

## Determinants of Practice of Periodic Medical Check-Up among Hospital Workers in a Tertiary Health Centre, North-Central Nigeria

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### ABSTRACT

**Introduction:** Periodic Medical Checkup (PMC) is essential as it helps detect medical conditions early even before the symptoms appear. The significance of this is that such diseases are tackled early reducing morbidity and mortality. The practice of PMC has been poor among so many groups in the society. **Objectives:** The aim of this study was to assess the factors that determine the practice of PMC among healthcare workers. **Materials and Methods:** A cross-sectional study involving two hundred and fifty (250) Healthcare workers in Federal Medical Centre, Makurdi, recruited, using stratified random sampling technique was carried out. A pretested self-administered questionnaire was used to collect information on socio-demographic characteristics, knowledge and perception of practice of PMC, practice of PMC, medical history and lifestyle of the respondents. The data was analyzed using SPSS version 20. The level of significance was set at  $p < 0.05$ . **Results:** Only two hundred and twenty respondents filled and returned their questionnaires giving a response rate of 88%. Most (44.1%) were aged between 40 – 45 years, males made up 53.6% and 91.4% had tertiary education. The senior staff made up 86.8% and most (56.4%) had been working for 10 – 19 years. Two hundred and eighteen (99.1%) had knowledge of PMC and one hundred and sixty nine (76.8%) practiced PMC. **Conclusion:** Having knowledge of any PMC done in the hospital and awareness of existing PMC policy were the independent predictors determining the practice of Periodic Medical Checkup. Those who knew of any PMC and were aware of an existing policy on Periodic Medical Checkup were more likely to practice Periodic Medical Checkup than the others.

**Key words:** Periodic Medical Checkup, Determinants, Hospital workers

### INTRODUCTION

Medical examination is the thorough checking of a healthy or sick person to detect diseases with the aim of treatment. Sometimes no disease is detected and in such cases, prevention is offered to such a person. The average life expectancy at birth in Nigeria increased from 41.39 years in 1971 to 55.02 years in 2020 growing at an average annual rate of 0.58%.<sup>1</sup> One of the reasons for this is the shift from curative to preventive medical practice.<sup>2</sup> Periodic medical

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check-up or routine medical check-up is a form of preventive medicine involving thorough history, physical examination and screening of persons who do not have symptoms by physicians on a regular basis as part of a routine health care process.<sup>3</sup> Periodic medical check-up is considered effective in preventing illness and promoting health and reducing morbidity and mortality.<sup>4</sup> During periodic or routine medical checkup some of the non-communicable diseases such as cancer (breast, prostate, cervical), hypertension, diabetes mellitus, among others, 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>5</sup>

Management of these diseases at the early stage in the form of preventive or curative services has led to reduction in morbidity and mortality associated with them. 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>6,7</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>8</sup> In developing countries where the practice of periodic medical check-up is poor despite the steady increase of the burden of non-communicable/chronic diseases, very few studies have been conducted on periodic medical checkups especially in Nigeria. In a study among traders in South-Eastern Nigeria, only very few respondents practiced periodic medical check-up.<sup>9</sup> Among hospital workers, the practice of periodic medical check-up or examination is also poor. Hospital workers are supposed to have adequate knowledge of the importance of periodic medical

check-ups because of the hospital setting where they work. Doctors who are equipped with this information are readily available to educate them on the importance of this practice. However, the reality is far from this. In a study conducted in Ilorin among Hospital workers, only a fifth of them ever had periodic medical check-up and among those that had periodic medical check-up, it was irregular and after long intervals.<sup>10</sup> The relevance of periodic medical examination or check-up among hospital workers cannot be over-emphasized as they are exposed to many diseases and stressful conditions. It is important to keep hospital workers fit through periodic medical check-up to avoid sudden death recorded in recent time in the work place. It is suspected that extremely long working hours increase the risk of sudden death from too much occupational stress.<sup>11</sup> A case-control study carried out in Japan shows a U shaped relationship between mean monthly working hours and the risk of acute myocardial infarction,<sup>11</sup> hence a need for improved level of medical checkup among the working population.

Most work places in Nigeria do not have periodic medical checkup policy. The consequence of this is that, diseases are not detected early enough for appropriate management and these resulted in high morbidity, poor prognosis and more resources for effective care.

This study aimed at assessing the factors determining practice of periodic medical check-up among hospital workers in Federal Medical Centre, Makurdi, North-Central Nigeria. The result of this research would be useful in formulating policies on periodic medical check-up among health care workers and the public in Nigeria.

## **MATERIALS AND METHODS**

The descriptive cross-sectional survey was conducted among hospital workers in the

employment of Federal Medical Centre, Makurdi, North-Central Nigeria from October to December, 2021. Federal Medical Centre, Makurdi is a tertiary health facility which caters for the healthcare needs of the people of Benue state and the neighboring states of Nasarawa, Taraba, Kogi and Enugu respectively. It is a 400 bedded hospital that runs multi-specialist services in the departments of Internal Medicine, Paediatrics, Psychiatry, Surgery, Obstetrics and Gynaecology and Family Medicine. The hospital has about two thousand staff spread across the various departments including Administration, Medical, Nursing, Pharmacy, Nutrition, Physiotherapy, Laboratory, Medical records and support staff.

The formula for estimating required sample size in a population less than 10,000<sup>12</sup> was used to calculate the minimum sample size.

$$nf = \frac{n}{1 + \frac{n}{N}}$$

Value of n was calculated using the formula

$$n = \frac{z^2 pq}{d^2}$$

Where n=sample size,

z = standard normal deviate at 95% confidence level = 1.96

p = prevalence of the factor under study, 20.6% (0.21) from a previous study<sup>10</sup>

q = complementary factor q = 1-p = 0.79

d = precision/ tolerable margin of error = 5% (0.05).

N = estimated number of targeted population (i.e. estimated number of staff) = 2000

$$n = \frac{z^2 pq}{d^2}$$

$$n = \frac{(1.96)^2 (0.21)(0.79)}{(0.05)^2}$$

$$n = \frac{3.8416 \times 0.1659}{0.0025}$$

$$n = 255$$

nf = minimum required sample size (for population less than 10,000)

$$nf = \frac{n}{1 + \frac{n}{N}}$$

$$= \frac{255}{1 + \frac{255}{2000}}$$

$$= 226$$

When 10% of the minimum sample size (226) for anticipated attrition, non-response, incompletely filled data and missing questionnaires was added (22.6), the sample size was 249 staff.

After calculation of the sample size, Stratified sampling technique was used to select health workers in the health facility. Each of the eight categories of health care workers was a stratum. The formula ni = (n/N) x S, was used to determine the number of individuals from each stratum to be included in the study<sup>13</sup>.

n is number of individuals in each stratum from the population.

N is number of individuals in the population estimated to be 2000.

S is sample size calculated above; thereafter the size of the stratum (ni) was calculated<sup>13</sup>

The sample size was distributed as follows: Doctors 45, Nurses 70, pharmacists 15, Lab scientists 20, clinical psychologists 10, medical social workers 10, medical record officers 10, and support staff 70. A total sample size of 250 was found to be adequate to exhibit the association between variables. From each stratum, a proportionate number of participants were selected using simple random sampling technique (by ballot method).

Data was collected using a pretested self-administered questionnaire made of four sections. Section A was on socio-demographic characteristics

of the respondents. Section B was on Knowledge and perception of periodic medical check-ups. Section C was on practice of periodic medical check-ups and section D was on medical history and lifestyle information. Those who ever heard of Periodic Medical Checkup were presumed to have knowledge of it while those who ever had a Periodic Medical Checkup done were equally presumed to practice it. Data generated through the pretested self-administered questionnaire were analyzed using statistical package for social sciences version 20.0. Statistical variables were summarized using

frequency distribution and cross tabulation. Chi-square test was used to explore association between categorical variables. The level of statistical significance was set at 5% ( $p < 0.05$ ). Logistic regression was used to assess independent factors determining practice of periodic medical checkup at Federal Medical Center Makurdi. Ethical approval was obtained from the Health and Research Ethics Committee of Federal Medical Center Makurdi. Informed consent was also obtained from the respondents before their enrollment in the study.

## RESULTS

**Table 1: Socio-demographic characteristics of the respondents.**

Variable	Frequency	Percentage
<b>Age category (n=220)</b>		
20-29	17	7.7
30-39	67	30.5
40-49	97	44.1
50-59	37	16.8
60 and above	2	0.9
<b>Gender (n=220)</b>		
Male	118	53.6
Female	102	46.4
<b>Marital status</b>		
Single	31	14.1
Married	177	80.5
Divorced	4	1.8
Widowed	8	3.6
<b>Religion</b>		
Christianity	205	93.2
Islam	10	4.5
Traditional	2	0.9
Others	3	1.4
<b>Ethnicity</b>		
Tiv	117	53.2
Idoma	51	23.2
Igede	8	3.6
Hausa	7	3.2
Ibo	12	5.5
Yoruba	7	3.2
Others	18	8.2
<b>Level of education</b>		
Informal	1	0.5
Primary	1	0.5
Secondary	17	7.7
Tertiary	201	91.4
<b>Cadre</b>		
Junior staff	29	13.2
Senior staff	191	86.8
<b>Years on employment</b>		
<1	3	1.4
1-9	56	25.5
10-19	124	56.4
20-29	23	10.5
30 and above	14	6.4
<b>Average monthly income in Naira</b>		
<50,000	17	7.7
50,000-99,000	55	25.0
100,000-149,000	46	20.9
150,000-199,000	24	10.9
200,000-249,000	22	10.0
250,000 and above	56	25.5

A total of two hundred and fifty (250) questionnaires were given out to participants with two hundred and twenty (220) filled and returned, given a response rate of 88%. Majority of the respondents 97(44.1%) were aged 40-49 and only 2(0.9%) were 60 years. Most of the respondents 118(53.6%) were males, more than three quarters 177(80.5%) of respondents were married and 31(14.1%) were single. A large proportion of the respondents were Christians 205(93.2%) and a little above half were of Tiv ethnicity. Overwhelming number 201(91.4%) of the respondents had tertiary education, while 17(7.7%) had secondary education. Majority of the workers were senior staff 191(86.8%), more than half of the respondents 124(56.4%) were between 10-19 years of employment and only 3(1.4%) had < 1 year of working. Most of the respondents earned above N 250,000 monthly 56(25.5%) while the least earners, 17(7.7%) earned less than N 50,000.

Figure 1 showing category of workers in a bar chart

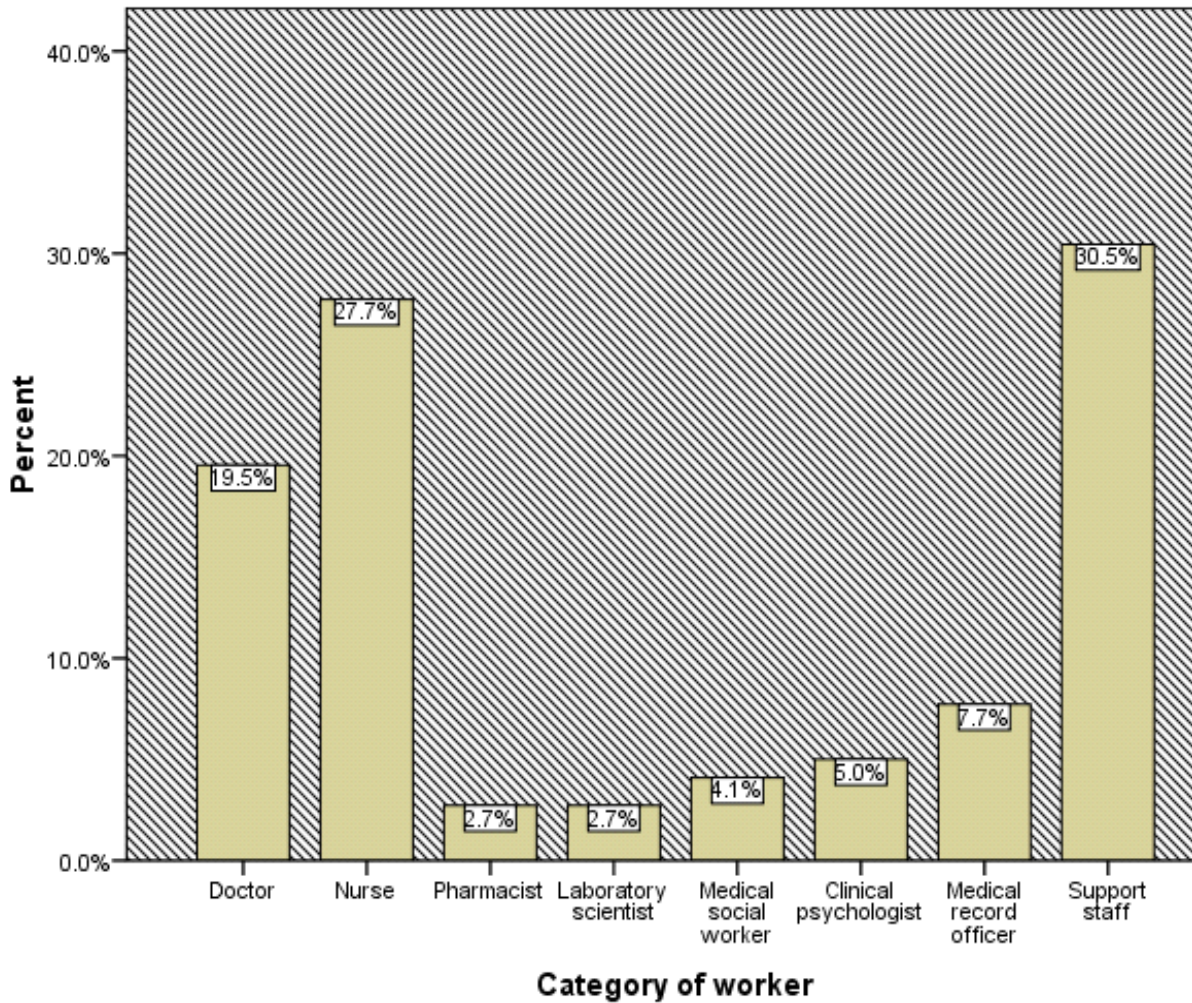


Figure 1 shows the category of workers in the study. The Support staff dominated the study with 67(30.5%). The Pharmacist and Laboratory scientist were the least with 6(2.7%) each.

**Table 2: Showing Knowledge and Perception of Periodic Medical Checkup**

Variables (n=220)	Frequency	Percentage
<b>Have you heard of periodic medical checkup</b>		
Yes		
No	218	99.1
	2	0.9
<b>Knowing correct definition of Periodic Medical Checkup</b>		
Yes		
No	212	96.4
	8	3.6
<b>Is Periodic Medical Checkup necessary?</b>		
Yes	216	98.2
No	4	1.8
<b>Do you know any Periodic Medical Check-up done in the hospital?</b>		
Yes		
No	200	90.9
	20	9.1
<b>When should Periodic Medical Check-up be done?</b>		
During illness		
When one is healthy	41	18.6
I don't know	174	79.1
	5	2.3
<b>Knowledge of frequency of Periodic Medical Check-up</b>		
Every 6 monthly		
Yearly	130	59.1
Every 2 years	74	33.6
I don't know	5	2.3
	11	5.0
<b>Awareness of PMC policy in the hospital</b>		
Yes	141	64.1
No	79	35.9
<b>Opinion on compulsory Periodic Medical Check-up</b>		
Yes		
No	185	84.1
	35	15.9

Almost all the respondents 218(99.1%) had heard of PMC. Majority of them 212(96.4%) knew the correct definition of PMC. A good number of the respondents 216(98.2%) also felt PMC is necessary. 200(90.9%) of the respondents knew at least one PMC done in the hospital. One hundred and seventy four (79.1%) of the respondents felt PMC should be done when one is healthy while 41(18.6%) felt it should be done during illness. More than halve of the respondents 130(59.1) wanted PMC done every 6 months while only 5(2.3%) said it should be every 2 years. However, 11(5.0%) of respondents did not know how frequently it should be done. Two third of the respondents 141(64.1%) were aware of PMC policy in the hospital. On making it compulsory, 185 (84.1%) of the respondents were of the opinion of making PMC compulsory while 35(15.9%) did not support it.

**Table 3: Practice of Periodic Medical Checkup**

Variables	Frequency	Percentage
<b>Have you ever had periodic Medical Check-up? (n=220)</b>		
Yes	169	76.8
No	51	23.2
<b>If yes, how often have you had Periodic Medical Check-up (n=169)</b>		
Twice in a year	91	53.8
Once in year	58	34.3
Once in 2 years	6	3.6
Once in >2 years	14	8.3
<b>When was the last time you had a Periodic Medical Check-up? (n=167)</b>		
< 1 year		
1-2 Years	121	72.5
> 2 years	24	14.4
Not sure	12	7.2
	10	6.0
<b>When are you having the next Periodic Medical Check-up? (n=163)</b>		
< 1 year	90	55.2
1-2 years	31	19.0
> 2 years	3	1.8
Not sure	39	23.9

About three-quarters of the respondents 169(76.8%) had had one form of periodic checkup or the other. Majority of those who have ever done it 91(53.8%), had their medical checkup done twice in a year and 58 (34.3%) had theirs done once in a year. Close to three-quarters of the respondents 121(72.5%) who have ever had periodic medical checkup claimed they had theirs less than 1 year prior to the study while 12(7.2%) had theirs done more than 2 years prior to the study. 10(6.0%) were not sure of when they had done it. On when next they will do their PMC, 90(55.2%) indicated less than a year while about one quarter of them 39(23.9%) were not sure when next to have theirs.

**Table 4: Showing Medical history and Lifestyle information.**

Variables (n=220)	Frequency	Percentage
<b>Do you have family history of any chronic illness?</b>		
Yes	116	52.7
No	104	47.3
<b>Do you have any chronic illness?</b>		
Yes	57	25.9
No	163	74.1
<b>Do you smoke cigarette?</b>		
Yes	6	2.7
No	214	97.3
<b>Do you take alcohol?</b>		
Yes	83	37.7
No	137	62.3
<b>Do you exercise regularly?</b>		
Yes	118	53.6
No	102	46.4
<b>Do you have a diet plan and keep to it?</b>		
Yes	79	35.9
No	141	64.1

About half of the respondents 116(52.7%) had family history of chronic illness. Only one quarter of the respondents 57(25.9%) had a chronic illness. Majority of the respondents 214(97.3%) and 83(37.7) drank alcohol. Slightly above half of the respondents 118(53.6%) exercised regularly. Only 79(35.9%) of the respondents had a diet plan and kept to it.



**Table 5: Showing association between socio-demographic characteristics and Practice of Periodic Medical Checkup (PMC)**

Variables	Have you ever done PMC (Practice of PMC)		$\chi^2$	df	p-value
	Yes n(%)	No n(%)			
<b>Age category</b>			5.715	4	0.22
20-29	11(64.7)	6(35.3)			
30-39	50(74.6)	17(25.4)			
40-49	81(83.5)	16(16.5)			
50-59	26(70.3)	11(29.7)			
60 and above	1(50.0)	1(50.0)			
<b>Gender</b>			0.013	1	0.91
Male	91(77.1)	27(22.9)			
Female	78(76.5)	24(23.5)			
<b>Marital status</b>			5.187	3	0.16
Single	20(64.5)	11(35.5)			
Married	138(78.0)	39(22.0)			
Divorced	3(75.0)	1(25.0)			
Widowed	8(100.0)	0(0.0)			
<b>Religion</b>			7.182	3	0.07
Christianity	159(77.9)	45(22.1)			
Islam	7(70.0)	3(30.0)			
Traditional	0(0.0)	2(100)			
Others	2(66.7)	1(33.3)			
<b>Ethnicity</b>			18.162	6	0.01
Tiv	94(80.3)	23(19.7)			
Idoma	37(72.5)	14(27.5)			
Igede	7(87.5)	1(12.5)			
Hausa	3(42.9)	4(57.1)			
Ibo	5(41.7)	7(58.3)			
Yoruba	6(85.7)	1(14.3)			
Others	17(94.4)	1(5.6)			
<b>Level of education</b>			10.309	3	0.02
Informal	0(0.0)	1(100.0)			
Primary	0(0.0)	1(100.0)			
Secondary	10(58.8)	7(41.2)			
Tertiary	159(79.1)	42(20.9)			
<b>Cadre</b>			0.364	1	0.55
Junior staff	21(72.4)	8(27.6)			
Senior staff	148(77.5)	43(22.5)			
<b>Category of worker</b>			6.802	7	0.45
Doctor	28(65.1)	15(34.9)			
Nurse	49(80.3)	12(19.7)			
Pharmacist	4(66.7)	2(33.3)			
Laboratory Scientist	6(100.0)	0(0.0)			
Medical Social Worker	8(88.9)	1(11.1)			
Clinical Psychologist	9(81.8)	2(18.2)			
Medical Record Officer	13(76.5)	4(23.5)			
Support Staff	52(77.6)	15(22.4)			
<b>Years on employment</b>			5.495	4	0.24
<1	2(66.7)	1(33.3)			
1-9	38(67.9)	18(32.1)			
10-19	101(81.5)	23(18.5)			
20-29	16(69.6)	7(30.4)			
30 and above	12(85.7)	2(14.3)			
<b>Average monthly income in Naira</b>			8.252	5	0.14
<50,000					
50,000-99,000	11(64.7)	6(35.3)			
100,000-149,000	43(78.2)	12(21.8)			
150,000-199,000	41(89.1)	5(10.9)			
200,000-249,000	18(75.0)	6(25.0)			
250,000 and above	18(81.8)	4(18.2)			
	38(67.8)	18(32.1)			

The study found a significant association between ethnicity ( $\chi^2=18.162$ , df=6, p=0.01), level of education ( $\chi^2=10.309$ , df=3, p=0.02) and practice of PMC among the respondents.

**Table 6: Bivariate analysis of knowledge and perception of Periodic Medical Checkup and practice of Periodic Medical Checkup**

Variables	Have you ever done PMC (Practice of PMC)		$\chi^2$	df	p-value
	Yes n(%)	No n(%)			
<b>Have you heard of Periodic Medical Checkup?</b>			6.039	1	0.01
Yes					
No	162(78.6)	44(21.4)			
	7(50.0%)	7(50.0%)			
<b>Knowing the definition of Periodic Medical Checkup</b>			7.207	1	0.01
Yes					
No	166(78.3)	46(21.7)			
	3(37.5)	5(62.5)			
<b>Is Periodic Medical Checkup necessary?</b>			13.500	1	0.00
Yes					
No	169(78.2)	47(21.8)			
	0(0.0)	4(100.0)			
<b>Do you know any Periodic Medical Checkup done in the hospital?</b>			21.604	1	0.00
Yes					
No	162(81.0)	38(19.0)			
	7(35.0)	13(65.0)			
<b>When should Periodic Medical Checkup be done?</b>			4.472	2	0.11
During illness					
When one is healthy	30(73.2)	11(26.8)			
I don't know	137(78.7)	37(21.3)			
	2(40.0)	3(60.0)			
<b>Knowledge of frequency of Periodic Medical Checkup</b>			10.852	3	0.13
Every 6 months					
Yearly	108(83.1)	22(16.9)			
Every 2 years	53(71.6)	21(28.4)			
I don't know	3(60.0)	2(40.0)			
	5(45.5)	6(54.5)			
<b>Are you aware of Periodic Medical Checkup policy in the hospital?</b>			17.850	1	0.00
Yes					
No	121(85.8)	20(14.2)			
	48(60.8)	31(39.2)			
<b>Should Periodic Medical Checkup be made compulsory?</b>			0.002	1	0.96
Yes					
No	142(76.8)	43(23.2)			
	27(77.1)	8(22.9)			

There were statistically significant association between haven heard of Periodic Medical Checkup( $\chi^2=6.039$ ,  $df=1$ ,  $p=0.01$ ), knowing the correct definition of Periodic Medical Checkup( $\chi^2 =7.207$ ,  $df =1$ ,  $p =0.01$ ), perception of necessity of Periodic Medical Checkup( $\chi^2 =13.500$ ,  $df=1$ ,  $p =0.00$ ), knowing any Periodic Medical Checkup done in the hospital ( $\chi^2 =21.604$ ,  $df=1$ ,  $p =0.00$ ), awareness of Periodic Medical Checkup policy in the hospital ( $\chi^2 =7.182$ ,  $df =3$ ,  $p =0.00$ ), and practice of Periodic Medical Checkup.

**Table 7: Bivariate analysis of medical history and lifestyle factors and haven done Periodic Medical Checkup.**

Variables	Have you ever done PMC		χ <sup>2</sup>	df	p-value
	Yes n(%)	No n(%)			
<b>Family history of chronic illness</b>			0.366	1	0.55
Yes	91(78.4)	25(21.6)			
No	78(75.0)	26(25.0)			
<b>Personal history of chronic illness</b>			2.430	1	0.12
Yes	41(69.5)	18(30.5)			
No	128(79.5)	33(20.5)			
<b>Smoking cigarette</b>			0.348	1	0.56
Yes	4(66.7)	2(33.3)			
No	164(77.0)	49(23.0)			
<b>Drinking alcohol</b>			1.025	1	0.31
Yes	61(73.5)	22(26.5)			
No	108(79.4)	28(20.6)			
<b>Regular exercise</b>			5.552	1	0.02
Yes	98(83.1)	20(16.9)			
No	71(69.6)	31(30.4)			
<b>Having a diet plan and keeping to it</b>			1.218	1	0.27
Yes	64(81.0)	15(19.0)			
No	105(74.5)	36(25.5)			

The study showed a statistically significant association between regular exercise (χ<sup>2</sup> =5.552, df=1, p=0.02) and Periodic Medical Checkup.

**Table 8: Multivariate logistic regression of independent variables predicting periodic medical check -up uptake in Federal Medical Centre, Makurdi..**

Variables	Adjusted odds ratio	95% confidential interval (CI)		p-value
		Lower	Upper	
<b>Ethnicity</b>				
Tiv	Reference			
Idoma	3.371	0.390	29.158	0.27
Igede	5.841	0.630	54.172	0.12
Hausa	1.571	0.75	32.726	0.77
Ibo	9.967	0.479	207.526	0.14
Yoruba	14.124	1.107	108.192	0.52
Others	0.000	0.000		0.99
<b>Level of education</b>				
Informal	Reference			
Primary	3940416760.356	0.00		1.00
Secondary	47580300316.99	0.00		0.99
Tertiary	1.547	0.40	6.02	0.53
<b>Have you heard of PMC</b>				
Yes	Reference			
No	0.42	0.11	1.55	0.19
<b>Knowing the definition of PMC</b>				
Yes	Reference			
No	0.24	0.03	1.64	0.15
<b>Is periodic medical check-up necessary?</b>				
Yes	Reference			
No	0.000	0.000		0.99
<b>Do you know any type of PMC done in the hospital?</b>				
Yes	Reference			
No	0.28	0.09	0.89	0.03
<b>Are you aware of any existing PMC policy?</b>				
Yes	Reference			
No	0.33	0.15	0.72	0.005
<b>Do you exercise regularly?</b>				
Yes	Reference			
No	0.53	0.25	1.11	0.09

Only knowledge of Periodic Medical Checkup being done in the hospital (aOR=0.28, CI=0.09 to 0.89, p<0.03) and awareness of existing Periodic Medical Checkup policy in the hospital (aOR=0.33, CI=0.15 to 0.72, p< 0.005) were independent predictors of Periodic Medical Checkup uptake in the study population (Table 8).

## DISCUSSION

Periodic medical check, a form of preventive medicine is an important aspect of health care. In this study, majority of the respondents 97(44.1%) were aged 40-49. This is contrary to the finding in a study in Sokoto, North-West Nigeria, among healthcare workers where majority of the respondents were aged 30-39 years.<sup>14</sup> Only 2(0.9%) belonged to age category 60 years and above which is reasonably so because in Nigeria, public workers retire at the age of 60 years. Slightly more than half of the respondents, 118(53.6%) were males, and 102(46.4%) were females agreeing with findings in studies carried out in the North-West, South-South of Nigeria and Hong Kong, China.<sup>14-16</sup> This was contrary to findings from studies carried out in a community in South-West Nigeria and Saudi Arabia, where females dominated the respondents.<sup>5,17</sup> More than three quarters, 177(80.5%) of the study participants were married and majority of the participants were Christians 205(93.2%). This is similar to findings in South-West Nigeria.<sup>5</sup> Large proportion 201(91.4%) of the study population had tertiary education, while 17(7.7%) had secondary education. This is likely to be due to the fact that it is a tertiary health facility and most of the staff are professionals.

Almost all the participant 218(99.1%) had heard of Periodic Medical Checkup, meaning that a very high proportion of respondents had knowledge of Periodic Medical Checkup. This is similar to findings from several similar studies across Nigeria and abroad.<sup>5,16,18-22</sup> This is not surprising considering the fact that this study was carried out among health workers and as such, a high level of knowledge and awareness of medical checkup is expected. A good number of the respondents 98.2% also felt Periodic Medical Checkup was necessary and 90.9% of the respondents knew at least one Periodic Medical Checkup done in the hospital. While 79.1% of the respondents felt Periodic Medical Checkup should be done when one is

healthy, only 18.6% felt it should be done during illness. More than half of the respondents 59.1% wanted Periodic Medical Checkup done every 6 months and 33.6% of the respondents felt it should be yearly. These findings were similar to those in a study in Sokoto among health workers and in Edo State, South-South Nigeria among dental health workers.<sup>14,15</sup> Periodic Medical Checkup should be done at least once in a year for those above forty years.<sup>23</sup> Two-thirds of the respondents 64.1% were aware of Periodic Medical Checkup policy in the hospital. This could be one of the very important reasons why the practice of Periodic Medical Checkup is very high among the study population. About three-quarters of the respondents 169(76.8%) have ever had one form of periodic checkup or the other. This high proportion of respondents practicing Periodic Medical Checkup could be because there was awareness of Periodic Medical Checkup and existing policy on Periodic Medical Checkup in this study population. This could also be due to the high educational standard of the respondents who were mostly of tertiary educational standard. This was contrary to the findings in Ilorin among health care workers, where only a fifth of them ever had a Periodic Medical Examination done since the onset of their employment despite high knowledge of Periodic Medical Examination among the respondents.<sup>10</sup> Similarly, contrary findings were noted in similar studies among a community in South-West Nigeria, Obafemi Awolowo University Ile-Ife in South-West Nigeria and the kingdom of Saudi Arabia.<sup>5,17,24</sup>

This study sought to find out the factors determining or predicting the practice of Periodic Medical Checkup, which has been the recommendation of most of the studies on knowledge and practice of Periodic Medical Checkup across Nigeria.<sup>5,10,14,18</sup> The study found a significant association between

ethnicity ( $p = 0.01$ ), level of education ( $p = 0.02$ ) and practice of Periodic Medical Checkup. These findings agree with a study in Uganda.<sup>25</sup> However, none of these association was strong enough to independently predict practice of Periodic Medical Checkup in this study.

Furthermore, there were statistically significant association between haven heard of Periodic Medical Checkup, knowing the correct definition of Periodic Medical Checkup, perception of necessity of Periodic Medical Checkup, knowing any Periodic Medical Checkup done in the hospital, awareness of Periodic Medical Checkup policy in the hospital and practice of Periodic Medical Checkup. Most studies attributed poor practice of Periodic Medical Checkup to lack of awareness of Periodic Medical Checkup and none existing policy on Periodic Medical Checkup in the health facilities.<sup>5,10,14,18</sup> It is therefore important to create high level of awareness of Periodic Medical Checkup, formulate and implement policy on Periodic Medical Checkup where it is not existing, to increase the uptake of Periodic Medical Checkup among health workers and the general population.

About half of the respondents 116(52.7%) in this study, had family history of chronic illness. This did not have any statistically significant association with the practice of Periodic Medical Checkup. This is contrary to a study conducted by Lanre-Babalola,<sup>26</sup> where it was observed that those with family history of medical conditions were more likely to go for routine screening much earlier than those without any family history of medical conditions. Majority of the respondents (97.3%) did not smoke cigarette. This was expected considering the fact that they were health workers who knew the implications of the hazards of smoking cigarette to their health. Similarly, more than half of the respondents (62.3%) did not drink alcohol. About half of the participants (53.6%) exercised regularly. Only 79 (35.9%) of the respondents had a

diet plan and keep to it. The study showed a statistically significant association between regular exercise ( $p = 0.02$ ) and practice of Periodic Medical Checkup. This is similar to a study conducted in Uganda.<sup>25</sup> On the other hand, the other lifestyle factors were not statistically associated with practice of Periodic Medical Checkup.

Overall, only knowledge of types of Periodic Medical Checkup done (aOR=0.28, CI=0.09 to 0.89,  $p < 0.03$ ) and awareness of existing Periodic Medical Checkup policy in the hospital (aOR=0.33, CI=0.15 to 0.72,  $p < 0.005$ ) were independent factors determining Periodic Medical Checkup uptake in the study population. It is therefore imperative that awareness of such policy and types of PMC is constantly created to enhance uptake of practice of Periodic Medical Checkup among health care workers in the hospital.

## CONCLUSION

This study found out that majority of the respondents had ever heard of Periodic Medical Checkup and had done it. Significant statistical association existed between level of education, knowledge of periodic medical checkup, performing exercise and practice of Periodic Medical Checkup. It is therefore important for organizations, institutions, and government to implement programs that will raise standard of education, increase knowledge of Periodic Medical Checkup in both public and private settings, and enhance participation in exercise. The study also discovered that existence and awareness of a Periodic Medical Checkup policy were independent factors determining the practice of Periodic Medical Checkup.

**Recommendation:** It is therefore recommended that, institutions, organizations and all workplaces should have Periodic Medical Checkup policy and create awareness of such policy to enhance the uptake of Periodic Medical Checkup.

**Limitation:** There may have been recall bias by some of the respondents. Like other cross-sectional designs where exposures and outcomes are measured at the same time, there is inherent weakness or difficulty in ascertaining temporal relationship.

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### Competing interest

The authors have no competing interest.

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