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BARRIERS TO EXERCISE ADHERENCE AMONG DPT, AND PHARMACY STUDENTS AT SARHAD UNIVERSITY OF SCIENCE AND INFORMATION TECHNOLOGY, PESHAWAR: A CROSS-SECTIONAL SURVEY

Sayed Sajid Hussain[1], Ali Man Shah[2], Jamshid Hussain[*3], Asad Ullah Khan[4], Toufail Ahmad[5], Inayat Ullah[6], Ijaz Khan[7], Noor Fatima[8]

[1]*Physiotherapist, Abdullah Saeed Al-Hunyadi, Saudi Arabia*
[2]*Deputy Director of Sarhad Institute of Allied Health Sciences, Peshawar*
[*3]*Physiotherapist. Physioworks Hayatabad, Peshawar*
[4]*Physiotherapist, Shifa Markaz for Physiotherapy Abha, KSA*
[5]*Physiotherapist, Nukhbat Al-Madina, KSA*
[6]*Assistant Professor, Sarhad University of Science and Information Technology, Peshawar*
[7]*Physiotherapist, Physioworks, Peshawar*
[8]*Family Care Hospital Mandibauddin, Pakistan*

[1]sajidhussainphysicaltherapist@gmail.com,[2]aliman.siah@suit.edu.pk,[*3]jamshid.suit.pt@gmail.com, [4]asadphysiotherapist@gmail.com,[5]toufail70@gmail.com,[6]inayatullah.siahs@suit.edu.pk, [7]ijaz.mkd1997@gmail.com, [8]nfnoorfatima04@gmail.com

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Corresponding Author: *
Jamshid Hussain

Abstract

Background: *Physical activity is described as "any body movement produced by skeletal muscles that results in energy expenditure," whereas exercise is defined as "any sort of systematic, repeated, and purposeful physical activity designed to maintain or increase physical endurance." Regular physical activity is still an important behavior for maintaining health, delaying or preventing common musculoskeletal disorders like mechanical low back pain, neck and shoulder pain, and lowering the risk of coronary heart disease, hypertension, diabetes, osteoporosis, obesity, and colon cancer. Adults should engage in at least 30 minutes of moderate-intensity exercise five times per week, high-intensity exercise for at least 20 minutes three times per week, or a combination of both moderate and vigorous activity, according to the American College of Sports Medicine. Eliminating physical inactivity would raise the world's population's life expectancy globally.*

Objective: *The main purpose of our thesis writing to find out the main barrier to exercise adherence that prevent individuals from doing exercises. As we find the main barriers thereby promoting exercise and physical activity and avoid sedentary life style. When we promote exercise then there will be reduction in non-communicable disease development and overall, well health being.*

Methodology: *A total of 202 individuals were included both male and female in my study from 20-30 years old. The study design was a descriptive cross-sectional study and conducted in the bachelor Students Doctor of Physical therapy and Pharmacy, Sarhad University of allied health Science and information technology, Peshawar. Exercise barrier scale was used to collected knowledge from*

participants. Variable were included that relate to ideas about exercise from different aspect.

Results: *A total of 202 DPT and Pharm-D students participated (78.7% males; 21.3% females), with ages ranging from 19–29 years. The most common barriers to exercise were limited exercise facilities and places, fatigue, exercise being hard work, distant facilities, and lack of time. Family responsibilities and lack of family support were also reported as important barriers, while cost was a less common barrier.*

Conclusion: *The main barrier to exercise adherence where places for exercise are too far away, no encouragement towards exercise by their family towards individuals, proper schedule for exercise, fatigue to exercise and family responsibilities were the main barrier.*

INTRODUCTION

Over the last two decades, the literature has looked at exercise as a way to reduce bone mineral density (BMD) loss. Although the terms "exercise" and "physical activity" have different meanings in the literature, they are sometimes used interchangeably. Physical activity is described as "any body movement produced by skeletal muscles that results in energy expenditure," whereas exercise is defined as "any sort of systematic, repeated, and purposeful physical activity designed to maintain or increase physical endurance.(Palazzo et al., 2016)

Regular physical activity is still an important behavior for maintaining health, delaying or preventing common musculoskeletal disorders like mechanical low back pain, neck and shoulder pain, and lowering the risk of coronary heart disease, hypertension, diabetes, osteoporosis, obesity, and colon cancer.(Kannus et al., 2020)

Adolescence marks the transition from childhood to adulthood, and it is at this time that many lifelong habits, such as regular exercise, are formed. However, studies have shown that physical activity levels fall steadily during adolescence.(Arzu, Tuzun, & Eker, 2006)

Physical inactivity is on the rise, with serious consequences for the incidence of non-communicable illnesses and the population's overall health. Physical inactivity is now classified as the fourth major risk factor in worldwide mortality rate according to the World Health Organization. Physical activity, according to revised UK Chief Medical Officers' guidelines, can help prevent and treat more than 20 ailments and diseases, including coronary heart disease, several malignancies, diabetes, obesity, and musculoskeletal problems. (Morgan et al., 2016)

Psychological benefits, physical performance, and enjoyment were among the possible benefit categories based on previously published studies. Additional topics on social advantages and image upkeep were included following exploratory interviews. In terms of hurdles, the previously published research identified the following: a lack of social support, time limits, and poor motivation/fatigue, environment/facility difficulties, and self-consciousness while exercise was also listed as additional barriers. PABBS was a self-report, paper-and-pencil measure that asked participants to rate their level of agreement or disagreement with 26 possible perceived benefit questions and 24 potential perceived barrier items on a six-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree." to Physical exercise.(Brown, Huber, & Bergman, 2006). Failure to participate in or sustain physical activity has been linked to personal and environmental obstacles too.(Thomas, Alder, & Leese, 2004)

Aim and objectives:

- ✓ The aim was to determine the main barriers to exercise adherence,
- ✓ To find out exercise places approaches,
- ✓ To determine Cost effectiveness to exercise,
- ✓ To determine the convenient schedule for exercise
- ✓ To determine the encouragement of exercise towards exercise by family

Material and methods

Study Design: The study design was a descriptive cross-sectional study

Study Settings: Students of Doctor of Physical therapy and Pharmacy, Sarhad University of Science and information technology, Peshawar

Sample Size: 202

Sampling Technique: census

Inclusion Criteria:

- Only Sarhad University Students
- DPT and Pharm-D department students
- Both Male and female students

Exclusion Criteria:

- Teachers
- Outsiders
- Old aged people
- Students of other departments

DATA COLLECTION PROCEDURE:

After approval from the graduate committee and supervisor, we want to each class of junior doctor of physical therapy students and pharmacy students to inform about data collection. After then I distribute the questionnaire among those who voluntarily wanted to fill the barrier scale question and understand them about the questionnaire.

DATA ANALYSIS PROCEDURE:

Data were analyzed through statistical package for social sciences (SPSS) version 25.0 For quantitative variables (age, Marital status, number of students etc.) mean, standard deviation etc. (Descriptive statistics) were be calculated and categorical variables (gender) were showed in graphs and tables (frequency and percentage).

Results

A total of 202 undergraduate students from the Doctor of Physical Therapy (DPT) and Doctor of Pharmacy (Pharm-D) programmes participated in this study. Of these, 159 (78.7%) were male and 43 (21.3%) were female. Regarding marital status, 197 (97.5%) participants were single, whereas 5 (2.5%) were married

Table 1. Demographic Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	159	78.7
	Female	43	21.3
Marital status	Single	197	97.5
	Married	5	2.5

Table 2. Personal Barriers to Exercise

Personal Barrier	Agree n (%)	Disagree n (%)
Exercise makes me tired	116 (57.4)	86 (42.6)
Exercise takes too much time	113 (55.9)	89 (44.1)

I am fatigued by exercise	**125 (61.9)**	**77 (38.1)**
Exercise is hard work	**124 (61.4)**	**78 (38.6)**
Family responsibilities limit exercise	**116 (57.4)**	**86 (42.6)**

Several personal factors were identified as barriers to regular exercise. The most commonly reported barrier was **fatigue during exercise**, with **125 participants (61.9%)** agreeing that exercise made them feel fatigued. Similarly, **124 (61.4%)** participants perceived exercise as hard work, while the same proportion reported that exercise facilities were located too far from their residence. More than half of the respondents **(116; 57.4%)** stated that exercise made them feel tired, and an equal proportion reported that family responsibilities limited their participation in physical activity. Furthermore, **113 participants (55.9%)** indicated that exercise required too much of their time, highlighting time constraints as another important personal barrier.

Table 3. Environmental and Social Barriers

Barrier	Agree n (%)	Disagree n (%)
Exercise facilities are too far away	124 (61.4)	78 (38.6)
Facilities have inconvenient schedules	131 (64.9)	71 (35.1)
Too few places are available	148 (73.3)	54 (26.7)
Exercise costs too much	90 (44.6)	112 (55.4)
Family members do not encourage exercise	105 (52.0)	97 (48.0)
Spouse does not encourage exercise	95 (47.0)	107 (53.0)
Exercise affects family relationships	101 (50.0)	101 (50.0)

Environmental factors represented the most frequently reported barriers to exercise participation. The greatest proportion of participants (148; 73.3%) agreed that there were too few places available for exercise. Likewise, 131 (64.9%) reported that available exercise facilities did not provide convenient schedules, while 124 (61.4%) stated that exercise facilities were located too far away. In contrast, the financial cost of exercise appeared to be a relatively minor concern. Although 90 participants (44.6%) considered exercise to be expensive, the majority (112; 55.4%) disagreed with this statement.

Table 4. Social and Family Barriers

Barrier	Agree n (%)	Disagree n (%)
Spouse does not encourage exercise	95 (47.0)	107 (53.0)

Exercise affects family relationships	101 (50.0)	101 (50.0)
People in exercise clothes look funny	93 (46.0)	109 (54.0)
Family members do not encourage exercise	105 (52.0)	97 (48.0)

Social and family-related factors also influenced exercise participation. More than half of the respondents (105; 52.0%) indicated that family members did not encourage them to engage in exercise, whereas 95 (47.0%) reported a lack of encouragement from their spouse or significant other.

Participants were equally divided regarding whether exercise interfered with family relationships, with 101 (50.0%) agreeing and 101 (50.0%) disagreeing. Concerns about social appearance were less prominent, as only 93 participants (46.0%) believed that people wearing exercise clothing looked funny.

Table 4. Summary of the Most Frequently Reported Barriers to Exercise (N = 202)

Rank	Barrier	Category	Participants Agree, n (%)	Interpretation
1	Too few places available for exercise	Environmental	**148 (73.3%)**	Most frequently reported barrier
2	Exercise facilities have inconvenient schedules	Environmental	**131 (64.9%)**	Major environmental constraint
3	Fatigue during exercise	Personal	**125 (61.9%)**	Common physical barrier
4	Exercise is hard work	Personal	**124 (61.4%)**	Perceived physical difficulty
5	Exercise facilities are too far away	Environmental	**124 (61.4%)**	Accessibility barrier
6	Exercise makes me tired	Personal	**116 (57.4%)**	Physical discomfort after exercise
7	Family responsibilities limit exercise	Social/Family	**116 (57.4%)**	Family commitments reduce participation
8	Exercise takes too much time	Personal	**113 (55.9%)**	Time constraint due to daily activities
9	Family members do not encourage exercise	Social/Family	**105 (52.0%)**	Lack of family support
10	Exercise affects family relationships	Social/Family	**101 (50.0%)**	Neutral influence on participation
11	Spouse/significant other does not encourage exercise	Social/Family	**95 (47.0%)**	Limited partner support
12	People in exercise clothes look funny	Social/Psychological	**93 (46.0%)**	Minor appearance-related concern
13	Exercise costs too much	Environmental	**90 (44.6%)**	Least frequently reported barrier

DISCUSSION

This study investigated the perceived barriers to exercise among undergraduate Doctor of Physical Therapy (DPT) and Doctor of Pharmacy (Pharm-D) students at Sarhad University of Allied Health Sciences, Peshawar. The findings indicate that environmental and personal barriers were the primary factors limiting participation in regular physical activity.

The most frequently reported barriers were the limited availability of exercise facilities (73.3%), inconvenient facility schedules (64.9%), fatigue during exercise (61.9%), exercise being perceived as hard work (61.4%), and the long distance to exercise facilities (61.4%). Time constraints (55.9%) and family responsibilities (57.4%) also affected participation in exercise. In contrast, exercise cost (44.6%) and concerns about appearance while exercising (46.0%) were the least frequently reported barriers.

These findings suggest that improving access to exercise facilities, providing flexible schedules, and promoting awareness of the benefits of regular physical activity may help reduce barriers and encourage greater participation in exercise among university students.

The present study found that the major barriers to exercise among undergraduate health science students were the limited availability of exercise facilities, inconvenient schedules, fatigue during exercise, perceived difficulty of exercise, and lack of time. These findings indicate that both environmental and personal factors influence participation in regular physical activity.

Our findings are consistent with previous research. Lovell et al. (2010) reported that exercise facilities being too far away, exercise-related fatigue, and perceiving exercise as hard work were common barriers among university students (Lovell et al., 2010). Similarly, Shettigar et al. (2019) identified lack of time and motivation as the leading barriers to exercise adherence among adults, supporting the present findings (Shettigar et al., 2019). Kelishadi et al. (2010) also found that limited access to exercise facilities and insufficient family support reduced physical activity among children and adolescents (Kelishadi et al., 2010). Likewise, Arzu et al. (2006) reported that lack of time, family responsibilities, and academic workload were the most important barriers to exercise among university students (Arzu et al., 2006).

Overall, the findings suggest that improving access to exercise facilities, offering flexible exercise opportunities, and promoting awareness of the benefits of physical activity may help reduce barriers and encourage regular exercise among university students.

A study conducted in the United Kingdom among patients with diabetes reported that low levels of physical activity were mainly associated with perceived difficulty in exercising, fatigue, lack of time, and limited access to local exercise facilities. These findings are consistent with the present study, where fatigue, time constraints, and inadequate exercise facilities were identified as major barriers to regular physical activity (Ansari et al., 2009).

CONCLUSION

This study concluded that undergraduate health science students experience several barriers to regular exercise, with environmental and personal factors being the most influential. The major barriers identified were the limited availability and accessibility of exercise facilities, inconvenient exercise schedules, family responsibilities, lack of family encouragement, fatigue during exercise, and time constraints. In contrast, the cost of exercise was a comparatively less significant barrier. Addressing these barriers through improved access to exercise facilities, flexible exercise programmes, and increased awareness and family support may enhance exercise participation and promote healthier lifestyles among university students.

Recommendations

Based on the findings of this study, it is recommended that future research should include larger and more diverse populations from different universities and employ validated assessment tools to further investigate barriers to exercise and the health consequences of physical inactivity. Universities should improve the accessibility and availability of exercise facilities by providing well-

equipped fitness centres and convenient exercise schedules for both male and female students. Educational institutions should also implement awareness programmes to promote the benefits of regular physical activity and encourage healthy lifestyles. Furthermore, in line with the American College of Sports Medicine (ACSM) guidelines, adults should engage in at least 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity physical activity per week, along with muscle-strengthening activities on two or more days each week. Finally, policymakers and educational authorities should invest in the development of sports complexes and fitness facilities in universities, colleges, schools, and local communities to encourage regular participation in physical activity and improve public health.

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