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Knowledge, Attitude, And Practice Of Exercise Among Medical Students At Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Awka, Nigeria.

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Abstract
Background: *Physical inactivity is a major risk factor for noncommunicable diseases globally, with medical students uniquely positioned to influence public awareness and practice regarding exercise. Despite recognized health benefits, stress and academic demands may restrict healthy lifestyle adoption in this population.*
Objective: *To assess the knowledge, attitude, and practice (KAP) of exercise among medical, nursing, and midwifery students at Chukwuemeka Odumegwu Ojukwu University Teaching Hospital (COOUTH), Awka, Nigeria, and to identify barriers to regular physical activity.*
Methods: *A cross-sectional survey was conducted among 249 students (stratified into medicine, nursing, and midwifery departments) using a systematic random sampling method. Data collection involved a semi-structured, validated, self-administered questionnaire encompassing sociodemographic characteristics, knowledge of exercise, attitudinal variables, and practice patterns. Frequency tables, cross-tabulation, and inferential statistics (using IBM SPSS v23) were used for analysis. Ethical approval and informed consent were obtained.*
Results: *Knowledge of exercise and its health benefits was almost universal (99.6%), with school and mass media as the major sources. Most respondents recognized cardiovascular and psychological benefits; however, only 11.3% reported daily exercise, and 37.7% exercised once weekly. Jogging (49.4%) and swimming (17.8%) were the most common activities. Duration of exercise was typically 20–30 minutes, with 85% preferring outdoor activities. Fatigue and musculoskeletal discomfort were the frequent adverse effects noted. Notably, academic schedule (17.3%) and limited facilities were the predominant barriers to regular participation. Males were slightly more active than females regarding practice frequency and duration ($p < 0.05$), although knowledge levels were similar across groups.*
Conclusions: *Despite high awareness and positive attitudes, the practice of regular exercise among medical and allied students at COOUTH remains suboptimal. Academic workload and infrastructure limitations are significant impediments. Targeted interventions—such as curriculum integration of physical activity, improved campus facilities, and tailored health promotion—are recommended to bridge the gap between knowledge and practice, fostering lifelong healthy habits in future healthcare professionals.*
Keywords: *Physical activity, Exercise practice, Medical students, Knowledge attitude practice (KAP), Barriers, Nigeria, Public health, Noncommunicable diseases*

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I. Introduction

Background Information

Medical students and other health care professionals have substantial knowledge of the benefits of regular physical activity. Furthermore, as they have an ethical obligation to prescribe suitable exercises, they can influence their patients' attitude towards physical activity and can become role models for their patients.

Non communicable diseases (NCD) will account for 73% of deaths and 60% of the global disease burden by 2020.[1]Physical activity plays a major role in the prevention of these non-communicable diseases. The stress involved in meeting responsibilities of becoming a physician may adversely affect the exercise habits of students. So, the current study is aimed at studying the practice of physical activity among undergraduate medical students.

Exercises according to World Health Organization(WHO) are a bodily movement produced by the contraction of skeletal muscle that requires energy expenditure in excess of resting energy.[2]Active People Survey (APS) opined that exercises are wide range of activities involving movement including house work such

as vacuuming and digging the garden, active hobbies, walking and cycling, dancing, exercise such as swimming or going to the gym and sports.[3] This definition is in line with Godbey who explained that exercises today can be classified by cultural function, thus:

- Exercises necessary for work, house chores and personal care (such as walking to the car, mopping a floor, taking a shower);
- Exercises undertaken for pleasure (e.g. gardening, hiking, playing tennis and dancing);
- Exercises undertaken to improve health (like aerobics, weightlifting).[4]

Planned and regular exercises boost the immune system and promote the optimal performance of all major systems of the human body: musculoskeletal; cardiovascular; immunologic; neurosensory and gastrointestinal systems. [World Health Organization, Global Strategy on Diet, Physical Activity and Health cited on 5th April, 2000]

Problem Statement

During the 20th century, the leading causes of death shifted from infectious to chronic diseases. Cardiovascular disease, cancer, and diabetes are now among the most prevalent, costly, and preventable causes of all health problems. These diseases have been strongly associated with unhealthy lifestyle habits, including inappropriate nutrition, lack of exercise, smoking, alcohol consumption, caffeine overuse and improper sleeping habits. [National Institutes of Health, National Heart , Lung, and Blood Institute. Your Guide To Physical Activity and Your Heart]

Justification And Relevance To Public Health

Healthy active living benefits both individuals and society in many ways such as increasing productivity, improving morale, decreasing absenteeism, and reducing health-care costs. Other benefits include improved psychological well-being, physical capacity, self-esteem and the ability to cope with stress. The health benefits of participation in regular exercise are well known. It is also well established that regular moderate or vigorous-intensity exercise will lower the risks and symptoms associated with the co-morbidities of obesity.

Although behaviors of students are considered a temporary part of college life, however, unhealthy habits picked up at this level generally persist in adult life. University and college arenas, therefore, represent an important opportunity for health and nutritional education. College life is also a period during which individuals are for the most part exposed to stress and lack of time, posing a barrier to adoption of healthy practices.

Physical activity among adolescents is consistently related to higher levels of self esteem and self-concept and lower levels of anxiety and stress.

Amongst this college population, it is assumed that the medical students have a greater knowledge about healthy lifestyle and dietary habits when compared to other students. One of the most important factors for predicting the physical condition of medical students is their own attitudes toward health promotion, illness prevention and exercise.

However, there is no evidence to indicate that this knowledge translates into practice in terms of maintaining good health. Healthy habits among medical students are even more important as they are future physicians and the students who personally ignore adopting healthy lifestyle are more likely to fail to establish health promotion opportunities for their patients.

Research Questions

1. What is the level of knowledge of exercise by students of COOUTH
2. Does the knowledge of exercise and its importance encourage the students of COOUTH to participate actively in exercise?
3. What is the level of practice of exercise by students of COOUTH

General And Specific Objectives

General Objective

To determine the knowledge, attitude and practice of exercise by students of Chukwuemeka Odumegwu Ojukwu University Teaching Hospital

Specific Objectives

1. To determine the level of awareness and knowledge of exercise by students of COOUTH.
2. To determine the attitude of students of COOUTH towards exercise.
3. To determine the level of practice of exercise by the students of COOUTH.
4. To determine the challenges and hindrances to regular practice of exercise by students of COOUTH.

II. Literature Review

Awareness and knowledge of exercise by students

A cross-sectional study done to assess the knowledge physical activity and exercise among medical undergraduate students in Delhi[89] showed that out of a total of 161 eligible 6th semester medical undergraduate students that were assessed only 9.3% of the students were aware of the recommended level of the physical activity but nearly all (96.27%) were aware of the benefits of it.

Another study done to assess the knowledge, attitude and practice towards physical activity and its related factors among college students living on campus in Shahid Beheshti University of medical science, Iran[92]showed that out of a total of 665 students that participated in the study, 73.72% of the males and 78.9% of the females had knowledge of exercise

Similarly, a study done to assess the knowledge, attitude and practice of physical activity among health professionals at the Federal Medical Centre (FMC), Owo, Nigeria[90] revealed that out of a total of 103 health professionals working at the FMC that were assessed with a 22 item close ended questionnaire, 78 (75.73%) respondents were found to have awareness of the health benefits of physical activity

In the same vein, a study done to assess the knowledge, attitude and practice of physical activities among undergraduate students of University of Nigeria, Nsukka[91] indicated that undergraduates of University of Nigeria, Nsukka had high knowledge (66.34%) of physical activity and positive attitude towards physical activities participation.

Attitude of students towards exercise

A cross-sectional study done to assess attitude and its related factors among college students living on campus in Shahid Beheshti University of medical science, Iran[92]showed that out of a total of 665 students that participated in the study 74.33% of females and 79.18% of males had positive attitude towards exercise, showing that they had good knowledge of physical activity.

Another study done to assess the knowledge, attitude and practice of physical activity among male students at Taibah University in Al-madinah Al-munawarah, Saudi Arabia[93]revealed that out of a total of 200 students that were chosen randomly by a multi-stage random sampling technique for the study, most of students had a favourable attitude towards physical activity.

Similarly, a study done to assess the knowledge, attitude and practice of physical activity among health professionals at the Federal Medical Centre (FMC), Owo, Nigeria[90] revealed that out of a total of 103 health professionals working at the FMC, 78 (75.73%) respondents were found to have a positive attitude towards physical activity, 93 (90.29%) believed they were physically fit.

Level of practice of exercise by the students

A study done to assess the knowledge, attitude and level of physical activity among medical undergraduate students in Delhi[89] showed that out of a total of 161 eligible 6th semester medical undergraduate students that were assessed and only a few (32.3%) of them adhered to the recommended guidelines. Boys (39.8%) were found to be significantly more active than girls (20.6%).

Similarly, a cross-sectional study done to assess the knowledge, attitude and practice of physical activity among male students at Taibah University in Al-madinah Al-munawarah, Saudi Arabia[93]revealed that relatively low percent of students reported practice of high intensity and moderate intensity physical activity.

However, a cross-sectional study done to assess the knowledge, attitude and practice of physical activities among undergraduate students of University of Nigeria, Nsukka[91] indicated that undergraduates of University of Nigeria, Nsukka's practice of exercise was very high with grand total of 81.38%.

III. Methodology

Study Area

Chukwuemeka Odumegwu Ojukwu University Teaching Hospital, Amaku is located in Awka the Capital of Anambra State. The hospital has two hostels.

The Medicine and Surgery Hostel is located at the extreme end of the hospital close to the gate leading to JET Filling Station. The major notable structure close to the Hostel is the Histopathology Complex and the Hospital Morgue.

The Nursing and Midwifery Hostel is located at Alex Ekwueme Road Close to Roban Stores.

Study Design

The study was a cross-sectional survey aimed at assessing the knowledge, attitude and practice of exercise by students of COOUTH.

Study Population

This comprised of male and female students in medicine and surgery, and nursing and midwifery departments of COOUTH.

Inclusion criteria:
1. All the students in medicine and surgery department of COOUTH irrespective of their age, class and place of residence.
2. All the nursing and midwifery Students in COOUTH

Exclusion criteria
1. Students that did not want to participate in the study.
2. Non students living in the Student Hostel.

Sample Size Determination

The sample size was determined using the formula,

$$n = \frac{Z^2P[1-P]}{D^2}$$

Where, n = Sample size for an infinite population
Z = confidence interval of 95% level of significance given as 1.96
P = Prevalence from a previous study
D = Maximum sampling error allowed, given as 0.05 or 5%

Using Reference prevalence rate of 71.6% for active participation in physical activities from a previous study done in University of Nigeria, Nsukka.

$$n = \frac{1.96^2 \times 0.716[1-0.716]}{0.05^2}$$

n = 312

For a finite population with population size of 1220 students, the new sample size will be

$$n_f = \frac{n}{1 + \frac{n-1}{N}}$$

Where, n_f = Sample size for a finite population
n = Sample size for an infinite population
N = population size

$$n_f = \frac{312}{1 + \frac{312 - 1}{1220}}$$

n_f = 248.6
Minimum sample size = 249

Therefore, a sample of 249 subjects is required to attain 95% confidence interval of ±5% around a prevalence of 71.6%. In order to correct for the loss of questionnaires, we added 10% of the calculated sample size. Sample size therefore, was 249 + 10% of 249 = 274.

Sampling Technique

The students were divided into 3 strata (departments) by stratified sampling method. The departments were medicine, nursing and midwifery. There were 1220 students in COOUTH, comprising 625 nursing students, 285 medicine and 280 midwifery students. This gave rise to a proportion of 0.5 nursing students to 0.3 medical students to 0.2 midwifery students. Thus, resulting to sample sizes of 125, 74 and 50 students from nursing, medicine and midwifery departments respectively. The class lists for each department were gotten from the class representatives, then, the students were selected by simple random sampling (balloting) whereby the serial numbers of the students in each department were written on pieces of paper and picked randomly until 125 students were picked from nursing, 74 students from medicine department and 50 students from midwifery department. The students selected from the 3 departments were used for the study.
The respondents were not given prior information so that there will not be biased response.

The research essence of the questionnaire was explained to them and they were assured that it will only be for study purposes (and that they were free to participate or not).

The questionnaires were administered to the students while they were seated in class (waiting for lectures). They were put through in areas where they found difficult.

The questionnaires were collected after 30mins and we educated the students on exercise, its types and its benefits.

Study Instruments

For this study, self-administered semi-structured questionnaires were used as the study instrument.

Data was collected from the students by the distribution of the questionnaires to the required number of students in their respective departments, they answered the questions in the questionnaire and returned them to us.

The questionnaire was divided into four sections, namely sections A, B, C and D.

Section A comprised of socio-demographic variables like age, marital status, religion, ethnicity, year of study.

Section B comprised of knowledge variables like awareness and knowledge of exercise, initial source of information and what exercise is.

Section C comprised of attitudinal variables like whether the person feels it's good to exercise or not.

Section D comprised of the variables on practice like whether the person has ever done exercise before and how frequent he or she does the exercise.

Data Management

Measurement variables

The outcome measures for this study looked at the percentage of knowledge, attitude and practice of exercise among male and female students of COOUTH.

Statistical analysis

The questionnaires were manually sorted and analysed using the IBM Statistical Package for Social Sciences (SPSS) version 23. After clearing the data, the results were presented in tables.

Ethical Considerations

The aim and nature of the study were explained to the participants and informed consent was obtained prior to administration of the questionnaire.

Limitations

Due to the sensitivity of the research topic, some students were not free in giving information.

The nursing and Midwifery Hostel has poor network coverage so it hindered easy communication after distribution of questionnaires

Circumventions

Students were told not to write their names, and were reassured that all information will be kept confidential and will only be used for study purposes.

The topic and what was needed from them were properly explained to them before issuing the questionnaires.

IV. Results

Table 1: Socio demographic characteristic

Variable	Frequency	Percentage
Age		
17 - 20yrs	61	24.5
21 - 24yrs	127	51.0
25 - 28yrs	49	19.7
>29yrs	12	4.8
Total	249	100.0
Sex		
Male	129	51.8
Female	120	48.2
Total	249	100.0
Marital status		
Single	235	94.4
Married	13	5.2
Separated	1	0.4
Total	249	100.0
Religion		
Christianity	243	97.6
Islam	3	1.2
Traditional	3	1.2
Total	249	100.0
Ethnicity		
Hausa	5	2.0

Igbo	242	97.2
Yoruba	2	0.8
Total	249	100.0
Department		
Medicine	123	49.4
Nursing	75	30.1
Midwifery	51	20.5
Total	249	100.0
Year of study		
Year one	1	.4
Year two	49	19.7
Year three	55	22.1
Year four	60	24.1
Year five	84	33.7
Total	249	100.0

The table above shows that majority of the respondents (51.0%) were within the age range of 21-24 years and were mostly males (51.8%). Most respondents (94.4%) were single and majority (97.6%) were Christians. A large percentage of the respondents were from Igbo (97.2%). Most of the respondents (49.4%) were from medicine department and majority of the respondents were in their fifth year (33.7%).

Table 2.1: Knowledge of Exercise

Variable	Frequency	Percentage
Have you previously heard of exercise?		
Yes	248	99.6
No	1	.4
Total	249	100.0
If yes, what source?		
School	87	35.1
Mass media	76	30.6
Friends	56	22.6
Home	29	11.7
Total	248	100.0
Exercises are bodily movements that require energy expenditure in excess of resting energy		
Yes	236	94.8
No	13	5.2
Total	249	100.0
Stretching is not a form of exercise		
Yes	70	28.1
No	179	71.9
Total	249	100.0
Regular exercise can prevent heart disease		
Yes	244	98.0
No	5	2.0
Total	249	100.0
A person who often engages in exercise is always active in thinking		
Yes	221	88.8
No	28	11.2
Total	249	100.0
Regular exercise shortens one's life span		
Yes	14	5.6
No	235	94.4
Total	249	100.0
Regular exercise decreases the risk of developing depression and anxiety		
Yes	225	90.4
No	24	9.6
Total	249	100.0

Table 2.2: Knowledge of exercise

Variable	Frequency	Percentage
Regular exercise can cause a drastic rise in blood pressure		
Yes	37	14.9
No	212	85.1
Total	249	100.0
Exercise can be used to manage illness like obesity		
Yes	243	97.6
No	6	2.4

Total	249	100.0
Regular exercise decreases the risk of developing type 1 diabetes mellitus		
Yes	129	51.8
No	120	48.2
Total	249	100.0
Regular exercise helps to maintain healthy bone density		
Yes	219	88.0
No	30	12.0
Total	249	100.0
Regular exercise helps to weaken the immune system		
Yes	18	7.2
No	231	92.8
Total	249	100.0

Results from the tables above show that majority of the respondents (99.6%) had knowledge of exercise and most of their source of information was from school (35.1%). Most of the respondents (94.8%) know that exercises are bodily movements that require energy expenditure in excess of resting energy and majority of the respondents (71.9%) know that stretching is a form of exercise. A large percentage of the respondents (98.0) know that regular exercise can prevent heart disease. Most of the respondents (88.8%) know that a person who often engages in exercise is always active in thinking and majority of the respondents (94.4%) do not believe that exercise shortens one's life span. Quite a large number of the respondents (90.4%) know that regular exercise decreases the risk of developing depression and anxiety. Majority of the respondents (97.6%) know that exercise can be used to manage illness like obesity while a large number of the respondents (85.1%) do not believe that regular exercise can cause a drastic rise in blood pressure. Most of the respondents (51.8%) believe that regular exercise decreases the risk of developing type 1 diabetes mellitus. Majority of the respondents (88.0%) know that regular exercise helps to maintain healthy bone density while a large number of the respondents (92.8%) do not believe that regular exercise helps to weaken the immune system.

Table 3: Attitude of students towards exercise

Variable	Strongly agree	Agree	Indifferent	Disagree	Strongly disagree
Always feel happy participating in exercises	87(34.9)	110(44.2)	33(13.3)	15(6.0)	4(1.6)
Try hard enough to always overcome barriers with regard to exercise	23(9.2)	96(38.6)	81(32.5)	40(16.1)	9(3.6)
Always find ways to exercise and be physically active	58(23.3)	104(41.8)	51(20.5)	31(12.4)	5(2.0)
Easy for me to accomplish my activity and exercise goals	30(12.0)	71(28.5)	60(24.1)	66(26.5)	22(8.8)
When confronted with a barrier to exercise, I could find several solution to overcome this barrier	28(11.2)	88(35.3)	65(26.1)	49(19.7)	19(7.6)
I could exercise even when I am tired	14(5.6)	28(11.2)	38(15.3)	111(44.6)	58(23.3)
Exercising is not something I would necessarily choose to do	47(18.9)	83(33.3)	69(27.7)	38(15.3)	12(4.8)
I exercise because I like to rather than because I feel I have to	31(12.4)	102(41.0)	46(18.5)	42(16.9)	28(11.2)

The table above shows data collected from respondents which assessed their attitude towards exercise. A 5-point Likert scale (1-5) grading method was used from strongly agree to strongly disagree. The scores were allocated depending on whether the question asked was positive or negative. Scoring was done as follows:

For a negative question, 1 point for strong agreement; 2 points for agreement; 3 points for indifference; 4 points for disagreement and 5 points for strong disagreement.

For a positive question, 1 point for strong disagreement; 2 points for disagreement; 3 points for indifference; 4 points for agreement and 5 points for strong agreement.

A mean score of ≥ 3 was considered a positive attitude while a score of < 3 was considered as a negative attitude.

Most of the respondents (44.2%) agreed that they always feel happy participating in exercises. 38.6% of the respondents agreed that they try hard enough to overcome barriers with regards to exercise. Majority (41.8%) agreed that they always find ways to exercise and be physically active. 28.5% of the respondents agreed that it's easy for them to accomplish their activity and exercise goals. Majority of the respondents (35.3%) agreed that when confronted with a barrier to exercise, they could find several solutions to overcome this barrier while 44.6% of the respondents disagreed that they could exercise even when they are tired. 33.3%

of the respondents agreed that exercising is not something they would necessarily choose to do while most of the respondents (41.0) agreed that they exercise because they like to rather than because they feel they have to. In summary, the respondents generally have a positive attitude towards exercise.

Table 4.1: Practice of Exercise

Variable	Frequency	Percentage
Have you ever participated in any exercise?		
Yes	247	99.2
No	2	0.8
Total	249	100.0
What type of exercises did you participate in?		
Jogging	122	49.4
Football	30	12.1
Swimming	44	17.8
Push-ups	15	6.1
Weight lifting	36	14.6
Total	247	100.0
How frequent did you exercise?		
Everyday	28	11.3
Once weekly	93	37.7
Twice weekly	60	24.3
Once monthly	47	19.0
Occasionally	19	7.7
Total	247	100.0
What is the duration of the exercise?		
10 minutes	29	11.7
20 minutes	84	34.0
30 minutes	95	38.5
! hour	39	15.8
Total	247	100.0
Where did you do the exercise?		
Indoors	37	15.0
Outdoors	210	85.0
Total	247	100.0
When last did the exercise take place?		
A week ago	142	57.5
A month ago	88	35.6
A year ago	17	6.9
Total	247	100.0

Table 4.2: Practice of Exercise

Variable	Frequency	Percentage
What adverse effects did you notice in the body after exercising?		
Fatigue	2	0.8
Injure	4	1.6
Injuries	1	0.4
Inure	1	0.4
Laziness	1	0.4
weakness and pains	167	67.1
What benefits did you get from the exercise?		
active thinking	3	1.2
Fitness	200	80.3
relief and happiness	5	2.0
Are you still doing the exercise?		
Yes	192	77.1
No	57	22.9

Total	249	100.0
If no, why not?		
academic schedule	43	17.3
Laziness	11	4.4
Marriage	1	0.4
If given the opportunity, will you do the same exercise?		
Yes	230	92.4
No	19	7.6
Total	249	100.0

Results from the tables above which provided data on the practice of exercise by students of COOUTH showed that majority of the respondents (99.2%) have participated in any exercise. Most of the respondents (49.4%) have participated in jogging and 37.7% of the respondents exercised once weekly. 38.5% of the respondents exercised for a duration of 30 minutes. A large percentage (85%) of the respondents did the exercise outdoors and most of the respondents (57.5%) exercised a week ago. 67.1% of the respondents became weak and felt pains after exercising while 80.3% of the respondents became fit after the exercises. Majority of the respondents (77.1%) are still doing the exercises and 92.4% of the respondents said they will do the same exercises if given the opportunity.

Table 5: Knowledge of exercise with respect to the sex of the respondents

Sex	Yes	No	Total	P-value
	Have you previously heard of exercise?			
Male	128(99.2)	1(0.8)	129(100.0)	
Female	120(100.0)	0(0.0)	120(100.0)	0.334
	Exercises are bodily movements that require energy expenditure in excess of resting energy			
Male	123(95.3)	6(4.7)	129(100.0)	
Female	113(94.2	7(5.8)	120(100.0)	0.675
	Stretching is not a form of exercise			
Male	36(27.9)	93(72.1)	129(100.0)	
Female	34(28.3)	86(71.7)	120(100.0)	0.940
	Regular exercise can prevent heart disease			
Male	126(97.7)	3(2.3)	129(100.0)	
Female	118(98.3)	2(1.7)	120(100.0)	0.711
	A person who often engages in exercise is always active in thinking			
Male	112(86.8)	17(13.2)	129(100.0)	
Female	109(90.8)	11(9.2)	120(100.0)	0.317
	Regular exercise shortness one's life span			
Male	12(9.3)	117(90.7)	129(100.0)	
Female	2(1.7)	118(98.3)	120(100.0)	0.009
	Regular exercise decreases the risk of developing depression and anxiety			
Male	120(93.0)	9(7.0)	129(100.0)	
Female	105(87.5)	15(12.5)	120(100.0)	0.140
	Regular exercise can cause a drastic rise in blood pressure			
Male	18(14.0)	111(86.0)	129(100.0)	
Female	19(15.8)	101(84.2)	120(100.0)	0.677
	Exercise can be used to manage illness like obesity			
Male	124(96.1)	5(3.9)	129(100.0)	
Female	119(99.2)	1(0.8)	120(100.0)	0.118
	Regular exercise decreases the risk of developing type 1 diabetes mellitus			
Male	56(43.4)	73(56.6)	129(100.0)	
Female	73(60.8)	47(39.2)	120(100.0)	0.006
	Regular exercise helps to maintain healthy bone density			
Male	113(87.6)	16(12.4)	129(100.0)	
Female	106(88.3)	14(11.7)	120(100.0)	0.858
	Regular exercise helps to weaken to immune system			
Male	9(7.0)	120(93.0)	129(100.0)	
Female	9(7.5)	111(92.5)	120(100.0)	0.873

The table above compared the knowledge of exercise with the sex of the respondents.

The probability of regular exercise shortening one's life span was 0.009 < 0.05. This shows that the difference between the males and the females in the knowledge of this is statistically significant and therefore implies that females have better knowledge of this than males.

The probability of regular exercises decreasing the risk of developing type 1 diabetes mellitus was 0.006 < 0.05. This shows that the difference between the males and the females is statistically significant and therefore implies that males have better knowledge of this than the females.

Table 6: Attitude towards exercise in respect to sex of the respondents

Sex	Strongly disagree	Disagree	Indifferent	Agree	Strongly agree	Total	P-value
	Always feel happy participating in exercises						
Male	2(1.6)	5(3.9)	12(9.3)	59(45.7)	51(39.5)	129(100.0)	
Female	2(1.7)	10(8.3)	21(17.5)	51(42.5)	36(30.0)	120(100.0)	0.137
	Try hard enough to always overcome barriers with regard to exercise						
Male	6(4.7)	16(12.4)	44(34.1)	54(41.9)	9(7.0)	129(100.0)	
Female	3(2.5)	24(20.0)	37(30.8)	42(35.0)	14(11.7)	120(100.0)	0.242
	Always find ways to exercise and be physically active						
Male	2(1.6)	10(7.8)	25(19.4)	62(48.1)	30(23.3)	129(100.0)	
Female	3(2.5)	21(17.5)	26(21.7)	42(35.0)	28(23.3)	120(100.0)	0.102
	Easy for me to accomplish my activity and exercise goals						
Male	6(4.7)	27(20.9)	38(29.5)	44(34.1)	14(10.9)	129(100.0)	
Female	16(13.3)	39(32.5)	22(18.3)	27(22.5)	16(13.3)	120(100.0)	0.005
	When confronted with a barrier to exercise, I could find several solution to overcome this barrier						
Male	8(6.2)	19(14.7)	34(26.4)	48(37.2)	20(15.5)	129(100.0)	
Female	11(9.2)	30(25.0)	31(25.8)	40(33.3)	8(6.7)	120(100.0)	0.071
	I could exercise even when I am tired						
Male	18(14.0)	59(45.7)	26(20.2)	21(16.3)	5(3.9)	129(100.0)	
Female	40(33.3)	52(43.3)	12(10.0)	7(5.8)	9(7.5)	120(100.0)	0.000
	Exercising is not something I would necessarily choose to do, rather it's something I feel I ought to do						
Male	7(5.4)	28(21.7)	38(29.5)	39(30.2)	17(13.2)	129(100.0)	
Female	5(4.2)	10(8.3)	31(25.8)	44(36.7)	30(25.0)	120(100.0)	0.011
	I exercise because I like to rather than because I feel i have to						
Male	10(7.8)	17(13.2)	24(18.6)	65(50.4)	13(10.1)	129(100.0)	
Female	18(15.0)	25(20.8)	22(18.3)	37(30.8)	18(15.0)	120(100.0)	0.017

The table above compared the attitude towards exercise with the sex of the respondents.

The probability of being easy to accomplish activity and exercise goals by the respondents was 0.005 < 0.05. This shows that the difference between the males and the females is statistically significant and therefore implies that males have better attitude to exercise than females in respect to this.

The probability of the respondents exercising when they are tired was 0.000 < 0.05. This shows that the difference between males and females in respect to this is statistically significant and therefore implies that males have better attitude towards exercise than females in respect to this.

The probability of the respondents exercising because they feel they ought to do it was 0.011 < 0.05. This shows that the difference between the males and the females is statistically significant and implies therefore that males have a better attitude to exercise than females in respect to this.

The probability of the respondents exercising because they like to rather than because they feel they have to exercise was 0.017 < 0.05. This shows that the difference between the males and the females is statistically significant and implies that males have a better attitude towards exercise than females in respect to this.

Table 7: Practice of exercise in respect to sex of the respondents

	Have you ever participated in any exercise?						
Sex	Yes		No		Total		P-value
Male	128(99.2)		1(0.8)		129(100.0)		
Female	119(99.2)		1(0.8)		120(100.0)		0.959
	What types of exercise have you participated in?						
	Jogging	Football	Swimming	Push-ups	Weight lifting	Total	P-value

Male	42(32.8)	27(21.1)	16(12.5)	11(8.6)	33(25.0)	129(100.0)	
Female	81(67.4)	3(2.5)	28(23.5)	4(3.4)	4(3.4)	120(100.0)	0.000
	How frequent did you exercise?						
	Everyday	Once weekly	Twice weekly	Once monthly	Once yearly	Total	P- value
Male	13(9.4)	48(37.4)	45(35.2)	17(13.3)	6(4.7)	129(100.0)	
Female	16(13.4)	45(37.8)	15(12.6)	31(25.3)	13(10.9)	120(100.0)	0.000
	What is the duration of the exercise?						
	10 minutes	20 minutes	30 minutes	1 hour	Total	P- value	
Male	12(9.4)	32(24.2)	59(46.1)	26(20.3)	129(100.0)		
Female	18(14.3)	53(44.5)	36(30.3)	13(10.9)	120(100.0)	0.001	
	Where did you do the exercise?						
	Indoors	Outdoors	Total	P- value			
Male	12(9.4)	117(90.6)	129(100.0)				
Female	25(21.0)	95(79.0)	120(100.0)	0.010			
	When last did the exercise take place?						
	A week ago	A month ago	A year ago	Total	P- value		
Male	85(65.6)	39(30.5)	5(3.9)	129(100.0)			
Female	59(48.7)	49(41.2)	12(10.1)	120(100.0)	0.015		
	Are you still doing the exercises?						
	Yes	No	Total	P- value			
Male	112(86.8)	17(13.2)	129(100.0)				
Female	80(66.7)	40(33.3)	120(100.0)	0.000			
	If given the opportunity, will you do the same exercise?						
	Yes	No	Total	P- value			
Male	121(93.8)	8(6.2)	129(100.0)				
Female	109(90.8)	11(9.2)	120(100.0)	0.379			

The table above compared the practice of exercise by the respondents with the sex of the respondents. The probability of the types of the exercises the respondents have participated in was $0.000 < 0.05$. This implies that the difference between the males and females in respect to this is statistically significant.

The probability of how frequent the respondents exercised was $0.000 < 0.05$. This shows that the difference between the males and the females in respect to this is statistically significant and therefore implies that the practice of exercise in respect to this is better in males than females.

The probability of the duration of exercise by the respondents was $0.001 < 0.05$. This shows that the difference between the males and the females in respect to this is statistically significant and it implies that the practice of exercise is better in males than females in respect to the duration of exercise.

The probability of where the exercise took place was $0.010 < 0.05$. This shows that the difference between the males and females in respect to this is statistically significant and therefore implies that practice of exercise outdoors was better in males while indoor practice was better in females.

The probability of when last the exercise took place was $0.015 < 0.05$. This shows that the difference between the males and the females in respect to this is statistically significant and it implies that males have better practice of exercise than females in respect to this.

The probability of the respondents still doing the exercises was $0.000 < 0.05$. This shows that the difference between the males and the females in respect to this is statistically significant and therefore implies that males have better practice of exercise than females in respect to this.

V. Discussion

The research was carried out among the students of Chukwuemeka Odumegwu Ojukwu University Teaching Hospita[COOUTH]l Awka, Anambra State.

From the results, the socio-demographic characteristics included age, sex, marital status, religion, ethnicity, department and year of study as represented in Table 1. From the research, 51.8% of the respondents were males while 48.2% were females. The data showed that the commonest age group of the respondents was 21-24 years (51%). Marital status of the respondents showed that majority of the respondents were single (94.4%). Most of the respondents were Christians (97.6%). This is in contrast to a study done by Elamurugan et al, where most of the respondents were Hindus (81%) due to the fact the study was carried out in India where most of the people there were practicing Hinduism.[96] Data on ethnicity showed that most of the respondents were Igbos (97.2%). Most of the respondents were from department of medicine and surgery (49.4%). For year of study, most of the respondents were in their fifth year (33.7%).

Accordingly, about 249 students were analyzed using questionnaires and the majority of our respondents (94.8%) had good knowledge of what exercise is. 35.1% of them got their information from school. However, the difference between the males and females in the knowledge of regular exercise shortening one's

life span was statistically significant with a P-value of 0.009 and showed that females had better knowledge of this than males. Also, the difference between the males and females in the knowledge of regular exercises decreasing the risk of developing type 1 diabetes mellitus was statistically significant with a P-value of 0.006 and this implied that males had better knowledge of this than females. These results were consistent with the study done by Aniodo et al on the knowledge, attitude and practice of physical activities among undergraduate students of University of Nigeria, Nsukka.[91] Their result showed that 66.34% of the respondents indicated high knowledge on what physical activity is all about and also showed that students of UNN had positive attitude towards physical activities participation just like the respondents in our own study. The similarity was so because their study just like ours was carried out in an academic environment. However, there is a disparity between the study conducted by Elamurugan et al and our study, where they estimated a total mean score of 20.53 ± 2.08 (< 50%) for the knowledge of exercise during pregnancy among antenatal mothers.[96] The difference in the knowledge of exercise between these antenatal mothers and students in our study may be because our study was conducted in an academic environment where people have more knowledge about exercise. A study done by Kumara et al on the knowledge, attitudes and practices towards exercise regarding physical activities among patients with type 2 diabetes also showed that most of the patients (58.3%) did not have adequate knowledge regarding physical activities.[95] This disparity may be because the study was carried out in a non academic environment unlike ours and also due to the fact that there was communication deficiencies during their consultation with health care professionals as a result of their increased number. Also, a study carried out by Loveness et al revealed that there was poor knowledge of exercise among women attending antenatal care at the university teaching hospital in Lusaka, Zambia.[94] This disparity may be due to the fact that the study was carried out in a hospital environment where both those that have knowledge about exercise and those that do not have knowledge come to receive medical care.

Our study showed that most of the respondents generally had a positive attitude towards exercise, although there existed statistically significant differences between the males and females. The attitude of being easy to accomplish activity and exercise goals by the respondents had a P-value of 0.005 which implied that males had better attitude to exercise than females in this aspect. The probability of exercising when they were tired was 0.000 which implied that males had better attitude towards exercise than females in respect to this. The probability of respondents exercising because they feel they ought to do it was 0.011 which showed that males had better attitude to this than females. The probability of the respondents exercising because they like to rather than because they feel they have to exercise was 0.017 which implied that males had better attitude to this than females. These findings were consistent with the results of the study done by Aniodo et al where the respondents had positive attitudes towards physical activities participation evidenced by a grand mean score of 2.82 which was above the criterion of 2.5.[91] Also, study by Elamrugan et al showed attitude of antenatal towards exercise was favourable (51%) despite their less than average knowledge of exercise.[96] The main reason for doing exercise in pregnancy was the belief that exercise reduced ailments in pregnancy, facilitates normal pregnancy, normal delivery and rapid postnatal recovery. So also was the study carried out by Ali et al where most of respondents (especially males) had positive attitude towards exercise.[92] The study carried out by Khaled et al showed that most of the students had a favourable attitude towards physical activity despite having poor knowledge of the benefits of physical activity.

The findings on the practice of exercise by students of COOUTH showed that majority of the respondents (92%) have participated in any exercise with a minority (11.3%) having active lifestyle with adequate levels of daily exercise. However, there existed a disparity between our study and the study carried out by Kumara et al, where the majority of their respondents (77.9%) had active lifestyle with adequate levels of daily physical activity despite having poor knowledge of physical activity. They were able to achieve this because most of them were engaged in moderate physical activities like gardening, washing clothes, washing vehicle, sweeping, bicycling slowly, swimming slowly, lifting/carrying light weight and outdoor sports.

There existed statistically significant differences between the males and females in the practice of exercise. The probability of the types of the exercises that the respondents had participated in was 0.000 which showed that males had participated in more exercises than the females. The probability of how frequent the respondents exercised was 0.000 which implied that males exercised more frequently than females. The probability of the duration of exercise by the respondents was 0.001 and this showed that males had longer duration of exercise than the females. The probability of where the exercise took place was 0.010 which implied that males exercised more outdoors while females exercised more indoors. The probability of when last the exercise took place was 0.015 and this implied that males exercised much more recently than females. The probability of the respondents continuing with the exercises was 0.000 and this indicated that males have higher chances of continuing with their exercise than females. The study done by Aniodo et al was consistent with our study of which 95.09% of the respondents indicated the true practice of physical activities just like ours but there existed a disparity in the daily practice of exercise between ours (11.3%) and theirs (69.6%).[91]The disparity was due to the fact that the students of University of Nigeria, Nsukka had more facilities for the

practice of exercise than the students of COOUTH. The study done by Ali et al showed that 23% of the male respondents and 13.70% of the females had desirable level of practice of exercise.[92] This was due to the fact that male students were provided with facilities more than females and also because of the level of interest among male students towards team sports such as football. The study done by Elamurugan et al showed that few of the women were practicing exercise in pregnancy.[96]The reason for this was easily identified as lack of awareness to practice of exercise.

VI. Conclusion And Recommendation

Conclusion

From our study, it can be noted that many of the students are aware of the term "exercise" and have a high knowledge of exercise because the research area was an academic environment. However, some of the students still have a misconception of exercise.

The attitude of most of the students towards exercise was generally favourable although, some of the respondents indicated that they don't feel happy participating in exercises.

The daily practice of exercise by the students was very poor despite having adequate knowledge of exercise and its importance, and also having a favourable attitude towards exercise. This deficient practice may be as a result of lack of sporting facilities, lack of time and tightness of their academic schedule.

In summary, there is a great need for students to improve on their level of practice of exercise so as to reduce the level of sedentary lifestyle and subsequently reduce the prevalence of non communicable diseases in our environment.

It is a common saying that "Healthy people make a healthy and wealthy nation", we believe that if the right medical attitude is practiced among the youths, our country Nigeria would record a great decline in the rate of morbidity and mortality of both the youths and the entire population in general.

Recommendation

Based upon the conclusions reached in this study, future research could benefit by following these recommendations:

1. The college authority should continue to provide to the students the opportunity to acquire more knowledge of physical activities by incorporating into their academic schedules, topics related to exercise.
2. The positive attitude of the students towards exercise should be maintained by the students engaging in exercise more often than they do now.
3. The students of COOUTH should increase their level of practice of exercise by engaging in physical activities at least 3 times a week with each lasting for at least 30 minutes so as to maintain physical fitness and healthy weight.
4. The students' association of COOUTH should make the college authority provide the students with adequate sporting facilities to enable them keep fit and maintain healthy lifestyle.

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