



Knowledge of Sedentary Lifestyle as a Risk Factor for Non-Communicable Diseases among Senior Non Academic Senior Staff of University of Nigeria Nsukka

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Abstract

The purpose of the study was to determine the level of knowledge of non-academic staff on sedentary lifestyle as a risk factor for non-communicable diseases. Three research questions and one hypothesis were postulated to guide the study. The study utilized the descriptive survey research design. Population for the study consisted of two thousand and seven senior administrative staff of University of Nigeria, Nsukka. The sample for the study was three hundred and fifteen senior administrative staff. The instrument for data collection was researcher's structured instrument based on literature reviewed called Knowledge of Sedentary Lifestyle as Risk Factor for Non-Communicable Diseases Questionnaire (KSLRFNCDQ). Kuder Richardson statistics was used to determine reliability coefficient of the KSLRFNCDQ which gave 0.70. Data collected were analyzed using Statistical Package for Social Sciences-IBM-SPSS version 21. Frequencies and percentage were used to answer all the research questions. Chi-Square statistic was used to test the null hypothesis at 0.05 level of significance. The results indicated that senior non-academic staff knowledge of sedentary lifestyle was high. Also, senior non-academic staff knowledge of sedentary lifestyle as risk factor for non-communicable diseases was high. There was no significant difference in the knowledge of sedentary lifestyle as risk factor for non-communicable diseases among senior non-academic senior staff of University of Nigeria Nsukka based on gender. It was concluded that although senior non-academic staff of University of Nigeria Nsukka were knowledgeable, they did not put their knowledge into practice to guide against non-communicable diseases. It was recommended that University should promote broad health and fitness programme talks such as counseling, seminars, workshops to stimulate staff to engage in regular physical activity, and provision to be made in terms allotting official days strictly for exercise to promote staff health.

Key words: Sedentary lifestyle, Knowledge, Risk factor, Non-Academic Staff, Health Promotion

Introduction

Non communicable diseases (NCDs) such as, diabetes, cancers, cardiovascular, chronic respiratory disease and others are major global public health challenge. Non communicable diseases cause an estimated 36 million deaths each year which represents 46% of the global disease rate. Approximately 80% of NCDs is estimated to occur in low and middle income groups. About 17% increases in death due to NCDs is expected to occur within ten years in Africa region where Nigeria is located (World Health Organisation- WHO, 2008). Sedentary lifestyle has been identified as one of the ten leading risk factors of non-communicable diseases, disability and death. According to World Health Organisation (2002) approximately 2 million deaths every year are attributable to sedentary lifestyle or insufficient physical activity and 60% to 80% proportion of adults live sedentary life. United Nations Health Agency in line with above asserted that nearly one quarter of many countries' adult population are leading sedentary life (WHO, 2017).

Sedentary lifestyle is associated with prolonged staying at a place like sitting at work, at home, at business centres, and sitting chatting with friends or co-staff, in a car driving or commuting and at leisure time relaxing with low energy expenditure (Owen, 2010; Sparling, Healy, Dunstan & Mathews 2010; Bushark, 2015). It includes prolonged use of screen-based media such as computer, cell phone and watching television (Marshall & Ramirez, 2011). According to Australian Department of Health (ADH, 2014), sedentary lifestyle is a type of lifestyle where an individual does not receive regular amount of physical activity. In line with above, Mfrekemfon & Okey-Orji (2015) asserted that it is a lifestyle that minimizes human movement, labour and muscular activities. In this study sedentary lifestyle is the sum of all activities that do not task the body to expend energy above one metabolic equivalent task (MET i.e. energy cost of sitting quietly or resting which is equivalent to caloric consumption of 1kcal/kg/hour. Metabolic Equivalent Task is used to assess the energy expenditure during activities. Running expends energy worth of 8 METs, brisk walking has a value of 3 to 4 METs while Sedentary

lifestyle is any activity that expends energy less than 1.5 METs (Owen, Leslie, Salmon & Fotheringham 2000; Pate, O'Neill & Lobelo 2008). Individuals are thus classified as Sedentary because of physical inactivity or based on engagement in activities that do not require high energy consumption (insufficient physical activity).

In the United States of America, adults spend 55% hours of the day in sedentary life. This implies that seven to ten hours each day were spent by most adults sitting at work or viewing television (Pereira, Ki and Power, 2012). In Nigeria, statistical data shows that 25%-57% of all Nigerian are physically inactive (Khan, 2012). This implies a high prevalence of sedentary lifestyle. If these proportions of Nigeria citizens are physically inactive, senior non academic staff of University of Nigeria Nsukka cannot be exonerated given the sedentary nature of their jobs that requires prolonged sitting at work and sitting time at home for relaxation after office work. Sedentary lifestyle as reported by De Rezende, Lopes, Rey-Lopez, Matsudo and Luiz (2014) may be a vital determinant of health. Less time spent on sedentary lifestyle is associated with increased health-related quality of life (Wu, Han, Zhang, Luo, Hu & Sun, (2017).

Senior non-academic staff refers to professionals' in managerial and service oriented areas of institutions administration (Roxana, 2019). Senior non-academic staff of University of Nigeria, Nsukka in this study refers to administrative staff on contract 6 and above who possess Bachelors degree or grew on the job. These staff include the core administrative officers', executive secretaries, those who do manual duties (works department), and other administrative staff who discharge day to day administrative task of University of Nigeria Nsukka. Senior non-academic staff job is sedentary in nature. It requires sitting at a place for many hours of the day in the offices attending to files and correspondences, surfing with computers or engaging in other administrative work or service delivery. They seem not to be engaging in sufficient physical activity of 30 minutes of moderate activity 150 minutes (2½ hours) 5 days in a week, or minimum of 75 minutes of vigorous activity in a week or combination of both moderate and vigorous activity as recommended by American College of Obstetricians and Gynaecology ACOG (2002), WHO (2010) and Center for Disease Control (CDC, 2015). Sedentary lifestyle, if not prevented on time may degenerate the body systems making them prone to non-communicable diseases such as cardiovascular (Ford & Caspersen, 2012), diabetes (Olusola and Adetunji 2017), cancer (Boyl, 2012), and many others which may lead to irreversible disability and deaths (Bushak, 2015).

Reports of studies show that sedentary life or insufficient physical activity is a risk factor for non-communicable diseases. It correlated with progression of heart diseases (Baysel, Bilgin, Cantekin & Bilgin, 2014), and other cardiovascular diseases (Ford & Caspersen, 2012; Kandola, 2018), cause cancer (Boyl, 2012 & Nascente, 2016), lead to development of type 2 diabetes (Olusola, & Adetunji, 2017), a risk factor to osteoporosis (Taylor, 2017), contribute to overweight (Olusola & Adetunji 2017) and obesity (Olusola & Adetunji, 2017; kandola, 2018), lead to depression (Teychennem, Ball & Samon, 2010), cause musculoskeletal disorder of the neck and upper extremity (Waersted, Honvold, & Veiersted, 2010), contribute to development and progression of parkinson's disease (Melao, 2018), is a risk factor to alzheimer's disease (Lerche, 2017). In bid to reduce the scourge of NCDs WHO (2013) drafted global action plan to ensure 25% reduction in death from NCDs and to reduce insufficient physical activity from 2013 – 2020 through knowledge enhancement on the benefits of regular physical activity with vision of reducing insufficient physical activity by 10%. Senior non academic staff of UNN is likely to take necessary actions and precaution to guide against sedentary lifestyle if they possess good knowledge of the negative health implications associated with sedentary lifestyle which is a risk factor of NCDs.

Knowledge is possession of information, skill and understanding gained through learning and experience (Oparah, Fidelis & Nwankwo, 2014). In this study, knowledge is referred to as all information, understanding and familiarity gained by learning and experience that will enable senior non-academic staff of UNN to recognize sedentary lifestyle which is a risk factor for non-communicable diseases so as to be able to practice healthy lifestyle to avoid diseases. Knowledge of sedentary lifestyle is an important prerequisite for an individual to implement desirable behavioural practices towards its prevention. Moronkola and Okonlawon (2003) opined that knowledge helps to create a change in behavior towards healthy lifestyle. Lack of such knowledge will aggravate non-communicable diseases. Aderibigbe, Sule, Olatona, Goodman and Sekoni (2017) in their study observed that knowledge did not significantly influence living sedentary lifestyle. Senior non-academic staff are expected to possess adequate knowledge of sedentary lifestyle as risk factor for non-communicable diseases in order to promote their health by averting adverse health problems.

Risk factors are situations or conditions capable of leading to adverse conditions or facilitating the likelihood of a disease or health disorder to manifest (WHO, 2018). Risk factor is something one indulges in which increases the chance of getting a disease or certain health condition (Medlineplus, 2019). In this study risk factor refers to lifestyle of insufficient physical activity which classifies one as being sedentary which is capable of

disposing one to NCDs. Demographic variable of gender may play vital role in ones indulgence in sedentary lifestyle.

Gender play serious role in sedentary lifestyle. Gender is the biological sex of an individual (usually male or female) which specifies cultural or societal role. Gender may have influence on sedentary life and knowledge of sedentary lifestyle as risk factor for non-communicable diseases. Akinkugbe (2003) observed that women are prone to sedentary lifestyle more than men due their docile nature especially at menopause stage, when arteriosclerosis in women which rapidly increases more than in men hamper mobility. Nascente et al (2016) in their study observed that sedentary lifestyle was more frequent in females than in males with proportions of 78.0% and 54.3% respectively. This signifies that female sex was directly associated with sedentary lifestyle. Against this background it was part of the focus of this study to find out if disparity exist between gender on knowledge of sedentary lifestyle as risk factor for NCDs.

Purpose of the Study

The purpose of the study was to determine:

1. Knowledge of sedentary lifestyle among non-academic senior staff of University of Nigeria, Nsukka.
2. Knowledge of sedentary lifestyle as risk factor for non-communicable diseases among non-academic senior staff of University of Nigeria, Nsukka .
3. Knowledge of sedentary lifestyle as risk factor for non-communicable diseases among non-academic senior staff of University of Nigeria Nsukka based to gender.

Research Questions

The following research questions were posed to guiding the study:

1. What is the knowledge of sedentary lifestyle among non-academic senior staff of University of Nigeria, Nsukka?
2. What is the knowledge of sedentary lifestyle as risk factor for non-communicable diseases among non-academic senior staff of University of Nigeria, Nsukka ?
3. What is the knowledge of sedentary lifestyle as risk factor for non-communicable diseases among non-academic senior staff of University of Nigeria, Nsukka based on gender?

Hypotheses

The following null hypothesis was postulated and tested at .05 level of significance.

1. There is no significant difference in the knowledge of sedentary lifestyle as risk factor for non-communicable diseases among non-academic senior staff of University of Nigeria, Nsukka based on gender.

Method

The study utilized survey research design. Population for the study consisted of 2007 senior non academic staff of University of Nigeria, Nsukka . The sample for the study was 315 senior non-academic staff, determined with Taro Yamane formula (1967) and selected through random sampling without replacement technique . The instrument for data collection was researcher's structured instrument based on literature reviewed called Knowledge of Sedentary Lifestyle as Risk factor for Non-Communicable Diseases Questionnaire (KSLRFNCDQ). The validity of the instrument was determined by the consensus of five experts drawn from the Department of Human Kinetics and Health Education University of Nigeria, Nsukka. The instrument consisted of three sections (A, B & C). Section 'A' contained items that elicited information on personal data of the respondents. Section 'B' contained items on knowledge of sedentary lifestyle, while section 'C' contained items on sedentary lifestyle as risk factor for non-communicable diseases. Kuder Richardson statistics was used to determine reliability coefficient of the KSLRFNCDQ which gave 0.70. Data was collected from senior non-academic staff of University of Nigeria, Nsukka by personal visit to their respective offices. Data collected were analyzed using Statistical Package for Social Sciences-IBM-SPSS version 21 statistics. Frequencies and percentages were used to answer all the research questions. Chi-Square statistic was used to test the null hypothesis at 0.05 level of significant. Level of knowledge was interpreted as very low (0 – 9%), low (10 -39%), moderate (40 – 59%), high (60 – 79%) and very high (80% and above) as indicated by Okafor (1997).

Research question one

What is the knowledge of sedentary lifestyle among senior non-academic staff of University of Nigeria Nsukka? Data answering this research question are contained in Table 1.

Table 1

Knowledge of Sedentary Lifestyle among Non-academic senior staff (n=315)

S/N	Item statement	Yes f(%)	No f(%)	Decision
1.	Sedentary lifestyle is sitting at a place for more than two hours	243(77.1)	72(22.9)	H
2.	Not engaging in moderate physical activity three times in a week is sedentary	221(70.2)	94(29.8)	H
3.	Not trekking a distance of about 5,000 steps three times in a week is sedentary	221(70.2)	94(29.8)	H
4.	Engaging in daily activities of less than 1.5 metabolic rate is sedentary	187(59.4)	128(40.6)	M
5.	Chatting with co-staff or friend for more than two hours is sedentary	206(65.4)	109(34.6)	H
6.	Sitting in an office attending to files for more than two hours is sedentary	203(64.4)	112(35.6)	H
7.	Sitting at a meeting for more than two hours is sedentary	208(66.0)	107(34.0)	H
8.	Reclining on chair in sitting room after work, watching TV or listening to radio for more than two hours is sedentary	206(65.4)	109(34.6)	H
9.	Travelling in a vehicle for more than two hours is sedentary	208(66.0)	107(34.0)	H
	Overall (%)	67.1	32.9	H

Key: **VH** = Very High; **H** = High; **M** = Moderate; **L** = Low; **VL** = Very Low.

Table 1 showed that the overall percentage of senior non-academic staff knowledge of sedentary lifestyle was (High) 67.1%. The data indicated moderate knowledge only in item 4.

Research question two

What is the knowledge of sedentary lifestyle as risk factor for non-communicable diseases among senior non-academic staff of University of Nigeria Nsukka? Data answering this research question are contained in Table 2.

Table 2

Knowledge of Sedentary Lifestyle as Risk Factor for Non-Communicable Diseases among senior non-academic staff (n = 315)

S/N	Item statement	Yes f(%)	No f(%)	Decision
10.	Sitting at a place regularly predispose one to cancer	204(64.8)	111(35.2)	H
11.	Lack of physical activity can lead to osteoporosis	240(76.2)	75(23.8)	H
12.	Sitting at a place can lead to Alzheimer's disease	155(49.2)	160(50.8)	M
13.	Sitting at a place can lead to Parkinson's disease	151(47.9)	164(52.1)	M
14.	Sedentary can lead to cardiovascular disease	207(65.7)	108(34.3)	H
15.	Sitting at a place can lead to osteoarthritis	219(69.5)	96(30.5)	H
16.	Sitting at a place can lead to multiple sclerosis	165(52.4)	150(47.6)	M
17.	Sedentary can lead to atherosclerosis	201(63.8)	114(36.2)	H
18.	Sitting at a place can lead to scoliosis	195(61.9)	120(38.1)	H
19.	Lack of regular physical activity can lead to pre mature aging	235(74.6)	80(25.4)	H
20.	Sedentary can lead to muscle degeneration	188(59.7)	127(40.3)	M
	Overall (%)	62.3	37.7	H

Key: **VH** = Very High; **H** = High; **M** = Moderate; **L** = Low; **VL** = Very Low.

Table 2 shows that the overall percentage of non-academic senior staff knowledge of sedentary lifestyle as risk factor for non-communicable diseases was (High) 62.3 per cent. The data however indicated moderate knowledge in items 12, 13, 16 and 20.

Research question three

What is the knowledge of sedentary lifestyle as risk factor for non-communicable diseases among non-academic Senior staff of University of Nigeria Nsukka based on gender? Data answering this research question are contained in Table 4.

Table 3

Knowledge of Sedentary Lifestyle as Risk Factor for Non-communicable Disease among senior non-academic staff based on Gender (n = 315)

S/N	Item statement	Male (n = 157)		D	Female (n = 158)		D
		Yes f(%)	No f(%)		Yes f(%)	No f(%)	
10.	Sitting at a place regularly predispose one to cancer	103(65.6)	54(34.4)	H	101(63.9)	57(36.1)	H
11.	Lack of physical activity can lead to osteoporosis	119(75.8)	38(24.2)	H	121(76.6)	37(23.4)	H
12.	Sitting at a place can lead to Alzheimer's disease	83(52.9)	74(47.1)	M	72(45.6)	86(54.4)	M
13.	Sitting at a place can lead to Parkinson's disease	74(47.1)	83(52.9)	M	77(48.7)	81(51.3)	M
14.	Sedentary can lead to cardiovascular disease	101(64.3)	56(35.7)	H	106(67.1)	52(32.9)	H
15.	Sitting at a place can lead to osteoarthritis	111(70.7)	46(29.3)	H	108(68.4)	50(31.6)	H
16.	Sitting at a place can lead to multiple sclerosis	88(56.1)	69(43.9)	M	77(48.7)	81(51.3)	M
17.	Sedentary can lead to atherosclerosis	101(64.3)	56(35.7)	H	100(63.3)	58(36.7)	H
18.	Sitting at a place can lead to scoliosis	97(61.8)	60(38.2)	H	98(62.0)	60(38.0)	H
19.	Lack of regular physical activity can lead to pre mature aging	121(77.1)	36(22.9)	H	114(72.2)	44(27.8)	H
20.	Sedentary can lead to muscle degeneration	99(63.1)	58(36.9)	H	89(56.3)	69(43.7)	M
	Overall (%)	63.5	36.5	H	61.2	38.8	H

Key: **VH** = Very High; **H** = High; **M** = Moderate; **L** = Low; **VL** = Very Low; **D** = Decision.

Data in Table 3 shows that overall percentage of males (63.5%) had higher knowledge of sedentary lifestyle as risk factor for non-communicable diseases than females (61.2%). Both men and women showed moderate knowledge in items 13, while female alone showed moderate knowledge in items 12 and 16.

Hypothesis

There is no significant difference in the knowledge of sedentary lifestyle as risk factor for non-communicable disease among non-academic senior staff of University of Nigeria Nsukka based on gender. Data testing this hypothesis are contained in Table 7.

Table 4

Chi-square Analysis of no Significant Difference in the Knowledge of Sedentary Lifestyle as Risk Factor for Non-communicable Disease among Senior Non-academic Staff Based on gender (n = 315)

S/N	Item statement	Male (n = 157)		Female (n = 158)		X ^{2-cal}	Df	P-Val	D
		Yes O(E)	No O(E)	Yes O(E)	No O(E)				
10.	Sitting at a place regularly predispose one to cancer	103(101.7)	54(55.3)	101(102.3)	57(55.7)	.098	1	.755*	
11.	Lack of physical activity can lead to osteoporosis	119(119.6)	38(37.4)	121(120.4)	37(37.6)	.027	1	.870*	
12.	Sitting at a place can lead to Alzheimer's disease	83(77.3)	74(79.7)	72(77.7)	86(80.3)	1.677	1	.195*	
13.	Sitting at a place can lead to Parkinson's disease	74(75.3)	83(81.7)	77(75.7)	81(82.3)	.081	1	.776*	
14.	Sedentary can lead to cardiovascular disease	101(103.2)	56(53.8)	106(103.8)	52(54.2)	.266	1	.606*	
15.	Sitting at a place can lead to osteoarthritis	111(109.2)	46(47.8)	108(109.8)	50(48.2)	.205	1	.651*	
16.	Sitting at a place can lead to multiple sclerosis	88(82.2)	69(74.8)	77(82.8)	81(75.2)	1.690	1	.194*	
17.	Sedentary can lead to atherosclerosis	101(100.2)	56(56.8)	100(100.8)	58(57.2)	.037	1	.848*	
18.	Sitting at a place can lead to scoliosis	97(97.2)	60(59.8)	98(97.8)	60(60.2)	.002	1	.965*	

19.	Lack of regular physical activity can lead to pre mature aging	121(117.1)	36(39.9)	114(117.9)	44(40.1)	1.005	1	.316*
20.	Sedentary can lead to muscle degeneration	99(93.7)	58(63.3)	89(94.3)	69(63.7)	1.482	1	.224*

Key: O = Observed Frequency; E = Expected Frequency; df = Degree of Freedom; D* = Not Significant; D** = Significant.

Table 4 shows all the items Chi-square value with the corresponding P-value for hypothesis of no significant difference in the knowledge of sedentary lifestyle as risk factor for non-communicable diseases among senior non-academic staff based on gender. Since the P-values were greater than .05 level of significance at 1 degree of freedom, the hypothesis of no significant difference was therefore not rejected. This implies that no significant difference existed in knowledge of sedentary lifestyle as risk factor for non-communicable diseases among senior non-academic staff based on gender.

Discussion of Findings

The findings of the study revealed high Knowledge by senior non-academic staff of University of Nigeria, Nsukka on sedentary lifestyle and sedentary lifestyle as a risk factor for non-communicable diseases. This result was however expected because they are all well educated and educational process exposes individuals to varied forms of information. They can source information through radios, newspapers, television programmes, books, films and internet. Senior non-academic staff since they have high knowledge are expected to prevent adverse health risk of living sedentary lifestyle by staying active because already they know the possible implications of leading sedentary lifestyle. Moronkola and Okonlawon (2003) posited that knowledge helps to create a change in behaviour towards health and lifestyles. Concomitantly, having appropriate knowledge does not guarantee appropriate actions. This is in-line with Aderibigbe, Sule, Olatona, Goodman and Sekoni (2017) who observed in their study that knowledge did not significantly influence living sedentary lifestyle. Non-academic senior staff of University of Nigeria, Nsukka may have high knowledge of sedentary lifestyle and the health implications associated with it, but lack the will power and probably opportunity to practice active lifestyle.

The finding also revealed that men had higher knowledge than women, although the difference was not significant from the Chi-square result, it indicated that gender had little influence on sedentary life and knowledge of sedentary lifestyle as risk factor for non-communicable diseases. This is in line with Akinkugbe (2003) and Nascente et al observation that women are prone to sedentary lifestyle more than men, this probably could be due to insufficient knowledge unlike men or lack of time as result of varied domestic chores which await them at close of official jobs.

Conclusion

Based on the results of the study, it was concluded that non-academic senior staff of University of Nigeria, Nsukka have high knowledge of sedentary lifestyle and the health problems associated with it. This high knowledge could be as a result of their level of education and exposure. It is expected that their high knowledge will induce them to engage regularly in physical activities in view of the sedentary nature of their work.

Recommendations

1. University should promote broad health and fitness programme talks such as seminars, workshops to stimulate staff especially women to engage in regular physical activity.
2. Provision should be made in terms allotting official days strictly for exercise.

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