Original Article

# Perception and Promotion of Physical Activity by Clinical and Academic Physical Therapists among Patients and Students

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## Abstract

**Aim:** Physiotherapists are well-positioned to promote physically active lifestyles as primary health-care providers, but their function and practice in this regard among patients and students have yet to be thoroughly examined. The aim of this study was to determine the knowledge and practice of promoting physical activity by both clinical and academic physiotherapists among patients and students. **Materials and Methods:** A cross-sectional study was conducted from Jan to March 2020 in different tertiary care hospitals of Karachi and University of Karachi using nonprobability convenience sampling technique. A total of 100 sample data were collected. Questionnaire was based on knowledge, perception, promotion, and barriers of recommended physical activity. **Findings:** A total number of 100 participants enrolled in the study; academician ($n$ = 19), clinician physiotherapist ($n$ = 48) and both ($n$ = 33). Total 84.2% of academic physiotherapists, 66% clinical therapists, and 69.7% of both were aware of physical activity guidelines for adults. Brief counseling sessions were preferred as highly feasible by 36.8% of academic therapists and 35.4% by clinical physiotherapists. Clinician physiotherapists were found to be feeling more confident in suggesting specific physical activity programs among others ($P$ = 0.02). **Conclusion:** It was concluded that academic therapists, clinical therapists who worked at both sites had knowledge of standard physical therapist guidelines whereas clinical and both categories physical therapists were found to be promoting physical activity the most.

**Keywords:** American college of sports medicine, knowledge, physical activity, physiotherapist, promotion

## Introduction

Globally, physical inactivity is considered one of the leading causes of mortality representing almost 60% of deaths.[1] With the advent of time, both communicable, as well as non-communicable diseases, have contributed to increasing this mortality as well as morbidity.[2,3] As the life expectancy has increased worldwide, this has led to physical inactivity leading to activity limitation as well as participation restriction among patients in both the developed and underdeveloped countries.[4] Moreover, the global burden of chronic diseases leading to physical inactivity has also been highlighted in the literature by clinicians as well as researchers.[5-7]

The sedentary lifestyle, unhealthy diet, use of tobacco, and alcohol also contribute in the chronic illness of the patients.[8] Physical inactivity has been listed as the fourth leading cause of death worldwide, accounting for nearly 6% of all deaths. Furthermore, physical inactivity is thought to be the root cause of 21%–25% of breast and colon cancers, 27% of diabetes, and about 30% of ischemic heart disease.[9] Physical inactivity is found to be prevalent in adults in 17% of cases, varying from 11% to 24% in various parts of the world. Both practitioners, as well as researchers, are concern regarding the promotion of different programs for improving the fitness, physical activity, and well-being of the patients.[10]

Physical therapy being a promoter of the physical well-being of the patients as well as students is highly concerned in their

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settings in improving the health of patients and enhances the quality of life of the patient.[11] They are in an ideal position to encourage physical activity in local communities to combat the effects of lifestyle-related chronic diseases. "Many health professionals including physiotherapists take health promotion as an integral part of their role" where one of the key competencies required of the physiotherapy career is health education. Physiotherapists should also prioritize and coordinate their activities based on their expertise and awareness of physical activity, as well as community preventive evidence-based guidelines for physical activity promotion, to advocate for the inclusion of physical activity policies in different settings. Health practitioners are seen as an integral part of a larger public health effort to enable more people to become physically involved in primary care settings.[10,12]

Several guidelines are being followed by physical therapists to promote physical activity in the community-dwelling individuals either elderly, women, men, or children. American College of Sports Medicine (ACSM) provides different guidelines for different age group populations with different types of exercises ranging from aerobic, anaerobic, or balancing exercises. 150 min per week has been recommended for healthy individuals.[13-15]

As a physiotherapy approach, health education is essential to health promotion. Physiotherapists must have four clinical communication competencies: Understands (theoretical knowledge and skills), knows how (knows how to apply these skills), demonstrates how (can competently carry out the skills on specific occasions), and does (can competently carry out the skills on specific occasions).[16]

Physiotherapists should prioritize the promotion of physical activity to prevent the occurrence of noncommunicable diseases, Despite the widespread belief that physiotherapists should be active in supporting PA,[3] it is thought that they might not promote it due to time constraints, inadequate consultations, and poor knowledge. Considering the perspective, we analyzed their knowledge of PA guidelines and their preferable method of promotion to identify the obstacle.

Being a physiotherapist, there are two roles, a clinician and an academician physiotherapist, to spread awareness regarding physical activity to two different population, i.e., patients and students, therefore we studied knowledge and promotion of physical activity guidelines among clinical and academic physiotherapists. Further little is known about the regular practice being performed, and obstacles, and preparation requirements for physiotherapists to evaluate the physical inactivity.

## Materials and Methods

The cross-sectional survey was conducted between January and March 2020 at different tertiary care hospitals and the University of Karachi in Pakistan. Sample size was calculated through open Open Epi software, version 3.01, Authors, Andrew G. Dean, Kevin M. Sullivan, and Roger Mir Atlanta, Georgia and 100 of participants were included in the study. The targeted population were physiotherapist working as clinicians or academicians. They were approached by visiting multiple hospitals and universities and recruited via nonprobability convenience sampling technique as those who were present at the time of the survey. Both male and female physiotherapists with above 20 age who have at least an undergraduate degree or above were included in the study. All those who have completed their house job and have joined any academic or clinical setting were also included. Physiotherapy technicians were excluded. Moreover, the nonpracticing physical therapist was also excluded from the study.

Data was collected through a self-designed structured questionnaire adopted from the guidelines of ACSM.[17] The questionnaire was designed in such a way that the first section consists of demographic information including personal as well as professional information, regarding the clinical experience, number of patients treated per day, and working hours per week. Section A had questions regarding recommendations of the physical activity of daily life including the vigorous and moderate physical activity levels. Whereas Section B comprised perceptions of physical activity regarding the usage of stairs case, walking promotion, duration of PA, lifestyle, suggestions regarding increasing daily PA, barriers of promoting PA, and different types of PA. The questionnaire was based on the 5-point Likert scale where options were strongly disagree, disagree, undecided, agree, and disagree, and other sections of the questionnaire had options from never, rarely, sometime, often, and very often.

The study was approved by the departmental ethical committee of Ziauddin University (019712023DPT). All the data were collected after obtaining written informed consent from participants and their responses were kept confidential.

The data were analyzed using IBM SPSS version 22, Company SPSS Inc. Owner IBM, Country: Chicago, US. Descriptive analysis was performed to calculate frequencies and percentages for categorical variables whereas mean and standard deviation for the numerical variable. One-way analysis of variance test was analyzed in between the group analyses along with *post hoc* analyses. A $P < 0.05$ was considered statistically significant.

## Results

A total number of 100 participants were enrolled in the study that were divided based on three categories, i.e., academic = 19, clinical = 48, and both = 33, respectively. The demographics data of participants and their clinical characteristics are detailed described in Table 1.

Participants were asked about the awareness of the existence of physical activity guidelines by ACSM. Overall 73% of respondents reported that they are aware of ACSM guidelines

recommended for physical activity. Their awareness response with respect to the workplace is illustrated in Figure 1.

The recommendation of the ACSM guideline for vigorous physical activity is 75 min per week. Overall 28% of physiotherapists answered correctly of which 10% belong to academics, 5% to clinicians, and 13% to both workplaces. However, the recommended guideline for moderate physical activity is 150 min per week that is only correctly answered by 4% of physiotherapists, unfortunately, in which 1% belongs to academic, 1% to clinicians, and 2% from PTs working in both clinics and academic settings.

**Table 1: Demographic details of participants**

| Participant's characteristics | Academic (*n*=19), *n* (%) | Clinician (*n*=48), *n* (%) | Both (*n*=33), *n* (%) |
|---|---|---|---|
| Gender | | | |
| Male | 5 (26.3) | 20 (41.7) | 11 (33.3) |
| Female | 14 (73.7) | 28 (58.3) | 22 (66.7) |
| Age | | | |
| 21-30 | 11 (57.9) | 34 (70.8) | 21 (63.6) |
| 31-40 | 3 (15.8) | 7 (14.6) | 11 (33.3) |
| 41-50 | 4 (21.1) | 5 (10.4) | - |
| >50 | 1 (5.3) | 2 (4.2) | 1 (3) |
| Qualification | | | |
| BSPT | 3 (15.8) | 3 (6.3) | 8 (24.2) |
| DPT | 10 (52.6) | 33 (68.8) | 16 (48.5) |
| Other | 6 (31.6) | 12 (25) | 9 (27.3) |
| Clinical experience | | | |
| >1 years | 9 (47.4) | 17 (35.4) | 12 (36.4) |
| 1-3 | 6 (31.6) | 16 (33.3) | 8 (24.2) |
| 4-6 | 2 (10.5) | 6 (12.5) | 7 (21.2) |
| 7-9 | - | - | 1 (3) |
| >10 | 2 (10.5) | 9 (18.8) | 5 (15.8) |
| Patients attended per week | | | |
| 1-2 | NA | 1 (2.1) | 3 (9.1) |
| 3-5 | NA | 4 (8.3) | 2 (6.1) |
| 6-8 | NA | 4 (8.3) | 5 (15.2) |
| 9-10 | NA | 6 (12.5) | 1 (3) |
| >10 | NA | 33 (68.8) | 22 (66.7) |
| Working hours | | | |
| <48 | 10 (52.6) | 16 (33.3) | 20 (60.6) |
| >48 | 9 (47.4) | 32 (66.7) | 13 (39.4) |

NA: Not available

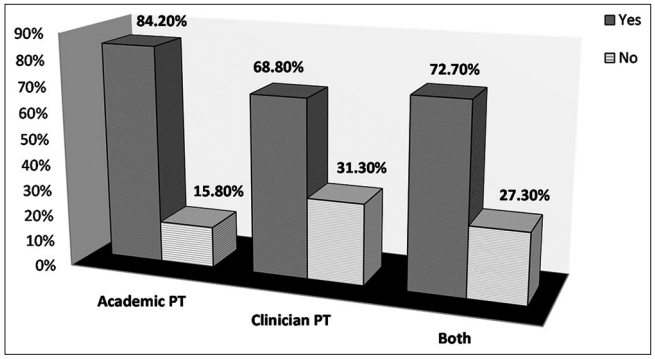


**Figure 1:** Physiotherapists awareness regarding physical activity guidelines provided by American College of Sports Medicine

The current practice of physiotherapists in the promotion of physical activity among their patients or students was asked. Their responses with respect to the workplace are described in Table 2. Further, the therapist's promotive response with respect to different physical activity tasks is illustrated in Figure 2.

The barriers encountered by the physiotherapist in promoting physical activity among their patient or students were asked. Lack of time was often a barrier for 20% of the physiotherapist, whereas lack of counseling skills was the reason often by 7%. The lack of interest in promoting physical activity was surprisingly reported by 14% of the physiotherapist. The perception of physiotherapist that promoting physical activity would not bring any change in patient's behavior was often found by 13%.

The feasible way of promoting physical activity was asked by the physiotherapist. The brief counseling session should be given in regular consultation were considered highly feasible by 36.8% of academic physiotherapists, 35.4% by clinical physiotherapists, and 54.5% physiotherapists working in both workplaces. The somewhat feasibility for separate one on one sessions is supported by 152.6% of the academic physiotherapist, 56.3% of clinical and 33.3% by both. However, the group sessions were thought to be considered highly feasible way of promoting by clinical physiotherapists 56.3%. The clinician physiotherapist is also highly feasible with the distribution of resources like pamphlets 54.2% or

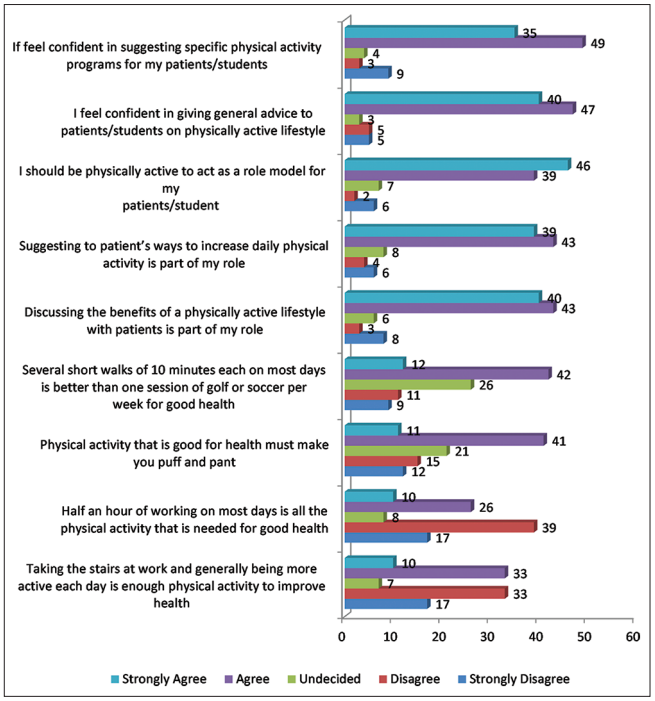


**Figure 2:** Physiotherapist responses on perception and promotion of physical activity

brochures and considered it would be a beneficial way in promoting physical activity.

The significant difference is found [Table 3] when perception responses were compared among the three workplaces of the physiotherapist. Taking the stairs at work and generally being more active each day is enough physical activity to improve health was found to be statistically significant demonstrated by (F [2, 97] = 3.67, $P$ = 0.02), whereas Several short walks of 10 min each on most days are better than one session of golf or soccer per week for good health was also found to be statistically significant (F [2, 97] = 4.28, $P$ = 0.01). Discussing the benefits of a physically active lifestyle with patients is part of the PT role (F [2, 97] = 3.19, $P$ = 0.04) and regarding the feel of being confident in suggesting specific physical activity programs for patients/students (F [2, 97] = 4.69, $P$ = 0.01) found to be statistically significant. A Tukey *post hoc* test showed that clinician physiotherapists were more feel confident in suggesting specific physical activity programs ($P$ = 0.02).

## Discussion

The findings of this study revealed that academic physiotherapists were more aware of the ACSM guidelines, whereas clinical therapists and therapists who worked as both academicians and clinicians were found to be promoting physical activities mostly. It was also indicated that physiotherapists believed that promotion should be an integral part of their role. Moreover, brief counseling sessions, group sessions, and resources were found to be feasible methods for promoting physical activity in patients and students. These findings were similar to the study of Shirley *et al*.[18] who revealed that the Australian physiotherapists had good knowledge and fewer barriers in the promotion of physical activity; however, our results showed that certain barriers are experienced by therapists' leads to difficulty in promoting the cause. Furthermore, it was also concluded that economical and feasible methods of promotion are necessary for promoting PA at large.[19] On the other hand, two of the studies revealed that physical activity guidelines were not widely used to inform clinical practice[20,21] while time constraints and busy clinical routine were found to be the main barriers in promotion similar to our study. Another study reported good knowledge and attitude towards promotion of PA however significant association was found in the promotion and inadequate consultation time.[22] The study Hébert *et al*. in 2012[23] concluded that lack of knowledge and confidence are not related to physical activity promotion as well as must not be cited as barriers, although results of our study concluded that majority of therapists have adequate knowledge of physical activity guidelines but the number of barriers in promoting it, moreover as per the author's perspective a lack of knowledge may cause hindrance in physical activity promotion.

On overall scale, knowledge, the role of physiotherapists and barriers were comparable in clinical, academic and individuals who are working as both, although academic therapists had adequate knowledge related to ACSM however clinical physiotherapists showed better expertise and disposition in promoting physical activity because of the virtue of their training that was focus on clinical duty.[24] Shirley *et al*. suggested that academic physiotherapists may have knowledge as they taught students physiotherapy curriculum thus somewhat promoting it accordingly. Furthermore, it was advised that clinical therapists must also have sufficient knowledge of physical activity to advise nontreatment purposes to the patient[18] Therefore, limited studies are available on the role of physical therapists as promoters of physical activity, particularly in Pakistan. In comparison to the physiotherapists working in the US, 54% are involved in health promotion and fitness.[25] Another survey revealed that in Sweden indicated

**Table 2: Promoting practices of physical activity by physiotherapist**

| Workplace | Never | Sometimes | Often | More often |
|---|---|---|---|---|
| Academic PT (*n*=19) | 1 | 7 | 5 | 6 |
| Clinician PT (*n*=48) | 10 | 10 | 14 | 14 |
| Both (*n*=33) | - | 11 | 10 | 12 |

PT: Physiotherapist

**Table 3: Comparison of responses among different workplace**

| Variables | Mean | | | *F* | *P* |
|---|---|---|---|---|---|
| | Academician PT | Clinician PT | Both | | |
| Taking the stairs at work and generally being more active each day is enough physical activity to improve health | 3.26 | 2.50 | 3.15 | 3.67 | 0.02 |
| Half an hour of working on most days is all the physical activity that is needed for good health | 2.84 | 2.75 | 2.64 | 0.16 | 0.85 |
| Physical activity that is good for health must make you puff and pant | 3.74 | 3.13 | 3.12 | 2.05 | 0.13 |
| Several short walks of 10 min each on most days are better than one session of golf or soccer per week for good health | 3.63 | 3.04 | 3.70 | 4.28 | 0.01 |
| Discussing the benefits of a physically active lifestyle with patients is part of my role | 4.58 | 3.81 | 4.06 | 3.19 | 0.04 |
| Suggesting to patient's ways to increase daily physical activity is part of my role | 4.32 | 4.83 | 4.21 | 1.92 | 0.15 |
| I should be physically active to act as a role model for my patients/student | 4.37 | 4.04 | 4.24 | 0.75 | 0.47 |
| I feel confident in giving general advice to patients/students on physically active lifestyle | 4.47 | 3.90 | 4.24 | 2.53 | 0.08 |
| If feel confident in suggesting specific physical activity programs for my patients/students | 4.32 | 3.63 | 4.30 | 4.69 | 0.01 |

PT: Physiotherapist

that physical therapists provided the highest number of physical activity referrals while physicians providing the lowest for most common reasons for physical activity prescription were musculoskeletal conditions, obesity, and diabetes.[25] Thus, it was suggested that more promotional strategies should be attained by physiotherapists of Pakistan with respect to knowledge of standard guidelines and multiple ways of promoting physical activity. The limitation of our study is a cross-sectional study that is highly dependent on perception and conducted on a relatively small sample size recruited by nonprobability sampling technique. Moreover, therapists from the different regions of Pakistan from in-patient and out-patient clinical settings and academic institutions were not surveyed on the standard questionnaire. Further surveys are recommended to explore the knowledge, attitude, and practice of promoting physical activity among physiotherapists of Pakistan to broaden the scope thereby reducing the barriers at large.

## Conclusion

It was concluded that physical therapists who are academicians, clinicians, and therapists who worked at both sites have knowledge of standard physical therapist guidelines whereas clinical and both categories of physical therapists were found to be promoting physical activity the most.

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### Conflicts of interest

There are no conflicts of interest.

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