Original Article

Socio-Demographic Factors Influencing Screening for Some Indices of Non-Communicable Diseases among Women of Child Bearing Age Seen at An Urban Setting in South-South Nigeria.

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ABSTRACT

The role of screening for prompt detection of cases of non-communicable diseases (NCDs) which constitute heavy economic and psychosocial burden on individuals, families and the society globally cannot be overemphasized. This study was done to identify socio-demographic variables that influenced routine voluntary screening for some indices of NCDs (blood pressure, blood glucose and lipid profile) among women of child bearing age seen at a secondary health care facility in an urban setting in south-south Nigeria. This was a facility based cross-sectional descriptive study done at the general outpatient clinics (GOPCs) of General Hospital, Ikot Ekpene, Akwa Ibom State, South-South Nigeria, among 168 women of child bearing age. A semi-structured questionnaire was used to obtain data on socio-demographic characteristics, knowledge and awareness of the studied indices and routine voluntary screening practices for the indices. The study lasted between January and March 2020. The ages of the respondents ranged from 20-49 years with mean and standard deviation of 31.76+ 10.60 years. Results showed that out of 168 respondents, greater percentage 86(51.19%) belonged to middle reproductive age (30-39 years). Almost half of the women 80(47.62%) had tertiary education while majority of them belonged to lower income group (<$241). While almost all of them, 161(95.83%) and 155(92.26%) were aware of blood pressure and blood glucose respectively, only 49(29.17%) had heard of lipid profile. Also while majority of the women, 91.67%, had ever screened for their blood pressure, only 16.67% had done lipid profile. Two socio-demographic variables (age and educational status) were commonly and statistically associated with screening for blood pressure (p=0.002, p=0.0004), blood glucose (P=0.0002, P=0.001) and lipid profile (P=0.005, P=0.0003) respectively. The study has shown that voluntary routine screening for some indices of NCDs among the women of child bearing age was influenced mostly by higher education and advanced reproductive age. Also while screening for some indices (blood pressure and blood glugose) was good, it was abysmally poor for lipid profile. Considering the contributions of these health indices to the causation of NCDs, it is recommended that the studied population (women of child-bearing age) should be educated on the imperative of routine screening for these indices of NCDs for timely detection of derangement and prompt treatment, as component of disease prevention and health promotion.

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INTRODUCTION

Non-communicable diseases (NCDs) which are chronic lifelong diseases constitute heavy socio-economic burden with lot of adverse sequelae on affected individuals, families and the society globally.[1,2] Due to the morbidities and mortalities associated with NCDs, they are a major public health concern with unquantifiable drain in the health care system.[3,4-7]

Several disease entities constitute NCDs including cardiovascular diseases, chronic respiratory diseases, diabetic mellitus, dementia and the cancers.[1,2,8,9.] Their impact on the morbidity and mortality profiles on the affected individuals, families and the society generally is globally humongous. From the WHO statistics 2018, NCDs are responsible for deaths of 41 million people annually which is equivalent to 71% of all deaths globally.[10,11] About 85% of these premature deaths occur in low and middle income countries (LMICs). Also globalization data on 2018 predicted that mortality from NCDs would rise to about 52 million worldwide by 2030. This is a threat to attainment of goal 3 target 4 of the United Nations Sustainable Development Goals (UN-SDGs) which aims to reduce premature mortality from NCDs by 1/3 by 2030.[10,11,12,13]

In Nigeria, country profile 2018 shows that NCDs account for an estimated 29% of all deaths with cardiovascular diseases as the primary cause of NCD related death (11%), followed by cancers and respiratory diseases[6,8,14] The increased prevalence of NCDs have been found to be related to the corresponding increased prevalence of common and preventable risk factors in low, middle and high income countries. These risk factors include diabetic mellitus /impaired glucose tolerance, hypertension, dyslipidaemia, depression, obesity, unhealthy diet, smoking, air pollution, physical inactivity and excessive alcohol consumption.[1,7,10,18,19]

As devastating as NCDs are, it has been severally shown that knowledge of the risk factors causing NCDs, early screening, prompt detection /diagnosis and treatment could do a lot in averting the complications and burden of NCDs especially in LMICS where resources and manpower to manage complications of NCDs are inadequate.[1,3,5,8,14] Moreover, the knowledge of the indices of NCDs and screening for the indices have been found to be determined by some socio-demographic variables especially age of the individual and educational status. While people of higher age and educational status tend to be more aware of the risk factors, and more likely to do the screening, those of lower age and educational status are less aware of the risk factors and less likely to do the screening.[5,7,8,20-22]

This study therefore aimed at identifying the socio-demographic variables that influenced voluntary screening for the three common indices for NCDs(blood pressure, blood glucose and lipid profile) among women of child bearing age seen at the general outpatient clinics of an urban secondary health care facility in a Sub-Saharan Africa Setting. It is believed that findings from this study will positively influence policies on disease prevention and health promotion with regards to screening for NCDs.

MATERIALS AND METHODS

The study was carried out at the General Outpatient Clinics (GOPCs) of General Hospital, Ikot Ekpene, an Urban Area in Akwa Ibom State, South-South Nigeria. The facility is owned and run by the State Hospital Management Board (SHMB). It is a secondary health care facility with various categories of health personnel in its employ including medical consultants. The study was cross-sectional and descriptive in design and involved 168 women of child bearing age (20-49 years) who were seen at the GOPCs of the facility during the period of the study. They were recruited conveniently and consecutively during their visit to the clinic. The inclusion criteria were all consenting women within the

age bracket (20-49 years) seen at the GOPCs during the period of the study. The exclusion criteria include those outside the age range of the study, early pregnant women seen at the GOPCs, those who already had hypertension, diabetes mellitus, dyslipidaemia or their complications and were aware of these diseases and receiving treatment for same. An interviewer administered questionnaire was used to collect data from the respondents. Respondents with no formal education were assisted with use of local dialect by the author and trained assistants. The data collected include socio-demographic characteristics, awareness of the indices of NCDs studied (blood pressure, blood glucose and lipid profile) and voluntary routine tests of the studied indices among the respondents.

Data from the study were processed and analysed using CDC EPI-INFO[23] Statistical package. The data were summarized using proportion for categorical variables and mean and standard deviation for continuous variables. Associations were determined using chi-square. The level of statistical significance was set at P<0.05. Tables were used to display data as appropriate.

Ethical approval for the study was obtained from the research and Ethical committee of Akwa Ibom State Ministry of Health via letter: MH/PRS/99/VOL.V/821. Permission for the study was also obtained from the medical superintendent of the facility and the matron incharge of the GOPCs before commencement of data collection. Verbal consent was obtained from the respondents before administration of the questionnaire.

RESULTS

One hundred and sixty-eight (168) women participated in the study and provided responses to all the questions. The results obtained are displayed below:

Table 1 shows the socio-demographic characteristics of the respondents. Their age ranged from 20-49 years with average and standard deviation of 31.76±10.60 years. More than half, 51.19% of the respondents belonged to 30-39 years group while the least number 18(10.71%) belonged to the advanced reproductive age

Table 1: Socio-demographic Characteristics of the respondents

Characteristic	Frequency (n=168)	Percentage (%)
Age (Years):		
20-29	64	38.10
30-39	86	51.19
40-49	18	10.71
Currently Married:		
Yes	121	72.02
No	47	27.98
Educational Status:		
No formal education	4	2.38
Primary	20	11.91
Secondary	64	38.10
Tertiary	80	47.62
Occupation *		
Unemployed	37	22.02
Farming	17	10.12
Trading	47	27.98
Seamstress	27	16.07
Civil servant	40	23.81
Schooling	17	10.12
Level of Income($)**		
<72	91	54.17
72-118	40	23.81
120-238	17	10.12
>241	20	11.91
Parity:		
0	40	23.81
1	40	23.81
2	37	22.02
3	24	14.29
4	13	7.74
5	14	8.33

*some respondents had more than one occupation.

**$72=₦30,000(which is Nigeria's national minimum wage)

(40-49 years). Most of the women, 121(72.02%) were married. Almost half of the respondents, 80(47.62%), had tertiary education. Greater number 91(54.17%) of the women were employed. Most of the respondents, 148(88.09%) were of lower income level, <$241 while greater percentage 154(91.67%), were of lower parity (para <5).

Knowledge and awareness of the studied indices of NCDs (blood pressure, blood glucose and lipid profile) is shown on table 2. While greater percentage of the women (95.83%) and 92.26%) knew about blood pressure and blood glucose respectively, only 29.17% ever heard of lipid profile.

Table 2: Knowledge and awareness of studied indices of NCDs (blood pressure, blood glucose and lipid profile) among the respondents

Characteristic	Frequency (n=168)	Percentage (%)
Ever heard of Blood Pressure?		
Yes	161	95.83
No	7	4.17
Ever heard of Blood sugar?		
Yes	155	92.26
No	13	7.74
Ever heard of lipid Profile? (Blood Fat):		
Yes	49	29.17
No	119	70.83

Table 3 shows sources of knowledge of the indices of NCDs. Most of the women, 141 (83.93%) obtained their knowledge of blood pressure, blood glucose and lipid profile from health workers while the least of them, 7(4.17%) did so from family members and social media respectively.

Routine voluntary screening of the health indices

Table 3: Sources of knowledge of the studied indices of NCDs

Source of Knowledge **	Frequency (n=168)	Percentage (%)
Health Workers	141	83.92
Social media	30	17.86
FrIends and neighbours	24	14.29
Religious organizations	24	14.29
Family members	7	4.17
Electronic Media	7	4.17

some respondents obtained their knowledge of the indices of NCDs from more than one source.

(blood pressure, blood glucose and lipid profile) among the women is described on table 4. Majority of the women, 154 (91.67%) and 111(66.07%) routinely practiced blood pressure and blood glucose checks respectively while only 28(16.67%) ever checked their lipid profile.

Association between socio-demogrphic variables and practice of routine blood pressure check is tested on table 5a. Blood pressure screening was significantly

Table 4: Routine voluntary check for the studied indices of NCDs (blood pressure, blood glucose and lipid profile) among the respondents

Indices Screened	Frequency (n=168)	Percentage (%)
Checked Blood Pressure in the last one year:		
Yes	154	91.67
No	14	8.33
Checked Blood glucose in the last three years:		
Yes	111	66.07
No	57	33.93
Ever Checked Lipid profile		
Yes	28	16.67
No	140	83.33

associated with age of the women and their educational status as women of higher age and higher education status were more likely to check for blood pressure (P=0.0002 and P = 0.0014) respectively.

Table 5(b) shows the relationship between socio-demographic variables and blood glucose routine screening. Here, blood glucose screening was

Table 5(a): Relationship between socio-demographic variables and Blood pressure

Socio-demographic Variables	Blood Pressure screening (n=154)		P-Value
	Screened, N (%)	Not Screened, N (%)	
Age (Years):			0.0002
<30	52(81.25)	12(18.75)	
≥30	102(98.08)	2(1.92)	
Educational level*			0.0014
Lower level	75(85.23)	13(14.77)	
Higher level	79(98.75)	1(1.25)	
Income Level($):			0.067
<241	138(98.57)	10(1.43)	
≥241	16(80.00)	4(20.00)	
Party:			1
Para < 5	141(91.56)	13(8.44)	
Para ≥ 5	13(92.86)	1(7.14)	
Marital Status:			1
Yes	111(91.74)	10(8.26)	
No	43(91.49)	4(8.51)	

Lower level of education secondary school and below; higher level of education Tertiary level

statistically significantly associated with most of the socio-demographic variables including age (P=0.0002), educational level (P=<0.001), parity (P=0.018) and marital status (P=<0.001). Table 5c describes the association between socio-demographic variables and screening of lipid profile among the respondents. Lipid profile screening was statistically associated with age (P=0.005), educational status (P=0.0003), income level (P<0.001) and Parity (P<0.001) respectively.

Table 5(b): Relationship between socio-demographic variables and Blood glucose screening among the respondents

Socio-demographicnVariables	Blood glucose screening		P-Value
	Screened, N (%)	Not Screened, N (%)	
Age (Years):			
<30	31(48.44)	33(51.56)	0.0002
≥30	80(76.92)	24(23.08)	
Educational level*			
Lower level	42(47.73)	46(52.27)	0.001
Higher level	69(86.25)	11(13.75)	
Income Level($):			
<241	97(65.54)	51(34.46)	0.693
≥ 241	14(70.00)	6.(30.00)	
Party:			
Para < 5	106(68.83)	48(31.17)	0.018
Para ≥ 5	5(35.72)	9(64.29)	
Marital Status:			
Yes	98(80.99)	23(19.01)	<0.001
No	13(27.66)	34(72.34)	

Lower education secondary education and below; higher education tertiary level

Table 5c: Relationship between socio-demographic variables and practice of lipid profile screening.

Sociodemographic Variables	Lipid pr ofile screening		P-Value
	Screened, N (%)	Not Screened, N (%)	
Age (Years):			
<30	4(6.25)	60(93.75)	0.005
≥30	24(23.08)	80(76.92)	
Educational level*			
Lower level	6(6.82)	82(93.18)	0.0003
Higher level	22(27.50)	58(72.50)	
Income Level($):			
<241	10(6.76)	138(93.24)	<0.001
≥ 241	18(90.00)	2.(10.00)	
Party:			
Para < 5	18(11.69)	136(88.31)	<0.001
Para ≥ 5	10(71.43)	4(28.57)	
Marital Status:			
Yes	21(17.35)	100(82.65)	<0.701
No	7(14.89)	40(85.11)	

DISCUSSION

The study has shown that while greater percentage of the women knew about blood pressure and blood glucose, as health indices of NCDs, only few of them were aware of lipid profile. This finding is similar to findings from several other studies on awareness of these indices of NCDs in the general population.[1,2,7,20,22,24.] Also it was found that while majority of the women checked their blood pressure and blood glucose, only few of them did so for lipid profile. This again is similar to findings from other studies.[1,7,2,25]This partial knowledge and poor attitude to screening of some common indices of NCDs is risky as it could result in delay in timely detection and possible treatment of derangement of those indices. It is therefore recommended that awareness on importance of routine check for these indices of NCDs should be created among the populace generally and women of child bearing age in particular especially as they tend to develop these NCDs towards the end of their reproductive age and post menopausally with reduced physical activities and sedentary lifestyle.[25,26]

On socio-demographic variables determining the screening for the studied indices, it was found that higher age and educational status had strong statistical association with screening for the indices. This is similar to findings by Bahak, etal in Saudi Arabia,[1] and Asekum-Olarinmoye, etal in Western Nigeria.[7] This emphasises the need for continuous campaign for disease prevention and health promotion among women of advanced reproductive age on routine voluntary screening for common indices of NCDs. Again the importance of girl child education as means of creating awareness on several issues including health prevention and promotion practices cannot be over-emphasized.

Finally, with the launching of first national multi-sectorial action plan (NNMSAP) for prevention and control of NCDs by the Nigerian Federal Ministry of Health (FMOH) in collaboration with key stakeholders including WHO, MDAs, NGOs, civil society organizations, research institutes and the academia in August 2019,[8] it is envisaged that routine screening will form important component of the action plan for timely detection, prompt treatment and aversion of, complications of NCDs.

CONCLUSION

The study has shown that routine voluntary screening for the studied indices of NCDs was mostly influenced by advanced reproductive age and higher educational status of the respondents. Also while screening for some indices (blood pressure and blood glucose) was good, it was very poor for lipid profile. It is therefore recommended that health education campaign on routine voluntary screening for common indices of NCDs, for timely detection and prompt treatment of derangment, should be made available to all adult population including women of child-bearing as component of disease prevention and health promotion.

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Conflict of interest
We hereby declare that no conflict of interest exist among the authors in this research.

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