ethics Approval:

It was not necessary to apply for ethical approval from the regional services. Participants could withdraw at any time.

References:

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eP15

UNDERSTANDING HEALTH SCIENCES ACADEMIC MINDFULNESS LANDSCAPE: A MEDLINE BIBLIOMETRIC STUDY

Lidia Carballo-Costa¹, Elena Alfaya-Lamas²

¹ Senior lecturer, Physiotherapy, Medicine and Biomedical Sciences, University of A Coruna, Spain.

² Associate Professor. PhD, Humanities, University of A Coruna, Spain.

Abstract Text:

Objectives: This study aims at identifying current research areas composing the thematic structure of mindfulness Health Sciences scientific literature. It is also our aim to identify prolific authors in the Health Sciences mindfulness academic field.

Methodology: This is a bibliometric, descriptive, and retrospective study. We have identified publications from Medline (Pubmed) database mentioning mindfulness in either the title, abstract, or Mesh terms assigned, published in the period 2011-2021. Keyword co-occurrence and temporal development have been analysed and visualised using VOSviewer software. On the basis of titles and abstracts of the publications gathered, VOSviewer software extracted and selected the most representative terms. It also created a visualisation, using a technique for clustering terms into “research areas”, such as the most important topics studied in the literature. The co-authorship network has also been analysed.

Results: Major findings from this research include the identification of 9,679 publications as well as a thematic structure composed by 9 research areas on mindfulness. Ranking next in size decreasing order: “chronic diseases and cancer”, “health professionals”, “neurosciences and neurology”, “social groups behaviour”, “mental disorders”, “lifestyle diseases and eating disorders”, “psychology”, “physiology”, and “COVID-19 pandemic”. Most recent studies are focused on the mental health of health professionals, cancer, and “COVID-19 pandemic” research area. Most prolific authors are Eric Garland (USA), Javier García-Campayo (Spain), and Anne Speckens (Netherlands).

Conclusions: This bibliometric study summarizes and depicts the most recent mindfulness academic research areas and authors in the Health Sciences field, revealing Pubmed main thematic structure, and current emerging trends.

Background:

Bibliometrics is a research area that applies mathematical and statistical methods to study quantitative data from scientific publications and their citation links, in order to study the impact of science, and the mapping of scientific fields (Moed, 2004; Van Raan, 2019).

The research area of mindfulness has experienced continual growth over the years (Baminiwatta, 2021). This expansion of the area makes it difficult to obtain a comprehensive overview of the mindfulness scientific literature, specifically those related to health sciences, due to the multidisciplinary development. In this study, we perform a bibliometric study in order to systematically analyze the research in this field through the identification of its thematic structure.

The thematic structure can be defined by its shared conceptual systems as expressed through the terminology used within the discipline (Milojevic, 2011), with groups of identified concepts clustered into research areas by means of bibliometric techniques. These techniques allow us to analyse and visualise the results in semantic maps.



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Conclusions and implication: This bibliometric study summarises and depicts the most recent mindfulness academic research areas and authors in the Health Sciences field, revealing Pubmed main thematic structure, and current emerging trends. This allow us to identify research gaps on the topic.

Key words: Mindfulness, health sciences, bibliometrics, visualization, VOSviewer

Funding acknowledgements (if applicable): No funded.

Ethics approval: This type of study does not need ethical approval.



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eP16

RECAPTURED GROUND: EXPERIENCES OF LONG-TERM IMPACT OF BASIC BODY AWARENESS THERAPY ON DAILY LIFE IN MILITARY VETERANS WITH SEVERE PTSD SYMPTOMS

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¹ Physiotherapist, Department of Military Psychology, Danish Veteran Centre, Denmark.

² Senior researcher, PhD, MSc, RN, Research and Knowledge Centre, Danish Veteran Centre, Ringsted, Denmark.

³ Project Manager, MSc, Department of Military Psychology, Danish Veteran Centre, Denmark.

⁴ Physiotherapist, associate lecturer, Department Physiotherapy, University College Copenhagen, Denmark.

Abstract Text:

Background: Research indicate that Basic Body Awareness Therapy (BBAT) as add-on to trauma-focused psychotherapy effects body experience and self-regulation positively in military veterans with PTSD. No studies of long-term impact on daily life are known.

Purpose: To explore the experience of potential long-term changes on daily life for veterans with PTSD as a consequence of BBAT and which BBAT-aspects that may have contributed to a change.

Methods: With semi-structured individual interviews we explored the experience of four Danish veterans with PTSD who in a cohort trial finalized seven months earlier had received 12 individual BBAT-sessions in addition to cognitive trauma-therapy. Interpretive Phenomenological Analysis inspired the approach to interviews and data analysis.

Results: The central experience from BBAT was: 1) Via BBAT to be guided in contact with the body like a "recaptured ground". 2) In daily life a sustained ability "to sense" the body and with the help of elements from BBAT as "simple effective tools" to "take control" of arousal and get "room for more" with positive impact on sleep, energy and relations.

Conclusions: Experiences of reclaimed body awareness and ability to control arousal by using elements from BBAT had a sustained positive impact in daily life: sleep, relations and engagement in social, physical and work life – aspects associated with quality of life. Results must be seen in the light of the combination of trauma-focused psychotherapy and BBAT. This study might inspire the study and use of body-oriented approaches like BBAT as part of trauma-treatment. Daily-life, BBAT, veterans, PTSD, body-awareness

Background:

Research indicate that Basic Body Awareness Therapy (BBAT) as add-on to trauma-focused psychotherapy effects body experience and self-regulation positively in military veterans with PTSD. No studies of long-term impact on daily life are known.

Purpose:

To explore the experience of potential long-term changes on daily life for veterans with PTSD as a consequence of BBAT and which BBAT-aspects that may have contributed to a change.

Methods:

With semi-structured individual interviews we explored the experience of four Danish veterans with PTSD who in a cohort trial finalized seven months earlier had received 12 individual BBAT-sessions in addition to cognitive trauma-therapy.

Analysis:

Interpretive Phenomenological Analysis inspired the approach to interviews and data analysis.



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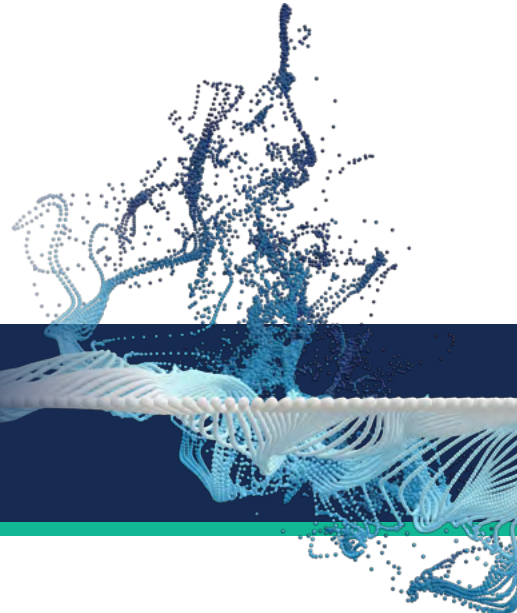
Results: The central experience from BBAT was: 1) Via BBAT to be guided in contact with the body like a “recaptured ground”. 2) In daily life a sustained ability “to sense” the body and with the help of elements from BBAT as “simple effective tools” to “take control” of arousal and get “room for more” with positive impact on sleep, energy and relations.

Conclusions and implication: Experiences of reclaimed body awareness and ability to control arousal by using elements from BBAT had a sustained positive impact in daily life: sleep, relations and engagement in social, physical and work life – aspects associated with quality of life. Results must be seen in the light of the combination of trauma-focused psychotherapy and BBAT. This study might inspire the study and use of body-oriented approaches like BBAT as part of trauma-treatment.

Key Words: Daily life, BBAT, veterans, PTSD, body awareness

Funding acknowledgements (if applicable): Unfunded

Ethics Approval Approved by ethics committee



Physiotherapy in Mental Health; what's next?

eP17

KNOWLEDGE AND ATTITUDES OF PHYSIOTHERAPY STUDENTS ABOUT THE ROLE OF PHYSIOTHERAPY IN MENTAL HEALTH

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²Lecturer, Physiotherapy, University of Witwatersrand, South Africa.

Abstract Text:

Background: There is a growing body of evidence in South Africa regarding the role of physiotherapists in mental health, and the knowledge and attitudes of physiotherapists regarding this role. However, little is known about physiotherapy students' knowledge and attitudes regarding the role of physiotherapy in mental health.

Purpose: To establish the knowledge and attitudes of undergraduate physiotherapy students towards the role of physiotherapy in mental health.

Methods: This was a descriptive, cross-sectional study. Third- and fourth- year undergraduate physiotherapy students at the University of Witwatersrand, South Africa were invited complete an online questionnaire about their knowledge and attitudes regarding the role of physiotherapy in mental health. The online questionnaire included the: Mental Health Knowledge Schedule (MAKS) and the Mental Illness Clinicians' Attitudes (MICA) scale.

Results: Thirty-four students participated in this study, representing a response rate of approximately 36%. The results indicated a moderate level of knowledge and a positive attitude towards mental health (MAKS score was 26.94 (SD 3.57), MICA score was 39.12 (SD 16.12). The fourth-year students had a lower MAKS score (26.70) demonstrating more knowledge when compared to the third-year students.

Conclusion: Physiotherapy students have moderate knowledge and a positive attitude of the role of physiotherapy in mental health. However further research across all universities is needed.

Keywords: mental health, physiotherapy, undergraduate, knowledge, attitudes

Implications: This study indicates the level of knowledge and attitudes of physiotherapy students. More research is needed and may inform curriculum development of the undergraduate physiotherapy programme in South Africa.

Background:

There is a growing body of evidence in South Africa regarding the role of physiotherapists in mental health, and the knowledge and attitudes of physiotherapists regarding this role. However, little is known about physiotherapy students' knowledge and attitudes regarding the role of physiotherapy in mental health.

Purpose:

To establish the knowledge and attitudes of undergraduate physiotherapy students towards the role of physiotherapy in mental health.

Methods:

Participants were third and fourth year physiotherapy students at the University of Witwatersrand, South Africa. Students start clinical placements in their third year thus participants were selected from their third year. The physiotherapy program at the University is a four year degree.

Instruments:

A descriptive cross-sectional study was conducted. The Mental Health Knowledge Schedule (MAKS) was used to assess knowledge and the Mental Illness Clinicians' Attitudes (MICA) scale. A section on demographics was also included in the MAKS. A link to the questionnaires were sent as an online survey via the REDCap online platform.



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Analysis: Quantitative analysis was done using the SPSS v27 statistical software program

Results: Thirty-four students participated in this study, representing a response rate of 36%. The results indicated a moderate level of knowledge and a positive attitude towards mental health (MAKS score was 26.94 (SD 3.57), MICA score was 39.12 (SD 16.12). The fourth-year students had a lower MAKS score (26.70) demonstrating more knowledge when compared to the third-year students.

Conclusions and implication: Physiotherapy students have moderate knowledge and a positive attitude of the role of physiotherapy in mental health. However further research across all universities is needed.

Key words: mental health, physiotherapy, undergraduate, knowledge, attitudes

Funding acknowledgements (if applicable) This was a self-funded study

Ethics approval: Ethical clearance was obtained from the Registrar and Human Research Ethics Committee (Ethics clearance number: M200913).



Physiotherapy in Mental Health; what's next?

eP18

APPLYING BIOPSYCHOSOCIAL- SPIRITUAL AND TRAUMA-INFORMED PAIN TREATMENTS IN THE MIDDLE EAST & NORTHERN AFRICA

Anne-Mette Karrer¹, April Christine Gamble²

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²Clinical Advisor and Trainer, International Programmes, DIGNITY- Danish Institute Against Torture, Denmark.

Abstract Text:

Background: A biopsychosocial & spiritual (BPSS) and trauma-informed (TI) treatment approach of chronic pain is needed for physiotherapy to result in functional improvements for persons impacted by trauma. In the Middle East and North Africa (MENA) many are impacted by trauma, but physiotherapists are taught a biomedical understanding of health and development efforts bolster this approach as they are often led by western organizations rooted in a colonial approach.

Purpose: Through a decolonized approach, implement an education and service delivery programme alongside communities in MENA to increase access to chronic pain physiotherapy treatment for persons impacted by trauma.

Methods: From 2019, BPSS and TI treatment approaches and educational resources in English, Arabic, and Kurdish Sorani were developed and utilized in educational programmes and service delivery initiatives. These efforts centered a decolonized approach with the impact evaluated through learning outcomes, surveys, qualitative interviews, and a quantitative treatment outcome analysis.

Results: In MENA, 26 physiotherapists graduated from the Pain School educational programme with 8 Arabic and Kurdish Sorani speakers becoming certified trainers – resulting in 6 organizations providing the treatment to at least 200 persons impacted by trauma. Treatment outcomes are being analyzed. Additionally, in Iraq, 17 healthcare professionals became trainers in Beyond Pain (a multilingual BPSS pain resource) – resulting in 100 physiotherapists participating in trainings and an additional 100 persons around the world accessing the resource.

Conclusion: It is feasible to implement chronic pain education and treatment services alongside physiotherapists in MENA through a decolonized approach. However, systematic barriers prevent a liberated approach.

Background:

A biopsychosocial & spiritual (BPSS) and trauma-informed (TI) treatment approach of chronic pain is needed for physiotherapy to result in functional improvements for persons impacted by trauma. In the Middle East and North Africa (MENA) many are impacted by trauma, but physiotherapists are taught a biomedical understanding of health and development efforts bolster this approach as they are often led by western organizations rooted in a colonial approach.

Purpose:

Through a decolonized approach, implement an education and service delivery programme alongside communities in MENA to increase access to chronic pain physiotherapy treatment for persons impacted by trauma.



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Methods: From 2019, BPSS and TI treatment approaches and educational resources in English, Arabic, and Kurdish Sorani were developed and utilized in educational programmes and service delivery initiatives. The educational materials; BEYOND PAIN were made available online as well as provided through trainings with physiotherapists. The service delivery initiatives were developed as an implementing manual: DIGNITY Physiotherapy Pain School for Trauma-Affected populations. These efforts centered a decolonized approach with the impact evaluated through learning outcomes, surveys, qualitative interviews, and a quantitative treatment outcome analysis.

Instruments: Quantitative and qualitative analysis were made from learning outcome questionnaires and interviews with physiotherapists and pre-post-assessments with patients participating in the Pain School treatment were collected for treatment outcome measurements. For educational materials available online; download information were collected.

Analysis: Quantitative interview: Thematical analysis
Quantitative data from learning outcomes: Multiple choice tests were analyzed using excel and SPSS.
Quantitative analysis of treatment outcomes: All analyses were conducted with a two-sided level of significance ($p < 0.05$) and calculated in SPSS 25.0. Pearsons chi & Paired-sample t-test were used.

Results: In MENA, 26 physiotherapists graduated from the Pain School educational programme with 8 Arabic and Kurdish Sorani speakers becoming certified trainers – resulting in 6 organizations providing the treatment to at least 200 persons impacted by trauma. Treatment outcomes are being analyzed. Additionally, in Iraq, 17 healthcare professionals became trainers in Beyond Pain (a multilingual BPPS pain resource) – resulting in 100 physiotherapists participating in trainings and an additional 100 persons around the world accessing the resource.

Conclusions and implication: It is feasible to implement chronic pain education and treatment services alongside physiotherapists in MENA through a decolonized approach. However, systematic barriers prevent a liberated approach.

Key Words: chronic-pain, trauma, programme-development, community-centered

Funding acknowledgements (if applicable) The Danish Foreign Ministry through the DAPP - programme & DIGNITY - Danish Institute against Torture

Ethics approval: MIC guidelines for developing and testing complex interventions (Craig et al 2008)
WMA: Declaration of Helsinki Int. Ethical Guidelines 2013



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eP20

ASSESSMENT TOOLS FOR THE STUDY OF THE EFFECTIVENESS OF PHYSICAL EXERCISE INTERVENTIONS IN FUNCTIONALITY OF PEOPLE WITH MILD DEMENTIA

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³ MSc, Nurse, Pathological Department, General Hospital Konstantopouleio, Greece.

⁴ MD, PHD, Technological Education, Vocation School, Greece.

⁵ Associate Professor, Department of Physiotherapy, LANECA SM Research Lab, University of West Attica, Greece.

Abstract Text:

Background: Exercise is often proposed as a non pharmacological intervention in people with dementia, but evidence remains inconclusive about the effects on cognitive function. Several systematic reviews comment on the heterogeneity of the results due to the type and degree of dementia under consideration, the type of intervention exercise as well as the different assessment tools used.

Purpose: It is to present assessment tools regarding the functionality of people with mild dementia in relation to therapeutic exercise and its effectiveness.

Methods: Presentation of functionality assessment tools that can be used for research and clinical purposes and facilitate physiotherapists in clinical decisions: Senior Fitness Test (SFT), Berg Balance Scale (BBS) and Instrumental Activities of Daily Living Scale (IADL). All the above tests have been proven valid and reliable in Greek population.

Results: The SFT is used for measuring functional fitness for both healthy seniors and people with dementia. It is suitable for both research and clinical purposes. BBS is a tool for assessing balance in the elderly; it has been tested for its reliability and validity in patients with various neurological diseases. IADL is suitable for the assessment of the complex activities of the daily life of the elderly. It is also a valid and reliable tool for assessment functions, in both healthy elderly and elderly patients with dementia.

Conclusion: The functionality assessment tools presented are valid, reliable as well as easy and fast to use.

Background:

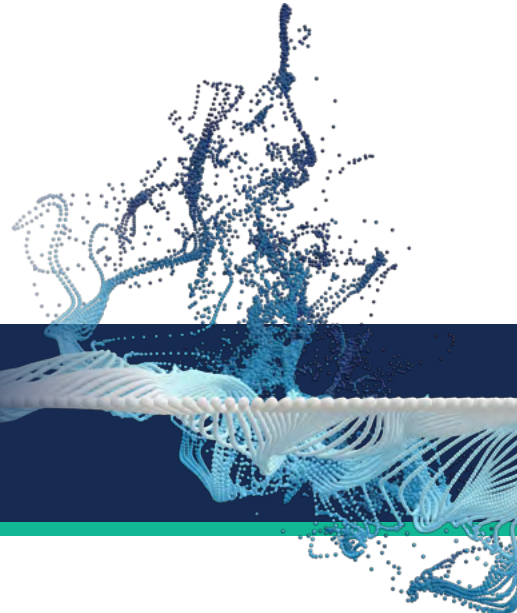
Exercise is often proposed as a non pharmacological intervention in people with dementia, but evidence remains inconclusive about the effects on cognitive function. Several systematic reviews comment on the heterogeneity of the results due to the type and degree of dementia under consideration, the type of intervention exercise as well as the different assessment tools used.

Purpose:

It is to present assessment tools regarding the functionality of people with mild dementia in relation to therapeutic exercise and its effectiveness.

Methods:

Presentation of functionality assessment tools for mild dementia (Alzheimer's Disease) that can be used for research and clinical purposes and facilitate physiotherapists in clinical decisions: Senior Fitness Test (SFT), Berg Balance Scale (BBS) and Instrumental Activities of Daily Living Scale (IADL). All the above tests have been proven valid and reliable in Greek population.



Physiotherapy in Mental Health; what's next?

Methods: Presentation of functionality assessment tools for mild dementia (Alzheimer's Disease) that can be used for research and clinical purposes and facilitate physiotherapists in clinical decisions: Senior Fitness Test (SFT), Berg Balance Scale (BBS) and Instrumental Activities of Daily Living Scale (IADL). All the above tests have been proven valid and reliable in Greek population.

Results: The Senior Fitness Test (SFT) is a valid and reliable tool for measuring functional fitness for both healthy seniors and people with dementia. It is suitable for both research and clinical purposes. It is simple to use, does not require expensive tools or technical expertise and can be applied in any clinical setting. The test includes six functional tests of strength in the arms and legs, endurance, balance, agility and flexibility (Chair Stand, Arm Curl, 6-Minute Walk / 2-Minute Step, Chair Sit and Reach, Back Scratch, 8 Foot Up & Go) and takes about 30 - 40 minutes to perform. Each test has accompanying performance standards for men and women aged 60 to 94 years. In addition, the SFT provides threshold values for each test that help identify the risk of loss of mobility.

The Berg Balance Scale (BBS) is a tool for assessment balance in the elderly, it has been tested for its reliability and validity in patients with various neurological diseases. The BBS assesses the static and dynamic balance capacity. It consists of 14 simple tests, which are often performed in daily activities. The time required to complete all the tests is 15-20 minutes. BBS is an easy and fast test. Subjects are graded on a scale of 0-4 depending on their ability to perform the required tests. The examinee is graded with 0, when he can not perform a test, and with 4, when he performs it successfully without any help. The overall score ranges from 0 to 56 and a score less than 45 equates to an increased risk of falls. Higher scores indicate better performance and greater independence. The Cut-off point 45/56 for independent and safe movement is proposed.

The Instrumental Activities of Daily Living Scale (IADL) by Lawton - Brody, is an appropriate instrument to assess independent living skills. IADL is suitable for the assessment of the complex activities of the daily life of the elderly. It is also a valid and reliable tool for assessment functions, in both healthy elderly and elderly patients with dementia. The IADL is an easy to administer assessment instrument that provides self-reported information about functional skills necessary to live in the community. The instrument is most useful for identifying how a person is functioning at the present time, and to identify improvement or deterioration over time. Administration time is 10-15 minutes. There are eight domains of function measured with the Lawton IADL scale. Women score on all 8 areas of function, for men, the areas of food preparation, housekeeping, laundering are excluded. A summary score ranges from 0 (low function, dependent) to 8 (high function, independent) for women, and 0 through 5 for men. The Lawton IADL scale is widely used in both research and clinical practice.

Conclusions and implication: The aforementioned functionality assessment tools are valid, reliable as well as easy and fast to use. These tools can be used for research and clinical purposes and facilitate physiotherapists (researchers and non-researchers) in their decisions.

Key words: Dementia, functionality, observation tools, assessment tools.



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**Funding
acknowledgements
(if applicable):**

No funding

Ethics approval:

Approved by the Ethical Committee of the University of West Attica



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eP21

THE EFFECTS OF EXERCISE ON MENTAL HEALTH OF BREAST CANCER PATIENTS

Aristi Tsokani¹, Vasiliki Stefanouli¹, Eleni Tsounia¹, Konstantinos Chandolias², Nikolaos Strimpakos³

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² Adjunct Lecturer, Health Assessment and Quality of Life Research Lab, Department of Physiotherapy, University of Thessaly, Greece.

³ Professor, Health and Quality of Life Research Lab, Department of Physiotherapy, University of Thessaly, Greece.

Abstract Text:

Background: Patients diagnosed with breast cancer may experience many mental health issues that are often not treated appropriately. Breast cancer diagnosis and treatment causes mental problems like stress, anxiety and depression 1. Exercise interventions have a beneficial effect on psychological functions and mental well-being. Exercise training is an important part in breast cancer rehabilitation and might improve the mental health status of these patients 2.

Purpose: The aim of this literature review is to point out how exercise may affect the mental health of breast cancer patients.

Methods: A literature search was conducted in four databases (Medline, OVID, Web of Science and Scopus). The search included articles concerning exercise for breast cancer patients with mental health related outcomes. Two authors searched the literature independently and selected the articles. Any disagreements were resolved by a third researcher.

Results: After the literature search 875 articles were found and 21 of them were included in the review. The included papers indicated that exercise improves quality of life, depression symptoms, cancer-related fatigue, anxiety and mood for breast cancer patients. Most of the studies provided a combined exercise protocol of aerobic and resistance training. The measurement mostly counted was Quality of Life. There was a high heterogeneity of the interventions and the different measurements performed.

Conclusions: Physical exercise can be beneficial for mental health and should be included in multidisciplinary approaches for breast cancer patients. Future studies should focus on the specific characteristics of exercise (type, intensity) that might be prescribed.

Background:

Patients diagnosed with breast cancer may experience many mental health issues that are often not treated appropriately. Breast cancer diagnosis and treatment causes mental problems like stress, anxiety and depression¹. Exercise interventions have a beneficial effect on psychological functions and mental well-being. Exercise training is an important part in breast cancer rehabilitation and might improve the mental health status of these patients².

Purpose:

The aim of this literature review is to point out how exercise may affect the mental health of breast cancer patients.

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Conclusions and implication: Physical exercise can be beneficial for mental health and should be included in multidisciplinary approaches for breast cancer patients. Future studies should focus on the specific characteristics of exercise (type, intensity) that might be prescribed.

Key Words: breast cancer; exercise; mental health

Funding acknowledgements (if applicable) We acknowledge support of this work by the project "Smart Tourist" (MIS 5047243) which is implemented under the Action "Reinforcement of the Research and Innovation Infrastructure", funded by the Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).

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 2. Zhu, G., Zhang, X., Wang, Y., Xiong, H., Zhao, Y., & Sun, F. (2016). Effects of exercise intervention in breast cancer survivors: a meta-analysis of 33 randomized controlled trials. *OncoTargets and therapy*, 9, 2153–2168. <https://doi.org/10.2147/OTT.S97864>



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eP22

THE EFFECT OF HYDROTHERAPY IN MENTAL HEALTH AND QUALITY OF LIFE OF VARIOUS DISEASES

Konstantinos Chandolias¹, Eleni Argyroula Tsounia², Vasiliki Stefanouli², Aristi Tsokani²
Nikolaos Strimpakos³

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²Phdc, Health Assessment and Quality of life Lab, Physical Therapy, University of Thessaly, Greece.

³Professor, Head of Health Assessment and Quality of Life Research Lab, Physical Therapy, University of Thessaly, Greece.

Abstract Text:

Background: Many individuals with fibromyalgia, Parkinsons disease, rheumatoid arthritis, autism and physical disability etc present functional mobility disabilities, pain, sleep disorders and other concomitant problems that negatively affect the mental health and the QOL. Hydrotherapy in recent years is included as the main or adjunctive treatment in the rehabilitation program of many diseases. Many clinical studies in different population groups, of different diseases, ages and severity, compare rehabilitation between intervention in water and on land. Most focus on motor function, functionality, balance, improving respiratory function and a few focus on the great part of mental health and quality of life.

Purpose: To systematically review the effects of hydrotherapy on mental health and QOL of patients with various diseases.

Methods: The following medical health-related databases were searched: MEDLINE, Embase, PubMed, Scopus, Physiotherapy Evidence Database (PEDro), and Google Scholar. The following search terms were used: 'hydrotherapy', 'aquatic therapy', 'aquatic exercise', 'aquatic physiotherapy', exercise and pool. The search was limited to randomized controlled trials, reviews and meta-analyses published in peer-reviewed journals from 2000 in the English language.

Results: From a total of 36 articles that retrieved, 22 met the inclusion criteria. Most studies have shown a positive effect of hydrotherapy mainly on the elements, stress, depression, sleep and through the improvement of motor skills and functionality in the overall improvement of the quality of life.

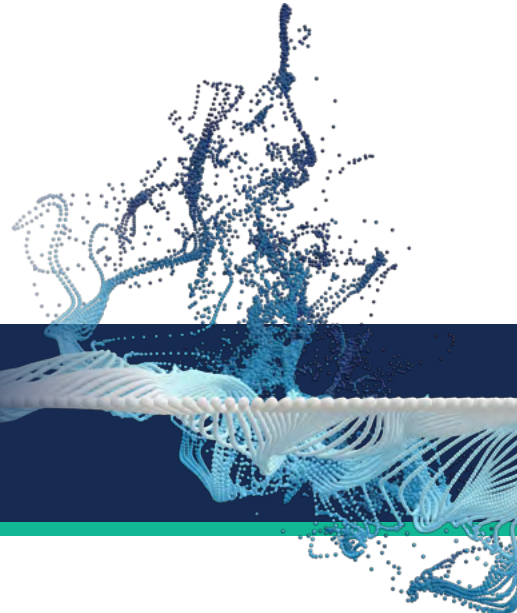
Conclusions: It seems that hydrotherapy combined or not with other therapies improves not only motor skills and functionality of patients with various diseases but also mental health and QoL.

Background:

Many individuals with fibromyalgia, Parkinsons disease, rheumatoid arthritis, autism and physical disability etc present balance, functional mobility disabilities, pain, sleep disorders and other concomitant problems that negatively affect the mental health and the quality of life (QOL). Hydrotherapy in recent years is included as the main or adjunctive treatment in the rehabilitation program of many diseases. Many clinical studies in different population groups, of different diseases, ages and severity, compare rehabilitation between intervention in water and on land. Most focus on motor function, functionality, balance, improving respiratory function and a few focus on the great part of mental health and quality of life.

Purpose:

To systematically review the effects of hydrotherapy on mental health and QOL of patients with various diseases such as fibromyalgia, Parkinsons disease, rheumatoid arthritis, autism and physical disability.



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Methods:	The following medical health-related databases were searched: MEDLINE, Embase, PubMed, Scopus, Physiotherapy Evidence Database (PEDro), and Google Scholar. The following search terms were used: 'hydrotherapy', 'aquatic therapy', 'aquatic exercise', 'aquatic physiotherapy', exercise and pool. The search was limited to randomized controlled trials, reviews and meta-analyses published in peer-reviewed journals from 2000 in the English language.
Instruments:	PRISMA and PRISMA extensions were used for evaluate the suitability of trials and reviews for inclusion.
Analysis:	Data relating to the components of hydrotherapy interventions were extracted in the following categories: Exercise program components, environmental components, outcome measures.
Results:	From a total of 36 articles that retrieved from 2010 to 2021 , 22 met the inclusion criteria. Great variability was noted in the hydrotherapy environmental components, programs and service delivery. Most studies have shown a positive effect of hydrotherapy mainly on the elements, stress, depression, sleep and through the improvement of motor skills and functionality in the overall improvement of the quality of life.
Conclusions and implication:	Targeted training appears to be the most important component of an effective hydrotherapy program. When considering mental health-related outcomes it seems that hydrotherapy combined or not with other therapies improves not only motor skills and functionality of patients with various diseases but also mental health and QoL. Further research is needed on the investigation of the exact mental elements that affect and the organization of specialized hydro rehabilitation programs aimed at this.
Key Words:	hydrotherapy, anxiety, depression, sleep, QoL
Funding acknowledgements (if applicable)	We acknowledge support of this work by the project "Smart Tourist" (MIS 5047243) which is implemented under the Action "Reinforcement of the Research and Innovation Infrastructure", funded by the Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).
Ethics approval:	No ethics approval required.



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eP23

INVESTIGATION OF THE BENEFICIAL EFFECT OF BALNEOTHERAPY IN MENTAL HEALTH CONDITIONS

Elena Argyroula Tsounia¹, **Konstantinos Chandolias²**, Aristi Tsokani¹, Vasiliki Stefanouli¹, Nikolaos Strimpakos³

¹Phdc, Health Assessment and Quality of Life Research Lab, Physical Therapy, University of Thessaly, Greece.

²Adjunct Lecturer, Health Assessment and Quality of Life Research Lab, Physical Therapy, University of Thessaly, Greece.

³Professor, Health Assessment and Quality of Life Research Lab, Physical Therapy, University of Thessaly, Greece.

Abstract Text:

Background: Balneotherapy is bathing in natural mineral water from hot springs and widely used in medicine as a cure for various diseases. In most European countries, balneotherapy preferred by elderly European citizens who are requesting alleviation mainly from musculoskeletal problems. Many studies have been published to investigate the efficacy of balneotherapy on dermatological diseases, cardiovascular, metabolic, neurological, and respiratory conditions. In most of the studies in balneotherapy, mental health outcomes are found as secondary measures, and these results come from the assessment of the quality of life. Recently, the research field in balneotherapy, focus clearly on mental health conditions' beneficial outcomes.

Purpose: The purpose of this study is to concentrate and present the effectiveness of balneotherapy on mental health conditions.

Methods: In the study was performed a literature review on databases and selected the results from the research.

Results: The findings of the studies revealed that mental health conditions such as stress, anxiety, depression, and sleep problems seem to improve with a balneotherapy program.

Conclusions: Balneotherapy seems to have beneficial effects on mental health conditions. The major significance of balneotherapy program in mental health is the reduction of drug application or the non-pharmacological treatment approach. However, future clinical research is required to determine parameters such as the physicochemical composition of natural mineral water and other factors that cause the efficacy in the human body and population that can apply.

Background:

Balneotherapy is bathing in natural mineral water from hot springs and widely used in medicine as a cure for various diseases. In most European countries, balneotherapy preferred by elderly European citizens who are requesting alleviation mainly from musculoskeletal problems. Many studies have been published to investigate the efficacy of balneotherapy on dermatological diseases, cardiovascular, metabolic, neurological, and respiratory conditions. In most of the studies in balneotherapy, mental health outcomes are found as secondary measures, and these results come from the assessment of the quality of life. Recently, the research field in balneotherapy, focus clearly on mental health conditions' beneficial outcomes.

Purpose:

The purpose of this study is to concentrate and present the effectiveness of balneotherapy on mental health conditions.



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Methods: A literature review was performed on 4 databases namely Pubmed, Web of Science, Scopus, and OVID, from 2001 to 31 December 2021. The inclusion criteria of the study were the English language and involved randomized controlled trials or systematic reviews.

Results: Finally, 26 articles (25 randomized clinical trials and 1 systematic review) were included in this study. The findings of most studies revealed that mental health conditions such as stress, anxiety, depression, and sleep problems seem to improve with a balneotherapy program.

Conclusions and implication: Balneotherapy seems to have beneficial effects on mental health conditions. The major significance of balneotherapy program in mental health is the reduction of drug application or the non-pharmacological treatment approach. However, future clinical research is required to determine parameters such as the physicochemical composition of natural mineral water and other factors that cause the efficacy in the human body and population that can apply.

Key words: balneotherapy, spa therapy, mental health

Funding acknowledgements (if applicable) We acknowledge support of this work by the project "Smart Tourist" (MIS 5047243) which is implemented under the Action "Reinforcement of the Research and Innovation Infrastructure", funded by the Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).

Ethics approval: No ethics approval was required.



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eP24

CONTACT WITH THE PHYSIOTHERAPIST AS A FACTOR IMPROVEMENT ON MUSCULOSKELETAL REHABILITATION: AN EMPIRICAL STUDY

Filitsa Tsentidou¹, Glykeria Tsentidou²

¹Physiotherapist, Private Pysiotherapy Center, Katerini, Greece.

²Psychologist, Health Center of Katerini, Katerini, Greece.

Abstract Text:

In the last decades a number of alternatives theories and models incorporate psychological (perception, consciousness) and behavioral (avoidance) factors to explain the experience of pain, the perception of pathology as well as the effectiveness of rehabilitation. However, there are insufficient data on the effect of the patient's relationship with the physiotherapist on rehabilitation, at least to our knowledge. The hypothesis of the present empirical study, is how the physiotherapist's attitude (availability, response, frequency of communication) affects the course of recovery in combination with the patient's perspective on his overall health and improvement. In our study, 52 adults participated, with average age 53 years old, 12 of them were men. All were diagnosed with musculoskeletal problems, suffered from pain, their daily function was reduced, and all took part in a specific two-month exercise and physiotherapy program. Patients treated for emotional and/or mood disorders were excluded from the study. At the end of the rehabilitation program, the frequency of pain and daily functionality were measured. Moreover, it was evaluated quantitatively (telephone communications) and the intermediate communication of the patients with the physiotherapist, while in the last session the patient answered the question, how important did he/she consider the communication with the physiotherapist for his/her individual improvement and the answer was given on a 5-point Likert scale. From the statistical analysis showed a strong correlation of the patients' improvement with the frequency of communication they had with the physiotherapist and with how important they considered this relationship for their rehabilitation.

Background:

Among the many factors that affect the recovery of musculoskeletal problems, it seems that the patient has contact with his physiotherapist. A case that so far, at least to our knowledge, has not been confirmed.

Purpose:

The aim of our empirical study was to shed light on the importance of the therapist in the rehabilitation of musculoskeletal problems.

Methods:

52 adults participated, with average age 53 years old, 12 of them were men. All were diagnosed with musculoskeletal problems, suffered from pain, their daily function was reduced, and all took part in a specific two-month exercise and physiotherapy program. Patients treated for emotional and / or mood disorders were excluded from the study. All of them were clients in the prive physiotherapist of the first author.

Instruments:

Our study is empirical research. Participants were random sample. Data analysis was done with SPSS, and in particular correletions were checked.



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Analysis: Quantitative data, evaluations of musculoskeletal problems (frequency of pain and daily functionality) and the frequency of communication they had with the physiotherapist (number of telephones) and with how important they considered this relationship for their rehabilitation (Likert type answers).

Results: From the statistical analysis showed a strong correlation of the patients' improvement with the frequency of communication they had with the physiotherapist and with how important they considered this relationship for their rehabilitation.

Conclusions and implication: Patients who come for physiotherapy often need a trusted person who feels familiar and easily approachable so that they can refer back whenever they need to ask something. An anthropocentric model of physiotherapy approach.

Key Words: musculoskeletal, relationship with physiotherapist

Ethics approval: The empirical study followed the principles outlined in the Helsinki Declaration of 1975, as revised in 2008.



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eP25

THE EFFECT OF LIMITED THORACIC MOBILITY ON SHOULDER JOINT FUNCTION IN INDIVIDUAL WITH FRAILTY AND IN INDIVIDUAL WITH EXTRAPYRAMIDAL SYNDROME: A STUDY PROTOCOL

Christina Bouzineki¹, Nikoletta Geronikola², Sophia Kanellopoulou³, **Anna Christakou⁴**, Vasiliki Sakellari⁵

¹Physiotherapist, MSc student, MSc "New Methods in Physiotherapy" Physiotherapy Department, Faculty of Health and Care Sciences, University of West Attica, Egaleo, Attica; Greece, Day Care Center in Maroussi, Athens Alzheimer Association, Greece.

²Clinical Psychologist/Neuropsychologist, PhD Student, University of Athens, Medical School, Day Care Center in Panormou, Alzheimer Athens Association, Greece.

³Health Psychologist, Day Care Center in Maroussi, Athens Alzheimer Association, Greece.

⁴Assistant Professor, Physiotherapy, Faculty of Health and Care Sciences, University of Peloponnese; Sparta, Greece.

⁵Professor, Physiotherapy, Faculty of Health and Care Sciences, University of West Attica; Athens, Greece.

Abstract Text:

Background: A common characteristic in different individuals with frailty and extrapyramidal syndrome is the cautious use of the core and shoulder girdle. A test battery was designed to demonstrate whether limited thoracic mobility is a predictor of shoulder joint function in the aforementioned two clinical populations.

Purpose: To evaluate the proposed tests' battery feasibility and acceptability that is going to be used in our main study, which contributes to the prevention of early onset of musculoskeletal disorders/ falls.

Methods: A single case experimental design using two females' participants 70 and 75 years old with frailty and extrapyramidal syndrome, respectively. The test battery contained: (a) Mini Mental State Examination, (b) Geriatric Depression Scale, (c) Fried Frailty Phenotype, (d) ABC Questionnaire, (e) Occiput to Wall Distance test for thoracic kyphosis, (f) Measurement of trunk active rotation in standing, (g) Clinical Scapular protocol (ClinScaP), (h) Shoulder ROM, (i) 4 meters walking test, (j) Multi Directional Reach, (k) Selective Functional Movement Assessment tests (SFMA), (l) Time up and go test.

Results: The main difficulties were in the SFMA and Occiput to Wall Distance test for thoracic kyphosis. Due to the lack of tests' objectivity and the time of participant's evaluation, regarding functional tests, the ClinScaP protocol, the measurements of trunk rotation/ thoracic kyphosis and the 4 meters walking test should only be used in our main study.

Conclusions: Our proposed test battery, with some modifications, seems appropriate to be used in the aforementioned clinical populations.

Implications: To develop prevention program to maintain posture, balance and gait control in adults over 60 years old in the community.

Background:

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Purpose:

To evaluate the proposed tests' battery feasibility and acceptability that is going to be used in our main study, which contributes to the prevention of early onset of musculoskeletal disorders and falls of the aforementioned clinical populations.



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Results: The main difficulties which observed were in the SFMA tests and Occiput to Wall Distance test for thoracic kyphosis. Due to the lack of tests' objectivity and the time of participants' evaluation, regarding the functional tests, the ClinScaP protocol, the measurements of trunk rotation/ thoracic kyphosis and the 4 meters walking test should only be used in our main study.

Conclusions and implication: Our proposed test battery, with some modifications, seems appropriate to be used in the aforementioned clinical populations. The implication of our main study is to develop a prevention program to maintain posture, balance and gait control in adults over 60 years old in the community.

Key Words: Frailty, Extrapyramidal syndrome, Thoracic mobility, Shoulder functional

Funding acknowledgements (if applicable): No funding sources

Ethics approval: Approval by the Ethics Committee of the University of West Attica Athens Greece with protocol number 56853/16-07-2021.



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THE EFFECTS OF GREEN EXERCISE IN MENTAL HEALTH

Vasiliki Stefanouli¹, **Aristi Tsokani¹**, Konstantinos Chandolias², Eleni Tsounia¹, Nikolaos Strimpakos³

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³ Professor, Health Assessment and Quality of Life Research Lab, Department of Physiotherapy, University of Thessaly, Greece.

Abstract Text:

Background: The term “Green Exercise” (GE) is defined as the physical activity taking place in natural environments or greenspace. In the last decade, there is a growing number of studies evidencing the mental health benefits of GE. Moreover, outdoor nature-based interventions improve mental health across all populations, including the elderly with long-term conditions and adults with common mental health problems, as well as healthy adults and adolescents. These outcomes seem significant during the COVID-19 epidemic period as this epidemic has created a stressful environment for the majority of people around the globe. Generally, contact with nature can help prevent poor mental health in such stressful times, or at least, not make it worse.

Purpose: This review aims to explore, summarize and evaluate the benefits of GE in mental health.

Methods: A search was conducted in five major databases (Pubmed/Medline, Scopus, Web of Science, GreenFile, and Ovid) for articles published between January 2011 and December 2021. The databases were searched for articles that used outdoor physical activity in greenspace and investigated the mental health effects.

Results: A total of 1042 articles were retrieved but only 38 studies met the inclusion criteria and were summarized. Most studies provide a beneficial impact of green exercise on improving and promoting mental health. It is observed that GE reduces depression, stress and increases mood, self-esteem and, wellbeing.

Conclusions: It would be beneficial if Public Policies and healthcare professionals focus on GE, as it is considered an effective and inexpensive way to promote mental health globally.

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Conclusions and implication: It would be beneficial if Public Policies and healthcare professionals focus on GE, as it is considered an effective and inexpensive way to promote mental health globally.

Key Words: Greenspace; Green Exercise; Nature-based intervention; Mental health

Funding acknowledgements (if applicable) We acknowledge support of this work by the project "Smart Tourist" (MIS 5047243) which is implemented under the Action "Reinforcement of the Research and Innovation Infrastructure", funded by the Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund).



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eP27

MAPPING THE RECENT SCIENTIFIC LITERATURE ON PHYSIOTHERAPY AND EXERCISE IN MENTAL HEALTH

Lidia Carballo-Costa

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Abstract Text:

Objectives: To identify:

1. Current research areas composing the thematic structure of scientific literature related to Physiotherapy and Exercise in Mental Health.
2. Main producers of publications: authors, countries, and organisations.
3. Journals publishing in this topic.

Methods: This is a bibliometric study. We have identified publications (articles and reviews) from Web of Science database mentioning terms related to physiotherapy, exercise, and mental health disorders in either the title, abstract, or keywords assigned, published in the period 2012-2021. Keyword co-occurrence has been analysed and visualised using VOSviewer software 1.6.17. The co-authorship networks of authors, countries, and organizations have also been analysed with this software, along with the most representative journals related to the topic.

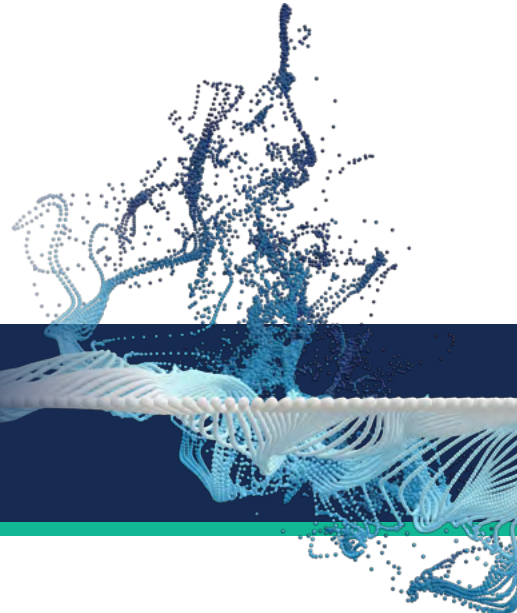
Results: We identified 19,588 publications. The thematic structure is composed by 5 main research areas: "Physical activity in eating disorders and addiction", "Mental health in aging, chronic diseases, and cancer", "Exercise and neurological diseases", "Interventions in chronic pain", and "Severe mental disorders". Most productive and cited authors are Davy Vancampfort, Brendon Stubbs, and Simon Rosenbaum. Most productive countries are United States, United Kingdom, Australia, Canada, and China, but Northern European countries and Australia received more citations in average. Most productive organizations are Kings College London and University of Toronto. "International Journal of Environmental Research and Public Health" is the journal with more publications, but the most cited is "PLOS one".

Conclusion: We can describe the landscape of research in Physiotherapy in Mental Health, and its dynamics using Bibliometrics, which also allows us to identify research gaps.

Background:

Bibliometrics is a research area that applies mathematical and statistical methods to study quantitative data from scientific publications and their citation links in order to study the impact of science, and the mapping of scientific fields (Moed, 2004; Van Raan, 2019).

Physiotherapy in Mental Health is a specific field within the large area of Physiotherapy. Its importance is growing due to the increasing burden of mental disorders around the world. In this study, we carry out a bibliometric study to systematically describe the thematic landscape of this research field. We also want to identify who (authors, countries, and organisations) is researching Physiotherapy in Mental Health, and which journals are interested in this topic. Thus, we can establish a baseline to understand its evolution and provide researchers and stakeholders with information to make decisions.



Physiotherapy in Mental Health; what's next?

Purpose: To identify:

1. Current research areas composing the thematic structure of scientific literature related to Physiotherapy and Exercise in Mental Health.
2. Main producers of publications: authors, countries, and organisations.
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Methods: This is a bibliometric study. We have identified publications (articles and reviews) from Web of Science database mentioning terms related to physiotherapy, exercise, and mental health disorders in either the title, abstract, or keywords assigned, published in the period 2012-2021. Keyword co-occurrence has been analysed and visualised using VOSviewer software 1.6.17. On the basis of titles and abstracts of the publications gathered, VOSviewer software extracted and selected the most representative terms. It also created a visualisation, using a technique for clustering terms into “research areas”, such as the most important topics studied in the literature.

Co-authorship networks of authors, countries, and organisations have also been analysed with this software, along with the most representative journals related to the topic. Data were provided by Web of Science database.

Results: We identified 19,588 publications. The thematic structure is composed of 5 main research areas: “Physical activity in eating disorders and addiction”, “Mental health in aging, chronic diseases, and cancer”, “Exercise and neurological diseases”, “Interventions in chronic pain”, and “Severe mental disorders”. The most productive and cited authors are Davy Vancampfort, Brendon Stubbs, and Simon Rosenbaum. The most productive countries are the United States, United Kingdom, Australia, Canada, and China, but Northern European countries and Australia received more citations on average. The most productive organisations are Kings College London and the University of Toronto. “International Journal of Environmental Research and Public Health” is the journal with more publications, but the most cited is “PLOS One”.

Conclusions and implication: We can describe the landscape of research in Physiotherapy in Mental Health, and its social dynamics by means of advanced bibliometric techniques. This kind of visualisation is helpful to researchers, policy-makers, and funders to know about research gaps and possible new directions of research. Also, these and other stakeholders can analyse the result of past research policies, their decisions on the allocation of funds, and redesign the future ones.

Key Words: Bibliometrics, physiotherapy, exercise, mental health, VOSviewer

Funding acknowledgements (if applicable): No funded.

Ethics approval: This type of study does not require ethical approval.



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eP28

VULNERABILITY FRACTURES AND DEMENTIA: FROM PREVENTION TO REHABILITATION

Nikolaos Mastoras

Physiotherapist, Physiotherapy, Day Care Center of Ioannina, Greece.

Abstract Text:

Fragility fractures and dementia

Falls in the elderly

Hip fractures in patients with dementia

The incidence of hip fractures in patients with dementia is up to three times higher than in the elderly without dementia and there are many pathways involved in this increased risk.

Background:

The relationship between dementia and hip fracture is complex, and we are unaware of any previous articles that have explored the pathway from one endpoint to another in a comprehensive manner.

Given the serious outcomes to patients with dementia and hip fractures, the goal of prevention is an important one. The expected demographic shift over the coming decades adds urgency to this issue. There are multiple physiologic/pathologic intermediate risk factors that have the potential for intervention and treatment in order to reduce risk.

Research evaluating the multiple intermediate risk factors in a comprehensive way is needed as a step toward developing an optimal evidence-based approach to reducing hip fractures in patients with dementia.

Purpose:

The focus of physiotherapeutic intervention is to enhance movement and physical activity. The low rates of physical exercise in the general population, as well as the high and ever-increasing rates of dementia are now a fact. The purpose of this presentation is to introduce the prevention and rehabilitation of susceptibility fractures in dementia patients as well as the role of therapeutic exercise in the day center.

Methods:

Presentation of bibliographic and empirical data.

Results:

The offer of physiotherapy in fractures of fragility in dementia is great. Therapeutic exercise is necessary in the day center in practice.

Conclusions and implication:

Physiotherapy is an integral part of the multidisciplinary approach team to dementia and vulnerability fractures. The role of therapeutic exercise is widely demonstrated in the treatment of dementia patients.

Key Words:

Fragility, Fractures, Dementia, prevention, rehabilitation



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eP29

VIRTUAL REALITY AND BEHAVIOR MANAGEMENT

Georgios Mitsikaris

Physiotherapist, 1st Vocational High School, Megalopoli, Greece.

Abstract Text:

Virtual reality is a very popular technology and it is a rapidly emerging field of research. Virtual reality is a tool for the healthcare industry. There is a wide range of study in various disciplines, such as psychology and behavior. In addition, it is increasingly used to evaluate as well as treat mental disorders. Virtual reality seems to be really effective in realistic reactions and behaviors. Studying the articles, we draw the conclusion that virtual reality has a most significant role in mental health.

Background:

Virtual reality is a very popular technology and it is a rapidly emerging field of research. A computer application and a 3D environment are often used for its implementation. It is worth mentioning that the available information concerning the virtual environment is less. Virtual reality is a tool for the healthcare industry. There is a wide range of study in various disciplines, such as psychology and behavior. The first reference to virtual reality and mental health was made in 1990.

Purpose:

Virtual reality is increasingly used to evaluate as well as treat mental disorders. Virtual reality seems to be really effective in realistic reactions and behaviors.

Methods:

In our systematic review we searched through international databases (PubMed, Pedro, Medline, The Cochrane Library).

Instruments:

International databases (PubMed, Pedro, Medline, The Cochrane Library).

Analysis:

An interesting reference to the action of virtual reality in relation to the behavior is the «SAFER WATER» sessions. It is an interactive virtual experience aimed at supporting the suitable behavior that people should have in the face of natural disasters. Simulations of natural disasters were designed to increase the awareness of danger as well as the sense of security. Two sessions took place, which consisted of two different scenarios. The results indicated that appropriate virtual scenarios can help citizens improve their lives.

In another study, a comparison of virtual reality versus mental health was made. Virtual worlds were created to study changes in behavior. The wide range of virtual reality has contributed to the treatment of psychological ailments. Papers for the period January 2012-July 2017 were studied for this particular purpose. Eighty two studies were collected, in which its benefits in terms of anxiety, stress, depression, substance addictions and even eating disorders were observed. The results of our study showed the positive effects of virtual reality on mental health. Furthermore, a positive change as far as the behavior of individuals is concerned, was observed as well.



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Another research summarizes studies of mental disorder therapies using virtual reality. The results are most impressive in terms of post-traumatic stress, anxiety disorders, even in psychoses, addictions and eating disorders. Additionally, it is worth mentioning that it is also applied to children and adolescents.

Another remarkable piece of work is a study on the effectiveness of virtual reality in children and more particularly in the management of pediatric stress. Seven studies were examined in this specific review. The results obtained suggest that virtual reality helps significantly reduce the anxiety of pediatric patients.

Results: There is a wide range of virtual reality that has been implemented to health and especially in behavior management.

Conclusions and implication: Studying the articles, we draw the conclusion that virtual reality has a most significant role in mental health. However, further study of the cases is also needed. In addition, there are issues that it is necessary to be studied as well, such as the development of technology, possible side effects, a period of time that each session receives, and the number of them that should be held. Last but not least, a key factor that needs to be studied is the dependence of patients on virtual reality.

Key Words: virtual reality, behavior management, mental health.

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eP30

THE BENEFITS OF PHYSIOTHERAPY INTERVENTION THROUGH EXERCISE IN CHILDREN WITH AUTISM

Charonitis Epameinondas¹, Charoniti Marianthi²

¹Physiotherapist specialized in neurological diseases, self employed, Greece.

²Physiotherapist specialized in musculoskeletal and lymphatic diseases. self employed, Greece.

Abstract Text:	Autism spectrum disorder is characterized by basic deficits in communication, social, behavioural, cognitive and motor skills. Physiotherapeutic intervention through exercise has a positive response to all of the above and at the same time, has a preventive character to possible future impairments.
Background:	Children with autism exhibit stereotypical movements that can be restricted and replaced by structured physical therapy interventions through exercise.
Purpose:	The systematic literature review collected data from studies examining the effect of physiotherapy intervention through exercise on the developmental trajectory of children with autism spectrum disorder (ASD).
Methods:	A literature review of studies from PubMed, PEDro, Cochrane, Google scholar databases of the last 5 years on physiotherapy intervention through exercise in children with autism was conducted. The research studies conducted to gather information had exclusively diagnosed children with ASD as participants and exercise as the intervention tool. The procedure followed in the research included four stages: initial testing, implementation of the physical therapy program, post-implementation testing, analysis, interpretation and comparison of the obtained results.
Analysis:	No data analysis was performed as it is a systematic review.
Results:	After physiotherapy sessions, balance, coordination, posture and functional abilities such as speed and explosive strength of the legs improved. Intense exercises also had positive effects on reducing the child's self-stimulation, as the structured exercise routines acted as constructive forms of behavioural replacement to the stereotypical movements exhibited by these children. In addition, the play-based exercises were shown to have an academic response as well, as they can have a positive effect on improving their communication and social skills, increasing their self-esteem and improving their behavioural adaptability.
Conclusions and implication:	Physical therapy intervention through exercise has significant benefits on the multidimensional developmental trajectory of children with ASD, and has a preventive character. However, it is important to conduct future research with greater rigor and stronger levels of evidence to determine the specific parameters of exercise.
Key Words:	Physiotherapy, autism spectrum disorder, exercise, benefits of physiotherapy in autism
Ethics approval:	We have not implemented any national consensus.



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eP31

BIPOLAR DISORDER & PHYSICAL EXERCISE

Olga Gerouti

Physiotherapist, Physiotherapy Center, Healththerapy, Greece.

Abstract Text: People with severe mental diseases tend to be less productive. Interventions involving physical activity are a relatively low risk and accessible way of reducing physical health problems in people with severe mental illness, (Kandola and Osborn, 2021). In this study we aimed to investigate the effects of physical exercise in bipolar disorder. Physical exercise is an important element which leads to beneficial effects in terms of physical and cognitive human being functioning, (Mandolesi, L. et al., 2018).

Background: Bipolar disorder (BD) is a severe, recurrent and chronic disorder, which affect more than 1% of the world's population, (Mcintyre RS et al. 2020), is associated with cognitive impairment, reduction in quality of life and substantially reduction in psychosocial functioning. It presents high rates of comorbidity with cardiovascular and cerebrovascular diseases, diabetes and metabolic syndrome, (Rocca et al., 2021).

Individuals with bipolar disorder need to focus their attention and treatment on mental and physical health. Physical exercise is often recommended in bipolar disorder, (Rocca et al., 2021).

Purpose: In this study we aimed to investigate the effects of physical exercise in bipolar disorder.

Methods: Bibliography review in search engines: Google Scholar, PubMed
Inclusion criteria: Free Full text - Review - Clinical trials - 5 years published, Record evaluated parameters related to exercise. Articles provided the full-text in Greek or English language.
Key words: bipolar disorder, exercise, physiotherapy.

Instruments: Bibliography review

Analysis: Manual analysis through grouping of common themes and other methods

Results: Physical exercise helps to avoid physical and mental issues at children and adults by promoting neuronal plasticity (Bidzan - Bluma et al., 2018)

Physical exercise can be considered as a form of therapy in the treatment of psychopathologies and neurodegenerative illnesses (Aas, M. et al., 2019)

Physical exercise can reduce anxiety, stress, and depression symptoms (Ashdown -Franks, G. et al., 2019)



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Conclusions and implication:	Most of the studies showed beneficial results of the exercise, whether it is a simple daily activity or a targeted program. It has been shown to affect the symptoms of anxiety and depression, improve sleep quality and have a positive effect on metabolism. Further research especially in clinical trials is needed, in order to have more specific results.
Key Words:	bipolar disorder, exercise, physiotherapy.
Funding acknowledgements (if applicable):	The work was unfunded.
Ethics approval:	I don't apply any ethical considerations.
References:	<p>Louisa G. Sylvia^{a,b,*}, Samantha L. Pegga, Steven C. Dufour^a, Jessica A. Janosa, Emily E. Bernstein^c, Weilynn C. Chang^d, Nathan E. Halla^e, Kristen K. Ellard^{a,b}, Andrew A. Nierenberg^{a,b}, Thilo Deckersbach^a, Pilot Study of a Lifestyle Intervention for Bipolar Disorder: Nutrition Exercise Wellness Treatment (NEW Tx), Published in final edited form as: J Affect Disord. 2019 May 01; 250: 278–283. doi:10.1016/j.jad.2019.03.033</p> <p>Pasquale Caponnetto, Mirko Casu, Miriam Amato, Dario Cocuzza, Valeria Galofaro, Alessandra La Morella, Sara Paladino, Kamil Pulino, Nicoletta Raia, Flavia Recupero, Cristian Resina, Samuele Russo, Laura Maria Terranova, Jennifer Tiralongo and Maria Chiara Vella, The Effects of Physical Exercise on Mental Health: From Cognitive Improvements to Risk of Addiction, 2021.</p>



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APPENDIX

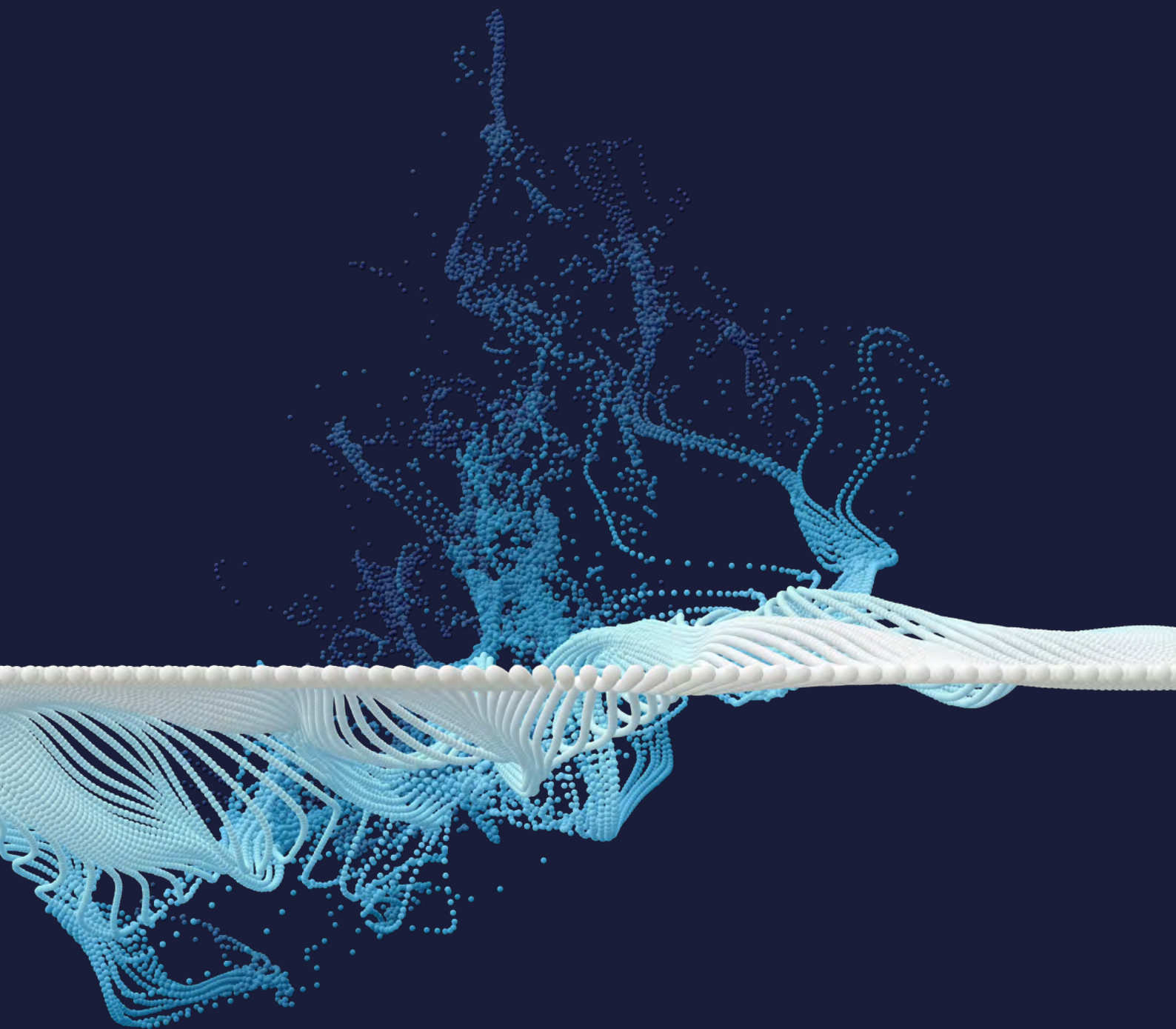
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