Inventum Biologicum: *An International Journal of Biological Research*
2023, Vol. 3, Issue 2, pp. 47-51

Inventum Biologicum

Journal homepage: www.journals.worldbiologica.com/ib

Review paper

Environmental-Friendly Physiotherapy Practices on a Global Scale

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ARTICLE INFO

Article history

Received 09 April 2023
Revised 19 May 2023
Accepted 23 May 2023
Published 25 May 2023

Keywords

Environmental physiotherapy,
Environmental issues,
Health impacts,
Etymological concept

ABSTRACT

The current review paper recognizes and values the elemental and vital role of the environment in our day-to-day life, our physical health and professional physiotherapy practice, and adapt our thinking and actions accordingly. There is a dire need to understand and acknowledge how the environment relates to the existing specialties in the field of physiotherapy and therefore the pathologies and health challenges they attempt to handle. This understanding will enable us to enhance practice for the advantage of patient health across musculoskeletal, neurologic, paediatric, and cardio-pulmonary physiotherapy, and additionally for physiotherapy in mental health issues, occupational health and ergonomics. Apart from patient care, the environmental consideration within the operational functioning and provision of physiotherapy has to be given importance in the various treatment settings. This needs a general understanding of the concept of sustainability and its applications to different parts of physiotherapy service provision. The key foundation for environmental physiotherapy is robust understanding of the environmental issues that we face worldwide these days, along with their health impacts. These include global climate change, biodiversity loss, plastic and air pollution and extreme weather events, and also the means by which they contribute to the direct and indirect spread of health problems, relevant to the field of physiotherapy.

1. Introduction

Unlike earlier times, we are now faced with increasing environmental and health crisis. There are lots of protests happening worldwide everyday to save the environment. Being conscious of our degrading environmental health, every known profession has to modify their functioning to minimise the environmental pollution and move towards an environmentally friendly approach. Environmental Physiotherapy (EPT) encompasses a brand-new thought in physiotherapy, wherein key aspects of the link between human health, the environment and physiotherapy practice and functioning are considered and revered to mutually benefit patient health, the treating physiotherapist and therefore the environment (Maric et al., 2021). It covers areas of clinical practice, research and education, and bridges the different clinical specialities within physiotherapy (musculoskeletal, cardiology, neurology etc) (Jiménes de Cisneros, 2016; Maric and Nicholls, 2019).

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DOI https://doi.org/10.5281/zenodo.7300130

2. Theoretical and Scientific Foundations for EPT

There is a requirement to develop environmentally aware and responsible physiotherapy through robust theoretical and scientific foundations. To develop such strong scientific foundations for environmental physiotherapy, it is critical that we constantly strive and understand the need to learn from traditional and indigenous ways of life. We also need to expand our knowledge base and facilitate a way to integrate the environment, health and community with each another. We also have to draw our attention to philosophical and scientific work which will enable us to integrate concepts of social justice, environmental ethics and equity into physiotherapy practice (Hawken, 2017).

3. Steps Towards an Environmental Physiotherapy

The following basic steps guide us to the method of crossing over into an environmentally friendly physiotherapy practice:

Step 1: Understanding the link between physiotherapy and environmental health and therefore the environment as such.

Step 2: Identifying the key aspects of physiotherapy practice that need to be altered in order to be environment friendly.

Step 3: Willingness to create a change supported new knowledge base on environmental physiotherapy.

Step 4: Expanding on this knowledge base of the new field of physiotherapy, and encouraging others to do the same.

4. Environmental Issues and their Health Impacts

The major role of environmental physiotherapy is to understand the global environmental issues and its health impacts that we are facing in our day to today life. This includes biodiversity loss, temperature change, air and water pollution and extreme weather events (Condon, 2021). Apart from the environmental issues, it directly and indirectly contributes to a variety of health issues with relevance to physiotherapy (Terlouw, 2006). It is highly essential to know the causes of global environmental degradation and the health problems that arise from it, including our beliefs and values, colonialism, agriculture, industrialism, capitalism, racism, etc. Environmental health comprises those aspects of human health, including quality of life, that are determined by physical, biological, social and psychosocial factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling, and preventing those factors in the environment that can potentially affect adversely the health of present and future generations.

5. Environmentally Friendly Physiotherapy Practice

Now it is high time to utilize non-renewable resources to run a physiotherapy service which contributes to the environmental cost e.g. utilization of paper records and disposable products. It is also requiring focusing on the less use of electricity and exploring to use energy from renewable sources (Eckelman and Sherman, 2016). “As a primary tool environmentally, friendly physiotherapy practice utilises a "low tech", hands-on and interpersonal approach to managing patients by focussing on movement, touch and communication”.

Physiotherapy profession is a one of the eco-friendly approachesto the healthcare industry which give emphasis on empowering the patient to independently manage their symptoms (Myers, 2017). Followings are the different ways to reduce the environmental impact;

- Optimize the use of reusable and recyclable materials and reduce the use of not recyclable products like theraband, Swiss balls, spikey balls, yoga mats, etc.
- Use of separate recycling bins to collect the recycling waste and dispose it correctly
- Reduce electricity usage in the clinic
- The mode of travel to the physio clinic: use of public transport, cycle or can walk instead of driving. Or use electric vehicle instead.
- Optimize the use of video conferencing consultations through Skype, zoom, Google meet, etc.

6. Etymological Concept of Physiotherapy

The term physiotherapy split into two phase as ‘Phsiotherapy’ while Physio-derives from the Greek word phusis meaning 'nature' and -therapy derives from the Greek word therapeia which means 'healing'. According to Online Etymonline Dictionary (etymonline.com) (Watts et al., 2020).

“Physio- The first half the term – physio – originates from the Greek word physis, meaning nature

Therapy”- The last half of the term – therapy – originates from the Greek word therapeuein, which

encompasses the meanings 'to cure, treat medically' and more literally 'to attend, do service, take care of".

7. Branches of Physiotherapy

Physiotherapy could very often be considered a complex speciality, because it deals with various disciplines but does not include environmental physiotherapy as a separate branch. The specializations are (Reinhardt et al., 2011):

7.1 Musculo-skeletal Physiotherapy / Orthopaedic Physiotherapy

This branch of physiotherapy is based on hands-on skills like manual therapy approaches and various postural correction methods to prevent/correct musculoskeletal deformities. The core objectives of this branch arediagnosis and correction of mechanical pain and dysfunction, addressing the pain producing structures, treating the pain through exercises, stretches and use of physical agents and modalities to break the pain - spasm - pain cycle and prevent recurrence of pain.

7.2 Sports physiotherapy

Sports physiotherapy focusesmainly on on-field and offfield management of sporting injuries, periodization training and sports specific training. The core objectives are on-field and off-field management of sports injuries, injury prevention, supportive taping, kinesio taping, functional and sports specific rehabilitation, performance enhancement and comprehensive advise on return to sports. Sports performance training, fitness assessment of sports persons and enhancement of sports specific and fitness specific skills and related parameters are an integral part of sports physiotherapy.

7.3 Neurological physiotherapy

Neurological physiotherapists generally deal with neuro- rehabilitation approaches. The core objectives of neuro physiotherapy treatments are gaining maximum functional recovery through neuro rehabilitation approaches forissues related to brain circulatory problems, nervous disorders or degenerative conditions (IPCC, 2018). It includes active and passive re-education exercises for peripheral nerve injuries, co-ordination and balance exercises for incoordination and balance deficits, functional re-education and energy conservation methods in degenerative, inflammatory and infectious brain or spinal cord disorders, optimising function and adaptive training in case of neural structure injuries. Conditions like stroke, head injuries, spinal cord injuries, multiple sclerosis, paraplegia, myasthenia gravis, dystrophies, etc are treated by neuro physiotherapists.

7.4 Cardio-Respiratory physiotherapy

Cardio respiratory physiotherapists are those who handle and manage patients who have problems related to cardiac and respiratory functioning. They are specially trained in ICU patient management, post-surgical management as well as conservative cardiac and respiratory management (Mortimer et al., 2018). The core objectives of cardio respiratory physiotherapy management are prevention of bed rest complications, especially in post-operative cardiac and respiratory complications in patients, rehabilitate such patients, maintain bronchial hygiene, proper vasculature and promote lung health. They also play a key role in removal of lung secretions in patients on prolonged bed rest.

7.5 Paediatric physiotherapy

Paediatric physiotherapists are those specialists who are handling kids and children with developmental disorders and delayed milestones. When the child does not achieve the normal growth milestones on time or there is a delay in gaining head / neck control like looking around and maintaining head position (at the age of 4 months), or lack of trunk control in sitting by the end of 6 months, the paediatric physiotherapists intervene and help them achieve these milestones through tailormade treatment protocols. They also treat other complications like cerebral palsy, ADHD, etc and minimise the effects of these conditions. They strive to make the child as independent as possible (Palstam et al., 2021).

7.6 Obstetric & Gynaecological physiotherapy

Gynaecological physiotherapistsare specially trained in handling women related problems like polycystic ovarian disorder (PCOS), prolapsed uterus, dysmenorrhoea, urinary incontinence, early menopause and the complications related to these conditions. The core objective of this speciality is to prescribe activity-basedexercises consistent with the precise requirement and need, keeping in mind the health and wellness of the individual in regard to

promoting maternal health. Teaching appropriate exercises during the various stages (trimesters) of pregnancy can help in minimising andmanaging pregnancy related complications and also help to boost healthy and normal delivery. This field of physiotherapy also facilitates the prevention of post-delivery complications like back pain and obesity (Toner et al., 2021).

7.7 Geriatric physiotherapy

The recent medical advances have increased the conventional human life expectancy from 60 to 90 years of age, but so have the age-related complications. This statistic is different for different countries and regions, but the major expectations of all individuals over 65 or 70 years of age is functional independence, minimise the occurrence of falls, avoid sarcopenia and muscle weakness, prevent forward stooped kyphotic posture, reduce arthritis pain, etc.Most of these issues are addressed through proper exercise, proper diet and proper sleep (Mortimer et al., 2018).

8. Physiotherapy in Rehabilitation

Physiotherapy is the mainstay of rehabilitation and they go hand in hand. Rehabilitation is the process of bringing back a physically disabled individual to near normal condition by using maximum existing capacities and what field other than physiotherapy addresses this the best. The various specialities of physiotherapy discussed above like neuro rehabilitation, cardiac rehabilitation, geriatric rehabilitation and paediatric habilitation, condition wise rehabilitation, etc all encompass within the speciality of physiotherapy rehabilitation.

9. Conclusion

In conclusion we can say that Physiotherapy plays an important role in sustainable development at different levels e.g. support for behavioural change and patient empowerment. Physiotherapy is a non-pharmacological and resourceefficient profession which potentiates other forms of treatment to reduce the environmental burden of health care. This profession focuses more on promoting physical activity and empowering people for self-care and healthy lifestyle.

According to the Centre for Sustainable Healthcare model, the value of care is more than just treatment outcomes in relation to financial costs.

Value = Outcomes for patients and populations
Environmental + Social + financial impacts (the "triple bottom line")

Environmental physiotherapy plays a vital role in reducing the use of resource intensive technologies like diagnostic imaging, medical screening and surgical repair, etc. Physiotherapists are in an excellent position to develop, support and promote environmentally friendly treatment in the upcoming days.

Funding Information

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of Conflict

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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