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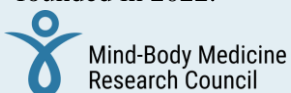
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THE MIND

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Editorial

Cross-Cultural Research for the Application of Mind-Body Practices: The Case of Creating Specialized Tai Chi Therapies

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Chronic diseases, such as cardiovascular disease, cancer, rheumatoid arthritis, and pulmonary disease, and mental health issues, such as depression, anxiety, and drug addiction, have reached crisis levels around the world. Because these non-communicable diseases are impacted by aging and lifestyle, the paradigm of modern health care has shifted from institutionally driven treatments based on the biomedical model of health to active changes in individual behaviors based on an integrative medicine perspective.

Many of the mind-body practices that are receiving recent attention for their potential as effective and inexpensive treatments originate from non-Western cultures and medical systems. Thus, incorporating these complementary practices into our medical system is fraught with many systemic, administrative, and cultural challenges. Here, I advocate for a cross-cultural approach in overcoming another challenge—the lack of standardization—focusing on the example of Tai Chi.

Tai Chi is a centuries-old Chinese martial art and health exercise. Hundreds of clinical studies reveal substantial health benefits for chronic diseases, mental health issues, and cognitive decline (Huston & McFarlane, 2016). As a moderate-level aerobic exercise (Lan et al., 2008), Tai Chi involves a calm and attentive state of mind. The complex

whole-body movement sequences also require learning and coordination processes. A dominant biomedical model of Tai Chi health benefits centers on psychoneuroimmunological mechanisms in which enhanced blood flow (El-Sayes et al., 2019) and stress reduction (Taylor-Piliae et al., 2006) slow the progression of autoimmune chronic diseases by downregulating excessive inflammation (Figuroa et al., 2012). In addition, functional, structural, and molecular level neuroplasticity is theorized to reduce cognitive decline associated with aging and neurodegenerative diseases (see Park et al., 2022 for a discussion). Finally, biomechanical characteristics of Tai Chi movements are thought to improve muscle strength and coordination, which then support better posture, balance, bodily control, and quality of life (Zhou et al., 2019).

These explanations help us gain a general understanding of Tai Chi health benefits. Unfortunately, they are limited when it comes to addressing serious obstacles to developing Tai Chi treatments. First, the health benefits of Tai Chi in clinical studies are highly variable, and sometimes, even non-existent (Jahnke et al., 2010). The lack of a formal system of standards for the practice or teaching of Tai Chi makes it difficult to compare among the many different Tai Chi routines and styles. Moreover, Tai Chi is practiced and taught at widely varying movement speeds, degree of muscle involvement and

stretching, and movement kinematics, not to mention breathing and mental states. Unfortunately, we lack a theoretical system for predicting the effectiveness of specific Tai Chi regimens in addressing specific health issues.

A second obstacle to developing Tai Chi treatments is that a typical Tai Chi routine is composed of a long sequence of whole-body movements. The difficulty in learning and carrying out the movement sequence hinders its application to children, older adults, and those with cognitive deficits.

How can these challenges be addressed? It is proposed here that the Western biomedical theories of Tai Chi health mechanisms should be complemented by explorations of the East Asian medical, contemplative, and martial arts traditions from which Tai Chi originated. My colleagues and I have turned to Traditional East Asian Medicine to identify principles that would guide us in creating Tai Chi treatments that maximize health benefits. Three concepts appear to be especially relevant:

First, the accumulation, circulation, and utilization of bodily energy, called 'Qi', through interoceptive awareness is a key concept in the instruction of Tai Chi—both as a health exercise and as a martial art. A second emphasis lies in the role of mindfulness in linking mental health and intention, on the one hand, and bodily movement and physiology, on the other. A third element has to do with the channels of Qi and blood flow, called 'meridians', and their muscle equivalents, called 'meridian muscles'. Briefly, in Traditional East Asian Medicine, the meridians are organic systems that connect the organs and functional

systems of the whole body. They occupy the center of the basic theoretical system of physiology, diagnosis, and treatment in Traditional East Asian Medicine (Department of Meridian and Acupoint, Korean Medical College, 2009).

Currently, my colleagues in South Korea, Hwajin Lee, Jong-Woo Kim, Hi-Joon Park, Seok-In Yoon, and Hyowon Seo, and I are analyzing individual Tai Chi movements in terms of the meridians they would stimulate. Our work shows that each Tai Chi movement would stimulate multiple of the 'Twelve Regular Meridians' and that a popular Tai Chi routine, like the 'Yang-Style 24 Forms', would likely lead to the balanced activation of the entire meridian set. An advantage of our approach is that the outcome of the theoretical analysis can be subjected to empirical testing through electromyographic (EMG) muscle activation studies. Importantly, individual Tai Chi movements can be identified that emphasize certain meridians favorable for addressing a specific health issue. Ultimately, our goal is to develop a small set of Tai Chi movements tailored for patients with depression. Indeed, the same approach could be applied to creating Tai Chi routines for a variety of patient populations, including those with anxiety, arthritis, or cardiovascular disease.

In closing, I would suggest that a cross-cultural approach might also facilitate the application of other mind-body practices, such as yoga or mindfulness meditation, in other ways. Ultimately, such efforts would expand the boundaries of science to further enrich our foundational understanding about the operating dynamics between the mind and the body.

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Research

Yogic Breathing Sessions for Cancer Patients and their Caregivers: An Analysis of Feedback

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Abstract: We examined the expected and experienced improvements of cancer patients' stress, mood, pain and appetite through a yogic breathing intervention. Cancer patients and caregivers were instructed in five different yogic breathing techniques in 20-minute sessions over a period of six months. Thirty participants completed the voluntary survey afterwards. Participants reported improvements on all outcomes, demonstrating the great potential of yogic breathing as complementary therapy during cancer treatment.

Background

Yogic breathing (YB, also called *Pranayama* in the yoga tradition) is an act that involves bringing intentional awareness to one's every breath, and implementing exercises to regulate breathing. By inhibiting the body's sympathetic "stress" response, and activating the body's parasympathetic "relaxation" response, yogic breathing modulates biomarkers known to be correlated with disease progression.

Several studies have suggested a correlation between the practice of yogic breathing and the modulation of hormone levels, inflammatory markers, and various cytokines involved in immunity (Balasubramanian et al., 2015; Kochupillai et al., 2005; Twal et al., 2016; Venkatesh et al., 2020). Furthermore, oncology patients practicing yogic breathing and mindfulness have reported improvements in symptom burden associated with cancer and chemotherapy, including decreased nausea and pain levels (Lee et al., 2023). Finally, numerous psychological benefits have been studied and

reported among both cancer patients and non-cancer patients practicing yogic breathing, including reductions in fatigue, depression, anxiety, and sleep disturbances (Cramer et al., 2017; Alford et al., 2023). It is evident that the potential benefits of yogic breathing within the oncology population are numerous and multifaceted.

The American Cancer Society Carol Grotnes Belk Campus Hope Lodge located in Charleston, SC, is a local "home away from home" for cancer patients and their caregivers, providing no-cost lodging while undergoing treatment at nearby hospitals including the MUSC Hollings Cancer Center (ACS, 2024). Patients and their caregivers have the opportunity to socialize with others, enjoy meals together, and participate in various activity offerings led by local volunteers.

Methods

The study period spanned a six-month time frame in 2022, during which weekly twenty-minute yoga breathing sessions were offered at the local Hope Lodge facility to cancer patients and their caregivers in small groups (2-5 individuals). The session curriculum was developed by a certified yoga therapist (C-IAYT), and modified for implementation in this specific setting. The instructor was a medical student, trained by the C-IAYT mentor, and a volunteer at the Hope Lodge.

A total of five techniques were taught and practiced together, as described previously (Alford et al., 2023):

1. Deep Breathing

2. Alternate Nostril Breathing
3. Thirumoolar Pranayama Breath-Holding Exercise (with “mental mantra” repetition)
4. Smiling Breathing
5. Ocean-Sound Breathing

Following the session, participants were invited to complete an optional anonymous survey, including questions on age, type of cancer, expected versus experienced improvements, and overall satisfaction. A total of 30 survey responses were collected. 15 were from patients undergoing cancer treatment, and 15 were from caregivers of patients.

Results

The majority of participants were female (70%), spanning an age range of 30 to 75 years. The median age group represented was 55-60 years. Among participants, there was a wide range of cancer diagnoses represented, with head and neck cancer and multiple myeloma being the majority (Figure 1). Other reported types of cancer among participants included breast cancer, thyroid cancer, skin cancer, leukemia, and otherwise not specified cancers.

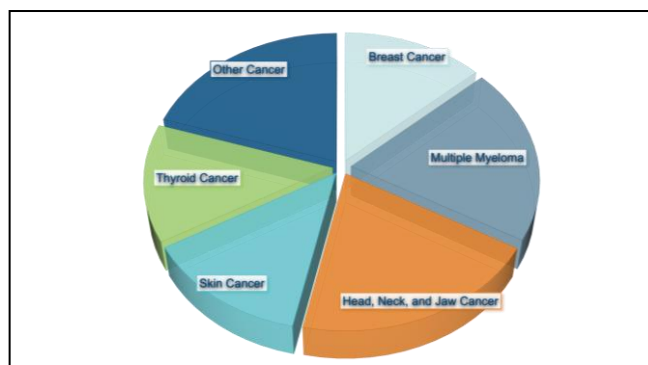


Figure 1. Cancer patients, by type of cancer.

The participants reported that their experienced improvement was the same as they expected in terms of stress (86.7%) (Figure 2). Interestingly, a total of 19 participants reported experiencing an improvement in mood, with six of those participants (20%) having not expected to experience that improvement. Additionally, three participants experienced an improvement in their pain level (10%) while two participants (6.7%) experienced an improvement in their appetite.

Conclusions

The practice of yogic breathing appears to offer both physiological (i.e., pain and appetite) and psychological benefits (i.e., reported stress and mood levels) to participants. When practiced in a community or organizational setting, it can also promote a sense of

belonging and shared wellbeing (Donnelly et al., 2020).

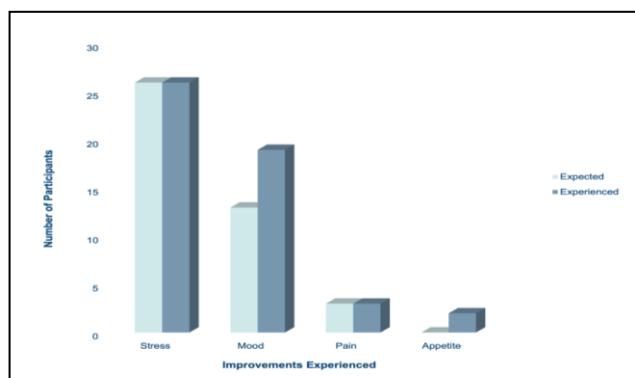


Figure 2. Expected versus experienced improvements of participants after participation in a yoga breathing session.

Our study was unique in that it allowed both patients and caregivers to be integrated into one shared environment while participating. While caregivers may not have the same physical ailments of the patients they are providing care for, they can experience their own symptoms of psychological burnout, depression, insomnia, and worsening of underlying comorbidities (heart disease, diabetes, etc.) that often go unnoticed (Junkins et al., 2020). An equal voluntary participation was seen among both patients and caregivers, shedding light on the idea that caregivers are interested in participation, however only to the degree that services are available to them, too.

The limitations of this study include both the smaller sample size as well as the short-term nature of the individuals participating. Ideally, a larger pool of participants representing various forms of cancer, captured over an extended period of time would provide a more thorough analysis of the effects experienced.

The areas of improvement to explore in future sessions include the addition of enhancing sensory features (i.e. audio equipment, dim lighting), gentle stretching of accessory muscles such as the neck and face, and the offering of virtual practice for continuation in the home setting. This would also allow for participants who are unable to commute to a central location, extremely immunosuppressed, or otherwise unable to leave the home the chance to still participate.

Finally, there are several populations to consider expansion for further application of practices, including pediatric oncology (Stritter et al., 2021), addiction management, and sleep disorders. The session structure would likely need to be tailored to the age, group size, and diagnoses represented among the individuals,

however, would nonetheless likely be beneficial and worth exploring. In each of these avenues, there remains an opportunity to provide care to both the patient as well as the caregiver – and to make an impact on their psychological and physiological health.

Conflict-of-Interest Statement

Sundar Balasubramanian is the founder and principal of PranaScience Institute LLC, a research and educational entity engaged in yogic breathing. There are no

financial relationships with entities that could be perceived to influence the content of the submitted work. There are no patents, copyrights, or royalties relevant to the submitted work. There are no other relationships or activities that could have influenced the content of the submitted work.

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(Digital) Mind-Body Intervention for Residents in Care Facilities: Mixed Format of On-Site and App Intervention to Combine Benefits

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Abstract: A mind-body intervention shows visible changes on residents in nursing homes from the staff's perspective. In order to achieve the best possible effect on their health resources, a mixed format of on-site and app intervention seems to be the best approach.

Background

In Germany, care insurances are mandated to develop interventions to enhance the health resources of residents in long-term care facilities (GKV-Spitzenverband, 2018). So far, only a few studies have investigated mindfulness interventions in this setting.

Methods

In a randomized controlled trial (RCT), we examined how a mind-body intervention, adapted for residents in care facilities, could improve their health potential. The eight-week BERN course (Esch and Esch, 2024), focusing on behavior, exercise, relaxation, and nutrition, was presented as an adapted on-site course and as a digital intervention via an app with technical support. The content was identical in both formats. Staff from the participating care facilities discussed the suitability of these formats in a focus group.

Data were collected from staff members (n=6) of the intervention facilities (on-site: n=3, app-based: n=3). The focus group participants were involved in organizing and/or implementing the intervention. The focus group took place at the University of Witten/Herdecke (Germany) five weeks after the end of the eight-week intervention period (March 2023) and lasted approximately one hour. The transcript was analyzed using Kuckartz (2018) content analysis method. Categories were derived and used for classification, and coding was performed independently by two researchers.

Results

The participants of the focus group were generally optimistic about the intervention (organization and content) and noted visible changes (e.g., enjoyment, fun, more mindful perception of the surroundings) in the target group due to the mind-body exercises. Residents showed initial scepticism and staff members suggested that offering a trial lesson could serve as a

low-threshold introduction to the intervention. Notable group effects were observed in the on-site intervention group. Group composition appeared to be a relevant factor, with existing "animosities" (*On-site 5.2*) or friendships influencing residents' motivation.

Accessing the mind-body medicine-based concept was challenging for the target group, highlighting the importance of trusted companions. In addition, participants of the focus group noted that residents sometimes struggled to understand the topic and certain terminology. Therefore, more target group oriented approaches and terminology were discussed, such as "something related to well-being or [...] inducing relaxation [...]." (*On-site-5.2*). As residents gained more experience and better understanding, scepticism transitioned to anticipation.

The participants of the focus group also discussed the impact of cognitive limitations and associated forgetfulness among residents on the success of the intervention. It was reported that most residents were unable to recall the exercises they had completed in the app and therefore re-watched the videos. Participants of the focus group suggested that regular repetition of exercises would be beneficial.

Different options for long-term integration of the intervention into care facilities were also discussed. Staff members highlighted that a mixed format of on-site and app intervention could combine the benefits of both intervention formats. The app was seen as a useful tool for staff, allowing them to act more quickly and flexibly without further preparation. On-site intervention participants could be able to digitally catch up on a module if they were unable to attend a particular session. Staff members involved in the app intervention suggested offering the app in small groups and displaying the videos on large screens. They also discussed a combination of initial on-site sessions to facilitate access to the exercises, followed by the use of the app individually or in groups to reduce staff workload.

Staff members emphasized that the intervention format should also be chosen based on the exercise and residents' individual resources. One participant

preferred to do reflection exercises for him- or herself, "because you [the residents] also need peace and quiet [...]" (*App-2.2*). According to the focus group participants, the format should also take into account the mobility of the residents, so that immobile residents can participate in the app intervention. Additionally, "you know your residents, you know who might prefer the individual setting and for whom the on-site group might generate even more activation." (*App-3.1*).

All focus group participants expressed a need for additional information and/or exercise descriptions for implementing the intervention, especially for conducting the on-site sessions without an external trainer. An additional brief description and short summary of the exercises was also seen as helpful and supportive for addressing residents' questions: "I think that's a general possibility for both groups, for the app as well as for on-site, that you can simply explain [the exercises]" (*On-site-6.2*).

Discussion

The results suggest that a mind-body intervention is feasible and beneficial for residents in the setting of care facilities. Hindering factors seem to be reduced by individual support. It should be noted that staff

members were predominantly involved in organizing the intervention rather than implementing its content, which may have limited their perspective on all relevant aspects. Additionally, those employees who agreed to participate in the organization of the implementation and qualitative data collection might have a certain openness and positive attitude towards the topic.

In addition to the participatory approach to intervention development (Michaelsen et al., unpublished), quantitative evaluation of the RCT (Kobs, Schönfeld et al., unpublished), and qualitative analysis in form of interviews (Kobs, Meyer et al., unpublished), the focus group provided valuable insights for refining the successful implementation of the intervention.

Financial Support and Conflict of Interest

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Announcement

The Program of the 1st International Scientific Conference on Mind-Body Medicine: 4th and 5th of November, 2024

by Maren M. Michaelsen and Tobias Esch ¹

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Abstract: The 1st International Scientific Conference on Mind-Body Medicine (ISC-MBM) brings together leading researchers, practitioners, and innovators to explore the latest advancements in healthcare. With a focus on Mind-Body Medicine (MBM), Digital Innovations and Intellectual Property, this interdisciplinary event highlights the potential of combining traditional and innovative practices to improve patient outcomes. The conference fosters collaboration and knowledge exchange across disciplines, aiming to contribute to the global development of healthcare by integrating complementary and conventional approaches.

Central Theme: Mind-Body Medicine

At the heart of this conference is the exploration of MBM, a field that examines the interplay between mental, emotional, and physical health. The topics discussed range from Yoga and meditation to healthy nutrition and nature-based healing, both analogue and digitally. These interventions are increasingly recognized for their ability to address modern health challenges, such as chronic pain, anxiety, stress, and burnout.

Keynote Speakers: Thought Leaders in Mind-Body Medicine and Integrative Health

George B. Stefano, Ph.D., will deliver a keynote lecture exploring the role of mitochondria in health and wellness. Traditionally viewed as subcellular energy producers, mitochondria are now understood to play a more complex role, potentially acting independently and interacting with other cellular components. Stefano will present new research suggesting that mitochondria's responses to environmental stimuli could revolutionize our understanding of disease mechanisms and open up new pathways for therapeutic interventions. His research is particularly relevant to MBM, as it highlights the biological underpinnings of how the body responds to mental and emotional states.

Another keynote address will be delivered by Sara W. Lazar, Ph.D., a renowned neuroscientist from Harvard Medical School and experienced meditation teacher. Lazar's presentation will focus on the effects of mindfulness and meditation on the brain's response to pain and fear. Her research demonstrates that regular mindfulness practice can reshape neural pathways, allowing individuals to better manage stress and chronic pain. This evidence supports the growing use of mindfulness-based interventions in clinical settings, showing how they can enhance emotional regulation

and improve the quality of life for patients with chronic illnesses.

Oral Presentations: Exploring the Frontiers of Mind-Body Practices

The oral presentations at the conference will showcase cutting-edge research on the effects of mind-body practices across a range of health conditions. Common themes among these studies include the benefits of Yoga, meditation, and Tai Chi for mental and physical health, particularly for managing chronic diseases, improving emotional well-being, and promoting recovery.

Several presentations will highlight the positive effects of Yoga and mindfulness on patients with cancer, focusing on how these practices can help alleviate the psychological burden of illness and improve overall quality of life. These studies demonstrate the potential of combining integrative practices with conventional medical treatments to enhance patient outcomes in both physical and emotional recovery.

Other presentations will focus on the role of mindfulness-based interventions for healthcare professionals, especially in preventing burnout and promoting emotional resilience. Burnout is an increasing issue in the medical field, and several studies at the conference will present evidence on the effectiveness of practices such as Sudarshan Kriya Yoga and breath-based interventions in reducing stress among healthcare professionals.

Research on neural changes resulting from meditation and mindfulness practices will also be discussed. Findings from these studies show how even novice meditators experience significant shifts in brain function, particularly in areas responsible for attention, emotional regulation, and self-awareness. These results highlight the neurological basis for the therapeutic benefits of mindfulness and meditation in conditions like depression, anxiety, and post-traumatic stress disorder.

Poster Sessions: Expanding Research in Digital MBM

The poster sessions will provide attendees with an opportunity to engage with emerging research across a variety of topics within MBM. Many of the studies focus on immersive technologies and their potential role in healthcare. For instance, some posters will examine the use of virtual reality (VR) as a tool for stress reduction and patient engagement. By simulating natural environments, VR-based interventions offer a

new approach to achieving the therapeutic benefits of forest bathing and other nature-based therapies, particularly for patients unable to physically access natural settings.

Another key theme in the poster sessions is self-care strategies for medical professionals and students. With high levels of stress and burnout common in the healthcare industry, several studies will investigate the use of mind-body techniques in medical education. These strategies aim to equip healthcare workers with tools to manage stress and maintain emotional well-being, ensuring a more resilient workforce in the long term.

Yoga interventions will also be discussed extensively in the poster sessions, particularly their use for patients with chronic pain and cancer. These studies emphasize the physical and emotional benefits of Yoga, showing how tailored practices can help patients recover from trauma and cope with the emotional strain of chronic illness.

Cultural sensitivity is another emerging topic in the poster presentations. Several studies will explore how mind-body practices, such as trauma-sensitive Yoga, can be adapted to meet the needs of diverse populations, including indigenous communities. These findings reflect a growing awareness of the need for culturally inclusive healthcare practices that ensure all patients can access and benefit from integrative therapies.

Intellectual Property and Grant Proposal Workshops: Ensuing and Protecting Innovation in Health Research

In advance to the scientific presentations, the conference will offer workshops on intellectual property (IP) and grantsmanship to help researchers and entrepreneurs protect their innovations. These sessions

will cover the fundamentals of identifying potential patents, drafting grant proposals, and navigating the legal landscape of IP rights. The workshops are designed to provide practical guidance for researchers working at the intersection of health and innovation, ensuring that their discoveries can be legally safeguarded and effectively brought to market.

Led by the experts George B. Stefano and J. Patrick Finn III, the workshops will offer insights into grant writing, patent acquisition, and the commercialization of intellectual property. These sessions are invaluable for anyone involved in scientific research and product development, as they offer the tools needed to translate groundbreaking research into impactful innovations.

Conclusion: Fostering Innovation and Collaboration in MBM

The 1st ISC-MBM is a unique opportunity to explore the latest developments in healthcare and wellness. With a rich program of keynote speeches, oral presentations, poster sessions, and workshops, the conference brings together leading experts from around the world to share their insights and foster collaboration. By integrating mind-body practices and innovative technologies, the conference is poised to make a significant contribution to the advancement of healthcare and wellness practices globally.

This event underscores the importance of a holistic approach to healthcare — one that not only treats physical ailments but also addresses the mental, emotional, and cultural aspects of well-being. By bringing together diverse perspectives, the conference aims to shape the future of Integrative Health, providing new solutions for some of the most pressing health challenges of our time.

Student's corner

Towards a Meaningful Role for Medical Students in Healthcare: Longitudinal Integrated Clerkship at Witten/Herdecke University

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Abstract: Medical students globally experience high burnout rates and dissatisfaction with their passive roles in healthcare. This article outlines issues in Germany's medical education system and proposes a solution: the

longitudinal integrated clerkship (LIC). LICs seek to better integrate students into patient care, foster a meaningful role in healthcare teams and improve the

clinical training phase. A pilot LIC is currently underway at Witten/Herdecke University (UWH).

Subject

A 2018 study among 597 medical students in Germany found that 35% showed symptoms of burnout (Erschens et al., 2018). Burnout is more common among medical students compared to other academic fields, where the prevalence of exhaustion (a burnout dimension) is 24.4% (Grützmacher et al., 2018). Burnout is defined as a syndrome “resulting from chronic workplace stress that has not been successfully managed” (Di Vincenzo et al., 2024). The study included students in semesters 3, 6, and 9, revealing that: “Concerning academic efficacy, there was a trend towards less efficient perception among students in higher education” (Erschens et al., 2018, p. 6). The clinical phase of medical education (semesters 5-12) appears to be a significant contributor to burnout: during the clinical phase, empathy decreased as cynicism increased (Hershey & Stoddard, 2021); this affects professional effectiveness (Di Vincenzo et al., 2024). Therefore, addressing the conditions in the clinical training phase is critical for preventing these outcomes.

The clinical phase of medical education in Germany lasts four years, during which students apply and deepen their medical knowledge. In the first three years, students complete internships and rotations each lasting up to four weeks in various hospital departments. During these short intervals, students are exposed to different aspects of patient care, including diagnostics, treatments, and surgeries which are complemented by lectures and seminars. The final year consists of three clinical rotations where students work full-time in clinical practice.

Thesis

We believe that the current short-term clinical experiences do not adequately prepare students for their future roles. These brief exposures provide limited insight into the full trajectory of patient care, thus hindering students’ ability to understand comprehensive therapy goals. In our view, a consequence of this is loss of empathy due to a lack of patient-centeredness and emotional exhaustion (Neumann et al., 2011). This, in turn, has the possibility to negatively affect patients (Di Vincenzo et al., 2024).

LIC - a possible solution

The first LIC-type program commenced in 1971 with a focus on outpatient care and was accelerated through integration into an academic, specialist-based clinical environment with in- and outpatient care (Hirsh et al., 2007; Worley et al., 2016). The global number of medical schools with LIC programs has increased significantly since the turn of the century (Worley et al., 2016).

LICs aim to provide students with a more integrated and patient-centered approach to clinical training. Instead of rotating through different specialties, students follow patients through various stages of treatment: students seek out patients in the emergency room and accompany them throughout the different stages of therapy, including follow-ups with nearby general practitioners. Studies show that LIC students achieve similar or better academic outcomes compared to traditionally trained students (Hirsh et al., 2012). Importantly, LIC students were more likely to feel that they had made real differences in their patients’ well-being, indicating that the model benefits both students and patients (Hirsh et al., 2012).

LICs specifically target areas where new doctors often feel unprepared, such as medical counseling, patient management, treatment planning, and communication (Ochsmann et al., 2011). Studies validated that LIC cohorts felt better prepared for practice in ambulatory settings and felt like they had a better knowledge base which is necessary for being a competent practitioner (Gaufberg et al., 2014). This feeling of preparedness, due to being actively involved in patient care, can lead to a higher sense of accomplishment, which may in turn have positive effects on burnout-prevention; indeed, a low sense of accomplishment has been identified as a contributing factor to burnout (Di Vincenzo et al., 2024; Dyrbye et al., 2006).

Conclusions

Over the past 20 years, studies have demonstrated that LICs not only provide medical students with expertise comparable to or higher than traditional models, but also improve their wellbeing (Hirsh et al., 2012). Although LIC students report their experience as more hectic and stressful, they ultimately feel greater satisfaction, fulfillment, and reward (Hirsh et al., 2012). Importantly, patient-centeredness increased significantly over the course of LICs but declined

among those who followed a traditional course of study (Gaufberg et al., 2014; Hirsh et al., 2012).

UWH LIC

The UWH LIC will begin in October 2024 with 11 medical students in their first clinical year. These students will train at Gemeinschaftskrankenhaus Herdecke and with nearby general practitioners. The longitudinal co-provision of patient care under supervision by senior physicians will be supplemented and deepened through case discussions and formal teaching. In structured health conversations, students will learn to adopt a resource-oriented and preventive approach with their patients. A key component of the curriculum is the acquisition of systemic knowledge and the development of practical skills, enabling students to advise and assist patients in their healing process.

Two distinctive features of the UWH LIC are its emphasis on the health-promotion within medicine and

students' contribution to patient care. Data will be collected to measure academic performance as well as emotional aspects from LIC participants and a control group following traditional training.

Initiative Driven by Students

The UWH LIC, co-designed by students, aims to improve workplace conditions in clinical training. Our goals include enhancing the well-being of students and patients, modernizing medical education, and taking responsibility for the future of our profession and future student generations. These objectives are supported by the principles of co-creativity and Change-Agency (McCormack et al., 2013), supporting interprofessional collaboration and innovative thinking. Ultimately, this approach has the potential to pave the way for a new model of medical education in Germany that places the patient at the center of both learning and practice.

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Mind-Body Exercise Corner

Metta Meditation

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Metta Meditation, also known as loving-kindness meditation, is a meditation of compassion. It is designed to promote a loving, open attitude towards oneself and others.

Adopt an upright and dignified/graceful sitting posture or lie relaxed on the floor/your mat. Soften your gaze or close your eyes. Rock gently back and forth or from side to side. Settle into your posture. Take three deep breaths with slow and complete exhalations. If you wish, you can place a hand on your heart or any part of your body where it will comfort and support you. Let go of your worries and everything that bothers you right now.

Now cultivate a kind attitude towards yourself. Mentally repeat, steadily and calmly, a mantra such as "May I be happy."; "May I be well."; "May I be safe."; "May I be peaceful and at ease."

Feel inside your body and take time to develop a fictional warm light emanating from your heart. Then slowly let the light widen. Focus on a being that you think of with deep joy and loving-kindness (a friend, a family member, a dog...). Repeat for them: "May you and I be happy "; "May you and I be well."; "May you and I be safe."; "May you and I be peaceful and at ease.". Gradually extend the practice to other beings, to conflictual relationships and finally to all living beings. End the meditation in a conscious way. Focus on your breath, Take three deep breaths with slow and complete exhalations. Start performing small movements, e.g. fingers or jaw, then feel and move your whole body, e.g. in a big stretch. Slowly return to the room and open your eyes.

This meditation can be done at any time. Its duration can be adapted to your state of practice and the situation.