

Physical Activity Among Students of Unani and Ayurvedic Medical College during COVID-19 Pandemic

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ABSTRACT

Background: Physical inactivity is an established risk factor for non-communicable diseases (NCDs) and has been identified as a major public health concern worldwide specially during COVID-19 pandemic.

Methodology: A cross-sectional study was conducted from January to December 2020 to assess the physical activity of unani and ayurvedic medical college students during the covid-19 pandemic in Mirpur-13, Dhaka. Physical activity was measured using the Global Physical Activity Questionnaire. 131 medical students were selected purposively, and interviewed with a pre-tested semi-structured questionnaire. A face-to-face interview was conducted to collect data.

Result: Among the 131 students, 9.9% did not achieve the WHO-recommended MET minutes per week. 48.6% of students were engaged in a moderate level, and 42% achieved a high level of physical activity. Among the 13 students who didn't achieve the recommended MET scores, only 4 were males and 9 were females. Major contributions to total physical activity from work 43% (male 24.47%, female 66.56%) and transport activity 26.14% (male 36.07%, female 14.41%) domains. Leisure-time physical activity represented 30% (male 39.46%, female 19.03%). There was a significant association between the level of recreational MET min/week and gender ($p < 0.000$), with males being more active. Average MET scores attained by males and females in the 3 domains of physical activity showed significant differences highlighting the need to promote more activities among females. No significant differences were found between physical activity, academic year, and family income. The average time spent sitting was around 8 hours per day (males 7 hours, 9 hours). 18% of male students were smokers. Among total respondents 25.2% were co-morbid. Among them, 10% of female students had thyroid problems.

Conclusion: We recommend that there is a need to promote physical activity and reduce sedentary behavior among medical students, particularly among female students.

INTRODUCTION

Globally, insufficient physical activity is one of the major risk factors for death and it is considered as the fourth leading cause of mortality, which contributes to approximately 3.2 million deaths each year [1]. The risk for chronic and non-communicable disease increases with insufficient physical activity. There is an increased risk of developing type II diabetes mellitus, hypertension, carcinoma, and mental health issues [2]. Insufficient physical activity can be compared with tobacco, alcohol consumption, and obesity as a cause of reduced life expectancy [3]. According to WHO statistics, 23% of adults more than 18 years of age and 81% of adolescents in the age group of 11-17 years were insufficiently active [4]. As physical inactivity increases the non-communicable disease burden of the community, WHO has set up a global target of 10% relative reduction in the prevalence of insufficient physical activity by the year 2025 [5]. Currently, there is a recommendation of engaging in minimum 150 minutes of moderate-intensity aerobic activity or 75 minutes of vigorous-intensity physical activity per week for adults to improve cardiorespiratory and muscle fitness [6]. Particularly among university students it is a common and noteworthy issue [7]. Obesity has increased substantially worldwide, between 1980 and 2013, the prevalence of overweight/obese children and adolescents increased by nearly 50% in 2013, more than 22% of and nearly 24% of boys living in developed countries were found to be overweight or obese. The COVID-19 pandemic led to the population being confined to their homes [8]. However, during the pandemic, an overall negative effect on physical activity intensity was observed, as well as a rise in the consumption of less healthy food and a 28.6% increase in sedentary behavior. A reduction in physical activity was also observed in university students [9], along with increased levels of anxiety among 18-34-year-olds [10]. Also, the usage of gadgets like smartphones and computers reduces the quality time which results in physical inactivity.¹¹ So future doctors should be physically active themselves to promote physical activity and to educate the population about the risks associated with physical inactivity.^{12,13} In this study, we aimed to analyze the physical activity university students did before and during lockdown.

MATERIALS AND METHODS

Study type: This study was a descriptive type of cross-sectional study.

Study population: The study population was students of Unani and Ayurvedic Medical College, Mirpur 13, Dhaka.

Place of study: This study was conducted at Unani and Ayurvedic Medical College, Mirpur-13, Dhaka.

Study period: The study period was twelve months from January 2020 to December 2020. Sampling technique: Respondents were selected purposively

Inclusion criteria:

1. Students of Unani and Ayurvedic Medical College.
2. Willing to participate in the study.

Exclusion Criteria:

1. Unwilling to participate in this study.
2. Severely ill.

Sample Size: The following formula was used to calculate the sample size:

$$N = z^2 pq / d^2$$

Here, $p = 0.873$ (taking prevalence 87.3%)¹⁵, $q = 1 - p$, or, $q = 0.127$. At 95% confidence interval, $z = 1.96$ with standard error, $d = 0.05$ was to be desired in this study. Hence, the sample size was: $n = 1.96^2 \times 0.873 \times 0.127 / .05^2 = 170.368 \approx 170$.

Data Collection Instrument: A semi-structured questionnaire was prepared in English, translated into Bangla, and rechecked before data collection. Based on the pretesting findings, the questionnaire was pretested and finalized after necessary modifications.

Data Collection Technique: Data collection involves permission from authorized respondents, a detailed explanation of the study purpose, verbal consent, face-to-face interviews, and research instruments to ensure privacy and confidentiality.

Methods of data analysis: The study analyzed data collected from respondents using SPSS version 22 statistical software for Windows. Results were presented in tables and graphs, with mean and standard deviations for continuous variables and frequency distributions for categorical variables. Monthly family income and educational level were assessed using chi-square tests.

Ethical Implications

The study, conducted under the Institutional Review Board of NIPSOM, aimed to protect the human rights of all subjects. Data collection was done through a questionnaire without any intervention or invasive procedures. Participants were informed about their right to participate or refuse, and the information collected would be used for public health purposes. The study did not involve any physical, mental, or social risks, and their participation was acknowledged with respect.

RESULTS

The study, conducted at Unani and Ayurvedic Medical College in Mirpur -13, Dhaka, examined the frequency and percentage of various health issues.

Table 1: Distribution of the respondents by their age (n = 131).

Age (years)	Frequency (f)	Percentage (%)	Mean \pm SD (Min-Max)
18	1	0.8	
19	5	3.9	
20	20	15.3	
21	17	13	22.47 \pm 1.878
22	25	19.1	Min = 18 year
23	20	15.3	Max = 26 year
24	21	16	
25	19	14.5	
26	4	3.1	

Table 1 shows that respondents were between the age of 18 to 26 years. Most of the respondents 25 (19.1%) were in the age of 22 years with the next majority 21 (16%) within 24 years. 20(15.3%) were in the same percentage age 23 years and 20 years. The mean age of respondents was 22.47 years with SD \pm 1.878.

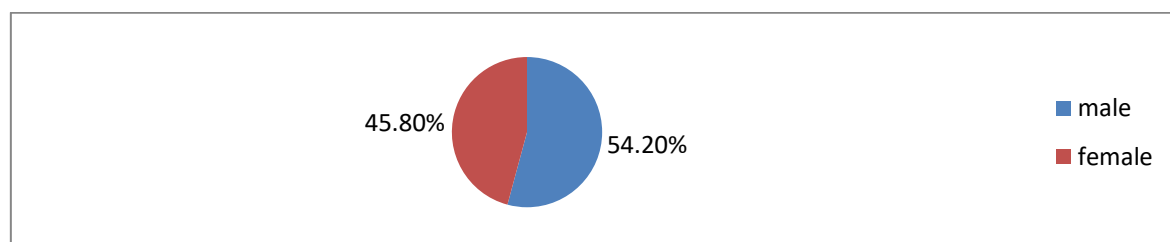


Figure 1: Distribution of the respondents according to their Sex (n=131)

Figure 1 shows that out of the sample of 131 respondents, 71 representing 54.20% were male and 60 respondents representing 45.80% were female as presented.

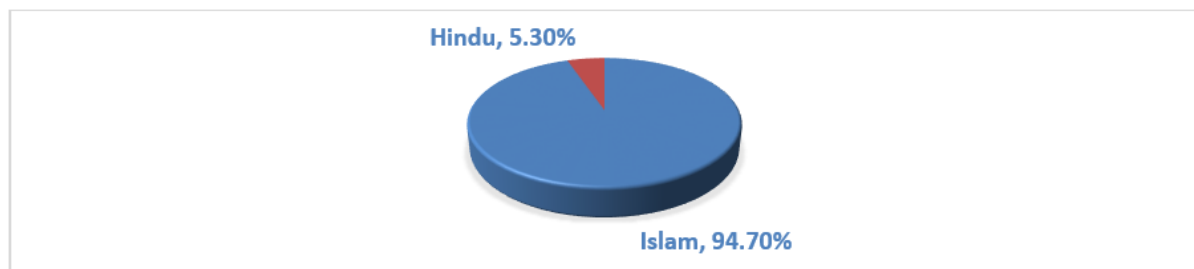


Figure 2: Distribution of the respondents by religious status (n=131)

Figure 2 shows that the majority of the respondents 124 (94.70%) out of 131 respondents were Muslims only a very few 7 (5.30%) were Hindus by religious status.

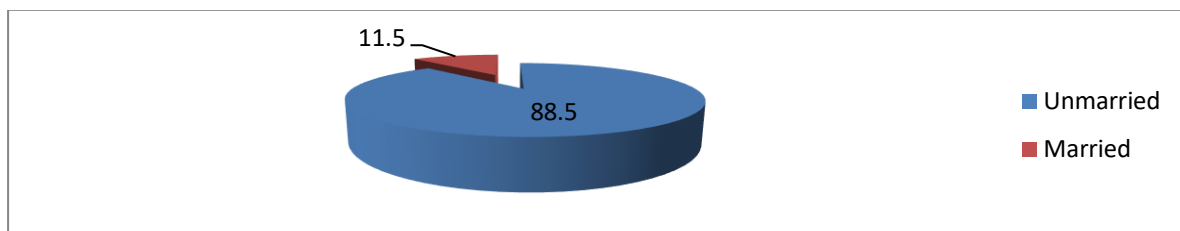


Figure 3: Distribution of the respondents by marital status (n=131)

Figure 3 shows that the majority of the respondents 116 (88.5%) out of 131 respondents were Unmarried and 15 (11.5%) were Married by marital status.

Table 2: Distribution of the respondents by academic year status (n=131).

Academic year	Frequency	Percentage
1st year	25	19.1
2nd years	18	13.7
3rd years	21	16
4th years	17	13
5th years	50	38.2

Table 2 shows that respondents were between the Academic years from 1st year to 5th year. Most of the respondents 50 (38.2%) were in the 5th year with the next majority 25(19.1%) within the 1st year. 21(16%) were in the 3rd years. 18(13.7%) respondents were in the 2nd year and 17 (13%) respondents were in the 4th year.

Table 3: Distribution of the respondent mother's occupational status (n=131).

Mother's occupation	Frequency (f)	Percentage (%)
Housewife	114	87
Service	14	10.7
Businessmen	3	2.3

Table 3 shows that the maximum number of respondents' mothers 114 (87%) were housewives, followed by only 3 (2.3%) who were Businessmen. 14 (10.7%) were job holders.

Figure 4: Distribution of the respondent's father's occupational status (n=131) Figure 4 shows that the maximum number of respondents 43 (32.8%) were Services, followed by only 2 (1.5%) who were Unemployed. 41 (31.3%) were professional businessmen and 8 (6.1%) were retired. There are 28 (21.4%) of respondents were farmers. 9 (6.9%) of the respondents were involved in other occupations.

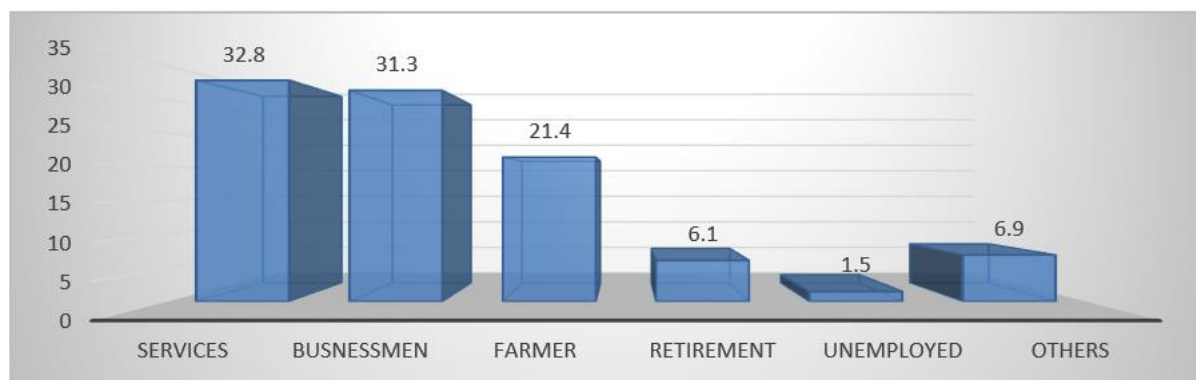


Figure 5: Distribution of the respondents by types of houses (n=131)

Figure 5 shows that 2 (1.5%) of the respondents' houses were made of soil, and 78 (59.5%) of the respondents' houses were made of buildings, which was the maximum value for the total respondents. There 29 (22.1%) of the respondents' houses were semi-pucca and the remaining 22 (16.8%) of the respondents' houses were tin sheds.

Table 4: Distribution of the respondents by sociodemographic feature (n=131)

Sociodemographic feature	Frequency (f)	Percentage (%)
Type of family		
Nuclear family	99	75.6
Joint family	31	23.6
Extended family	1	0.8
Drinking water source		
Supply water	54	41.2
Tube well water	77	58.8
Monthly family income		
≤ 20000	55	42
20001 - 40000	47	35.9
40001 - 70000	22	16.8
> 70000	7	5.3

Table 4 indicates the maximum number of respondents' family structure was a nuclear family was 99 (75.5%), 31 (23.7%) came from a joint family and 1(.8) were from an extended family.

77 people (58.8%) among the 131 respondents used tube well water for their daily use and drinking, while 54 people (41.2%) used supply water for drinking. the majority of the respondents 55 (42%) had a total monthly family income of up to 20000 taka, 47 (35.9) had a monthly family income between 20001 - 40000 taka, 22 (16.8) had a monthly family income between 40001-70000 taka, 7 (5.3%) had monthly family income above 70000 takas. The mean family income of the respondents was 32488.55 taka, and SD ± 25874.064 taka.

Table 5: Distribution of characteristics related to personal habit.

Personal Habit	Frequency (f)	Percentage (%)
Habit of tobacco (n = 131)		
Yes	15	11.5
No	116	88.5
Types of tobacco (n = 15)		
Smoking	13	86.66
Smokeless	2	13.33
Both	0	0

Table 5 shows the distribution of the respondents by habit of consuming tobacco. 15 (11.5%) respondents have a short-term (1-3) habit of tobacco, and 116 respondents said that they are not using tobacco. 13 respondents smoked tobacco, which was 86.66%, and 2 were using smokeless tobacco, which was 13.33%. No respondent mentioned using both tobaccos.

Table 6: Distribution of respondents by the Co-morbidity of the respondents with sex.

Co-morbidities	Male		Female		Total	
	f	%	f	%	f	%
Presence of Co-morbidity (n = 131)						
Yes	17	24	16	27	33	25
No	54	76	44	73	98	75
Types of co-morbidities (n = 17) (multiple responses received)						
Asthma						
PUD	5	7	1	1.7	6	4.6
RA	1	1.4	2	3.3	3	2.3
Skin disease	2	2.8	0	0	2	1.5
Thyroid	3	4.2	3	5	6	4.6
Eye	0	0	6	10	6	4.6
	9	13	7	12	16	12

Table 6 shows us the distribution of the total respondents 33 (25.2%) were co-morbidity and 98 (74.4%) respondents free from co-morbidity. 17 (23.9%) were co-morbidity of the male respondents and 16 (26.7%) were co-morbidity of the female respondents. The number of students suffering from asthma was 6 (4.6%), from PUD was 3 (2.3%), from RA was 2 (1.5%), from skin disease was 6 (4.6%), thyroid problems was 6 (4.6%), and eye problems was 16 (12.2%).

Table 7: Distribution of percentage of the respondents not meeting WHO recommendations on physical activity for health (MET-minutes per week is <600), (n = 131).

Not meeting WHO recommendations on physical activity for health	Male	Female	Total
	f (%)	f (%)	f (%)
No	4 (5.6%)	9 (15%)	13 (9.9%)
Yes	67 (94.4%)	51 (85%)	118 (90.1%)

Table 7 shows that of respondents based on overall physical activity, 118 (90.1%) were meeting WHO recommendations on physical activity for health and only 13 (9.9%) were not meeting WHO recommendations on physical activity for health.

Table 8: Distribution of Mean time of total physical activity on average per day (n=131).

Total physical activity min/day	Male	Female	Total
Mean	112.64	94.21	104.2
Std. Deviation	82.26	87.18	84.71

Table 8 shows the mean total physical activity on average per day of the respondents: 104.2, SD \pm 84.71. In it, the male respondents had a mean of 112.64, SD \pm 82.26, and the female respondents had a mean of 94.21, SD \pm 87.18.

Table 9: Distribution of percentage of respondents physical activity (n=131).

Physical activity	Male		Female		Total	
	f	%	f	%	f	%
Work-related physical activity						
No	22	31	5	8.5	27	20.6
Yes	49	79	55	92	104	79.4
Travel-related activity						
No	4	5.6	42	70	46	35.1
Yes	67	94.4	18	30	85	64.9
Recreational-related activity						
No	14	19.7	24	40	38	29
Yes	57	80.3	36	60	93	71

Table 9 shows that 27 (20.6%) respondents didn't have a work-related activity. Among them male 22 (31%) and only females 5 (8.5%) didn't the work-related activities. 46 (35.1%) of the respondents didn't have travel-related activities, among them 42 (70%) were females, and 4 (5.6%) were male respondents. 38(29%) of the respondents didn't have recreation-related activities, 24(40%) of the female respondents didn't the recreation-related activities, and 14(19.71%) of the male respondents didn't the recreational activities.

Table 10: Distribution of the respondents who achieved WHO recommended level of recreational/leisure time activity MET-minutes/week (>600 MET) (n=131).

WHO recommendations on recreational activity for health	Frequency (f)	Percentage (%)
No	65	49.6
Yes	66	50.4

Table 10 shows that out of 131 respondents, 65 (49.6%) of them did not achieve the WHO recommended level of recreational activity MET-minutes/week, and 66(50.4%) of them achieved the WHO recommended level of recreational activity MET-minutes/week.

Table 11: Distribution of physical activity (vigorous and moderate) among participants (n = 131).

Variable (min/week)			Frequency (f)	Percentage (%)
Physical activity work	Vigorous	Yes	14	10.7
		No	117	89.3
	Moderate	Yes	103	78.6
		No	28	21.4
Recreational activity	Vigorous	Yes	59	45
		No	72	55
	Moderate	Yes	76	58
		No	55	42

Table 11 shows us the distribution of physical activity of vigorous did not 117 (89.3%) and only 14 (10%), Majority of the respondents 103 (78.6%) did moderate physical activity only did not 28 (21.4). On the other hand, recreational vigorous activity did 59 (45%) and did not 72 (55%) and moderate recreational activity did 76 (58%) and did not 55 (42%).

Table 12: Distribution of the respondent's categorical risk indicator of physical activity MET-min/week with sex (n = 131).

Sex	Category indicator					
	Low risk		Moderate risk		High risk	
	(>3000 MET min/week)		600-3000 MET min/week)		(<600 MET min/week)	
	f	%	Frequency	%	Frequency	%
Male	37	52.1	30	42.3	4	5.6
Female	18	30	33	55	9	15
Total	55	42	63	48.1	13	9.9

Table 12 shows the categorical risk indicator for sex. The three levels of physical activity for sex are low, moderate, and high. Of the 131 respondents in the high-risk group, 4 (5.6%) were male, and 9 (15%) were female respondents in the moderate-risk group 30 (42.3%) were in the male and 33 (55%) were in the female respondents. As low as 37(52%) were male respondents and 18 (30%) were female respondents.

Table 13: Distribution of respondents' average activities minutes per day (n=131).

Activities minutes per day	Frequency (f)	Percentage (%)
Duration of work activities minutes/day		
> 10 minutes	40	30.6
10 - 19 minutes	21	16
20 - 29 minutes	7	5.3
< 29 minutes	63	48.1
Duration of transport activities minutes/day		
>10 minutes	63	48.1
10-19 minutes	22	16.8
20-29 minutes	14	10.7
<29 minutes	32	24.4
Duration of recreation activities minutes/day		
>10 minutes	49	37.4
10-19 minutes	19	14.5
20-29 minutes	12	9.2
< 29 minutes	51	38.9

Table 13 shows the work-related activity level calculated activity of the last 7 days, performed by the respondents. It was found that only 63 (48.1%) of the respondents were active for ≥ 30 minutes every day of the week 7 (5.3%) respondents were active for 20-29 minutes every day of the week. 21 (16%) of the respondents were active for 10-19 minutes and 40 (30.6%) of the respondents were active below 10 minutes. It was found that only 32 (24.4%) of the respondents were active for ≥ 30 minutes every day of the week. 14 (10.7%) of the respondents were active for 20-29 minutes every day of the week. 22 (16.8%) of the respondents were active for 10-19 minutes and 63 (48%) of the respondents were active below 10 minutes. It was found that only 51 (38.9%) of the respondents were active for ≥ 30 minutes every day of the week. 12 (9.2%) of the respondents were active for 20-29 minutes

every day of the week. 19 (14.5%) of the respondents were active for 10-19 minutes and 49 (37.4%) of the respondents were active below 10 minutes.

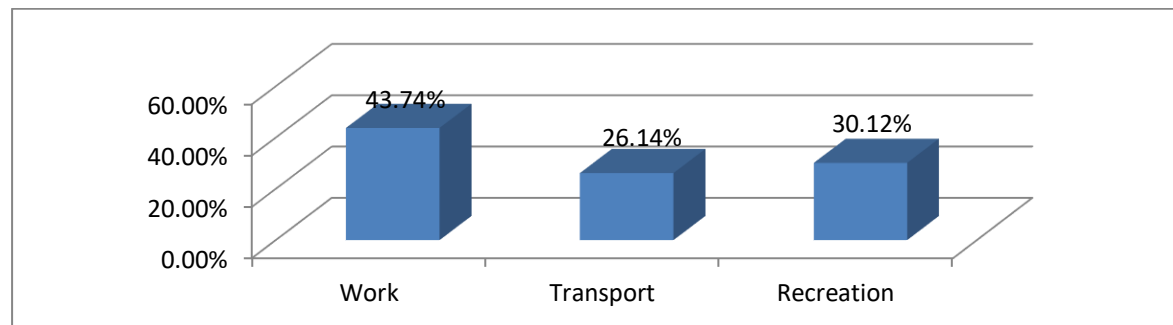


Figure 6: Distribution of composition of total physical activity on average per day that comes from work, transport, and recreation-related activity (n =131).

Figure 6 showed that the composition of physical activity at 43.74% work and 26.14% transport domains were the main contributors to total physical activity among study populations. Recreation or leisure time activity contributes only 30%.

Table 14: Distribution of Mean time of total sitting activity on average per day with sex (n=131).

Total sitting activity min/day	Male	Female	Total
Mean	430.1	556.5	488
Std. Deviation	155.8	172.16	174.7

Table 14 shows, the mean time of total sitting activity on average per day of the respondents mean=488.02, SD \pm 174.68. In it male were mean =430.14, SD \pm 155.79 and female respondents mean were 556.50, SD \pm 172.16.

Table 15: Distribution of the respondents by time spent in sitting activities every day of a week with sex (n=131).

Setting time activities	Male	Female	Total
	f (%)	f (%)	f (%)
< 360 minutes/< 6 hrs	26 (36.6%)	11 (18.3%)	37 (28.2%)
360-540 minutes/6-9 hrs	30 (42.3%)	17 (28.3%)	47 (35.9%)
>540 minutes/> 9 hrs	15 (21.1%)	32 (53.3%)	47 (35.9%)

Table 15 shows 47 (35.9%) respondents performed sedentary activities for more than 9 hours while 47 (35.9%) were passed in sedentary activities between 6 to 9 hours and the remainder of the respondents spent time in sedentary activities for less than 6 hours.

Table 16: Distribution of the respondent's physical activities practiced (n=131)

Name of activities (multiple responses recorded)	Male		Female		Total	
	f	%	f	%	f	%
Playing in the fields	46	64.8	4	6.7	50	38.2
Swimming	13	18.3	1	1.7	14	10.7
Running/jogging	35	49.3	6	10	41	31.3
Jumping rope	23	32.4	12	20	35	26.7
Yoga	11	15.5	11	18.3	22	16.8
Gym	10	14.3	2	3.3	12	9.2
Bicycling	33	46.5	0	0	33	25.2
Brisk walk	57	80.3	31	51.7	88	67.2

Gardening	29	40.8	12	20	41	31.3
Household chores	44	62	54	90	98	74.8
Dancing	2	2.8	6	10	8	6.1
Fishing	10	14.1	0	0	10	7.6
Harvesting marketing food/crops	31	43.7	1	1.7	32	24.4

Table 16 shows respondents 64.8% of the male respondents played in the field and only 6.7% of females did it. Most of the female respondents 98% practiced household chores whereas the male was 62%. Almost one of the male respondents 43.7% practiced harvesting/marketing food/crops whereas female was only 1.7%. male 80.3% practiced brisk walking and female 51.7% running/jogging were practiced 49.3% of male respondents and 10% of female respondents.

Table 17: Association between total physical activity MET- min/week with academic year (n=131).

Academic years	Total physical activity MET- min/week			
	<600 MET-min/week	600-3000 MET-min/week	>3000 MET min/week	Total
1 st years	3 (12%)	11 (44%)	11 (44%)	25
2 nd years	2 (11.1%)	8 (44.4%)	8 (44.4%)	18
3 rd years	1 (4.8%)	11 (52.4%)	9 (42.9%)	21
4 th years	2 (11.8%)	9 (52.9%)	6 (35.3%)	17
5 th years	5 (10%)	24 (48%)	21 (42%)	50
Total	13	63	55	131
Fisher's Exact test value = 1.663 p value = .996				

Table 17 shows the academic year and physical activity relationship of the respondents. The statistical results show that there was no significant association between the academic year and physical activity of the respondents since (33.3%) cells had an expected value less than 5, the association was interpreted by Fisher's Exact test value = 1.663, p-value = .996.

Table 18: Association between total physical activity MET- min/week with family monthly income of the respondents (n=131).

Monthly income	Total physical activity MET- min/week			
	<600MET-min/week	600-3000MET-min/week	>3000MET min/week	Total
≤20000	4 (7.3%)	21 (38.2%)	30 (54.5%)	55
20001-40000	7 (14.9%)	27 (57.4%)	13 (27.7%)	47
40001-70000	2 (9.1)	12 (54.5%)	8 (36.4%)	22
>70000	0	3 (42.9%)	4 (57.1%)	7
Total	13	63	55	131
Fisher's Exact Value = 8.862, p = 0.154				

Table 18 shows the family's monthly income and physical activity relationship. The statistical results show that there was no significant association between family income and physical activity of the respondents since (41.7%) of cells had an expected value less than 5, the association was interpreted by Fisher's Exact test value = 8.862, p-value = .154.

Table 19: Association between respondents' sex and the total recreational MET min/week (n = 131).

Sex	Total recreational activity MET- min/week			
	<600MET-min/week	600-3000MET-min/week	>3000MET min/week	Total
Male	20 (28.2%)	34 (47.9%)	17 (23.9%)	71
Female	45 (75%)	14 (23.3%)	1 (1.7%)	60

Total	65 (49.6%)	48 (36.6%)	18 (13.7%)	131
$\chi^2=31.46$ $df=2$ $p=0.000$				

Table 19 represents the distribution of the respondents by total recreational MET min per week taking status and their sex about meet recreational activity MET min per week. It was found that out of 131 respondents, 65 (49.6%) did not meet the recreational activity. Among them, 45(75%) females did not meet the recreational activity and only 20(28.2%) males did not meet the recreational activity. It was found in this table was a significant relationship between sex and recreational activity.

Table 20: Relationship between sex of respondents and total percentage of total physical activity on average per day (n=384).

Types of physical activity	Sex		Statistic (while, p = .000)
	Male	Female	
Work-related	24.47%	66.56%	t-test = - 8.56
Transport-related	36.07%	14.41%	t-test = 4.19
Recreation- related	39.46%	19.03%	t-test = 4.41

Table 20 shows that there was a significant association between the sex of respondents and the composition of total physical activity per day as p = .000 (obtained from t-test). Percentage of work-related activity on average per day 24.47% male and female 66.56%. Percentage of transport-related activity males 36.07% and females only 14.41% on average per day. Percentage of recreational activity on average per day males were 39.46% and only females were 19.03%.

Table 21: Relationship between sex and Mean time of total sitting activity on average per day (n=131).

Total sitting activity min/day	Male	Female	Total	Test statistic
Mean	430.14	556.5	488.02	t-test = - 4.40
Std. Deviation	155.79	172.16	174.68	df =129
				p = 0.000

Table 21 shows, the mean time of total sitting activity on average per day of the respondents mean = 488.02, SD \pm 174.68. In it male were mean = 430.14, SD \pm 155.79 and female respondents mean were 556.50, SD \pm 172.16. It was found in this table was a significant relationship between sex and mean time of total sitting activity on average per day. Female respondents more spent in sedentary activity on average per day than male respondents.

DISCUSSION

This study revealed that the majority of the respondents 125 (95.3%) were in the age group of 20-26 years. The mean age of the respondents was 22.47 years (SD \pm 1.88). A study by Wattanapisit et al., 2016 was conducted in Southern Thailand on physical activity among medical students and found that the mean age of respondents was 20.93 years (SD \pm 1.82). The study differs from the current study. In this study, Figure 1 shows that 71 (54.20%) were male and 60 (45.80%) were female. A study conducted in Tehran Medical Sciences on operations research on physical activity, and sedentary behavior correlates with students of Tehran University of Medical Sciences and found that the majority of them 53.48% were male and 46.52% were female [14]. Figure 3 shows that the majority of the respondents 116 (88.5%) out of 131 were Unmarried and 15 (11.5%) were Married. A study conducted in Bangladesh on physical activity levels in Bangladesh adults results from the STEPS Survey 2010

found that 93.9% were single and only 6.1% were married which differs from the current study [16]. Table 2 shows that respondents were between the Academic years from 1st year to 5th year. The majority of the respondents 50 (38.2%) were in the 5th year with the next majority 25 (19.1%) within the 1st year. 21(16%) were in the 3rd years [18]. (13.7%) respondents were in the 2nd years and 17(13%) respondents were in the 4th years. A study conducted in Spain on physical activity among Spanish undergraduate students found that 1st years were 26.4%, 2nd year was 22%, 3rd year was 21.3%, 4th year was 23.6%, 5th year was 4.4%, 6th year was 2.2% [16]. The study differs from the current study. In this study, Table 4 shows that the majority of the respondents 55 (42%) had a total monthly family income of up to 20000 takas, 47 (35.9) had a monthly family income between 20001-40000 taka, 22 (16.8) had monthly family income between 40001-70000 taka, 7 (5.3%) had monthly family income above 70000 takas. The mean family income of the respondents was 32488.55 taka, and SD \pm 25874.064 taka. A study conducted in Bangladesh on physical activity levels in Bangladesh adults results from the STEPS Survey 2010. This study found that monthly family income up to 20000 taka was 20.3%, 20001 taka was 28.6%, 40001-70000 taka was 30.4% and above 70000 taka was 20.7%.17 The study differs from the current study. In this study Table 7 shows us the distribution of the respondents by habit of consuming tobacco [15]. (11.5%) respondents had a habit of having tobacco. This was their short-time (1-3) years habit and 116 respondents said that they are not using tobacco. A study conducted in Spain on physical activity and sedentary lifestyle in university students: changes during confinement due to the COVID-19 pandemic.18 This study found that 9.9% consumed tobacco. The result is close to the current study. Table 9 shows us that 33 (25.2%) were co-morbid and 98 (74.4%) respondents were free from co-morbidity. Among the respondents who had comorbidity in comparison to all, 17 (23.9%) were male and 16 (26.7%) were female respondents. Table 10 shows us the distribution of the co-morbidity of various kinds. 6 (4.6%) were asthmatic, 3 (2.3%) had PUD, 2 (1.5%) had RA, 6 (4.6%) had skin diseases and 6 (4.6%) had thyroid problems. The majority of the respondents 16 (12.2%) had eye problems. In the recent study conducted in the Kingdom of Saudi Arabia pattern of physical exercise practice among university students found that the comorbidity of respondents is asthma at 2.2%, anemia at 0.5%, hypothyroidism at 0.5%, diabetes at 1.7%, muscle and bone disease at 1.2%, and other 1.4%. The result differs from the current study.19 In the study, Table 5 indicates the maximum number of respondents' family structure was a nuclear family was 99 (75.5%), 31 (23.7%) have come from a joint family and 1 (0.8) were from an extended family. A study conducted in Nepal on physical activity and its correlates among higher secondary school students in an urban district of Nepal this study found that nuclear family was 72.17 % and non-nuclear was 27.83%.20 The result is similar to the current study. In this study, Table 11 shows that 118 (90.1%) met WHO recommendations on physical activity for health, and only 13 (9.9%) didn't meet WHO recommendations. Table 18 shows that 13 of the 131 respondents were in the high-risk group, 4 (5.6%) were male, and 9 (15%) were female. In the moderate-risk group, 30 (42.3%) were in the male and 33 (55%) were in the female respondents. As low as 37 (52%) were male and 18 (30%) were female. Students were classified into 3 categories high (42%), medium (48.1%), and low (9.9%) physical activity. Students were classified into 3 categories high (41%), medium (38%), and low (21%) physical activity [14]. In the present study, 87.3% and 12.7% of students were active and inactive respectively. There was a significant difference in the overall activity level between genders and work-related activity between students of clinical and non-clinical settings. So, this study differs from the study mentioned above [14]. In another study, 128 (71.1%) were found as physically active, and 52 (28.9%) as physically inactive [21]. Among the physically active students, 98 (54.44%) and 30 (16.66%) showed moderate and high levels of physical activity

respectively. The study with the current study. In this study **Table 12** shows, the mean time of total physical activity on average per day of the respondent's mean = 104.2min/day, SD \pm 84.71. In it male were mean =112.64, SD \pm 82.26 and female respondents mean were 94.21, SD \pm 87.18. A study found this study in terms of energy use, the participants spent 540 MET-min/week (range 0 - 5640). The mean energy use of the Thai population was 7893 \pm 6527 MET-min/ week [22]. More than half of the participants were physically inactive. A similar trend was found in Turkish medical students. The study differs from the current study. In this study, **Table 11** shows that respondents based on overall physical activity, 118 (90.1%) were meeting WHO recommendations on physical activity for health and only 13 (9.9%) were not meeting WHO recommendations on physical activity for health. **Table 16** shows that out of 131 respondents, 65 (49.6%) of them did not achieve the WHO recommended level of recreational activity MET-minutes/week, and 66 (50.4%) of them achieved the WHO recommended level of recreational activity MET-minutes/week. A study conducted in Spain on physical activity among Spanish undergraduate students found that overall, PA and leisure-time PA (LTPA) were measured with the Global Physical Activity Questionnaire (GPAQ).16 Descriptive analyses and logistic regression were performed. It was revealed that 22.4% and 55.6% of overall PA and LTPA, respectively, did not achieve World Health Organization (WHO) recommendations. The study differs from the current study. In the study, **Tables 15 and 16**, show that 27 (20.6%) of the respondents didn't the work-related activity. Among them, male 22 (31%) and only for female 5 (8.5%) didn't the work-related activities, 46(35.1%) of respondents didn't the travel- related activities, among them 42 (70%) female respondents didn't the travel related activity and 4 (5.6%) of the male respondents didn't the travel-related activities, 38 (29%) of the respondents didn't the recreation-related activity, 24 (40%) of the female respondents didn't the recreation-related activity and 14 (19.71%) of the male respondents didn't the recreational activities. At work, 79.4% of study participants were active, in the travel domain 64.9% were active, in the leisure domain 71% were active. The study conducted in India on the assessment of physical activity and sedentary behavior in bachelor of computer science students using the global physical activity questionnaire version.23 This study found that at work, 19.15% of study participants were moderately active; in the travel domain 64.5% were active, in the leisure domain, 43.94% were vigorous while 41.4% were moderately active. The study differs from the current study. **Table 17** shows us the distribution of the physical activity in work-related vigorous not 117 (89.3%) and only 14 (10%), Majority of the respondents 103 (78.6%) did moderate physical activity only did not 28 (21.4%). On the other hand, recreational vigorous activity did 59 (45%) and did not 72 (55%) and moderate recreational activity did 76(58%) and did not 55(42%). A study by Tehran on physical activity, sedentary behavior, and correlates among students of Tehran University of Medical Sciences.14 This study found that the p work-related activity of vigorous did not 87.8% and only 12.2%, The Majority of the respondents 53.7% did moderate work activity only did not 46.3%. On the other hand, recreational vigorous activity did 45.8% and did not 54.2%, and moderate recreational activity did 48% and did not 52%. The study differs from the current study. In this study, **Figure 6** showed that the composition of physical activity at 43.74% work and 26.14% transport domains were the main contributors to total physical activity among study populations. Recreation or leisure time activity contributes only 30%. **Table 28** shows that there was a significant association between the sex of respondents and the composition of total physical activity per day as $p = .000$ (obtained from t-test). Percentage of work-related activity on average per day 24.47% male and female 66.56%. Percentage of transport-related activity males 36.07% and females only 14.41% on average per day. The percentage of recreational activity on average per day for males was 39.46% and only females were 19.03%. A study by on

physical activity levels in Bangladeshi adults from a survey in 2010 this study found that the main contributions to total PA were from work (urban 47.0%, rural 61.0%), and active commuting (38.0%, 30.0%) domains [15]. Leisure-time PA represented only a small proportion (15.0%, 9.0%). The study differs from the current study. This study revealed Table 22 shows, the mean time of total sitting activity on average per day of the respondent's mean = 488.02, SD \pm 174.68. In it male were mean = 430.14, SD \pm 155.79 and female respondents mean were 556.50, SD \pm 172.16. A study on Physical activity has been determined as the primary prevention strategy against 35 chronic conditions [23]. Lack of physical activity, improper diet, and an increase in the use of computers have various health hazards. Considering that bachelor of computer science students will mostly have a sedentary work profile, once they enter the professional world, the objective of the present study was to assess their physical activity level using Global Physical Activity Questionnaire (GPAQ) version [2]. This study found that Average time spent in sitting was around 9 hours. In the sedentary behavior domain, the average amount of time spent sitting was 9.32 ± 1.64 hours in male participants and 9.49 ± 2.23 hours in female participants. In this study, Table 24 respondents 64.8% of the male respondents played in the field and only 6.7% of females did it. The majority of female respondents 98% practiced household chores whereas male was 62%. Almost one of the male respondents 43.7% practiced harvesting/marketing food/crops whereas female was only 1.7%. male 80.3% practiced brisk walking and female where 51.7% running/jogging were practiced 49.3% male respondents and 10% female respondents. The current study by conducted on the practice of physical activity among medical interns in a private medical college hospital in Chennai. This study found that the practice of non-exercise physical activities and exercise physical activities [24]. In non-exercise physical activities, 72 (69.9%) were for shopping for food, groceries, and clothes, 47 (45.6%) for cleaning the house, 41 (39.8%) for doing laundry, ironing, and 34 (33%) for preparing food, washing, cooking. In exercise, and physical activity 65 (63.1%) were for walking, 47 (45.6%) for jogging/running, and gymming. In games, 38 (36.9%) was for badminton, 34 (33%) for swimming and 26 (25.2%) for cricket, 30 (29.1%) for dancing/zumba. So, this study differs from the study mentioned above.24 In this study Table 25 shows the academic year and physical activity relationship of the respondents. high-risk group, 12% were in the 1st year, 11.1% were in the 2nd year, 4.8% were in the 3rd year, 11.8% were in the 4th year, 10% were in the 5th year and the statistical results show that there was no significance association between academic year and physical activity of the respondents since (33.3%) cells had expected value less than 5, the association was interpreted by Fisher's Exact test value = 1.663, p-value=.996. The current study by conducted in India on the evaluation of a global physical activity questionnaire among healthy and obese health professionals in central India [25]. This study found that the three levels of physical activity for classifying dental healthcare professionals are low, moderate, and high. Of the 211 healthcare professionals in the high-risk group, 28.9% were in the third year, 19.9% in the final year, 20.4% were interns and 30.8% were faculty members. In the moderate risk group, 33.3% of subjects were in the third year, 40% were in the final year, 26.7% were interns and 6.7% were faculty members. As low as 17% of subjects in the third year, 47.2% in the final year, and 35.8% of interns were in the low-risk group. Surprisingly, none of the faculty members were present in the low-risk group. Significant differences were noted between the various risk categories for dental healthcare professionals ($p \leq 0.001$). So, this study differs from the study. Table 28 shows that there was a significant association between the sex of respondents and the composition of total physical activity per day as $p = .000$ (obtained from t-test). Percentage of work-related activity on average per day 24.47% male and female 66.56%. Percentage of transport-related activity males 36.07% and females only 14.41% on average per day. The percentage of recreational activity

on average per day male were 39.46% and only females were 19.03%. In a study conducted on the prevalence of physical activity among MBBS students in a medical college in Kerala this study found that when physical activity is aggregated across three domains, recreation contributes the most to the mean MET minutes per week of the study population [21]. It was followed by work and transport contributed the least to the energy expenditure. $p=0.0001$. Table 18 shows the categorical risk indicator for sex. The three levels of physical activity for sex are low, moderate, and high. Of the 131 respondents in the high-risk group, 4 (5.6%) were male, and 9 (15%) were female respondents. In the moderate risk group, 30 (42.3%) were in male and 33 (55%) were in female respondents. As low as 37 (52%) were male respondents and 18 (30%) were female respondents. In the study at Kerala found that not achieving the WHO recommended MET minutes/week of 600 was categorized as low physical activity group and 52 (28.89%) fell into this category. More than half of 98 (54.44%) belonged to the group of moderate physical activity. 30 (16.66%) study subjects belonged to those who attained high levels of physical activity. Among the 52 students who did not achieve the WHO recommended MET minutes/week, 43 (82.7%) were females and 9 (17.3%) were males. Among the 30 students who achieved high levels of MET scores, 17 (56.7%) were males and 13 (43.3%) were females. Study participants being students, can devote a set amount of time to physical activity, especially in the recreational domain, and that could be a possible reason for the majority of the study participants meeting the set criteria by WHO Considering their age group. In our study we found that the average amount of time (in minutes) spent sitting was 488.02 ± 174.68 , thus there is scope to reduce the number of hours of sedentary behavior, and if that cannot be reduced because of the academic schedule, efforts need to be made to improve the physical activity level in various domains and compensate for the sedentary behavior.

LIMITATIONS

The study, conducted through a self-report questionnaire, aimed to understand the physical activity participation of Unani and Ayurvedic medical college students, but faced challenges due to the pandemic, small sample size, subjective nature of the questionnaire, and potential selection bias.

CONCLUSION

The study found that despite meeting WHO's physical activity criteria, many students fell into the low physical activity category. Out of 131 students, 9.9% did not meet the recommended MET minutes per week. The majority of students were involved in work and transport activities, with leisure-time activities accounting for only 30%. The study also found significant differences in MET scores between males and females, suggesting the need for more female-focused activities. The findings could help implement targeted strategies for improving physical activity levels.

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