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*Afr. J. Biomed. Res. Vol. 23 (Special Edition, July, 2020); 111- 118*

*Research Article*

## **Lifestyle Habits and Cardiovascular Risk Factors Among Nurses at The University College Hospital, Ibadan, Southwest Nigeria**

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### **ABSTRACT**

This study set out to identify the unhealthy lifestyle habits adopted by nurses at the University College Hospital (UCH), Ibadan which could predispose to Cardiovascular diseases (CVDs) and assess the cardiovascular risk factors among them. A cross sectional study design was utilized. The study population consisted of nurses working on the wards at the UCH, Ibadan who were between the ages of 30-60 years. Systematic random sampling was adopted in selecting 196 nurses for this study. A structured questionnaire was administered to consenting nurses. Focus group discussions were conducted to further probe into the details of the questionnaire. 94.9% of respondents were female and the mean age of respondents was 39.3±7.4 years. About 32% of the respondents engaged in moderate exercise less than once a week, 59% of the respondents slept between 5-6 hours at night, 44.9% ate fried food 1-2 times weekly, 42.9% consumed one or more litres of soda drink per week. Majority demonstrated high level of awareness about cardiovascular risk factors such as cigarette smoking (78.1%), alcohol use (76.5%), overweight/obese (75.5%), high blood cholesterol (73.5%), physical inactivity (71.9%) and diabetes mellitus (70.9%). However, there was a low level of awareness about cardiovascular risk factors such as race (41.3%) and gender (34.2%). A significantly higher proportion (70%) of respondents who ate fried foods on an average of 3-6 times per week were overweight/obese ( $p=0.016$ ). Obesity was also associated with family history of cardiovascular diseases ( $p=0.04$ ). The focus group discussions highlighted nurses' views about difficulties in practicing known healthy lifestyle habits. The study highlighted a moderate prevalence of cardiovascular risk factors such as obesity, consumption of fried foods and physical inactivity among nurses. Efforts should be directed towards the promotion of healthy lifestyles among nurses.

**Keywords:** *Lifestyle habits, Cardiovascular risk factors, Nurses.*

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*Received: September, 2019; Accepted: March, 2020; Published: July 2020*

### **Abstracted by:**

*Bioline International, African Journals online (AJOL), Index Copernicus, African Index Medicus (WHO), Excerpta medica (EMBASE), CAB Abstracts, SCOPUS, Global Health Abstracts, Asian Science Index, Index Veterinarius*

### **INTRODUCTION**

The incidence of non-communicable diseases has been on the increase in recent years, and the dominance of cardiovascular disease as a major contributor to global mortality has been identified. According to the World Health Organization, over 80% of world deaths due to heart disease occur in low- and middle-income countries (WHO, 2015). An increasing trend in developing countries to imbibe western pattern of lifestyle without contemplating the health implications has been documented as a major contributor to developing cardiovascular diseases (Willett et al, 2002).

Some cardiovascular risks factors like smoking and alcohol consumption are modifiable while other like family history and race cannot be modified. The presence of any of the known risk factor increases the chance of developing

cardiovascular diseases (World Heart Federation, 2017). Therefore, specific approaches to reduce these risk factors largely by lifestyle modification would inevitably reduce the morbidity and mortality due to cardiovascular diseases (National Health Service, UK, 2017).

Generally, the rise in affluence and seemingly fashionable nature of western culture makes unhealthy lifestyle habits flamboyant. The unhealthy lifestyle of some elite which predisposes to cardiovascular diseases can only be modified and ameliorated if there is evidence based epidemiological data on the underlying factors which influence such behaviour. This study on nurses should identify the prevalence of unhealthy habits that are associated with cardiovascular diseases which is responsible for the recent upsurge in sudden death in Nigeria.

Nurses are health workers who should be a model to the rest of the population. They are particularly at risk of cardiovascular diseases because they are in the middle socioeconomic class and have a high exposure to western culture. Information about cardiovascular disease risk amongst nurses in comparison to the general population is scarce. Studies among adult staff of the Federal Medical Centre Umuahia, between ages 40-60 have shown a prevalence of Hypertension (37%), Obesity (40.8%) and metabolic syndrome (24.7%) amongst others while only 2% had very low risk for cardiovascular diseases (Uwanuruochi 2013). This amongst other studies has identified a rise in deaths due to cardiovascular diseases among health workers. It is therefore necessary to highlight the reasons why healthcare workers engage in these unhealthy habits. Findings from this study will assist in the development of programmes to prevent cardiovascular diseases among healthcare workers.

## **MATERIALS AND METHODS**

**Study design:** This is a cross-sectional study designed to identify the unhealthy lifestyle habits adopted by nurses in the University College Hospital, Ibadan which could predispose to cardiovascular diseases and sudden death. The study would also assess the cardiovascular risk factors among them.

**Study population** Nurses in University College Hospital, Ibadan between ages 30-60 years.

**Study area and setting:** This study was carried out at the wards of the University College Hospital Ibadan (U.C.H.), Ibadan between June 2016-2017. UCH Ibadan is a foremost tertiary hospital in Nigeria. The hospital was built in 1957. The hospital has a staff strength of about 4,000 persons in a variety of occupational groups; healthcare, technical and administrative staff working in 68 departments. It has 53 service and clinical departments and runs 75 consultative out-patient clinics a week in 45 specialty and sub-specialty disciplines. The hospital bed capacity is 1000.

**Sample size determination:** The sample size for this study was determined using (Yamane, 1967) sample size formula for determining minimum sample size at 95% confidence interval and a level of error tolerance of 5%. With the total number of nurses in UCH of 1200, a sample size of 174 was calculated. After adjusting the sample for 10% non-response, a sample size (n) = 191 was obtained.

**Sampling Method:** Systematic sampling method was used to select nurses from a list of nurses in the various wards.

**Statement on invasive sampling:** A drop of blood from a thumb pin prick was collected from the nurses for the random plasma glucose estimation. It was minimally invasive and minimal pain was experienced. The plasma random glucose level was estimated using a glucometer.

**Data collection, instrument and quality control:** A structured questionnaire was used to collect data on lifestyle habits of nurses that are related to cardiovascular risk, identify the reasons why these lifestyle habits have been adopted,

determine their knowledge of the health implications of specific lifestyle habits, the preventive practices to reduce the risk of CVDs and what preventive lifestyle habits they have adopted. A clinic visit was subsequently set up for each respondent at the staff clinic to enable him/her to have physical measurements taken, with further assessment of any incident cardiometabolic risk factors. Anthropometric measurements for body mass index (kg/m<sup>2</sup>) and waist circumference (cm) were done. Measurements of height and weight were done using a stadiometer and bathroom weighing scale respectively. Blood pressure was also checked using adult size mercury sphygmomanometer. Blood sugar was measured using a glucometer.

Focus group discussions were conducted with respondents divided into four groups to further probe into the details of the questionnaire and obtain information about the challenges that nurses have in practicing healthy lifestyles and practical suggestions to help them improve and practice these healthy lifestyle habits.

**Data analysis:** Data entry and analysis was done using SPSS version 22.0. Descriptive statistics such as frequency counts, percentages and mode were used to summarize the results. Chi-square test was used to test association between variables. Respondents who had less than five servings of fruits and vegetables (<2 servings of fruits and <3 servings of vegetables) on any of the days in the last 30 days preceding the survey were classified as having unhealthy dietary behaviour.

Adequate physical activity was considered to be engaging in sustained moderate-vigorous physical activity (MVPA) for at least 30 minutes on five or more days per week, whether in leisure time or integrated into their everyday life while physical inactivity was considered as engaging in sustained moderate-vigorous physical activity (MVPA) for at least 30 minutes for less than five days per week.

Overweight was defined as a body mass index  $\geq 25.0$  kg/m<sup>2</sup>. Normal waist circumference is less 94cm in men and less 80 cm in females, Overweight is 95-101cm in males and 81-87cm in females, Obese is 102 cm and greater for men and 88cm and greater in females.

Hypertension was defined as systolic blood pressure (SBP) of  $\geq 140$  mmHg, diastolic blood pressure (DBP) of  $\geq 90$  mmHg. Random blood sugar between 70-140mg/dl is normal while values between 141-199mg/dl is high blood sugar.

## **Ethical considerations**

Ethical approval was given by UI/UCH Ethical Committee. The research data was treated with utmost confidentiality in order to protect the participants of the research. Serial numbers were assigned to participants instead of their real names. Participation in this study was entirely voluntary and participants were free to withdraw at any time

## **RESULTS**

A total of 196 nurses were interviewed, 94.9% female and 5.1% male. Table 1 shows the socio- demographic characteristics of the nurses. Majority (84.2%) of the respondents were of Yoruba descent. Majority (86.2%) were

Christians. Most (83.2%) were married and 92.9% were from monogamous families. A higher proportion (70.9%) were from clinical nursing sub-specialty. About equal proportion (43.9%) and (43.4%) had either a certificate/diploma or bachelor's degree respectively as their highest educational qualification. Over two-fifths (40.3%) of respondents had 1-10 years' experience as a nurse while, 61.8% had worked in the teaching hospital for 1-10 years. Nearly half (44.4%) were in the Nursing Officers' cadre.

**Table 1.**  
Sociodemographic characteristics of respondents

Variable (N=196)	Frequency (n)	Percentage (%)
<b>Age (years)</b>		
20-29	9	4.7
30-39	92	46.9
40-49	71	36.2
50-59	24	12.2
Mean age (years)		39.30±7.41
<b>Sex</b>		
Female	186	94.9
Male	10	5.1
<b>Ethnicity</b>		
Yoruba	165	84.2
Igbo	24	12.2
Others*	7	3.6
<b>Religion</b>		
Christianity	169	86.2
Islam	24	12.2
Traditional	3	1.6
<b>Marital status</b>		
Single	30	15.3
Married	163	83.2
Others‡	3	1.5
<b>Family type</b>		
Monogamous	182	92.9
Polygamous	14	7.1
<b>Specialty</b>		
Clinical nursing	139	70.9
Public health	23	11.7
Psychiatry	22	11.2
Nursing education	8	4.1
Theatre	4	2.0
<b>Highest education</b>		
Certificate/diploma	86	43.9
Bachelor	85	43.4
Post graduate	25	12.8
<b>Nursing category</b>		
ADNS	11	5.6
Chief Nursing Officer	49	25.0
Principal Nursing Officer	21	10.7
Senior Nursing Officer	28	14.3
Nursing Officer	87	44.4

\*Widowed and separated. ADNS Assistant Director of Nursing Services

Table 2 shows the lifestyle habits of nurses. Majority (91.8%) of the nurses had unhealthy dietary behaviour and about three-quarters (77%) were physically inactive. 9.2% had ever taken alcohol while 3.1% had ever smoked cigarettes. Slightly over 40% of the nurses take one or more litres of soda drinks

weekly and nearly half (44.9%) eat fried foods 1-2 times per week.

**Table 2.**  
Prevalence of lifestyle habits of nurses

Risk factors (N=196)	Frequency (n)	Percentage (%)
<b>Unhealthy diet</b>		
Yes	180	91.8
No	16	8.2
<b>Physical inactivity</b>		
Yes	151	77.0
No	45	23.0
<b>Ever consumed alcohol</b>		
No	178	90.8
Yes	18	9.2
<b>Ever smoked tobacco</b>		
No	190	96.9
Yes	6	3.1
<b>Soda drinks</b>		
Less than 500mls per week	112	57.1
One or more litres per week	84	42.9
<b>Consumption of fried foods</b>		
Less than once a week	62	31.6
1-2 times/week	88	44.9
3-6 times/week	40	20.4
Everyday	6	3.1

**Table 3.**  
Prevalence of cardiovascular risk factors among nurses

Risk factors (N=196)	Frequency (n)	Percentage (%)
<b>Waist circumference</b>		
Normal	82	41.8
Overweight/Obese	114	58.2
<b>Family history of CVD</b>		
Yes	91	46.4
No	105	53.6
<b>BMI</b>		
Underweight	28	14.3
Normal weight	88	44.9
Overweight/Obese	80	40.8
<b>Previous history of CVD</b>		
Yes	13	6.6
No	183	93.4
<b>Systolic hypertension</b>		
Yes	3	1.5
No	193	98.5
<b>Random blood sugar</b>		
Normal	193	98.5
High	3	1.5

CVD Cardiovascular disease. BMI Body Mass Index

Table 3 shows the prevalence of cardiovascular risk factors among nurses. The prevalence of overweight/obese using waist circumference (58.2%) was higher compared to using BMI (40.8%). Almost half (46.4%) had a family history of cardiovascular disease while, 6.6% of the respondents had a previous history of cardiovascular disease. An equal proportion (1.5%) had systolic hypertension and high blood sugar.

Table 4 shows practices of nurses to prevent cardiovascular disease. More than half (52.6%) of respondents exercises regularly, majority (78.1%) and (79.1%) do not smoke cigarette or drink alcohol respectively. Almost two-thirds (63.8%) avoid excessive consumption of fried foods. However, a low proportion (41.3%) of respondents go for regular checkup.

**Table 4.**  
Practices of Nurses to prevent cardiovascular disease

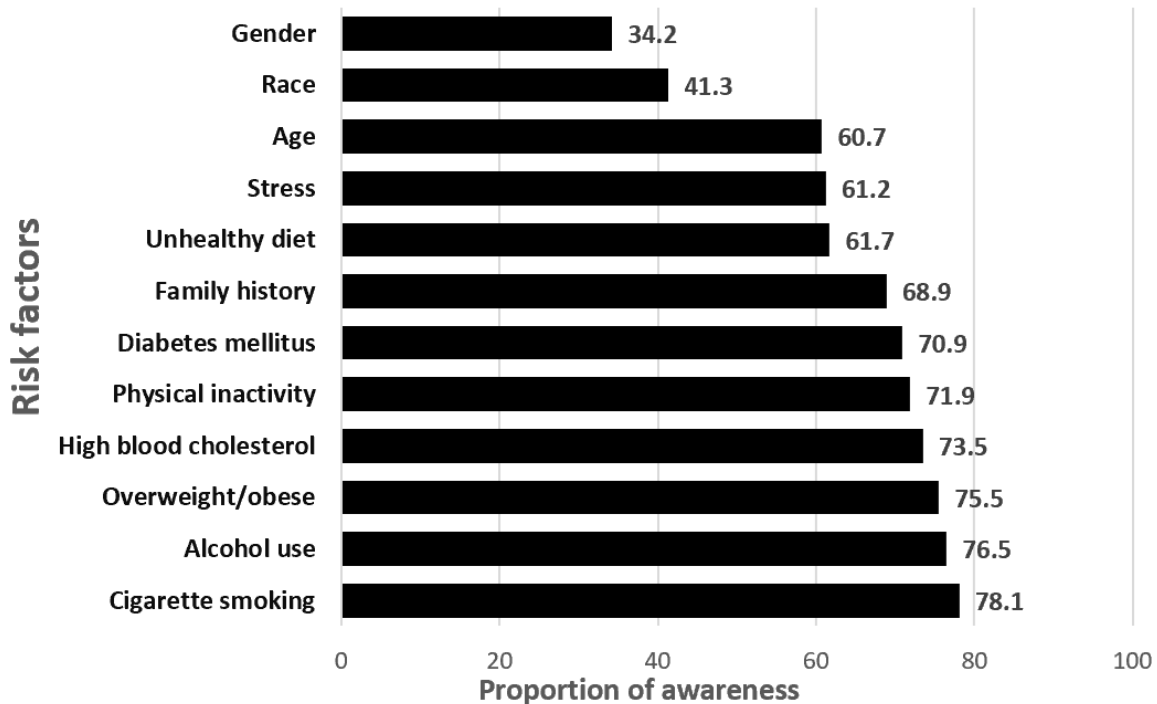
Variables (N=196)	Frequency (n)	Percentage (%)
<b>Exercises regularly</b>		
Yes	103	52.6
No	93	47.4
<b>Do not smoke regularly</b>		
Yes	155	79.1
No	41	20.9
<b>Do not consume alcohol</b>		
Yes	153	78.1
No	43	21.9
<b>Avoid excessive consumption of fried foods</b>		
Yes	125	63.8
No	71	36.2
<b>Do not consume soda drinks</b>		
Yes	101	51.5
No	95	48.5
<b>Go for regular medical checkup</b>		
Yes	81	41.3
No	115	58.7

Figure 1 shows the nurses' awareness of cardiovascular risk factors. Majority demonstrated high level of awareness about cardiovascular risk factors such as cigarette smoking (78.1%), alcohol use (76.5%), overweight/obese (75.5%), high blood cholesterol (73.5%), physical inactivity (71.9%) and diabetes mellitus (70.9%). However, there were low level of awareness about cardiovascular risk factors such as race (41.3%) and gender (34.2%).

Table 5 shows the bivariate analysis of sociodemographic characteristics with obesity.

A significantly higher proportion of Igbos (66.7%) than Yorubas (58.8%) were overweight/obese ( $p=0.038$ ). A significantly higher proportion (92.9%) of nurses in polygamous relationships than (55.5%) in monogamous relationships were overweight/obese ( $p=0.006$ ). More married respondents (60.7%) than single respondents (46.7%) were overweight/obese. However, this was not significant. A higher proportion (59.1%) of females than males (40.0%) were overweight/obese. However, this was not significant.

With respect to lifestyle habits, Table 6 shows that a significantly lower proportion of respondents with physical inactivity were overweight/obese (54.3%) compared to 71% who did not report physical inactivity ( $p=0.045$ ). A significantly higher proportion of respondents with family history of cardiovascular disease were overweight/obese (65.9%) compared to 51.4% who did not have a family history of cardiovascular diseases ( $p=0.040$ ). A significantly higher proportion (70%) of respondents who ate fried foods on an average of 3-6 times per week were overweight/obese compared to 53% who ate fried foods less than once weekly, ( $p=0.016$ ).



**Figure 1:**  
Awareness of cardiovascular risk factors.

**Table 5.**

Association between respondents' socio-demographic characteristics and overweight/obese

Variable		Overweight/ Obese		$\chi^2$	p-value
		No n (%)	Yes n (%)		
Sex	Male	6 (60.0)	4 (40.0)	**	0.326
	Female	76 (40.9)	110 (59.1)		
Age (years)	20-29	3 (33.3)	6 (66.7)	2.905	0.407
	30-39	44 (47.8)	48 (52.2)		
	40-49	25 (35.2)	46 (64.8)		
	≥ 50	10 (41.7)	14 (58.3)		
Ethnicity	Yoruba	68 (41.2)	97 (58.8)	6.556 <sup>†</sup>	<b>0.038</b>
	Igbo	8 (33.3)	16 (66.7)		
	Others*	6 (85.7)	1 (14.3)		
Religion	Christianity	73 (43.2)	96 (56.8)	2.528 <sup>†</sup>	0.282
	Islam	7 (29.2)	17 (70.8)		
	Traditional	2 (66.7)	1 (33.3)		
Marital status	Single	16 (53.3)	14 (46.7)	2.799 <sup>†</sup>	0.247
	Married	64 (39.3)	99 (60.7)		
	Others <sup>‡</sup>	2 (66.7)	1 (33.3)		
Family type	Monogamous	81 (44.5)	101 (55.5)	7.458	<b>0.006</b>
	Polygamous	1 (7.1)	13 (92.9)		
Highest education	Certificate /diploma	35 (40.7)	51 (59.3)	0.181	0.914
	Bachelor	37 (43.5)	48 (56.5)		
	Post grad.	10 (40.0)	15 (60.0)		

<sup>‡</sup>Widowed and separated.

<sup>†</sup> Likelihood ratio \*\* Fisher's exact test

**Table 6.**

Association between respondents' lifestyle habits and overweight/obese

Variable		Overweight/ Obese		$\chi^2$	p-value
		No n (%)	Yes n (%)		
Smoking	Yes	3 (50.0)	3 (50.0)	**	0.696
	No	79 (41.6)	111 (58.4)		
Alcohol intake	Never	73 (41.0)	105 (59.0)	0.543	0.461
	Ever taken	9 (50.0)	9 (50.0)		
Physical inactivity	No	13 (28.9)	32 (71.1)	4.024	<b>0.045</b>
	Yes	69 (45.7)	82 (54.3)		
Unhealthy dietary behaviour	No	4 (25.0)	12 (75.0)	2.030	0.154
	Yes	78 (43.3)	102 (56.7)		
Family history of CVD	No	51 (48.6)	54 (51.4)	4.215	<b>0.040</b>
	Yes	31 (34.1)	60 (65.9)		
Consumption of fried foods	Less than once/week	29 (46.8)	33 (53.2)	10.320 <sup>†</sup>	<b>0.016</b>
	1-2 times/week	41 (46.6)	47 (53.4)		
	3-6 times/week	12 (30.0)	28 (70.0)		
	Everyday	0 (0.0)	6 (100.0)		

\*\* Fisher's exact test <sup>†</sup> Likelihood ratio

**Report on The Focused Group Discussion Among Nurses (Senior and Junior).**

Every nurse who was interviewed knew exactly what cardiovascular disease is. In her words, a junior nurse said "Cardiac deals with heart and vascular deals with vessels. Therefore, it can be classified as diseases affecting the heart and the blood vessels" while a senior nurse simply put it as "diseases that affect the heart and the blood vessels"

They gave examples of these cardiovascular diseases to be: congestive cardiac failure, hypertension, ischemic heart disease, acute coronary syndrome, myocardial infarction, stroke and pericarditis. The senior nurses added the following to the list of the examples: Cerebro-vascular accident, hypertension, atherosclerosis, thrombo-embolism and coronary artery diseases. Junior nurses included additional number of examples like; Angina Pectoris, Venous diseases and peripheral arterial diseases.

When asked about risk factors, the senior nurses mentioned obesity, age (old age), congenital, lack of exercise, sedentary life style, fatty diet, hereditary, smoking and alcohol. Some disease conditions and factors such as hypertension, renal diseases, alcohol intake, hereditary, cancer, genetic, sex and age were also mentioned as risk factors. The junior nurses corroborated the points mentioned by their senior counterparts as they listed examples such as; sedentary lifestyle, lack of exercise, socioeconomic status, hereditary, obesity, family history, diet, smoking, congenital heart diseases, steroids, adverse drug reaction, inadequate sleep and stress.

The nurses said: health education on lifestyle modification, public awareness, exercise, taking cholesterol free oil, stress reduction, low intake of salt, minimal carbohydrate intake and if placed on drugs, regular medical checkups are some of the solutions to reduce the risk of cardiovascular disease among them. In her words, a senior nurse said, "adjust dietary lifestyle, regular BMI check and take actions if overweight; poultry, goat, meat should be reduced". A junior nurse added her voice this way, "Lifestyle modification; reduce smoking, intake of alcohol, engage in exercises, regular medical checkup". Another junior nurse said in her own opinion that "treatment of underlying diseases e.g. hypertension can be controlled to prevent complications".

These nurses told us that they practice healthy lifestyle as we heard from a senior nurse who said in her words, "healthy food intake by taking more of fruits, reduced carbohydrate intake. I do not take dinner after 6:30pm". Another senior nurse said, "most times, I eat twice daily, I check Blood pressure regularly, I don't take carbonated drinks and trek sometimes"

Another senior nurse said, "both of my parents are fat, I engage myself in exercises when I'm opportuned, I do not eat much, nor do I eat anything after 6pm, I take enough water". Among the junior nurses the situation was almost the same, as put in her words, a junior nursing officer said, "I use cholesterol free vegetable oil, eat balanced diet food, I check my weight regularly, go to the stadium to take a walk and play and do some exercises". This was supported by another junior nurse, who said, "Dieting (don't eat butter, vegetable oil, take

cholesterol-free oil, exercise, don't eat late, no sedentary lifestyle".

The nurses said many things about the western and African lifestyle and dietary habit. For example, a senior nurse said, "Western lifestyle allows junk, stale foods, not fresh vegetables, hotdog {all contains lot of oil} all this predispose to cardiovascular disease, African lifestyle is much better. To corroborate this point, another senior officer said, "in my early age, I usually followed my uncle to the farm, at the end of the day, we cook in the barn, we took fresh foods, in those days, illness was rare". This is what another senior officer said, "I prefer African lifestyle, our forefathers ate more of vegetables and fresh foods and there was less history of cancer and cardiovascular diseases compared to now when Africans have adopted western lifestyle and take canned food".

The junior officer believed that, generally, before, we adopted the western lifestyle, most diseases were communicable diseases in Nigeria and in the western world it was non-communicable diseases like cardiovascular diseases and cancers but now that we have adopted western lifestyle, this has contributed to high incidence of cardiovascular diseases in our country. In her own comment a junior nursing officer said, "Our eating habits or food is still better than that of western lifestyle, most of their foods are processed and pastries, that is why most of them are obese even children. However, the Africans are not conscious of their health status and that is a disadvantage, also the habit of smoking and alcohol has increased the prevalence of cardiovascular diseases". A junior nurse who wanted to differ a little in comparing both lifestyles said in her words that, "Some that are poor in Africa are exposed to carbohydrate diet alone exposing them to diseases like Diabetes Mellitus and they don't take fruits adequately, they also take oil high in cholesterol.

They enumerated the healthy lifestyle habits that should be encouraged in Nigeria such as; walking as a form of exercise, eating low fat foods, vegetable intake, sea foods and reduction of beef intake. They even suggested that people should be encouraged to go for Periodic medical checkup, and that they should be educated about the type of diet they should take. In her words a junior officer said, "we should encourage walking, farming, eat fresh foods and not processed food that has lots of sodium in it predisposing to cardiovascular diseases". Two other junior officers said one after the other, "go back to old ways (fruits, no magi sweetening) Car owners should walk sometimes and "let's encourage agriculture; there would be food availability, less dependency on preserved food".

Unhealthy lifestyles to be discouraged among Nigerians were listed according to these nurses as: too much oil and fatty foods, overcooking of vegetables and sedentary lifestyle. Others were smoking, alcohol, adopting western lifestyle and eating pastries. It was also thought that consumption of fast foods should be discouraged.

The nurses differed in their opinion on whether or not their job predisposes them to cardiovascular diseases. Some said yes while others said no. For example, a senior nurse answered very sharply as, "No, the job keeps us fit; it is a type of exercise". While another senior officer said in her words, "yes, stress could predispose to cardiovascular diseases, I

work in Emergency unit, eat late and take junk food and feeding habits is distorted". Among the junior officer the story is different, according to one of them, "yes, stress is a risk factor, the environment is not conducive, all those emotions affect the work of the heart, and working out of fear this would make people eat pastries and soft drinks. Another junior officer put it as, "yes, working with anxiety, tension within the workplace, fear of unknown is common among nurses, intimidation, tension and psychological problems could predispose to cardiovascular diseases".

The nurses listed in their words the implications of exercise diet etc. on their health as very good for the body; some specific exercises are good for cardiovascular health according to these nurses. They said we should ensure adequate balanced diet, cholesterol in vegetable oil should be reduced. Like one of these officers put it in her words, "exercise helps to improve circulation thereby preventing heart diseases such as atherosclerosis, hypertension etc.". Someone else put it as, "inadequate rest will overwork the heart and smoking impairs normal flow of blood through the vessels leading to narrowing".

A junior nurse put it as, "healthy diet and eating late at night, late closure encourages late eating and if uncontrolled, leads to weight gain".

Time is a challenge in eating healthy diet according to these nurses. Regular exercise is not possible due to nature of schedule or shift work. She (a senior nurse) even said, "Fruits are expensive". A junior nurse put it simply as, "stress, unfriendly workplace" as part of the challenges the nurses encounter in an attempt to live a healthy life. Social media, phone, television they said promotes sedentary lifestyle, another thing mentioned is smoke from generators and cars. In their suggestions to the Nursing Department to help practice healthy lifestyles, they said programs should be organized for nurses' wellbeing, also that re-orientating the nursing staff, should be paramount to the department.

A senior nurse said, "Management should provide study leave and also extend the 30-day leave". A junior nurse suggested, "The Nursing Department should make the workplace friendlier, organize seminars and workshops; should not serve pastries and drinks but encourage fruits. The work environment should be conducive".

They also suggested that the gymnasium should be made free for staff that needs it.

A junior nurse said, "there should be a schedule for all nurses to go for medical checkup".

Another colleague said, "the manager should have good interpersonal relationship with people working with them so that they will not put them under unnecessary stress or psychological trauma, they should get enough hands to work".

For government, they suggested that early payment of salaries and good working condition will help them give a better service. A nurse put it in this way, "They should work towards Preventive health and not curative health, invest more in preventive medical care. The government should organize public awareness, increase salaries, and annual leave should be extended to 6 weeks."



## **DISCUSSION**

Prior studies have noted the relatively high prevalence of cardiovascular diseases and risk factors amongst health workers in Nigeria (Uwanuruochi et al, 2013). This study set out with the aim of identifying the unhealthy lifestyle habits adopted particularly by nurses in University College Hospital, Ibadan which could predispose to cardiovascular diseases and sudden death and to assess their knowledge of cardiovascular risk factors and preventive measures against cardiovascular diseases.

The current study found that most participants were Christians and Yoruba and this is most likely because it was performed in Ibadan, South Western Nigeria where residents are predominantly Yoruba. The mean age of respondents was  $39.30 \pm 7.41$  and this was similar to  $35.5 \pm 17.40$  years reported in a study among nurses in Federal Medical Centre, Abeokuta (Urenna et al, 2018). This could probably be explained by the fact that younger adults represent the largest contribution to the healthcare workforce. There were more females (94.9%) than males, while, a far less proportion of females (70%) was reported in a study from Abeokuta (Urenna et al, 2018). In contrast, most (90.6%) of the nurses in an Australian study were males (Perry et al, 2018). The finding from this current study re-affirms the position that the nursing profession is still female dominated in Nigeria (Barrett-Landau and Henle, 2014; Hinmikaiye and Bamishaiye, 2012). Most (83.2%) of the nurses were married and this is in contrast to the finding from Abeokuta where less than half (39.5%) of the respondents were married (Urenna et al, 2018). Over two-fifth (40.3%) of respondents had had 1-10 years' experience as a nurse which is lower than 66.6% reported in the study from Abeokuta.<sup>2</sup> Nearly half (44.4%) of respondents were Nursing Officers who were junior nurses which is in contrary to the findings from a similar study where a higher proportion of the respondents (43.4%) were Assistant Chief Nursing Officers (senior nurses).

Concerning the prevalence of cardiovascular risk factors, almost four-fifth (77%) of respondents were physically inactive. This proportion was higher than 66.5% that was reported in a study among agro-allied workers (Agbana et al, 2016). The high proportion reported in this study was probably because of the busy job schedule of nurses which leaves them with little or no time to engage in conscious moderate and vigorous physical activities. A low proportion of respondents had ever taken alcohol and had ever smoked. This was similar to findings from Oyo State (Agbana et al, 2016). The reported low prevalence of alcohol intake and tobacco smoking in the current study may be due to the high level of awareness among nurses that tobacco smoking and alcohol intake are cardiovascular risk factors as found in this study. Majority (91.8%) of the nurses had unhealthy dietary behaviour and this was similar to findings from a study among Agro-allied workers from Oyo State where 89.8% had unhealthy dietary behaviour. This can be explained by the fact that the Nigerian diet is composed mainly of starchy foods and only in recent times have the general populace begun to get sensitized about the importance of fruits and vegetables (Osagie AU, Omoregie, 2011). Slightly over four-tenth (42.9%) of the nurses took one or more litres of soda drinks weekly. This is lower than 51.2% reported among medical doctors in a tertiary

health facility in Bayelsa State (Ambakederemo and Chikezie, 2018). The intake of soda drinks among nurses in this study might be due to a need to replenish their energy while at work. This may imply that the staff canteen should be made functional and encouraged to provide healthy meals and drinks to nurses while at work in order to reduce their chances of intake of soda drinks. The prevalence of overweight or obesity is 58.2% and this is similar to findings of 58.3% and 55.6% reported from studies among women working in office jobs in Saudi Arabia (Albawardi, 2016) and among bankers in Ghana (Addo et al, 2015) respectively. The high prevalence of overweight or obesity reported in the current study could be due to the high socioeconomic status that nurses belong to. Studies from developing countries have reported that obesity increases with high socioeconomic status because overeating is mainly explained by economic access to food (Addo et al, 2015; Albawardi, 2016).

Regarding the level of awareness about cardiovascular risk factors, majority of the respondents demonstrated high level of awareness for most of the factors. There were high levels of awareness of cigarette smoking (78.1%) and alcohol intake (76.5%) as cardiovascular risk factors and these were higher than 57.8% and 57.3% reported respectively in a study among workers in an agro-allied company in Oyo State. The high levels of awareness of cardiovascular risk factors among nurses were expected as they had high level of educational attainment and because they are healthcare professionals. However, there were low levels of awareness about cardiovascular risk factors such as race (41.3%) and gender (34.2%) recorded in this current study.

A significantly higher proportion (92.9%) of nurses in polygamous relationships than (55.5%) in monogamous relationships were overweight/obese. This is contrary to findings from a study among market women in a rural community in Oyo State where monogamous relationships were associated with obesity (Dada, 2017). Physical inactivity was reported among 77% of nurses. However, we could not explain why a significantly lower proportion of respondents with physical inactivity were overweight/obese (54.3%) compared to 71% among those who did not report physical inactivity. Physical inactivity has been repeatedly linked with overweight/obese and the increasing prevalence of non-communicable diseases (Darebo et al, 2019).

Focus group discussion emphasized the nurses' practices to prevent cardiovascular diseases and the influence of their job on their lifestyle habits. The qualitative results largely assisted to corroborate the above findings in addition to giving broader contextual perspectives surrounding the issues.

Taken together, these findings noted that, nurses being health personnel have high level of awareness of cardiovascular risk factors and a good understanding of healthy lifestyle habits. They however found it difficult to practice these known healthy habits and this study found that the tedious and stressful nature of their work may be major reasons. The study identified a high prevalence of physical inactivity and unhealthy dietary behaviour among nurses. The study also demonstrated the association between consumption of fried foods and positive family history of CVD with overweight/obesity amongst nurses. Efforts should be made to increase physical activity levels by encouraging exercise

outside working hours and promote healthy lifestyle habits to reduce cardiovascular risk among nurse.

## REFERENCES

- Addo PNO, Nyarko KM, Sackey SO, Akweongo P, Sarfo B (2015):** Prevalence of obesity and overweight and associated factors among financial institution workers in Accra Metropolis, Ghana: a cross sectional study. *BMC Research Notes*.;8(1):1–8.
- Agbana RD, Asuzu MC, Fasoro AA, Owoye OO. (2016):** Awareness and Prevalence of Cardiovascular Risk Factors among Workers in an Agro-allied Company in Nigeria. *IOSR Journal of Dental and Medical Sciences*. 15(09):122–7.
- Albawardi NM, Jradi H, Al-hazzaa HM. (2016):** Levels and correlates of physical activity, inactivity and body mass index among Saudi women working in office jobs in Riyadh city. *BMC Women's Health*. 16(1):1–12.
- Ambakederemo TE, Chikezie EU (2018):** Assessment of some traditional cardiovascular risk factors in medical doctors in Southern Nigeria. *Vascular Health and Risk Management*. 14:299–309.
- Barrett-Landau S, Henle S (2014):** Men in Nursing: Their Influence in a Female Dominated Career. *Journal for Leadership and Instruction*. 13(2):10–3.
- Hinmikaiye C, I. Bamishaiye E (2012):** The Incidence of Low Back Pain among Theatre Nurses: A Case Study of University of Ilorin and Obafemi Awolowo University Teaching Hospital. *International Journal of Nursing Science*. 2012;2(3):23–8.
- Dada IO (2017):** The meal pattern and incidence of overweight and obesity among market women in a Southwest community, Nigeria. *Saudi Journal of Obesity*. 2017;5(2):70–6.
- Darebo T, Mesfin A (2019):** Gebremedhin S. Prevalence and factors associated with overweight and obesity among adults in Hawassa city, southern Ethiopia: a community based cross-sectional study. *BMC Obesity*. 6(1):1–10.
- Osagie AU, Omoregie ES (2011):** The Nigeria high glycemic index starchy foods, obesity, and the environment. *Nigerian Quarterly Journal of Hospital Medicine*. 21(4):290–3.
- Perry L, Xu X, Gallagher R, Nicholls R, Sibbritt D, Duffield C (2018):** Lifestyle health behaviors of nurses and midwives: The 'fit for the future' study. *International Journal of Environmental Research and Public Health*. 15(5).
- Urenna Ike E, Oluwatoyin Olawumi J (2018):** The Prevalence, Risk Factors and Coping Measures of Back pain Among Nurses in Federal Medical Centre, Abeokuta, Ogun State, Nigeria. *International Journal of Caring Sciences*. 11(2):955–68.
- Uwanuruochi K, Ukpabi OJ, Onwuta CN, Onwubere BJ, Anisiuba BC, Michael FS (2013):** Cardiovascular risk factors in adult staff of Federal Medical Centre, Umuahia: a comparison with other Nigerian studies. *West African journal of medicine*. 32(4):243–7.