

Knowledge, Attitude and Practice towards Physical Activity among Health Care Professionals Working at Tertiary Care Hospital in Nepal

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ABSTRACT

Background

The increasing prevalence of non-communicable diseases has a substantial impact on individuals' quality of life. Healthcare professionals play an important role in health promotion and disease prevention. Physical activity is an established component of prevention and management of non-communicable diseases and may improve health and quality of life.

Objective

To assess knowledge, attitude, and practice towards physical activity among healthcare professionals working at tertiary care hospital in Nepal. Additionally, the study aimed to examine their association with selected sociodemographic and professional characteristics.

Method

A cross-sectional study was conducted among health care professionals working at tertiary care hospital in Nepal, from June 2024 to January 2025. Census sampling was used. A structured questionnaire was used to assess knowledge, attitude and practice towards physical activity. Knowledge was categorized as excellent, good or poor, while attitude and practice were categorized as satisfactory or unsatisfactory. The chi-square test was used to assess associations between categorical variables, with statistical significance set at $p < 0.05$.

Result

Among the 250 eligible healthcare professionals, 241 participated in the study, resulting in a response rate of 96.4%. Among the participants, 73.4% demonstrated excellent knowledge, 94.2% had a positive attitude, and 67.2% demonstrated satisfactory practice. Practice was significantly associated with age ($p < 0.001$), staff category ($p = 0.043$), department ($p < 0.001$) and work experience ($p < 0.001$). Work experience was also significantly associated with attitude ($p = 0.015$).

Conclusion

Health care professionals working at tertiary care hospital in Nepal demonstrated high knowledge and positive attitudes towards physical activity, however a gap between knowledge and practice seen evident. Implementing structured workplace-based programs to address barriers to physical activity may enhance engagement among healthcare professionals, with potential benefits for both healthcare workers and the patients they serve.

KEY WORDS

Attitude, Healthcare professional, Knowledge, Physical activity, Practice

INTRODUCTION

Noncommunicable diseases (NCDs) account for a substantial proportion of the global disease burden, particularly in low- and middle-income countries (LMICs), where approximately 86% of premature NCD-related deaths occur.¹

Cardiovascular diseases, cancers, diabetes, and chronic respiratory diseases constitute the four major groups of NCDs.² It is well known that physical inactivity, has a detrimental effect on health is the fourth leading risk factor for global mortality accounting for 6% of it.^{3,4} Promoting regular PA are essential strategies for improving health outcomes and fostering healthier lifestyles.^{5,6} Incorporation of daily PA and exercise into one's lifestyle providing a means for primary disease prevention.⁷ At least 150 minutes of moderate intensity PA per week, or 75 minutes of vigorous PA per week is recommended to increase the prospect of experiencing the health benefits.⁸ "Healthcare professionals can play an important role in promoting PA by integrating routine assessment, counselling, and health promotion activities."^{9,10} They are powerful motivators and PA and exercise (PAE) advice may have more weight and influence when delivered by them. To provide effective guidance, they must have an in-depth knowledge of PAE.¹¹ Adequate knowledge of PA is essential to enable them to provide appropriate counselling, guidance, and support to patients in adopting and maintaining physically active lifestyles. Healthcare professionals who practice regular PA are more likely to recognize its importance and effectively counsel and encourage their patients to engage in physically active lifestyles.¹²

However there is limited evidence regarding the KAP related to PA among healthcare professionals in tertiary care hospital in Nepal. Therefore, in this study we aimed to assess the knowledge, attitude and practice towards physical activity among healthcare professionals working at Dhulikhel hospital.

METHODS

A cross-sectional study was conducted at Dhulikhel Hospital, Kathmandu University Hospital (KUH), located in Dhulikhel, Kavre, Bagmati Province, Nepal from June 2024 to January 2025. A census sampling technique was used. The study population comprised 250 eligible health care professionals, of whom 241 participated in the study.

A structured questionnaire was developed to assess the knowledge, attitudes, and practices regarding physical activity among healthcare professionals. Content validity of the self-administered questionnaire was established through expert review with reported content validity index of 0.99. A pilot study was subsequently conducted among 25 participants (10% of the study sample) to assess

the questionnaire's internal consistency using Cronbach's alpha. ($\alpha=0.76$).

Prior to data collection, ethical approval was obtained from the Institutional Review Committee of Kathmandu University School of Medical Sciences, and permission was obtained from the concerned hospital authorities. Health care professionals who had at least a bachelor's degree, were registered with the Nepal Medical Council, Nepal Health Professional Council or Nepal Nursing Council, working at Dhulikhel Hospital during the study period, had been employed for at least six months, and provided informed consent were eligible for participation. Healthcare professionals who were on leave or unavailable during the data collection period declined to participate, or returned incomplete questionnaires were excluded from the study.

Each correct knowledge response received one point and each incorrect response received zero. Knowledge was classified as excellent ($> 80\%$), good (50% to 80%) or poor ($< 50\%$). Attitude and practice were assessed using a five-point Likert scale used: 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree. Scores below 60% were classified as poor attitude or unsatisfactory practice. Descriptive statistics were presented as frequencies and percentages. The chi-square test was used to assess associations between categorical variables. Statistical significance was set at $p < 0.05$. Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25.

RESULTS

Of the 250 eligible participants, 241 participated in the study, yielding a response rate of 96.4%. The mean age of the participants was 33.99 ± 6.98 years, with a median age of 32 years (range, 24–56 years). The 95% confidence interval for the mean age was 33.11–34.88 years. Most participants were officers (149, 61.8%) and worked in the medical department (213, 88.4%). Majority of participants (211, 87.6%) reported no comorbidity. Among the participants reporting comorbidities, hypertension was the most common (13, 5.4%), followed by hypothyroidism (8, 3.3%) and dyslipidemia (4, 1.7%). Autoimmune disorder, disc prolapse, anemia, vasculitis, and diabetes mellitus were each reported by one participant (0.4%). The sociodemographic and professional characteristics of the participants are presented in table 1.

Overall, 177 (73.4%) participants had excellent knowledge regarding physical activity, while 64 (26.6%) had good knowledge. A good attitude toward physical activity was observed among 227 (94.2%) participants, whereas 14 (5.8%) had a poor attitude. Regarding practice, 162 (67.2%) participants demonstrated satisfactory practice, while 79 (32.8%) had unsatisfactory practice. Table 2 summarizes

Table 1. Sociodemographic and professional characteristics of participants

Demographic characteristics	Frequency(n)	Percentage (%)
Age(years)		
20-29	90	37.3
30-39	95	39.4
40-49	49	20.3
50-59	7	2.9
Gender		
Male	104	43.2
Female	137	56.8
Staff category		
Consultant	92	38.2
Officer	149	61.8
Level of education		
Ph.D.	5	2.1
Postgraduate	114	47.3
Bachelor	122	50.6
Department		
Medical	213	88.4
Dental	16	6.6
Physiotherapy	12	5
Working hour		
< 8	28	11.6
> 8	213	88.4
Working experience		
0-10	195	80.9
11-20	36	14.9
21-30	9	3.7
31-40	1	0.4
Co-morbidity		
Yes	30	12.4
No	211	87.6

Table 2. Distribution of participants according to knowledge, attitude and practice.

Characteristics	Frequency	Percentage (%)
Knowledge		
Excellent	177	73.4
Good	64	26.6
Attitude		
Good	227	94.2
Poor	14	5.8
Practice		
Satisfactory	162	67.2
Unsatisfactory	79	32.8

the levels of knowledge, attitude, and practice regarding physical activity, presented in frequencies and percentages.

Individual participants knowledge items show 100% of participants acknowledged that exercise leads to

Table 3. Participant's Knowledge towards physical activity.

Statement	No. of participants who agreed with the statement	
	Frequency	Percentage (%)
Physical activity reduces the risk of pre-mature death.	222	92.1
Physical activity decreases the risk of developing depression and anxiety.	237	98.3
Physical activity maintains and reduces blood pressure.	238	98.8
Physical activity helps to maintain one's body weight and reduce obesity.	239	99.2
Physical activity helps to prevent, control, and reduce the risk of diabetic complications such as chronic kidney diseases, diabetic ulcers, etc.	228	94.6
Physical activity helps to improve the quality of life of people with the risk and those suffering from non-communicable disease.	241	100
Performing physical activity like soccer, swimming once a week is enough to achieve health benefits.	124	51.5
Is moderate-intensity exercise such as walking, cycling for 30-60 min/day or ≥ 150 min/week, sufficient to gain health benefits?	221	91.7
Is vigorous-intensity exercise such as running, jogging for 20-60 min/day or ≥ 75 min/week, sufficient to gain health benefits?	188	78.0
Health benefits can be achieved by increasing the duration, frequency and intensity of physical activity.	196	81.3

NCDs; non-communicable disease

better quality of life outcomes for people suffering from non-communicable diseases. Each individual items of knowledge are present in frequency and percentage in table 3. Participants' responses towards physical activity are presented in table 4 and Participants' responses towards physical activity practices are presented in table 5.

Knowledge, attitude, and practice scores were converted into percentage scores and is reported as mean percentage where mean knowledge score was: 88.40%, mean attitude score was: 77.36% and mean practice score: 66.60%. The mean practice score was significantly associated with age ($p < 0.001$), staff category ($p=0.043$), department ($p < 0.001$), and years of work experience ($p < 0.001$). No significant associations were observed between knowledge and attitude scores with sociodemographic and professional characteristics of the participants. The association between KAP score and sociodemographic and professional characteristics is presented in table 6.

DISCUSSIONS

The aim of the study was to study assessed the knowledge, attitude, and practice (KAP) regarding physical activity

Table 4. Participants' responses towards physical activity

Statement	Strongly agree (%)	Agree (%)	Neither agrees nor disagree (%)	Disagree (%)	Strongly disagree (%)
I engage in exercise for pleasure, not only for health benefits.	17.4	34.4	22.4	21.2	4.6
I should be physically active to act as a role model for patients.	34.4	58.1	5	1.2	1.2
I have a medical condition that prevents me from engaging in physical activity.	2.5	10.0	11.2	31.5	44.8
I get all the exercise I need by just doing normal activities.	3.3	11.2	23.2	51	11.2
My work requires more physical work, so I don't require any other form of physical activity.	5.4	8.3	26.6	41.1	18.7
Exercise provides many benefits, no matter what age we start.	54.8	41.5	2.5	0.4	0.8
I think physical activity needs to be included in the health care setting program.	56.8	38.2	3.3	0.8	0.8

among healthcare professionals working at tertiary care hospital in Nepal. Dhulikhel Hospital is a tertiary care teaching hospital that provides comprehensive healthcare services to a large and diverse patient population and serves as an important training and clinical practice center for healthcare professionals in Nepal so the study was conducted at Dhulikhel Hospital. The study used a structured questionnaire that demonstrated satisfactory face and content validity (content validity index=0.99), supporting its appropriateness for assessing KAP in this population.

In this study among the 241 participants majority of participants 177 (73.4%) had excellent knowledge and 46, (26.6%) had good knowledge. Most of the participants, 177, (94.2%) had a good attitude towards physical Activity. However only 67.2% had satisfactory practice. The findings of the present study showed that healthcare professionals had generally good knowledge and positive attitudes toward physical activity; however, their actual practice was lower

Table 5. Participants' responses towards physical activity practices

Statement	Strongly agree (%)	Agree (%)	Neither agrees nor disagree (%)	Disagree (%)	Strongly disagree (%)
I engage in exercise for pleasure, not only for health benefits.	17.4	34.4	22.4	21.2	4.6
I should be physically active to act as a role model for patients.	34.4	58.1	5	1.2	1.2
I have a medical condition that prevents me from engaging in physical activity.	2.5	10.0	11.2	31.5	44.8
I get all the exercise I need by just doing normal activities.	3.3	11.2	23.2	51	11.2
My work requires more physical work, so I don't require any other form of physical activity.	5.4	8.3	26.6	41.1	18.7
Exercise provides many benefits, no matter what age we start.	54.8	41.5	2.5	0.4	0.8
I think physical activity needs to be included in the health care setting program.	56.8	38.2	3.3	0.8	0.8

than expected based on their knowledge and attitudes. Similar findings have been reported among healthcare professionals in India and South Africa, where participants demonstrated good knowledge and positive attitudes toward physical activity but relatively poor practices.^{12,13} The high level of knowledge and attitudes towards physical activity observed among healthcare professionals may partly reflect their regular clinical exposure to patients with NCDs and obesity, which may reinforce awareness of the health benefits of physical activity. More than 50% of participants strongly agree that physical activity need to be included in health care setting and it provides many benefits no matters what age we starts. However, Several barriers, including lack of time, limited access to appropriate facilities, lack of exercise companions, fatigue, and the perception of being sufficiently active through daily activities, have been reported to hinder regular physical activity among healthcare professionals.¹⁴⁻¹⁷ The gap observed in the present study between knowledge and

Table 6. Association between KAP score and sociodemographic and professional characteristics

Characteristics	n	Knowledge Mean (%)	Attitude Mean (%)	Practice Mean (%)
Age (years)				
20–29	90	87.11	76.78	67.41
30–39	95	89.47	77.29	66.23
40–49	49	88.37	78.07	63.81
50–59	7	90.00	80.80	78.57
p-value		0.288	0.410	<0.001
Gender				
Male	104	88.94	76.72	68.61
Female	137	87.96	77.85	64.96
p-value		0.530	0.311	0.119
Staff category				
Consultant	92	89.57	78.10	62.92
Officer	149	87.65	76.90	68.77
p-value		0.255	0.972	0.043
Educational level				
PhD	5	92.00	78.28	65.34
Postgraduate	114	89.56	78.24	64.20
Bachelor	122	87.13	76.50	68.77
p-value		0.398	0.918	0.081
Department				
Medical	213	88.03	77.00	67.06
Dental	16	88.75	79.64	54.70
Physiotherapy	12	94.17	80.71	73.05
p-value		0.220	0.783	<0.001
Working hours/day				
< 8	28	89.64	79.28	65.78
≥ 8	213	88.22	77.11	66.54
p-value		0.214	0.191	0.086
Work experience (years)				
0–10	195	87.95	76.94	66.73
11–20	36	90.00	78.49	63.43
21–30	9	91.11	83.17	72.59
31–40	1	90.00	65.71	86.66
p-value		0.942	0.015	<0.001
Comorbidity				
Yes	29	88.97	77.24	63.33
No	211	88.34	77.35	66.95
p-value		0.357	0.625	0.566

actual practice may be partly explained by the demanding work schedules of healthcare professionals at Dhulikhel Hospital. Many participants also commute long distances, spending approximately 2-3 hours travelling each day, which may further reduce the time available for planned physical activity. In addition, 88.22% of participants reported working eight or more hours per day. Long working hours, combined with commuting demands and fatigue, may therefore limit opportunities for regular

exercise, despite having adequate knowledge and positive attitudes toward physical activity. In this study, 79 (32.8%) participants reported unsatisfactory levels of physical activity practice, suggesting that physical inactivity remains relatively common among healthcare professionals.

Interestingly, in this study participants aged 50-59 years had significantly higher physical activity practice scores than those in younger age groups ($p < 0.001$). This finding may suggest that older healthcare professionals are more likely to engage in health-promoting behaviours, possibly reflecting greater awareness of the importance of maintaining an active lifestyle. This finding is consistent with a study conducted in India, which reported that exposure to patients with obesity and cardiovascular disease motivated some healthcare professionals to adopt more physically active lifestyles themselves.¹⁵ Such experiences may increase awareness of the health consequences of physical inactivity and encourage healthcare professionals to incorporate physical activity into their own lifestyles.

In contrast, the same study reported that some healthcare professionals were overconfident that their medical knowledge would protect them from health problems. This overconfidence may have acted as a barrier to engaging in physical activity, potentially contributing to poorer physical activity practices despite adequate knowledge.¹⁵ There was a significant difference between staff category and physical activity practice ($p = 0.043$), with officers demonstrating higher practice scores than consultants. This difference may be related to variations in work responsibilities according to professional designation. As a teaching institution, Dhulikhel Hospital requires consultants to manage clinical responsibilities alongside teaching activities, while high patient flow may further constrain their available time. Such workload and time constraints may limit opportunities for regular physical activity and could partly explain the lower practice scores observed among consultants.^{15,16}

participants from the physiotherapy department demonstrated higher knowledge and more favorable attitudes and practice scores toward physical activity compared with those from the medical and dental departments, with a statistically significant difference in practice scores across departments ($p < 0.001$). This finding is consistent with a study conducted in Ghana, in which physiotherapists demonstrated high levels of knowledge (72%), attitude (84%), and practice (87%) related to health promotion. Their higher practice scores may reflect the integration of evidence-based practice into physiotherapists' professional roles, which routinely emphasize physical activity and health promotion.^{17,18}

Working experience was significantly associated with both attitude ($p = 0.015$) and physical activity practice ($p < 0.001$). This finding suggests that healthcare professionals with longer work experience may develop more positive attitudes and better physical activity practices over time. Experienced professionals are exposed to a wider range of

patients, clinical conditions, and work-related challenges throughout their careers. Such experiences may increase their awareness of the importance of physical activity and encourage them to incorporate health-promoting behaviors into their daily lives. In addition, continuous learning and repeated clinical exposure may strengthen their confidence and understanding of physical activity. Thus, greater professional experience may contribute to improved attitudes and practices toward physical activity among healthcare professionals.

Future studies should consider incorporating objective measures of physical fitness and anthropometric parameters, such as height, weight, and BMI, to provide baseline indicators of physical fitness and obesity status among healthcare professionals.

To bridge the knowledge practice gap, hospitals should introduce practical workplace interventions that encourage regular physical activity among healthcare professionals. These may include organized exercise sessions, access to exercise facilities, and health-promotion activities. Providing dedicated time for physical activity during work hours could help overcome time constraints, which may otherwise prevent healthcare professionals from being physically active. Creating a supportive workplace environment may further encourage healthcare professionals to adopt and maintain regular physical activity as part of their daily routine.

As a cross-sectional study conducted at a single tertiary care hospital, the findings may not be generalizable to

healthcare professionals in other settings and cannot establish causal relationships. Physical activity practices were self-reported, which may have introduced recall and social desirability bias. The study also did not include objective measures of physical activity, physical fitness, or anthropometric indicators such as BMI.

Additionally, factors such as workload, shift duties, and access to physical activity facilities were not comprehensively assessed.

CONCLUSION

The study examines the knowledge, attitudes, and practice of physical activity among health care professionals working at Dhulikhel hospital. It was found that healthcare professionals demonstrated high knowledge and positive attitudes toward physical activity, while their physical activity practices were comparatively lower. Physical activity practice was significantly associated with age, staff category, department, and years of work experience. These findings indicate a gap between knowledge and the translation of positive attitudes into regular physical activity. Despite recognizing the importance of physical activity, healthcare professionals may face workplace and time-related barriers to maintaining an active lifestyle. Strengthening workplace-based physical activity programs, providing opportunities for activity during working hours, and creating a supportive organizational environment may help improve physical activity practices among healthcare professionals.

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