



Review Article

A Literature Review on Physical Fitness of Physical Therapy Students

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Abstract

Background: Physical fitness refers to a multidimensional state encompassing strength, endurance, flexibility, and efficient performance of daily and professional tasks with minimal fatigue. For physiotherapy students, adequate physical fitness is critical as it directly influences their clinical competence, physical capacity, and ability to model health-promoting behaviours.

Objective: This review aimed to evaluate the physical fitness levels among physiotherapy students and emphasise the importance of incorporating health and fitness enhancement within their academic curriculum.

Methods: A structured literature search was conducted using PubMed, MEDLINE, Google Scholar, and ScienceDirect databases with keywords “physical fitness” and “physiotherapy students.” Studies published between 1983 and 2025 were screened, and thirteen articles meeting the inclusion criteria were reviewed.

Results: Findings revealed that most physiotherapy students exhibit below-average fitness, particularly in aerobic endurance, muscular strength, and flexibility. Contributing factors include sedentary lifestyles, academic workload, low motivation, and inadequate emphasis on physical conditioning in curricula. These deficiencies may predispose them to musculoskeletal disorders and limit professional performance.

Conclusion: Integrating structured exercise and wellness programs within physiotherapy education is essential. Promoting active lifestyles and awareness about personal fitness can enhance students’ health, clinical efficiency, and their role as advocates of physical activity.

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1. INTRODUCTION

Physical fitness comprises a collection of attributes determining an individual's ability to perform daily and occupational tasks with vigour and minimal exhaustion (1). It extends beyond the absence of disease, encompassing physical well-being and the ability to respond to unanticipated physical demands (2). Fitness, when applied to health sciences, denotes a state of optimal function of cardiovascular, muscular, metabolic, and nervous systems that contribute to overall performance and health (3,4).

Physical fitness is generally categorised as health-related and skill-related. Health-related fitness refers to aspects linked with wellness and disease prevention, whereas skill-related fitness relates to performance capacity in sports or professional activities (5).

Physiotherapists require adequate physical strength, endurance, and flexibility to perform interventions such as patient transfers, manual therapy, and gait training. However, despite these professional demands, physiotherapy students often report sedentary lifestyles and declining activity levels (6). Academic pressures, long study hours, and lack of institutional emphasis on physical conditioning contribute to reduced fitness levels and rising musculoskeletal problems (7).

Therefore, understanding the physical fitness status of physiotherapy students is vital. By identifying deficiencies early, educators can encourage active lifestyles and ensure graduates possess the physical capacity required for safe and effective clinical practice (8,9).

IMPORTANCE OF PHYSICAL FITNESS IN PHYSIOTHERAPY

Physiotherapy students, as future health professionals, should embody principles of physical activity and wellness (1). Their professional training involves performing physically demanding tasks that necessitate strength, endurance, and stability. Reduced fitness levels can affect their clinical performance and increase their risk of musculoskeletal strain (2).

Studies indicate that modern students engage in lesser physical activity compared to previous generations, primarily due to academic and social lifestyle changes (10). Therefore, assessing and improving their physical fitness is imperative for both personal and professional reasons.

COMPONENTS OF PHYSICAL FITNESS

Health-Related Components (6–9):

1. **Body Composition:** Proportion of muscle, fat, bone, and other tissues determining body structure and metabolism.
2. **Cardiovascular Endurance:** Efficiency of the circulatory and respiratory systems in sustaining physical activity.
3. **Flexibility:** Range of motion available at a joint.
4. **Muscular Strength:** Maximum force a muscle or group of muscles can generate.
5. **Muscular Endurance:** Ability of muscles to perform repeated contractions without fatigue.

Skill-Related Components (10–12):

1. **Agility:** Ability to move and change direction rapidly with precision.
2. **Balance:** Ability to maintain body position in static or dynamic states.
3. **Coordination:** Integration of sensory and motor functions to perform smooth actions.
4. **Power:** Rate at which work is performed, combining strength and speed.
5. **Speed:** Ability to move the body or body parts swiftly.
6. **Reaction Time:** Interval between stimulus and initiation of movement.

High levels of these components are essential for physiotherapists to meet occupational demands such as patient handling, resistance training, and mobilisation exercises (2,6).

2. METHODOLOGY

A systematic search was performed across PubMed, MEDLINE, Google Scholar, and ScienceDirect. Search terms included “physical fitness,” “physical activity,” and “physiotherapy students.”

Inclusion criteria:

- English-language articles published from 1983 onward
- Studies involving physiotherapy students (cross-sectional, observational, comparative, or longitudinal)

Exclusion criteria:

- Non-English studies
- Publications prior to 1983
- Case reports and case series

Out of 126 articles identified, 46 were screened in full text, and 13 were included for qualitative synthesis.

3. RESULTS

The reviewed studies consistently indicated suboptimal physical fitness levels among physiotherapy students. Key findings are summarized below:

1. **Lewandowski et al. (16):** Ten-year longitudinal study showed declining endurance, particularly among female students.
2. **Sobush & Fehring (3):** Female students exhibited higher body fat and pulse rates but lower strength compared to males.
3. **Multani et al. (13):** Over 60% of students had low endurance and upper limb strength.
4. **Juhkam & Vaher (15):** First-year students demonstrated weak core and upper limb strength; male students performed better overall.
5. **Kgokong & Parker (19):** Students with higher activity levels reported greater awareness of exercise benefits.
6. **Bello et al. (14):** Found reduced physical fitness correlated with increasing age and lower exercise participation.
7. **Pawaria et al. (20):** Reported poor aerobic capacity among students, suggesting a need for motivation and training.

8. **Balogun (22):** Female students' fitness is comparable but not superior to general college norms.
9. **Mahajan & Rawat (2):** 85% had poor physical fitness; no significant correlation between BMI and fitness index.
10. **Mihailova et al. (18):** Low to moderate activity levels were observed.
11. **Parmar & Modh (5):** Female students showed better fitness than males due to higher engagement in physical activities.
12. **UK Essay (17):** Lower activity among physiotherapy students compared to sports students.
13. **Mahmmud et al. (4):** The Majority were unaware of their actual physical fitness levels.

Collectively, these studies indicate that fitness levels among physiotherapy students remain inadequate relative to professional requirements.

4. DISCUSSION

The reviewed evidence highlights insufficient physical fitness among physiotherapy students across diverse settings. The most affected areas include aerobic capacity, muscular strength, and flexibility. Contributing factors commonly reported include lack of time, academic pressure, sedentary behaviour, and low motivation for exercise (5,20).

Dharmesh Parmar and Nikita Modh (5) found unsatisfactory fitness scores attributed to limited activity and academic overload. Similarly, Pawaria et al. (20) emphasised that clinical schedules often prevent students from engaging in regular physical exercise. Tahir Mahmmud et al. (4) revealed a poor understanding among students regarding their actual fitness levels, further emphasising the need for awareness.

Low physical fitness among physiotherapy students can adversely affect their health and professional efficiency. Work-related musculoskeletal disorders (WRMDs) are increasingly observed among physiotherapists due to repetitive lifting, prolonged standing, and awkward postures (6,7). Poor conditioning may exacerbate these risks and impact career longevity.

To counter these issues, physiotherapy education should integrate structured fitness modules, ergonomics, and stress management programs. Encouraging participation in regular physical activities, sports, or wellness programs can foster long-term behavioural changes and improve both health and work performance. Additionally, adopting ergonomic principles and posture correction can prevent occupational strain.

A fit physiotherapist not only performs better but also serves as a credible role model for patients and society, reinforcing the core philosophy of physiotherapy as a health-promoting profession.

LIMITATIONS

Most studies reviewed were cross-sectional with limited sample sizes, lacking longitudinal data. More interventional research is required to evaluate the effectiveness of structured fitness programs for physiotherapy students.

5. CONCLUSION

The literature consistently shows that the physical fitness levels of physiotherapy students are below professional expectations. This inadequacy may compromise their clinical performance and increase the risk of occupational injuries. There is an urgent need to incorporate mandatory fitness and wellness education within the physiotherapy curriculum. Regular assessment and training could ensure that future physiotherapists are physically competent, health-conscious, and capable of delivering high-quality care.

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