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Determinants and level of knowledge, attitudes, and practice (KAP) towards physical activity among health care professionals in Fiji

Abstract

Introduction: Lack of physical activity is a key risk factor to developing Non-Communicable Diseases (NCD), Healthcare professionals are at risk of acquiring this disease as they are presumably occupied with work schedules and do not participate in PA frequently or for sufficient periods of time. This study aimed to determine the level and predictors of knowledge, attitude, and practice towards physical activity among the health care professionals.

Methods: A quantitative, cross-sectional study was carried out among 126 health care professionals in Suva Subdivision, Fiji healthcare facilities. Participants who met the study inclusion criteria were recruited through purposive sampling and were asked to fill out a validated questionnaire. Data was analyzed by a statistical software SPSS, and the $p<0.05$ were considered as the level of significance.

Results: More than two-thirds (73.8%) of the respondents were female and the majority (47.6%) (81.7%) were married. Most of the participants (54%) were nurses with some (27%) regularly practicing physical activity. Most of the participants (96.8%) presented a high level of knowledge of physical activity, additionally, all participants (100%) demonstrated a positive attitude towards physical activity, however, only Paramedics are 1.89 times more likely to have a good PA practice than other occupations ($p=0.03$) and those earned $501- $1000 fortnightly had 2 times lower chance of having a good PA practice (0.03) than other level of income. The results also revealed that age and occupation were significant predictors of knowledge whilst type of occupation and income were predictors of practice.

Conclusion: Although the majority of health care professionals had a high level of knowledge and positive attitude towards physical activity these were not translated into the practice of physical activity. Appropriate health promotion strategies need to be applied to increase the health care professional's physical activity practice.

Keywords: knowledge, attitude, practice, physical activities, health care professions, fiji

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Introduction

Physical activity (PA) is defined as any bodily movement that require energy expenditure produced by the skeletal muscles and includes exercise as well as other activities, which involve bodily movement including playing, working, active transportation, house chores, and recreational activities.[1,2] Lack of sufficient PA has been identified as the fourth leading risk factor for global mortality (6% of deaths globally),[3] and a contributing factor to developing in to non-communicable disease.[4] PA is fundamental to maintaining physical fitness and can contribute to maintaining healthy weight, regulating digestive health, building, and maintaining healthy bone, muscle strength, and joint mobility, and promoting physiological wellbeing.[1] PA increases life expectancy and the overall quality of life.[5] The trends in Fiji have shown that the population of overweight or obese individuals increased from 47.6% to 66.9% since 2002,[6,7] and this is significant to developing in to non-communicable disease. Overweight, obesity, and lack of physical activity are major risk factors for non-communicable diseases (NCDs) like cardiovascular disease and type 2 diabetes, and physical activity is crucial for preventing and managing these conditions.[8,9] With the ever-rising demands on the job within the health workforce, the healthcare professionals (HCPs) are presumably required to remain healthy due to the physical demands of their everyday jobs and everyday lives to keep them at a suitable level of physical fitness. However, due to the job demands the healthcare professionals are missing on attending to their health needs and have opted for sedentary lifestyles to relieve their work stress. Studies show that people do not participate in PA frequently or for sufficient periods of time.[10,11] This could be due to a variety of factors, including lack of time, lack of recreational resources, and motivation to do so. This study aims to determine the predictors of knowledge, attitude, and practice (KAP) towards physical activity among the HCPs in Suva, Fiji.

Methods

Study design

This research applied a quantitative cross-sectional study to determine the level of KAP amongst the healthcare workers in Suva, Fiji. The study was conducted in Suva subdivision in 7-healthcare settings, including Lami health, Suva health, Raiwaqa health, Samabula health, Nuffield health, Valelevu health and Makoi health care centers. A purposive sampling was used to recruit the study participants who were HCPs. A total of 126 HCPs, both males and females, of all ethnicities who voluntarily participated, by the researchers who recruited and interviewed them.

Data collection tools

A self-administered questionnaire with closed-ended questions were given to the study participants to fill in at their own time and pace and were collected three days after receiving it. The study tool (questionnaires) had undergone content validation and expert judgment for reliability and validity. This has enabled the tool to yield valid and reliable results. For content reliability and validity test, the tool was piloted on three health care professionals in a different healthcare facility who were not part of this study, and minor adjustment was made before it was used for the study. Whereas for expert judgement of the tool, it was reviewed by the supervisors who have expert knowledge and experience in the tool to ensure that the questions meets the aims and objectives of the study. By undergoing the validity and reliability test, the tool was refined to better suit the study.

Ethical consideration

The ethical consideration was sought from the College Human Health Research Ethics Committee (CHHEREC) of at Fiji National University (FNU), while the facility approval was sought from the Ministry of Health in Fiji. The Informed consent were collected from the study participants who voluntarily provided their consent by signing the consent forms. The collected data were kept in a protected laptop for safety and will be destroyed after 5 years, once the results are published. The participants were provided with information sheets about the study aims and the process and signed the consent form before taking part in the study.

Data management and analysis

The completed questionaries were collected after three days and were entered in the Excell spread sheets. The data was then imported into the Statistical Package for the Social Sciences (SPSS) 25 software for analysis. Both descriptive and inferential data analysis were conducted.

Results

The frequency and percentage of the respondent's demographic and socioeconomic status indicated that 73.8% of the survey respondents were female and 26.2% were male. With respect to age, the majority (47.6%) of the participants were between 33 and 42 years of age, whom 81.7% of them were married. Of all that participated, 25.2 % had no children. Over half the sample were from nursing profession (54%), with the greatest number of the respondents (27 %) who had under 5 years work experience. In terms of the socioeconomic status, the fortnightly income level of nearly half sample (46%) was between $500 and $1000 Fijian Dollars (FD) and nearly 20% fall in the highest income: above $2000 Fijian Dollar. Finally, looking into the religious connection, most of them (71.4%) belonged to Christian background and I- Taukei (67.5%) was the largest ethnicity group (Table 1).

Table 1 Frequency of participants based on their demographic characteristics (n-126)

Variables	Categories	N	Percentage
Gender	Male	33	26.2
	Female	93	73.8
Age	23- 32 years	47	37.30
	33 – 42 years	60	47.60
	43 – 59 years	19	15.10
Marital Status	Married	103	81.7
	Single	23	18.3
Number of children	No children	32	25.2
	1 - 6	51	40.4
	4 - 6	43	34.1
Occupation	Medical doctor	29	23.0
	Nurse	68	54.0
	Paramedic	8	6.3
	Other	21	16.7
Working experience (years)	0 – 5 years of experience	34	27.0
	6- 10 years	33	26.2
	11 – 15 years	28	22.2
	16 – 20 years	19	15.1
	21 years and more	12	9.5
Income (fortnightly)	Less Than $500	7	5.6
	$500 – $1000	58	46.0
	$1001 - $1500	17	13.5
	$1501 - $2,000	19	15.1
	Above $2001	25	19.8
Ethnicity	I-Taukei	85	67.5
	Fiji Indian Descent	36	28.6
	Others	5	4
Religion	Christian	90	71.4
	Other	36	28.6

Participants' knowledge towards PA

Table 2 shows the frequency of participant answers about their knowledge of PA and its benefits to their health. The findings indicate that most of the subjects (96.8%) knew the definition of PA, and the majority (98.4%) knew that PA is the best method to reduce weight. In this sample, 96.8% understood that PA can decrease obesity and chances of developing Type II diabetes, while 91.3% were aware that high blood pressure can be reduced by PA. The majority (90.5%) of respondents knew that performing PA only at weekends is not enough to achieve health benefits. 85.7% were aware that they needed at least 4-5 days a week to gain benefits to be and 87.3% knew that they need to engage in PA for at least 30 minutes a day while 86.5% believed doing PA daily is useful and it should be at least 30 minutes to 1 hour. Most of the respondents (89.7%) identified stretching as an aerobic exercise. The majority (92.9%) believed that a benefit of regular PA is to reduce the risk of a heart attack and manage the weight better. Most of them (95.2%) chose the correct answer when they were asked if increasing PA has the potential to improve health by significantly reducing prevalence of chronic disease and lifestyle disease. They knew (92.9%) that poor diets and low levels of PA can result in increasing non-communicable diseases (NCD) and obesity and 93.7% of them knew PA is to prevent and control NCDs such as diabetes and its complications. 96% were aware that PA can promote the rate of heartbeat and breathing and 82% knew that PA strengthens the heart and lung function. 87.3% believed endurance sports such as marathons may damage their bones and body, however, 96.8% of them knew the benefit of doing PA regularly.

The majority of participants (78.8%) strongly believed that a PA program needs to be included in the health care setting and 76.4% strongly believed that obesity is not an indicator of good health and 59% strongly believed that learning about the relationship between PA and health is important for their health.

Participants' attitude towards PA

Table 3 displays the result of the participants' attitude towards PA. Results revealed that the majority of the participants have a positive

attitude towards PA-related questions. The majority (67.7%) strongly believed that being physically active is fun and they (65.4%) feel comfortable to be physically active. All strongly agree or agree that doing PA is good for their health and most (81.1%) describe that they love to give PA high priority among other activities. The majority (75.6%) strongly believed they are interested in doing exercise today and in the future and 76.4% believed strongly that PA improves their physical health while 69.3% strongly believed that PA helps them to have more control over their eating behaviors. 64.6% believed that PA provides good opportunities to develop social contacts.

Table 2 Frequency response on knowledge-related questions (n=126)

Knowledge questions	Correct n (%)	I don't know n (%)	Incorrect n (%)
Physical activity is: Any body activity that enhances and maintains physical fitness and overall health and wellness.	122 (96.8)	2 (1.6)	2 (1.6)
Physical activity is the best method to reduce weight.	124 (98.4)	0 (0)	2 (1.6)
Physical activity can decrease obesity and the chances of developing Type II diabetes.	122(96.8)	3(2.4)	1(0.8)
High blood pressure can be reduced by physical activity.	115(91.3)	8(6.3)	3(2.4)
Performing physical activity only on weekends is not enough to achieve health benefits.	114(90.5)	7 (5.6)	5 (4.0)
Is 4-5 days a week the minimum number a person must be physically active in order to receive any health benefit?	108(85.7)	7(5.6)	11(8.7)
Is 30 minutes the minimum length of time one needs to be physically active throughout a typical day to achieve health benefit?	110(87.3)	3(2.4)	13(10.3)
Is "Stretching" an example of aerobic exercise?	113(89.7)	6(4.8)	7(5.6)
The benefit of regular physical activity is to reduce your risk of a heart attack and manage your weight better	117(92.9)	5(4.0)	4(3.2)
Increasing physical activity has the potential to improve: Health by significantly reducing the prevalence of chronic disease and lifestyle disease.	120(95.2)	2(1.6)	4(3.2)
One cause of this NCD epidemic is the rapid increase in obesity, which is largely due to: Poor diets and low levels of physical activity	121(96)	0(0)	5(4)
The implementation of Physical Activity is a: Preventative measure to the Prevention and Control of NCDs	117(92.9)	4(3.2)	5(4.0)
Regular physical activity helps you to control your diabetes and reduce developing into complications.	118(93.7)	5(4.0)	3(2.4)
Your heart rate or breathing increases when you do physical activity.	121(96.0)	1(0.8)	4(3.2)
A person should do physical activity every day to strengthen the heart and lungs.	101(80.2)	8(6.3)	17(13.5)
Performing physical activity for between 30 minutes to 1 hour is needed on each occasion to strengthen the heart and lungs.	109(86.5)	8(6.3)	9(7.1)
Endurance sports such as marathon running can sometimes cause fractures in bones and the body.	110(87.3)	3(2.4)	13(10.3)
Physical activity performed regularly is beneficial for a long time.	122(96.8)	2(1.6)	2(1.6)

Table 3 Frequency of respondents to attitude related questions of PA (n=126)

Statement	Completely agree	Agree	No idea	Disagree	Completely disagree
Being physically active is enjoyable	86 (67.7%)	38 (29.9%)	0 (0)	2 (1.6%)	.0 (0)
It feels comfortable doing physical activities	83 (65.4%)	40 (31.5%)	.0 (0)	3 (2.4%)	.0 (0)
I believe that doing physical activity frequently is good for my health	99 (78.0%)	27 (21.3%)	.0 (0)	.0 (0)	.0 (0)
I love to give physical activity high priority among other activities	103 (81.1%)	23 (18.1%)	.0 (0)	.0 (0)	.0 (0)
I am so interested in doing exercise today and in the future.	96 (75.6%)	29 (22.8%)	.0 (0)	1 (0.8%)	.0 (0)
Physical activity improves my physical health	97 (76.4%)	29 (22.8%)	.0 (0)	.0 (0)	.0 (0)
Physical activity provides good opportunities to develop social contacts	82 (64.6%)	39 (30.7%)	2 (1.6%)	3 (2.4%)	.0 (0)
Physical activity helps me to have more control over my eating behaviors	88 (69.3%)	33 (26.0%)	3 (2.4%)	2 (1.6%)	.0 (0)
I think physical activity needs to be included in the health care setting program	100 (78.7%)	22 (17.3%)	1 (0.8%)	1 (0.8%)	2 (1.6%)
Obesity is not an indicator of good health	97 (76.4%)	21 (16.5%)	2 (1.6%)	1 (0.8%)	5 (3.9%)
Learning about the relationship between physical activity and health is important for my health	75 (59.1%)	51 (40.2%)	.0 (0)	.0 (0)	.0 (0)

With regards to the attitudes towards PA, the participants were categorized as having "high level" of attitude the score between 38 to 55, and "medium level" of attitude if scored between 19 and 37, and "low level" of attitude with scores of 1 to 18. There were 8 items assessing the practice level, with 0- 8 classified as low level of practice and 9- 16 as high level of PA practice. Most (96.8%) of

the participants had a high level of knowledge and only 3.2% had moderate knowledge of PA. About attitude, all participants (100%) show a high level of attitude towards PA, whereas 95 % had good practice towards PA.

Participants' PA practice

Table 4 shows frequency of participants in terms of their PA practice. The results show that the majority of participants (81.7%) engage with PA and only 14.3% always do PA. A vast majority, 86.5% do PA 1-4 hours per week while only 4.8% do PA more than 4 hours per week. The results also revealed that 59.5% do PA for 6-30 minutes a day and 31% do it more than 30 minutes a day. Mild PA such as walking or going shopping 73.8% while only 3.2% reported engaging in intensive PA during their leisure time. The majority (79.4%) spend less than 3 hours per day watching TV or working on a computer and 20% spend more than 3 hours a day on these activities. Similarly, a majority (83.3%) watch TV or DVD for less than 3 hours per day when at home and only 17% spend more than 3 hours per day on these activities while 84.9% reported being on laptop computers at the weekends. 87.3% also reported spending less than 3 hours per day playing games or on mobile phone (Table 5).

Table 4 Frequency of participants based on PA practice (n=126)

Questions	Frequency	Percent (%)
How often do you do physical activity (for example: rugby, Soccer, netball, dancing, swimming…)?		
Never	5	4.0
Sometimes	103	81.7
Always	18	14.3
How many hours do you practice physical activity (for example: rugby, Soccer, netball, dancing, swimming…)?		
Never	11	8.7
1-4h/week	109	86.5
> 4 h/week	6	4.8
How long do you do physical activity (for example: rugby, Soccer, netball, dancing, swimming …)?		
< 5 min /day	12	9.5
6-30min /day	75	59.5
>30 min /day	39	31.0
What do you do during your free time?		
Sedentary activity (i.e. watching TV)	29	23.0
mild activity (i.e. shopping/ walking)	93	73.8
Intensive Activity (practicing a sport)	4	3.2
How many hours do you spend on the computer or watching TV per day (in weekdays)?		
<3 hrs.	100	79.4
3-5 hrs.	20	15.9
>6 hrs.	6	4.8
How many hours do you watch TV or DVD movies at home per day?		
<3 hrs.	105	83.3
3-5 hrs.	18	14.3
>6 hrs.	3	2.4

Table 4 Continued...

How many hours per day on weekends do you usually spend on the computer or laptop away from work?		
<3 hrs.	5	4.0
3-5 hrs.	14	11.1
>6 hrs.	107	84.9
How many hours per day do you usually spend playing video games on mobile phones, tablets etc.		
< 3 hrs./day	110	87.3
3-6 hrs./day	12	9.5
>6 hrs. /day	4	3.2

Table 5 Distribution of response by level of knowledge, attitude, and practice (n=126)

Variables	Frequency	Percentage
Knowledge Level		
High (25-36)	122	96.8
Medium (13-24)	4	3.2
Low (0-12)	0	0
Attitude Level		
High (38 – 55)	126	100
Medium (19 – 37)	0	0
Low (1 – 18)	0	0
Practice Level		
Good level of Practice (9 – 18)	120	95.5
Low level of Practice (0 – 8)	6	4.5

The correlation test and the regression analysis of predictors of KAP showed that the r and p value of the KAP scores of the participants with respect to PA. The r-value (0.049) demonstrates a positive relationship between knowledge and attitude. Similarly, the r-value (0.119) shows that there was a positive relationship between knowledge and practice. The r-value of (-0.002) infers that there was a less positive relationship between attitude and practice (Table 6).

Table 6 Relationship between knowledge, attitude and practice

Variables	frequency	r	p-value
Knowledge vs Attitude	126	.049	.585
Knowledge vs Practice	126	.119	.186
Attitude vs Practice	126	-0.002	.984

Mean of KAP towards PA

Table 7 displays the overall scores for the participant's KAP towards PA. The knowledge scores obtained from 18 questions, with a minimum score of 0 and maximum score of 36, present mean knowledge score of 33.65 (SD ± 3.272) showing high knowledge of participants about PA. The attitude score was created using a Likert scale from 11 questions with a minimum score of 11 and maximum score of 55, with mean score of 51.54 (SD ±2.175) demonstrating participants' high level of attitude (positive attitude) towards PA. The practice score consists of 8 questions with a minimum score of 0 and a maximum score of 16 showing mean practice score of 11.92 (SD ±2.639). This, however, demonstrate the participants' poor level of PA practice.

Table 7 Overall mean score of participant's knowledge, attitude, and practice

	n	Minimum	Maximum	Mean (± SD)
Knowledge	126	22	36	33.65 (± 3.272)
Attitude	126	42	55	51.54 (± 2.175)
Practice	126	4	16	11.92 (± 2.639)

Correlation test of PA and demographics variables

Table 8 presents the Mean and standard deviation (SD) of the participant's KAP for PA which demonstrates various demographics variables including gender, ethnicity, age, religion, marital status, number of children, type of occupation, income, and working experience. The results show that there was a strong correlation between knowledge and type of employment (p-<0. 0001), and income (0.001). Moreover, gender (p=0.01), type of occupation (p=0.01), and income (p=0.01) were correlated to the participants' PA practice. However, there was no correlation between participants' attitude towards PA.

Regression Tests on Knowledge and Independent Variables

Table 9 shows the predictors of knowledge based on independent variables using multiple linear regressions. The results revealed that age and type of occupation were significant predictors of overall knowledge scores. In terms of age, those who were 33-42 years old had a 1.96 times less likely maintaining high knowledge than those between 23 and 32 years (p=0.02). In terms of income, those in higher income ($1001 - $1500) were 7.8 times more likely to have a high level of knowledge than those with low level of income (p=0.001). All these independent variables (age, ethnicity, education, religion, and number of children) could predict 38.9% of overall knowledge scores (R^2= .616, adjusted R^2= .389) which is very low.

Table 8 Correlation of demographic characteristics with KAP

Variables		Knowledge			Attitude			Practice		
	N (%)	Mean	SD	P-Value	Mean	SD	P-Value	Mean	SD	P-Value
Gender				0.366			.839			.010
Male	33(26.2)	33.67	3.772		51.61	1.983		12.97	1.741	
Female	93(73.8)	33.65	3.099		51.52	2.249		11.82	2.317	
Ethnic				0.681			.480			.665
IT	85(67.5)	33.38	3.609		51.67	2.072		12.24	2.125	
FID	36(28.6)	34.11	2.470		51.36	2.392		11.83	2.478	
Others	5(4)	35.00	1.414		50.60	2.408		12.20	2.490	
Age in years										
23- 32	47(37.30)	33.64	3.053		51.45	2.611		11.96	2.536	
33 – 42	60(47.60)	33.75	3.368	0.310	51.52	1.891		12.47	1.818	
							0.215			0.132
43 – 59	19(15.10)	33.37	3.639		51.84	1.893		11.42	2.524	
Religion				<.320			.562			.366
Christian	90(71.4)	34.11	2.470		51.36	2.392		11.83	2.478	
other	36(28.6)	33.17	3.539		51.61	2.092		12.23	2.131	
Marital Status				0.099			.102			.104
Married	103(81.7)	33.81	3.239		51.69	2.063		12.27	1.986	
Single	23(18.3)	32.96	3.404		50.87	2.564		11.43	3.072	
Children				.609			.487			.451
0 (no children)	32(25.2)	33.34	3.479		51.41	2.461		11.72	2.581	
1 – 2	73(57.9	34.02	2.943		51.33	2.224		12.31	2.121	
3 – 6	21(16.6)	33.44	3.514		51.88	1.880		12.19	2.096	
Type of occupation				<0.0001			.932			.011
Doctor	29(23.0)	35.76	.830		51.66	1.392		12.55	1.325	
Nurse	68(54.0)	33.44	3.352		51.59	2.139		11.60	2.522	
Paramedic	8(6.3)	33.38	3.204		51.38	2.326		14.00	1.690	
Other	21(16.7)	31.52	3.655		51.29	2.648		12.48	1.914	
Income				0.001			.406			.011
Less Than $500	7(5.6)	27.29	4.645		50.86	4.259		13.86	1.574	
$500 – $1000	58(46.0)	33.45	3.033		51.52	2.045		11.45	2.436	
$1001 - $1500	17(13.5)	34.18	3.226		51.18	2.430		13.00	2.525	
$1501 - $2,000	19(15.1)	34.37	2.033		52.37	1.499		12.37	1.640	
Above $2001	25(19.8)	35.00	2.021		51.40	1.936		12.40	1.528	
Employment				0.504			.207			.909
0 – 5 years	34(27.0)	33.76	3.257		51.56	2.063		12.09	2.479	
6- 10 years	33(26.2)	33.21	3.689		50.82	2.744		12.18	1.928	
11 – 15 years	28(22.2)	34.39	2.233		51.89	1.792		12.32	2.019	
16 – 20 years	19(15.1)	34.00	3.266		51.79	2.200		11.68	2.237	
21+ years	12(9.5)	32.25	4.025		52.25	.866		12.25	2.958	

Distribution of responses by level of knowledge, attitude, and practice towards PA

Table 9 Multiple linear regression tests between knowledge and independent variables

Knowledge CI – 95%					
B		T	p-value	Lower and upper	
Constant	27.588	12.101	0.001	23.069	32.107
Gender					
Female	1	1	1	1	1
Male	-0.605	-.943	0.348	-1.878	.667

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Table 9Continued...

Age					
23 – 32 years	1	1	1	1	1
33 – 42years	-1.964	-2.279	0.025	-3.67	-.256
43 – 59years	-2.66	-2.089	0.39	-5.196	-.136
Ethnic					
IT	1	1			1
FID	-.230	-.362	.718	-1.488	1.029
Others	-.239	-.178	.859	-2.900	2.423
Marital Status					
Single	1	1	1	1	1
Married	0.354	0.367	0.715	-1.55	2.266
Number of children					
0	1	1	1		1
1-2	.875	.814	.417	-1.256	3.006
3-6	1.52	1.140	.257	-1.127	4.176
Type of occupation					
Nurse	1	1	1	1	1
Doctor	2.11	0.913	0.22	0.305	3.924
Paramedics	-0.525	1.149	0.649	-2.802	1.752
Income					
Under $ 500 (F/N)	1	1	1	1	1
$501- $1000	6.782	1.249	0.001	4.306	9.257
$1001 - $1500	7.507	1.435	0.001	4.662	10.352
$1501 - $2000	6.559	1.486	0.001	3.613	9.505
Above $2001	7.822	1.547	0.001	4.754	10.889
Working experience					
0-5 years	1	1	1	1	1
6 – 10 Years	-.243	-1.325	.746	-1.728	1.242
11 – 15 years	.829	.860	.392	-1.081	2.739
16 – 20 years	.966	.879	.381	-1.212	3.143
21+ years	-1.686	-1.317	.191	-4.226	.853

(r2= .616, adjusted r2= .389)

Regression tests on attitude and independent variables

Table 10 shows the predictor of attitude in terms of independent variables using multiple linear regression. The results revealed that there is no predictor of participants' attitude toward PA. All these independent variables (age, ethnicity, education, religion and Number of children) altogether could predict a 12.8% overall attitude by the scores (R^2= .616, adjusted R^2= .380) which is very low.

Table 10 Multiple linear regression tests on attitude

	Attitude CI – 95%				
	B	*T*	*p-value*	*Lower*	*Upper*
Constant	54.319	29.998	0.000	50.729	57.909
Gender					
Female	1	1	1	1	1
Male	-.528	-1.036	.303	-1.539	.483
Age					
23 – 32 years	1	1	1	1	1
33 – 42years	-.547	-.799	.426	-1.904	.810
43 – 59years	-.845	-.834	.406	-2.855	1.164
Ethnic					
IT	1	1	1	1	1
FID	-.120	-.239	.812	-1.120	.879
Others	-1.530	-1.435	.154	-3.644	.584
Marital Status					
Single	1	1	1	1	1
Married	-1.453	-1.897	.061	-2.972	.066
Number of children					
0	1	1	1	1	1
1-2	-.695	-.815	.417	-2.388	.997
3-6	-.366	-.345	.731	-2.472	1.739
Type of occupation					
Nurse	1	1	1	1	1
Doctor	.172	.237	.813	-1.265	1.609
Paramedics	-.320	-.351	.726	-2.129	1.488
Income					
Less than 500	1	1	1	1	1
F/N $501- $1000	.771	.777	1.439	-1.196	2.737
$1001 - $1500	.216	.189	.850	-2.044	2.476
$1501 - $2000	.929	.787	.433	-1.411	3.269
Above $2001	.227	.185	.854	-2.209	2.664
Working experience:					
0-5 years	1	1	1	1	1
6 – 10Years	-.6927	-1.054	.294	-1.806	.552
11 – 15 years	.675	.882	.380	-.842	2.192
16 – 20 years	.368	.421	.674	-1.362	2.097
21+ years	1.228	1.207	.230	-.789	3.245

(r2= .358, adjusted r2= .128)

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Regression Tests on Practice and Independent Variables

Table 11 shows predictors of PA practice in terms of the independent variables using multiple linear regressions. The results showed that type of occupation and income were predictors of overall practice. In terms of type of occupation, the results showed only Paramedics are 1.89 times more likely to have a good PA practice than other occupations (p=0.03). In terms of income, the results showed that those earned $501- $1000 fortnightly had 2 times lower chance of having a good PA practice (0.03) than those with the lowest income, under $500. All these independent variables (age, ethnicity, education, religion, and Number of children could predict 22.6 % of overall practice scores (R^2= .475, adjusted R^2= .226) which is very low.

Table 11 Multiple linear regression tests on practice

	Practice		CI – 95%		
	B	**T**	**p-value**	**Lower and upper**	
Constant	15.876	9.066	0.000	12.405	19.348
Gender					
Female	1	1	1	1	1
Male	-.778	-1.578	.118	-1.756	.765
Age					
23 – 32 years	1	1	1	1	1
33 – 42years	-.381	-.576	.566	-1.693	.931
43 – 59years	-1.600	-1.632	.106	-3.543	.344
Ethnic					
IT	1	1	1	1	1
FID	-.015	-.030	1.976	-.981	.952
Others	-.663	-.643	.522	-2.708	1.381
Marital Status					
Single	1	1	1	1	1
Married	-.704	-.950	.344	-2.173	.199
Number of children:					
0	1	1	1	1	1
1-2	.482	.583	.561	-1.155	2.118
3-6	.868	.845	.400	-1.168	2.905
Type of occupation:					
Nurse	1	1	1	1	1
Doctor	.281	.400	.690	-1.109	1.670
Paramedics	1.896	2.148	.034	.147	3.645
Income (F/N)					
Less than 500	1	1	1	1	1
$501- $1000	-2.001	-2.086	.039	-3.902	-.099
$1001 - $1500	-.922	-.836	.405	-3.107	1.264
$1501 - $2000	-1.294	-1.134	.260	-3.557	.969
Above $2001	-1.438	-1.209	.229	-3.794	.919

Table 11 Continued...

Working experience					
0-5 years	1	1	1	1	1
6 – 10 Years	-.313	-.544	.588	-1.453	.827
11 – 15 years	-.165	-.222	.824	-1.632	1.303
16 – 20 years	-1.093	-1.296	.198	-2.766	.579
21+ years	.148	.150	.881	-1.803	2.099

(r2= .475, adjusted r2= .226)

Discussion

Regular physical activity is proven to help prevent and manage non-communicable diseases (NCDs) such as heart disease, hypertension, stroke, diabetes and several cancers and helps to maintain a healthy body weight and can improve quality of life and well-being.[2,12] Therefore, lack of physical activity increases risk for noncommunicable diseases (NCDs) and other poor health outcomes. The recommendations detail the amount of physical activity (frequency, intensity and duration) required to offer significant health benefits and to reduce health risks.[13] The KAP findings of this study amongst healthcare professionals indicated that work and employment has a contributor to the level of physical activity.

Knowledge towards PA

This study revealed that HCPs has a high level of knowledge towards PA and its benefits towards the prevention of diseases, but their level of practice was low, and that their demographical characteristics determine their level of practice. This is similar to other studies that demographic characteristics that surrounds individuals affect their practice of PA.[14] This study also reveal that those with higher income level have less practice to PA. Similar findings showed that those with higher income level have more sedentary behaviour lifestyle.[15] This study revealed that knowledge of PA are determined by related factors, such as, employment and level of income that played a key role in the development and active lifestyles influencing participation in PA and the personal ability to perform this health behavior was the best predictor of PA among employees. The participant's level of knowledge towards PA was recoded high in these study participants, however it was affected by various demographic variables including age, gender, employment, marital status and number of that affected their level of KAP. It was demonstrated in this study that there was a strong correlation between knowledge and income with a p-value 0.001 and type of employment with p>0. 0001. On the same note, the results demonstrated that knowledge of benefits of PA amongst participants was very high, with 96.8% of participants showing a high level of knowledge while only 3.2 % had a moderate level of knowledge of PA. Studies have shown that understanding key aspects of PA guidelines, such as the benefits of moderate-intensity activity and the importance of regular physical activity, is linked to higher levels of physical activity.[16]

Attitudes towards PA

This study also showed that the HCPs has high level of positive attitude towards PA, recording a 100% level of attitude while the relationship of knowledge vs attitude r 0.049, p-value of >0.05 indicated that there is a significance relationship between the knowledge and attitudes with mean 51.54 and SD of 2.175. This is similar to other studies that indicate that those who are knowledgeable to the benefits to PA have a more positive attitude towards practice.[17,18] With a high percentage of the population remaining inactive, general practices are an ideal setting to advice on PA. However, there is a lack of evidence regarding practices, barriers and predictors of such promotion. The study was set out to establish general practices and to explore the experiences of doctors and nurses in promoting PA in their day-to-day professional lives, subsequently the promotion of PA was at least infrequent. However, in this study it indicated that work conditions were perceived as unfavorable, with the main barriers being lack of time, training and protocols.

Practice towards PA

This study revealed that only Paramedics are 1.89 times more likely to have a good PA practice than other occupations (p=0.03). In terms of income, the results showed that those earned $501- $1000 fortnightly had 2 times lower chance of having a good PA practice (0.03) than those with the lowest income, under $500. The relationship knowledge vs practice r 0.119 p-value 0.186 also indicated the minimal significant relationship between attitude vs practice r -0.002, p- value 0.984. This indicated that HCPs have a high level of attitude towards PA while their level of practice was affected. Similar studies also portray this findings that healthcare professionals has very high knowledge of the benefits of physical activity in preventing and managing Non-Communicable Diseases (NCDs), and it is essential in promoting and practicing it, but the encounter barriers such as lack of time.[19,20] Making PA environments accessible can encourage individuals to be physically active. Environments designed to support daily activities, such as parks, sidewalks, workplaces, playgrounds, and private recreation facilities.[20,21] According to the KAP model, being aware of knowledge can help change related attitudes and lead to the corresponding behavior modification.[22] This model has been supported by previous health behavior-related studies, in topics such as smoking eating and weight control.[23,24] Our study provided further evidence of this model in this context of better KAP leading to better PA engagement. There are very few population-based surveys that have explored the relationship between KAP and PA.[25,26] In contrast with these studies, the nature of our study design allowed us to examine the relationship between changes in KAP and PA engagement, adding a stronger and more robust layer of evidence to this research topic. Some literature shows that knowledge attitudes and practice towards PA benefits may be one of the factors affecting PA participation.[27–29] indicating opposite results appeared to utilize different ages or different socioeconomic populations as compared to this study.[11,30] In the future, the results of this study could help in improving on the current or existing interventions to promote PA among HCP's. Thus, the study sheds light on the fact that individuals who are knowledgeable about PA did not appear to be applying this knowledge in their day-to-day activities meaning those motivated to PA were not necessarily physically active.

Study limitations

This study had some limitations, for instance, the participants, HCPs, were highly educated and knowledgeable about PA. Moreover, Data collected from this questionnaire about PA level has demonstrated validity and reliability, yet a self-administered questionnaire may be biased because it was subjectively reported and not objectively measured. Moreover, the data was self-reported, which subject to social desirability and recall bias.[31] Additionally, the respondents were HCP's, and the questions could have been answered following discussions amongst colleagues and not individually. Future research should explore potential influence of knowledge on PA engagement and any extrapolation of the findings should be prudent as that a positive relationship between KAP and improvement of PA engagement to be examined from another non-medical profession.

Conclusion

The study concludes that HCPs have high level of knowledge and positive attitude towards PA and demonstrating their awareness of the importance of PA and they have also positive attitude toward the importance of PA for quality of life and well-being and they also knew that participation in PA may help to look better, improve good posture and also relief from different stressors of life. It is recommended that interventional programs help to promote positive attitude towards participation in sports, recreational or leisure time physical activities amongst the HCP's. The knowledge of the sampled HPs about PA appears very high with a positive attitude. Hence, it is evident that to promote PA it is important to incorporate activities that are of interest to this population. In addition, it is necessary to create environments that are conducive to PA, and which make PA an interesting and pleasant experience. Depending upon exposure to PA and the access individuals have to the various PA facilities, one might expect that most of the population would have fewer reasons not to attend PA Despite this fact a well-recognized benefit of PA, most HCPs are physically inactive. Some of the major factors affecting PA participation include motivation to attend to PA, barriers to PA and time to PA. Therefore, strategies should be developed within public health. The findings of this review need to be confirmed by well-designed large studies that employ validated measures of PA and PA-promoting practices and involve multivariate analyses to identify the relative contribution of personal PA levels to PA-promoting practices.

These findings have relevance for researchers, public health practitioners, and health care professionals who are involved in health promotion, policy making, and commissioning services. KAP awareness can lead to positive behavior modification regarding PA among all populations. It suggested that health education and knowledge dissemination are important in PA promotion campaigns among HCP's and the people of Fiji. Future research should explore potential influence of knowledge on PA engagement and further consider sustainable knowledge education program of PA to the nation for the wider areas of concern.

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Conflicts of interest

The authors declares that there are no conflicts of interest.

References

1. World Health Organization. *Physical Activity Fact Sheet*. 2021.
2. World Health Organization. *Physical Activity*. 2018.
3. World Health Organization. *Physical Activity*. Geneva, Switzerland: World Health Organization; 2021.
4. Riley L, Guthold R, Cowan M, et al. The World Health Organization STEPwise approach to noncommunicable disease risk-factor surveillance: methods, challenges, and opportunities. *Am J Public Health*. 2016;106(1):74–78.
5. McDowell N, McKenna J, Naylor P. Factors that influence practice nurses to promote physical activity. *Br J Sports Med*. 1997;31(4):308–313.
6. Snowdon W, Tukana I. *Fiji–NCD Risk Factors STEPS Report 2011*. Ministry of Health and Medical Services of Fiji; 2011.
7. *Fiji NCD Risk Factors STEPS Report 2011*. Geneva, Switzerland: World Health Organization; 2011:1–98.
8. Mittal M, Gupta V, Kaur J, et al. Physical inactivity and obesity-a global burden. *Perspect Recent Adv Med Res*. 2022;1:77–83.
9. Lee IM, Shiroma EJ, Lobelo F, et al. Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet*. 2012;380(9838):219–229.
10. Safi A, Cole M, Kelly AL, et al. Workplace physical activity barriers and facilitators: a qualitative study based on employees' physical activity levels. *Int J Environ Res Public Health*. 2022;19(15):9442.
11. Humpel N, Owen N, Leslie E. Environmental factors associated with adults' participation in physical activity: a review. *Am J Prev Med*. 2002;22(3):188–199.
12. Van der Ploeg HP, Bull FC. Invest in physical activity to protect and promote health: the 2020 WHO guidelines on physical activity and sedentary behaviour. *Int J Behav Nutr Phys Act*. 2020;17(1):145.
13. Bull FC, Al Ansari SS, Biddle S, et al. World Health Organization 2020 guidelines on physical activity and sedentary behaviour. *Br J Sports Med*. 2020;54(24):1451–1462.
14. Bauman AE, Reis RS, Sallis JF, et al. Correlates of physical activity: why are some people physically active and others not? *Lancet*. 2012;380(9838):258–271.
15. O'Donoghue G, Perchoux C, Mensah K, et al. A systematic review of correlates of sedentary behaviour in adults aged 18-65 years: a socio-ecological approach. *BMC Public Health*. 2016;16:1–25.
16. Sahlqvist S, Rees B, Hoffmann S, et al. Physical activity knowledge, attitudes and behaviours of pre-clinical medical students attending an Australian university. *BMC Med Educ*. 2022;22(1):642.
17. Kandasamy G, Almanasef M, Almeleebia T, et al. Knowledge, attitude and practice towards physical activity among healthcare students at a public university in Saudi Arabia. *Front Public Health*. 2024;12:1428165.
18. Mwimo JL, Somoka S, Leyaro BJ, et al. Knowledge, attitude and practice of physical activity among patients with diabetes in Kilimanjaro region, Northern Tanzania: a descriptive cross-sectional study. *BMJ Open*. 2021;11(9):e046841.
19. Albert FA, Crowe MJ, Malau Aduli AEO, et al. Physical activity promotion: a systematic review of the perceptions of healthcare professionals. *Int J Environ Res Public Health*. 2020;17(12):4358.
20. Silva CS, Mendes R, Godinho C, et al. Predictors of physical activity promotion in clinical practice: a cross-sectional study among medical doctors. *BMC Med Educ*. 2022;22(1):624.
21. Fie S, Norman IJ, While AE. The relationship between physicians' and nurses' personal physical activity habits and their health-promotion practice: a systematic review. *Health Educ J*. 2013;72(1):102–119.
22. Hagger MS, Chatzisarantis NL. An integrated behavior change model for physical activity. *Exerc Sport Sci Rev*. 2014;42(2):62–69.
23. Meurer ST, Borges LJ, Gerage AM, et al. Promotion of physical activities and healthy eating habits in primary care: maintenance of benefits. *Rev Nutr*. 2020;33:e190120.

24. Ramirez Varela A, Hallal P, Pratt M, et al. *Global Observatory for Physical Activity (GoPA!): 2nd Physical Activity Almanac*. Global Observatory for Physical Activity; 2021.

25. Cantwell M, Walsh D, Furlong B, et al. Healthcare professionals' knowledge and practice of physical activity promotion in cancer care: challenges and solutions. *Eur J Cancer Care*. 2018;27(2):e12795.

26. Barrett EM, Darker CD, Hussey J. Promotion of physical activity in primary care: knowledge and practice of general practitioners and physiotherapists. *J Public Health (Oxf)*. 2013;21:63–69.

27. Koeneman MA, Verheijden MW, Chinapaw MJ, et al. Determinants of physical activity and exercise in healthy older adults: a systematic review. *Int J Behav Nutr Phys Act*. 2011;8:142.

28. Huijg JM, van der Zouwe N, Crone MR, et al. Factors influencing the introduction of physical activity interventions in primary health care: a qualitative study. *Int J Behav Med*. 2015;22(3):404–414.

29. Poobalan AS, Aucott LS, Clarke A, et al. Physical activity attitudes, intentions and behaviour among 18-25 year olds: a mixed-method study. *BMC Public Health*. 2012;12:640.

30. Bauman A, Phongsavan P, Schoeppe S, et al. Physical activity measurement: a primer for health promotion. *Promot Educ*. 2006;13(2):92–103.

31. Reilly JJ, Penpraze V, Hislop J, et al. Objective measurement of physical activity and sedentary behaviour: review with new data. *Arch Dis Child*. 2008;93(7):614–619.

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