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## PUBLIC HEALTH RESEARCH

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### Periodic Medical Checkup: Knowledge and Practice in a Community in South West Nigeria

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#### ABSTRACT

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<b>Received</b>	12 January 2015
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<b>Introduction</b>	Most individuals in Nigeria pay little attention to health issues and accord little or no priority to medical check-up. This study was conducted to determine the knowledge and practice of periodic medical check-up in south west Nigeria.
<b>Methods</b>	A descriptive cross-sectional study was carried out among 231 respondents in Owo, Ondo State, South West Nigeria. A structured interviewer administered questionnaire was used and data was analyzed using SPSS version 21. Respondents with 2 and above positive response to questions on medical check-up were regarded as having it frequently. Association between categorical variables were explored using chi square, Level of significance was set at 5%.
<b>Results</b>	The mean age of the respondents was 52.4±17.9 years, 60.2% were females and 80.6% were married. About 62% (144) have ever heard of periodic medical check-up, 79% (114) of those who have heard had ever had it done and only 48.2% among those who had ever done it had frequent medical check-up. A statistically significant proportion of respondents who were 60 years and above (54.8%) had frequent medical check-up compared to 23.1% of respondents who were less than or equal to 40 years (p=0.014).
<b>Conclusions</b>	Effort is needed in ensuring that periodic medical check-up is encouraged. There is a need to study the factors associated with the uptake of medical check-up among the study population.
<b>Keywords</b>	Knowledge - practice - health education - health - medical examination.

## INTRODUCTION

The average life expectancy at birth in Nigeria rose from 46 years in 1990 to 53 years in 2011 with a paradigm shift from curative medicine to preventive medical practice<sup>1</sup>. Periodic medical check-up or routine medical check-up is a form of preventive medicine involving thorough history, physical examination and screening of asymptomatic persons by physicians on a regular basis as part of a routine health care process<sup>2</sup>. Periodic medical check-up is considered effective in preventing illness and promoting health and reducing morbidity and mortality<sup>3</sup>.

During routine or periodic medical check-up some of the non-communicable diseases such as hypertension, breast cancer, cervical cancer, prostate cancer and diabetes mellitus can be detected and any deviation from good health is noticed and managed in the form of preventive or curative services thereby reducing the mortality associated with them<sup>4</sup>. It is essential to have periodic medical examination since these chronic diseases have a heavy socioeconomic burden on individuals and account for more than 60% of the overall global burden of diseases<sup>5</sup>. Thorough medical/physical examination is necessary and its frequency increases if there is a health problem that requires continuing care. Factors that are non-modifiable like age and family history of certain diseases determine the check-up or screening that one needs. Likewise the presence of modifiable risk factors like alcohol consumption, smoking, unhealthy diet and physical inactivity are equally important in determining the frequency of check up<sup>6</sup>. Some studies have shown that these risk factors are more predominant among those in low socioeconomic level and they are more vulnerable to cardiovascular diseases and diabetes<sup>7-12</sup>. Other studies have established that regular screening reduces the risk of invasive cancers and mortality<sup>13-15</sup>.

The uptake of periodic medical check-up or preventive screening services has been shown to be poor in many developing countries and sub optimal in countries like the USA and Britain despite its importance and potential benefits<sup>16</sup>. The practice and use of screening/preventive services has been extensively studied in many European countries and in the United States of America<sup>17, 18</sup>. In developing countries where the practice of periodic medical check-up is poor despite the steady increase of the burden of the non-communicable/chronic disease, very few studies have been conducted on periodic medical check-ups especially in Nigeria. This study aimed at assessing whether or not the respondents have heard, knowledge and practice of periodic medical check-up among adult members of a community in South West Nigeria.

## METHODS

The study was conducted at Owo, an ancient city located in Owo local government area of Ondo State, South-West Nigeria. Owo has an estimated population of 400,000 people and it is one of the homes of the Yoruba's. Agriculture (including fishing) constitutes the main occupation of the people. Other tribes living in Owo are Ibos and Ebiras. It is located about 350 km from Lagos State and 50 km from Akure, the state capital.

This was a descriptive cross sectional survey conducted among 231 adult respondents who participated in a free medical outreach in Owo, Ondo State, Nigeria.

### *Data collection*

Data was collected using structured interviewer administered questionnaire focusing on demographic characteristics, knowledge and practice of periodic medical check-up. Questionnaire was interviewer administered since not all the respondents were literate. Questionnaire was designed based on the health care services available in the community. The first part of the questionnaire captured sociodemographic characteristics age, sex, marital status, ethnic group, level of education and religion. The second part contained questions on awareness of medical check-up. Questions on knowledge of when periodic medical check-up is done, types of medical check-ups and frequency of medical check-up were also asked. Life style practices was assessed by asking questions on physical exercise, Cigarette smoking, Alcohol and fruit intake. Data was collected prior to health education on routine medical check-up

### *Data analysis*

Information collected from the respondents were entered and analyzed with Statistical Package for Social Sciences (SPSS) version 21 software. Descriptive statistics were done and frequencies and charts were used to summarize variables of interest.

The following questions were asked to determine the frequency of medical check-up.

1. (Females) Have you ever undergone a cervical smear test (Pap smear) ?
2. (Females) Have you ever had a routine Clinical Breast Examination?
3. (Males) Have you ever undergone screening for PSA (prostatic specific antigen) ?
4. Have you in the last 6 months had a routine Dental examination?
5. Have you in the last 6 months had a routine Visual examination?
6. Have you in the last 6 months had a routine Blood Pressure check?

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7. Have you in the last 6 months had a routine Blood Sugar check?

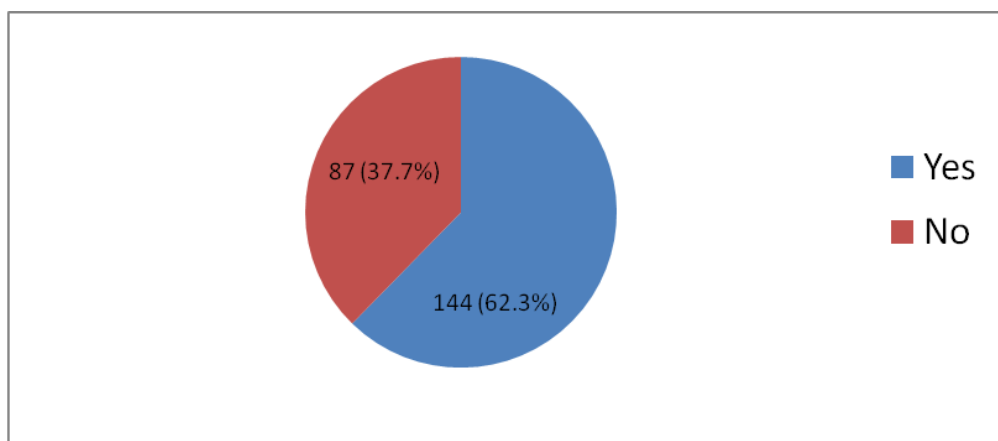
Respondents who had at least 2 positive responses to the above questions were regarded as having frequent medical check-up. Association between Sociodemographic characteristics, life style practices and frequency of medical check-up were analysed using chi square, Level of significance was set at 5%.

## RESULTS

Table 1 shows the sociodemographic characteristics of the respondents. The mean age was  $52.4 \pm 17.9$  years, more than half of the respondents 139 (60.2%) were females, 162 (80.6%) were married, two out of five were traders while 176(87%) were Christians. Other sociodemographic characteristics of the respondents are found in table 1. In figure 1, 144 (62.3%) of the respondent had heard about periodic medical check-up while 87 (37.7%) had not heard about periodic medical check-up.

**Table 1** Sociodemographic Characteristic of Respondents

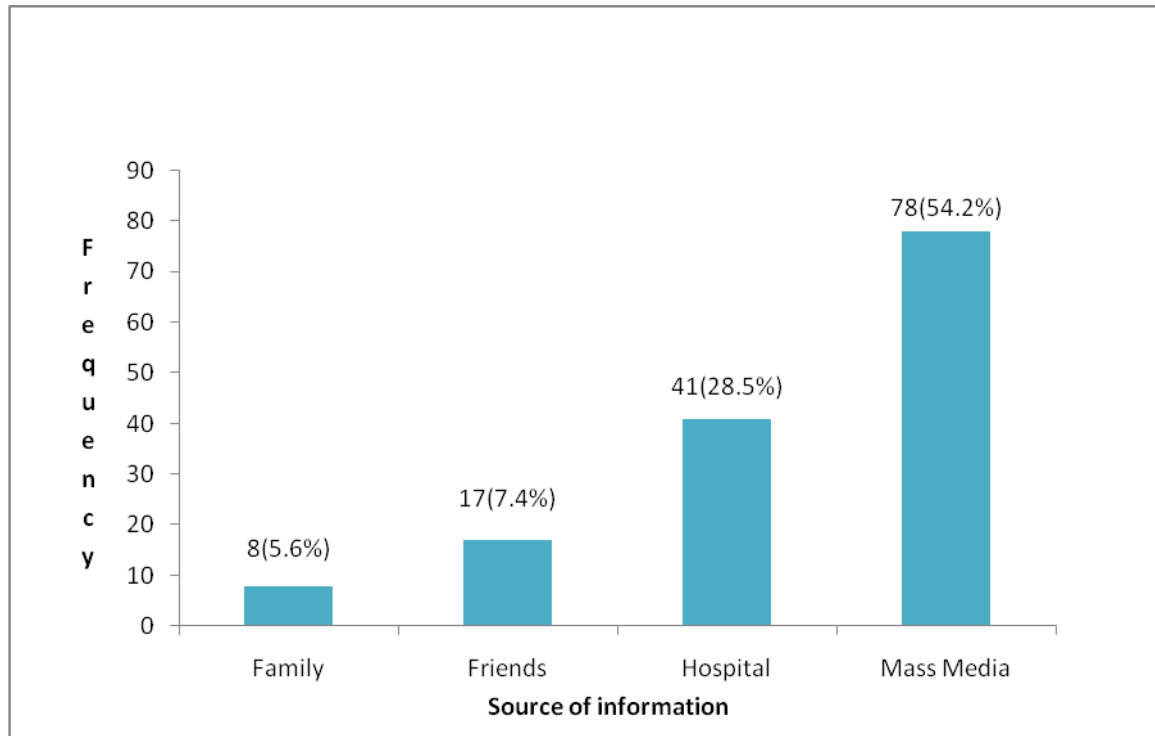
Sociodemographic characteristics	Frequency	%
<b>Age in years (n=231)</b>		
≤40	55	23.8
40 – 59	85	36.8
60+	91	39.4
<b>Sex (n=231)</b>		
Male	92	39.8
Female	139	60.2
<b>Marital Status (n=201)</b>		
Married	162	80.6
Others	39	19.4
<b>Ethnic Group (n=202)</b>		
Yoruba	192	95
Others	10	5
<b>Level of Education (n=195)</b>		
No Formal Education	38	19.5
Primary	54	27.7
Secondary	71	36.4
Tertiary	32	16.4
<b>Occupation (n=194)</b>		
Civil Servant	40	20.6
Farming	24	12.4
Trading	83	42.8
Others	47	24.2
<b>Religion (n=202)</b>		
Christianity	176	87.1
Islam	26	12.9



**Figure 1** Ever heard about periodic medical check up

Figure 2 shows the source of information of the respondents who had heard about periodic medical check-up, slightly above half of the respondents (54.2%) received their information

about periodic medical check-up through the mass media, while 28.5% of the respondents mentioned the hospital as their source of information. Other information is found in figure 2.



**Figure 2** Source of information of respondents who ever heard of medical check up

In table 2 knowledge of medical check-up among respondents who have heard about it is shown. Among the 144 who have heard of medical check-up 68 (47.2%) felt it should be done when one is healthy. Half of those who responded to questions on types of medical check-up 65 (50%) knew general examination as a form of medical check-up. Only 6 (4.6%) knew blood sugar could be done as a form of routine check-up. Concerning frequency of medical check-up 92 (67.6%) felt every 6 monthly medical check-up is ideal. Overall, 114 (79.2%) of those who were aware of periodic medical check-up had ever had it done. A reason for not having routine medical check-up is contained in figure 3. Among the 30 respondents, only 25 gave a reason for not having periodic

medical examination. Among them 6 (64%) said they were not sick 5 (20%) had no money, 3 (12%) were not aware that they should have routine medical check-up done while 1 (4%) respondent was busy.

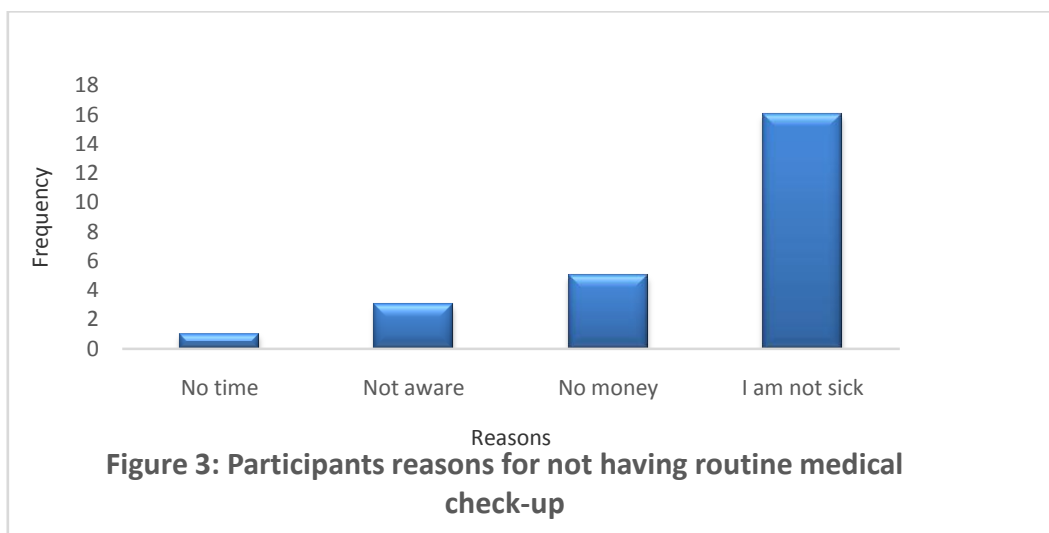
Among the 114 respondents who have heard medical check-up only 55 (48.2%) had it frequently medical check-up. Table 3 shows the association between sociodemographic characteristics and frequency of medical check-up, 23 (54.8%) of the respondents who were 60 years and above had frequent medical check-up compared to 6 (23.1%) of respondents who were less than or equal to 40 years ( $p=0.014$ ). Table 4 shows the association between lifestyle and frequent medical check-up among the respondents.

**Table 2** Knowledge of periodic medical check-up among respondents

Knowledge of medical check-up	Frequency	%
<b>When periodic medical check-up is done(n=144)</b>		
During illness	76	52.8
When one is healthy	68	47.2
<b>Types of medical check-ups known (n=130)</b>		
General examination	65	50.0
Blood pressure check	42	32.2
Visual check	9	6.9

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Dental check	8	6.2
Blood Sugar	6	4.6
<b>Frequency of medical check-up(n=136)</b>		
Every 6 monthly	92	67.6
Yearly	13	9.6
Every 2 years	11	8.1
I don't know	20	14.7
<b>Ever had a routine medical check-up</b>		
Yes	114	79.2
No	30	20.8



**Figure 3** Participants reasons for not having routine medical check-up

**Table 3** Association between sociodemographic characteristics and frequency of medical check-up

Sociodemographic characteristics	Frequency of Medical check up		Chi Square	p-value
	Frequent n (%)	Not Frequent n (%)		
<b>Age in years</b>				
< 40	6 (23.1)	20 (76.9)	8.572	0.014
40 – 59	26 (56.5)	20 (43.5)		
60 and above	23 (54.8)	19 (45.2)		
<b>Sex</b>				
Male	21 (51.2)	20 (48.8)	0.227	0.634
Female	34 (46.6)	39 (53.4)		
<b>Marital Status</b>				
Married	47 (50.0)	47 (50.0)	0.660	0.416
Others	8 (40.0)	12 (60.0)		
<b>Ethnic Group</b>				
Yoruba	54 (50.5)	53 (49.5)	4.873	0.027
Others	0 (0.0)	5 (100.0)		
<b>Level of Education</b>				
No Formal Education	4 (26.7)	11 (73.3)	3.224	0.358
Primary	14 (51.9)	13 (48.1)		
Secondary	21 (51.2)	20 (48.8)		
Tertiary	14 (51.9)	13(48.1)		
<b>Occupation</b>				
Civil Servant	11 (44.0)	14 (56.0)	2.624	0.453

Farming	9 (69.2)	4 (30.8)		
Trading	22 (47.8)	24 (52.2)		
Others	12 (44.4)	15 (55.6)		
<b>Religion</b>				
Christianity	48 (48.5)	51 (51.5)	0.156	0.693
Islam	6 (42.9)	8 (57.1)		

**Table 4** Association between Lifestyle and Frequency of Medical Check-up

Lifestyle	Frequency of Medical check up		Chi Square	p value
	Frequent	Not Frequent		
<b>Physical Exercise</b>				
Yes	34 (45.9%)	40 (54.1%)	0.920	0.337
No	19 (55.9%)	15 (44.1%)		
<b>Cigarette Smoking</b>				
Yes	2 (66.7%)	1 (33.3%)	0.430	0.512
No	47 (47.5%)	52 (52.5%)		
<b>Alcohol Intake</b>				
Yes	10 (55.6%)	8 (44.4%)	0.488	0.434
No	40 (46.5%)	46 (53.5%)		
<b>Fruit Intake</b>				
Adequate	49 (50.0%)	49 (50%)	0.612	0.434
Inadequate	5 (38.5%)	8 (61.5%)		

## DISCUSSION

Periodic medical check-up is a part of preventive service which is associated with reduced morbidity and mortality and its appropriate use may result in early diagnosis of illness and reduced health care cost<sup>19</sup>. This study assessed whether or not the adult participants at a free medical outreach in Owo community in Ondo State, South West Nigeria have heard of medical check-up. Their knowledge and practice of periodic medical check-up was also assessed.

More than half of the respondents have heard of periodic medical check-up. This is similar to a study conducted among traders in Eastern Nigeria<sup>20</sup>. This is worrisome considering the presence of a tertiary health facility in the community with a Community Health Department that does a lot of community sensitization. The mass media played a lead role in disseminating information about periodic medical examination to this study population. Though the type of information received was not assessed, the mass media will not be able to receive feed-back from the listeners and this could have affected the quality of information received. Almost half felt medical check-up should be done during sickness. The commonest known type of medical check-up was general examination, followed by checking of blood pressure. This showed that only the knowledge of general physical examination and hypertension was good among the respondents. Other types of medical check-ups were not popular. This finding, though similar to a study conducted in Japan<sup>21</sup> shows that more effort is needed to be put into ensuring the study population receive health

education on the other check-ups that will be of benefit to them.

About four fifth (79.2%) ever had a routine medical check-up. An important contributor to the number of respondents that had medical check-up was the serial free screening services/community that were conducted for members of the community by non- governmental organisations in conjunction with the health facilities. This is in contrast to some studies conducted in Nigeria and other parts of the world<sup>20, 22, 23</sup>.

It was not all the respondents who had heard about routine medical examination that had it done. Most of them felt it was not needed since they were not sick. Some had no money and others were not aware of where to get it done; only a few had no time for it. This implies that mere hearing of it is not enough but they need to be persuaded and informed where to get their screening done and what is expected. According to some studies, reasons put forward by non-attenders of preventive health screening services included no perceived need for health checks or absence of symptoms, lack of time or hindrances at work and having recent contact with the health service<sup>24-27</sup>.

No difference was seen in the proportion of male and female with regards to frequency of medical check-up. In a study on hospital utilization in Nigeria no difference was reported in the level of utilization of health services for men and women<sup>28</sup>. The dependence of women on their husband to take decision in this environment could be responsible. On the contrary, females were more likely to utilize health care services<sup>29</sup>. Level of education did not

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affect uptake of medical check-up in this study. This is contrary to what is expected, that health seeking behaviour should be higher among those with higher level of education<sup>28</sup>. The finding emphasise that seeking health care for check-up is not affected by level of education among the studied population. Education targeted at improving use of medical check-up services should therefore not be restricted to those with low level of education. In the study population, respondents who were 60 years and above had an increased likelihood of having frequent medical check-ups compared to those of the younger age group. Occurrence of chronic diseases in the elderly is usually responsible for their frequent use of health services. There have been studies that showed that the age variable is associated with medical check-up with an increased uptake of such services by people who are older than 50 years<sup>30,31</sup>.

Despite the presence of other good lifestyle practices by the respondents, many of them did not have frequent medical check-up. Lifestyle modification and preventive practices such as fruit intake, physical exercise, non-smoking, and reduced alcohol consumption were not associated with increased frequency of medical check-up. A study conducted in Germany among adults showed that increased rate of health check attendance was found in those who had moderate alcohol consumption, greater fruit and vegetable intake, and higher use of outpatient care<sup>32</sup>. Literature has also shown low attendance rates for health check-up among the smokers, physically inactive and the obese<sup>33, 34</sup>. This implies that the respondents are likely to imbibe the uptake of medical check-up if they had been adequately informed.

## CONCLUSIONS

Though many have heard of periodic medical check-up the prevalence of its uptake is low. Older people utilized medical check-up more frequently. Some respondents imbibe some healthy life style thinking that it can be substituted for routine medical check-up. Effort is needed to make sure that periodic medical check-up is encouraged especially among younger adults. Health education is important in ensuring that the community is aware of the importance and type of medical check-up that will be beneficial to them.

### Conflict of interest and funding

Authors declare no conflict of interest exist and no funding was received for this study.

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