ONLINE ISSN :3007-309X
PRINT ISSN :3007-3081

Journal of Medical & Health Sciences Review

KNOWLEDGE, ATTITUDES, AND PRACTICES TOWARDS PHYSICAL ACTIVITY/SPORTS AMONG NURSING STUDENTS AND TEACHERS: A QUANTITATIVE STUDY

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ARTICLE INFO:

Keywords: Attitude, KAP study, Knowledge, Nursing students, Physical activity, Practice, Rawalpindi

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Article History:
Published on July 2025

ABSTRACT

Background: Regular physical activity (PA) is crucial for maintaining overall health and preventing chronic diseases. Nursing students, as future healthcare professionals, are expected to adopt and promote healthy behaviors.

Objective: This study aimed to assess the knowledge, attitude, and practice (KAP) levels toward physical activity among nursing students at the College of Nursing, Rawalpindi.

Methods: A cross-sectional study was conducted using an online self-administered questionnaire. A universal sampling technique targeted all 490 students, with 388 responses received. Data were analyzed using SPSS version 26.0. Descriptive analysis assessed KAP levels. Spearman's rank correlation test examined relationships between KAP components, while Chi-square and Fisher's Exact tests determined associations with demographic variables. A significance level of $p < 0.05$ was considered statistically significant.

Results: The findings showed that 97.7% of participants had high knowledge, and 96.9% had a positive attitude toward physical activity. However, only 42% engaged in satisfactory physical activity practices, while 58% exhibited unsatisfactory practices. Correlation analysis indicated a significant positive relationship between knowledge and attitude ($r = 0.170$, $p = 0.001$) but no significant correlation between knowledge and practice ($r = -0.077$, $p = 0.130$). Surprisingly, a significant negative correlation was found between attitude and practice ($r = -0.150$, $p = 0.003$). Designation ($p = 0.000$) and BMI ($p = 0.001$) were significantly associated with physical activity practices, with

overweight participants showing better engagement.
Conclusions: Despite high knowledge and positive attitudes, physical activity practices among nursing students remain inadequate. The study highlights the need for targeted interventions, such as structured exercise programs and awareness campaigns, to bridge the gap between knowledge and action. Institutional support and policy changes could encourage students to incorporate physical activity into their daily routines.

INTRODUCTION

Physical activity (PA) is often described as a "wonder drug" due to its wide-ranging benefits for physical and mental health. The World Health Organization (WHO) defines PA as any movement produced by skeletal muscles that requires energy expenditure, including household chores, leisure activities, or structured exercise routines. Despite growing awareness, physical inactivity (PI) continues to be a major global health issue. More than 35% of the population does not meet the recommended PA levels, resulting in approximately 5.3 million premature deaths each year [1]. WHO has identified PI as the fourth leading cause of global mortality, contributing to around 3.2 million deaths annually [2]. Even though the health benefits of regular exercise are well established, 31% of the global healthy population still fails to achieve the minimum required activity level. A lack of PA contributes to multiple chronic conditions and places a financial burden on healthcare systems[3].

Nurses, as future healthcare providers, are expected to serve as role models for health-promoting behaviors. However, they too are at risk of adopting sedentary lifestyles due to heavy workloads, stress, and environmental challenges. Factors such as musculoskeletal pain, lack of time, family responsibilities, limited access to facilities, and low motivation act as barriers to regular PA [4,5].Nurses are also prone to several health issues such as obesity, hypertension, depression, and sleep disturbances all of which can be improved through consistent physical activity. Studies have found that healthcare professionals who are physically active are more likely to recommend the same to their patients [2]. Moreover, physical activity has positive effects on mental health and can be as effective as medication or therapy in treating mild to moderate anxiety and depression.

Among students, particularly those in nursing programs, the college years are a crucial time to develop healthy lifelong habits. However, the demanding nature of nursing education, combined with additional responsibilities like work or caregiving, can lead to physical inactivity[6]. The American College of Sports Medicine (ACSM) recommends at least 30 minutes of moderate-intensity exercise five days a week or 20 minutes of vigorous-intensity exercise three times a week, yet nearly 50% of college students fail to meet these guidelines [7]. In nursing students, regular physical activity is important not only for managing stress and improving academic performance but also for setting a positive example for patients in future clinical roles [8].

Despite the known benefits of physical activity, many nursing students still do not engage in it regularly. Studies reveal that although students may have adequate knowledge of PA, their actual participation often falls short due to personal and institutional barriers[9]. This highlights the importance of assessing nursing students' knowledge, attitudes, and practices (KAP) towards physical activity. Therefore, the current study aims to explore these aspects among nursing students. The study seeks to assess their knowledge of the benefits of PA, evaluate their attitudes towards engaging in PA, and examine their current PA practices.

Understanding these factors is significant because it can help educators and policymakers design effective health promotion strategies within nursing curricula. .

Hypothesis:

H1: Nursing students with higher knowledge about physical activity are more likely to have positive attitudes toward it.

H2: A positive attitude toward physical activity leads to increased participation in physical activity among nursing students.

Methods and Material

This cross-sectional analytical study was conducted at the College of Nursing, Rawalpindi, to evaluate the knowledge, attitudes, and practices (KAP) related to physical activity among nursing students and faculty members.A cross-sectional approach allows for the collection of data at a single point in time, providing valuable insights into existing trends and behaviors within the target population [10].A universal sampling technique was employed to ensure inclusivity, targeting all eligible individuals within the institution[11]. The total sample consisted of 490 nursing students and educators, out of which 388 responded, providing a strong response rate for analysis. Participants were drawn from various academic programs, including the Generic BSN, Post-RN, Post-basic specialty, and Postgraduate nursing programs. To maintain the integrity of the study, individuals with medical conditions that limited their ability to participate in physical activity were excluded. The comprehensive approach aimed to offer a holistic understanding of physical activity behaviors among future healthcare professionals[12] .Data for this study was collected at the College of Nursing, Rawalpindi, using a pre-structured, online self-administered questionnaire adapted from a previously validated tool [9.13]. The questionnaire aimed to assess knowledge, attitudes, and practices (KAP) regarding physical activity among nursing students and faculty members. It consisted of four sections: sociodemographic information (including age, designation, and BMI), five questions assessing knowledge, eight for attitudes, and seven addressing physical activity practices.

Knowledge items were scored as correct (1) or incorrect (0), with scores categorized as low (≤3) or high (≥4), based on criteria from Almutairi et al. (2022). Attitudes and practices were measured using a five-point Likert scale, with negative items reverse-coded. A 60% cutoff was used to differentiate between poor/satisfactory knowledge, negative/positive attitudes, and unsatisfactory/satisfactory practices. The questionnaire showed acceptable internal consistency, with a Cronbach's alpha of 0.73 .Participation was voluntary, and ethical principles such as informed consent, confidentiality, and anonymity were strictly followed. Researchers were available to clarify questions if needed, ensuring reliable responses and minimizing bias. The collected data was later analyzed to identify trends and associations in physical activity-related behaviors.The data was analyzed using SPSS version 26.0. Normality was tested using the Kolmogorov-Smirnov and Shapiro-Wilk tests, both of which showed p-values less than 0.05 for knowledge, attitude, and practice (KAP) variables, indicating non-normal distribution. As a result, non-parametric tests were used. Descriptive statistics, including frequencies, percentages, means, and standard deviations, summarized the KAP levels. The Spearman rank correlation was used to assess relationships among KAP components due to non-normality. To examine associations between demographic variables and KAP levels, the Chi-square test was applied, and Fisher's Exact test was used when expected cell counts were below 5. A significance level of $p < 0.05$ and 95% confidence intervals were used for interpretation, with results presented through tables and graphs.

RESULTS

Table shows the socio-demographic characteristics of study participants. A total of 388 valid responses were included for analysis.The study sample predominantly comprises young adults aged 20–30 (38.9%),

followed by individuals aged 31–40 (22.4%). Participation declines with age, with the 51–60 age group having the fewest respondents (1.0%). Most participants are Generic Nursing students (49%), while fewer are Master of Nursing students (5.7%) and Educators (3.8%). Regarding BMI, the majority (80.2%) have a normal weight, 15.2% are overweight, and only 4.6% are underweight, indicating that most maintain a healthy body weight, with a small portion at nutritional risk.

Table1: Demographic Data

Category	Frequency (N)	Percentage (%)
Age Group		
20-30	151	38.9%
31-40	87	22.4%
41-50	38	9.8%
51-60	4	1.0%
Designation of Respondents		
Generic Students	190	49.0%
Post Basic Specialty	70	18.0%
Post RN BSc	91	23.5%
Master of Nursing	22	5.7%
Educators	15	3.8%
BMI Category		
Underweight (<18.5 kg/m²)	18	4.6%
Normal weight (18.5–22.9 kg/m²)	311	80.2%
Overweight (23.0–24.9 kg/m²)	59	15.2%

The analysis of knowledge, attitude, and practice regarding physical activity reveals significant insights of nursing students and educators in nursing college of Rawalpindi. Most respondents show high knowledge (97.7%) and a positive attitude (96.9%) toward physical activity. However, only 42% engage in satisfactory exercise practices, while 58% do not. This highlights a gap between awareness and action.

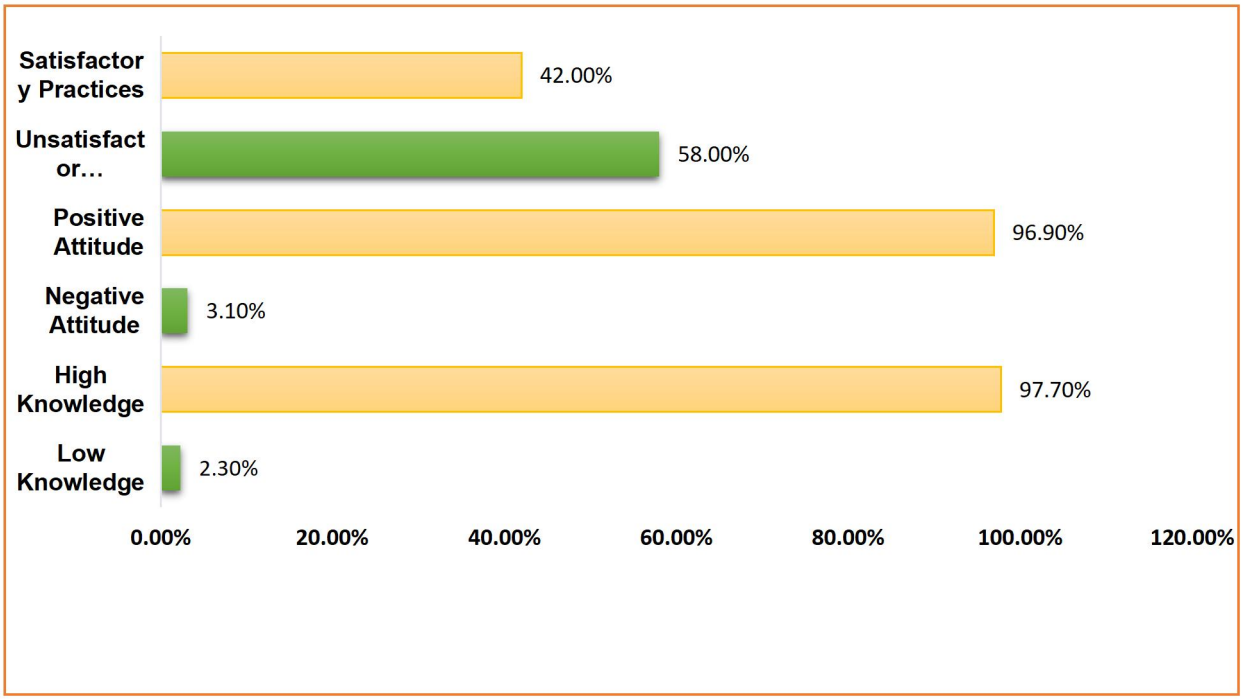

Figure1. Knowledge, attitude and practices toward Physical Activity

The correlation analysis reveals key relationships between knowledge, attitude, and practice toward physical activity.A positive correlation (r = 0.170, p = 0.001) shows that greater knowledge is linked to a more positive attitude toward physical activity, suggesting that understanding its benefits can shape perceptions. However, knowledge does not strongly influence actual behavior, as shown by a weak, non-significant negative correlation with practice (r = -0.077, p = 0.130). Surprisingly, a significant negative correlation exists between attitude and practice (r = -0.150, p = 0.003), indicating that even with a positive outlook, individuals may not engage in regular physical activity possibly due to barriers like time, motivation, or lack of resources.

Table 2 : Correlation Between Knowledge, Attitude, and Practice

Correlation				
			Attitude	**Practice**
Spearman's rho	**Knowledge**	Correlation Coefficient	.170**	-.077
		Sig. (2-tailed)	0.001	0.130
	Attitude	Correlation Coefficient	1.000	-.150**
		Sig. (2-tailed)	.	0.003
**. Correlation is significant at the 0.01 level (2-tailed).				

Table 3: Association of Demographic Variables with Knowledge,Attitude and Practices

Variable	Low Knowledge (n=9)	High Knowledge (n=379)	p-value	Negative Attitude (n=12)	Positive Attitude (n=376)	p-value	Unsatisfactory Practice (n=225)	Satisfactory Practice (n=163)	p-value
Designation									

Generic	5 (2.6%)	186 (97.4%)		6 (3.1%)	185 (96.9%)		142 (74.3%)	49 (25.7%)	
Post Basic Speciality	1 (1.4%)	69 (98.6%)		2 (2.9%)	68 (97.1%)		31 (44.3%)	39 (55.7%)	
Post RN	3 (3.3%)	89 (96.7%)	**0.825**	4 (4.3%)	88 (95.7%)	**0.806**	38 (41.3%)	54 (58.7%)	**0.000**
MSN	0 (0.0%)	22 (100.0%)		0 (0.0%)	22 (100.0 %)		8 (36.4%)	14 (63.6%)	
Educator	0 (0.0%)	13 (100.0%)		0 (0.0%)	13 (100.0 %)		6 (46.2%)	7 (53.8%)	
BMI									
Underweight	0 (0.0%)	18 (100.0%)		1 (5.6%)	17 (94.4%)		13 (72.2%)	5 (27.8%)	
Normal Weight	7 (2.3%)	304 (97.7%)	**0.693**	9 (2.9%)	302 (97.1%)	**0.809**	190 (61.1%)	121 (38.9%)	**0.001**
Overweight	2 (3.4%)	57 (96.6%)		2 (3.4%)	57 (96.6%)		22 (37.3%)	37 (62.7%)	

There was no significant association between designation or BMI with knowledge or attitude, as most participants—especially those in the MSN and Educator groups—showed high knowledge and positive attitudes regardless of BMI. However, a significant association was found between both designation and practice ($p = 0.000$) and BMI and practice ($p = 0.001$). The MSN group showed the highest level of satisfactory practices, and overweight participants practiced more satisfactorily than those with normal or underweight BMIs, suggesting that designation and BMI may influence physical activity behavior.

DISCUSSION

The current study investigated the knowledge, attitude, and practice (KAP) toward physical activity (PA) among nursing students and educators at the College of Nursing, Rawalpindi, Pakistan. The results showed that while knowledge and attitude toward PA were generally high, actual participation in PA remained relatively low. This trend aligns with several previous studies, though variations exist in specific findings.

The findings of the current study revealed that 97.7% of participants had high knowledge about the benefits of PA, demonstrating strong awareness. Similarly, other studies also reported a high level of knowledge about PA benefits. For instance, Kumar et al. (2024) found that healthcare professionals in Turki, Muzaffarpur, exhibited good knowledge regarding PA, but their practice levels remained lower. Likewise, a study conducted among healthcare students at King Khalid University in Saudi Arabia reported that 68.9% of participants had good knowledge about PA, though their practice levels did not fully align with their awareness [13].A study identified that undergraduate medical students had strong knowledge of PA benefits, which aligns with the present study.However, despite high knowledge levels, awareness about the negative effects of prolonged sitting was slightly lower in the current study, with 83% acknowledging its harmful impact on bones and muscles[14]. This indicates a knowledge gap that requires attention, particularly through targeted educational initiatives.

A significant proportion (96.9%) of respondents in the current study exhibited a positive attitude toward PA. This aligns with findings from Sharma et al. (2023), who reported that undergraduate medical students generally had positive attitudes toward PA. Similarly, Kandasamy et al. (2024) found that 75.2% of healthcare

students held favorable attitudes toward PA[13. The results of Kumar et al. (2024) also suggested that healthcare staff recognized the importance of PA, reinforcing the idea that positive attitudes are widespread among medical professionals.Despite an overwhelmingly positive attitude, the present study noted that gender-based stereotypes persisted to some extent, with 7.9% of respondents agreeing or remaining neutral about whether girls should participate in PA. This contrasts with Sharma et al. (2023), who did not specifically mention gender biases but did report that social influences and lack of company were barriers to PA participation.

While knowledge and attitude levels were high, the actual practice of PA remained a challenge in the current study. Only 42% of participants reported satisfactory exercise habits, indicating a gap between awareness and action. This trend is consistent with previous research.

For instance, Kandasamy et al. (2024) reported that while 68.9% of healthcare students had good knowledge and 75.2% had a positive attitude, only 63.2% engaged in satisfactory PA practices. Similarly, Sharma et al. (2023) found that although most students (97.67%) had participated in PA at some point in their lives, only 79.07% were currently active, suggesting a decline in practice despite awareness.The study by Kumar et al. (2024) also found that only 62.7% of healthcare professionals were physically active, while a significant proportion remained inactive due to barriers such as time constraints, lack of willpower, and fear of injury. The present study similarly suggested that factors such as motivation, lifestyle, and external constraints might contribute to low PA participation, despite strong knowledge and attitude.

The correlation analysis in the present study revealed a significant positive relationship between knowledge and attitude ($r = 0.170$, $p = 0.001$), supporting the hypothesis that individuals with higher knowledge tend to have a more positive attitude toward PA. This finding is consistent with research by Kandasamy et al. (2024) and Sharma et al. (2023), who also reported that greater awareness about PA correlated with more favorable attitudes.

However, the correlation between knowledge and practice in the current study was weakly negative ($r = -0.077$, $p = 0.130$, not significant), suggesting that knowledge alone does not necessarily lead to increased PA participation. This aligns with the findings of Kumar et al. (2024) and Jadhav et al. (2020), who observed that while physiotherapists and healthcare professionals had a good understanding of PA, their actual engagement was lower due to external barriers[15]

The most unexpected finding in the present study was the significant negative correlation between attitude and practice ($r = -0.150$, $p = 0.003$). This suggests that a positive attitude toward PA does not necessarily translate into higher participation. Similar results were reported by Kumar et al. (2024), where many healthcare professionals acknowledged the benefits of PA but faced obstacles preventing regular engagement. Factors such as time constraints, social influence, and environmental limitations could be key reasons behind this discrepancy[16].

Overall, the present study aligns with previous research in demonstrating that while knowledge and attitude toward PA are generally high among medical and nursing students, actual participation in PA remains suboptimal. Similar trends have been reported across different populations.The findings emphasize the need for practical interventions to bridge the gap between knowledge, attitude, and practice.

CONCLUSION

The study identified a clear gap between nursing students' high knowledge (97.7%) and positive attitudes (96.9%) toward physical activity and their actual practices, with only 42% engaging in satisfactory exercise. While knowledge positively influenced attitude, it did not translate into better practice, and attitude showed a

negative correlation with practice, suggesting external barriers like time and motivation. Significant associations were found between both designation and practice, and BMI and practice, with overweight students showing better engagement. The findings highlight the need for targeted interventions, curriculum integration, and institutional support to encourage consistent physical activity. Future research should focus on identifying and addressing barriers to participation.

RECOMMENDATIONS:

1. Despite high knowledge and positive attitudes, physical activity participation is low. Institutions should introduce structured exercise programs, awareness campaigns, and motivational strategies.
2. Barriers like time constraints, low motivation, and medical conditions hinder exercise; flexible schedules and accessible fitness options are needed.
3. Interactive workshops, fitness challenges, and peer-led groups can help bridge the gap between knowledge and practice.
4. Awareness about the risks of prolonged sitting is low; campaigns should promote movement breaks and active environments.
5. Gender-based exercise stereotypes persist; programs should focus on inclusivity in sports and fitness.
6. Regular assessment of physical activity levels and integration of physical activity into institutional policies are recommended.

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