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Original Research Article

Men's Knowledge of Antenatal Care and Causes of Maternal Mortality among Industrial Workers in Kano

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Introduction

For innovative and effective options toward utilization of antenatal care by pregnant women in Nigeria and reducing maternal mortality rates, active participation of all stakeholders, especially the men, must be regarded as a priority by all nations. This can only be achieved and measured as a success if men have the knowledge of antenatal care and the causes of maternal mortality. Contrary to what is obtained in the western world, men hardly participate during antenatal care service in Nigeria. Antenatal care is defined as the routine health control of presumed healthy pregnant women without symptoms (screening), in order to diagnose diseases or complicating obstetric conditions and to provide information about lifestyle, pregnancy and delivery.[1] It has components which entail risk identification; prevention and management of pregnancy-related or concurrent diseases; health education and health promotion.[2]

"Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes".[3] Maternal mortality is one of the key indices of the state of health and quality of health care in any society. It is an important indicator of the health status and human rights of women, their access to health care and the adequacy of health care system and its ability to respond to their needs. It demonstrates provides one of the worst differentials in health indices between developed and developing worlds. *(provide reference)* Sub-Saharan Africa and South Asia, account for 86 per cent of maternal deaths worldwide. Sub-Saharan Africans have the highest maternal mortality ratio 533 maternal deaths per 100,000 live births, or 200,000

maternal deaths a year.[4] One third of all global maternal deaths, occurs in India (17%) and Nigeria (14%).[5]

In 2012, the Sustainable Development Goals (SDGs) were born at the United Nations Conference on Sustainable Development in Rio de Janeiro.[6] The aim was to replace the Millennium Development Goals.

One of the targets of the third goal of SDGs is to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030.[7] In most African countries, maternal health issues which include family planning, pregnancy and childbirth have long been regarded exclusively as women's affairs. Although the health of mothers is determined by many factors including socio-economic status and environmental factors; one important and crucial factor that has been neglected over the years is the role of men as a determinant of health of mothers.

Men's involvement in reproductive health is crucial, though their participation has been poorly demonstrated. Factors responsible for this include culture, religion, ignorance and socio-economic factors. Men are the primary decision makers of most families in developing countries, as such, their involvement in maternal health issues could promote a better relationship among couples in the family and enhance maternal wellbeing. It has been observed that men's involvement in maternal health is a promising strategy for promoting maternal health.[8] Involving husband/partner and encouraging joint decision-making among couples may provide an important strategy in achieving women's empowerment; this will ultimately result in reduced maternal morbidity and mortality. Therefore, creative and effective options for reducing maternal mortality rates must include the active participation of all primary stakeholders, and should include the men who are the primary decision makers in culturally driven, male-dominated societies such as ours. Men are expected to promote maternal health and prevent maternal death, yet research has not established a strong link between their behaviors and maternal mortality particularly in developing countries. In Nigeria, where culture has been shown to be an important factor in relation to women's access to available reproductive health facilities,[9] little data exist on men's views with regard to maternal deaths.

In the 3-delay model of the socio cultural causes of maternal mortality, the first delay, which is the delay in decision making almost always involves men,[10] especially in local settings where their permission has to be sought before anything can happen in a household and also because of them being the financial providers for the household. Therefore, there is a need for them to know and understand maternal health and how it can be achieved to reduce maternal mortality.

The aim of this survey was to assess the knowledge of married men on antenatal care and the causes and ways of prevention of maternal mortality among workers in industries in Sharada District, Kano State. Xxx

Materials and method

A descriptive cross sectional survey was conducted among married men working in Sharada industries, Kano State. Sharada district is situated in Kano municipal, Kano state, North-West Nigeria. Ethical approval was obtained from Kano State Ethics Committee. A list of all the active Industries in Sharada was made and two industries were selected at random using a random number generator. A list of all the staff there was made and 422 staff were selected at random, 211 from each of the selected industries, using balloting to answer the questionnaires. The study population comprised only consenting married men that worked in the selected industries during the study period. Structured self-administered questionnaires were distributed among the respondents which comprised both open and closed ended questions. Information such as socio demographic characteristics, knowledge of antenatal care, prevention and management of complications of pregnancy were asked and documented on the questionnaires.

Data collected were checked for completeness, coded and entered into Microsoft excel and

analyzed using the Statistical Package for Social Sciences (SPSS) version 19 software. The data entered were then expressed as a descriptive statistic percentage and associations between variables were tested using the chi-square test. A p-value of <0.05 was considered significant.

Sample size determination

The sample size (n) for the study population was calculated using the formula below:

$n = z^2pq/d^2 | 11$

Where;

n = Sample size.

Z = the normal standard deviate, at 95% confidence interval (1.96).

P = 0.478[12]

q = (1-P) =1-0.478
= 0.522

d = Probability of making a type I/ sampling error = 5% or (0.05).

Therefore;

n = $(1.96)^2$ x 0.478 x 0.522/$(0.05)^2$
= 3.8416 x 0.478 x 0.522/0.0025
= 0.9585/0.0025
= 383.43

To account for incomplete response, 10% attrition rate (38.343) was added. Therefore, the minimum sample size (n) was 422.

Results

The survey was conducted from 1st September to 31st December 2018. A total of 422 questionnaires were administered during the period but only 289 were completely filled and retrieved giving a response rate of 68.5%. The mean age (± SD) of the respondents was 40.9 ± 0.63 years with . most of the respondents 141 (48.9%) between the ages of 40-59 years. The mean age (± SD) of the respondents' wives was 30.8 ± 0.62 years. Most of the respondents' wives were within the age groups of 18-29 years (50.5%) and 30-49 years (44.6%). Their median parity was 2.0

Most of the respondents 141 (48.9%) were between the ages of 40-59 years. Table 1. Majority of the respondents were from the Hausa ethnic group (46.40%) while Igbos, Yorubas constituted 7.3% and 15.9 % respectively. (Table 1.) Most of the respondents' wives were within the age groups of 18-29 years (50.5%) and 30-49 years (44.6%).

Majority of the respondents 268 (92.7%) knew about Antenatal Care but only 231 (79.9%) of the respondents had an idea of what it entails. Two hundred and three (70.20%) respondents had no idea what the various causes of maternal mortality were while 88 (29.8%) of the respondents had some knowledge of the causes of maternal mortality. Table 2. One hundred and sixty-nine (58.5%) respondents had no knowledge about management or prevention of complications of pregnancy or maternal mortality.

There was a significant association between respondents' age distribution and knowledge of Antenatal Care and between the respondents' wives number of pregnancies and knowledge of Antenatal Care ($\chi^2 = 15.8$, P= 0.001; $\chi^2 = 18.7$, P= 0.001 respectively). Table 3.

There was also a significant association between respondents' age group, ethnicity and number of pregnancy of their wives with knowledge of pregnancy complications ($\chi^2 = 11.2$, P= 0.01; $\chi^2 = 6.5$, P= 0.08 and $\chi^2 = 32.6$, P<0.01 respectively). Table 4.

Table 1: Socio Demographic Characteristics

Variables	Frequency	Percentage (%)
Age		
<20	5	1.7
20-39	127	43.9
40-59	141	48.9
60-Above	16	5.5
Total	289	100.0
Ethnicity		
Hausa	134	46.4
Igbo	21	7.3
Yoruba	46	15.9
Others	88	30.4
Total	289	100.0
Religion		
Islam	176	60.9
Christianity	111	38.4
Others	2	0.7
Total	289	100.0
Wife's Age		
<18	10	3.5
18-29	146	50.5
30-49	129	44.6
50 and above	4	1.4
Total	289	100.0
Number of pregnancy		
0	22	7.6
1	48	16.6
2	60	20.8
3	61	21.1
4 and above	98	33.9
Total	289	100.0

Table 2: Knowledge of Antenatal Care and Causes and Ways of Prevention of Maternal Mortality

Knowledge of antenatal Care	Frequency	Percentage (%)
Yes	268	92.7
No	21	7.3
Knowledge of what antenatal care entails		
No idea	58	20.1
Taking care of pregnant Women and their fetuses	175	60.6
Giving drugs and injections To pregnant women	35	12.1
Detecting and managing complications	21	7.2
Knowledge of the various causes of maternal death		
No idea	203	70.2
Lack or late registration of ANC	28	9.7
Hemorrhage	33	11.4
Others	25	8.7
Knowledge on prevention and management of complications of pregnancy		
Yes	120	41.5
No	169	58.5
Knowledge of the ways of prevention of maternal mortality		
None	169	58.4
Through ANC	73	25.3
Others	47	16.3
Overall knowledge		
Poor knowledge	54	18.7
Good knowledge	235	81.3
Total	**289**	**100.0**

Table 3: Association between some Socio-demographic Characteristics and Knowledge of ANC

Age Group	Knowledge of ANC		Total
	Poor Knowledge	Good Knowledge	
<20	4	1	5
20-39	28	99	127
40-59	19	122	141
60-Above	3	13	16

$X^2 = 15.8$, P= 0.001

Association between knowledge and Ethnicity

Ethnicity	Poor Knowledge	Good Knowledge	Total
Hausa	28	106	134
Igbo	2	19	21
Yoruba	11	35	46
Others	13	75	88

$X^2 = 3.30$, P= 0.347

Association between knowledge and Number of Pregnancy

Number of Pregnancy	Poor Knowledge	Good Knowledge	Total
0	10	12	22
1	12	36	48
2	9	51	60
3	14	47	61
4 and above	9	89	98
Total	54	235	289

$X^2 = 18.7$, P= 0.001
Note: ANC= antenatal care

Table 4: Association between some Socio-demographic Characteristics and Knowledge of Ways of Prevention and Management of Complications of Pregnancy

Age	Poor Knowledge	Good Knowledge	Total
<20	4	1	5
20-39	54	73	127
40-59	42	99	141
60-Above	9	7	16

$X^2 = 11.2$, P= 0.01

Association between ethnicity and knowledge of complications

Ethnicity	Poor Knowledge	Good Knowledge	Total
Hausa	59	75	134
Igbo	6	15	21
Yoruba	19	27	46
Others	25	63	88

$X^2 = 6.5$, P= 0.08

Association between number of pregnancies and knowledge of complications

Ethnicity	Poor Knowledge	Good Knowledge	Total
0	20	2	22
1	21	27	48
2	15	45	60
3	20	41	61
4 and above	33	65	98
Total	109	180	289

$X^2 = 32.6$, $P<0.01$

Discussion

The mean age of the respondents in this study was 40.9±0.63 years and Hausa and Islam were the predominant ethnic group 134 (46.4%) and religion 176 (60.9%) respectively. This was no surprise because employees of age of 40 years are certainly responsible adults and would contribute meaningfully to the development of any industry. Hausa and Islam are the predominant tribe and religion in the North-western Nigeria.[13] Only few of the respondents" wives were below the age of 18 years and more than 50 years. This shows that majority of their wives were within the child bearing age group of 15-49 years[14] and as such, they were the ideal candidates at risk of maternal morbidity and mortality. A larger proportion of the respondents' wives reported high parity of at least four 98 (33.9%). This also revealed that their women were at a stage of high risks of complications during labour and delivery and were also at increased risks of maternal morbidity and mortality as was found by other workers.[15]

The importance of the men having knowledge on the causes and ways of preventing maternal mortality cannot be overemphasized. Nigeria has one of the highest maternal mortality rates in the world, second only to India whose population is eight times larger than that of Nigeria.[16] This is due to so many factors of which lack of involvement of men and their ignorance towards causes of maternal death are significant contributors.

The studies showed appreciable knowledge of antenatal care 268 (92.7%) and knowledge of what antenatal care entails about 175 (60.6%) among the respondents. However, an appalling figure of 203 (70.2%) of the respondents had no idea about the various causes of maternal death. Only 33 (11.4%) mentioned pregnancy associated hemorrhage as a cause of maternal death. In a study on Men's knowledge and involvement on obstetric danger signs, birth preparedness and complication readiness in Burayu town, Oromia region, Ethiopia, The participants mentioned pregnancy related vaginal bleeding 342(65.4%) as the most familiar danger sign associated with maternal death.[17] This showed poor involve-ment of men in management of pregnancy associated complications that could lead to maternal death. The survey showed statistically significant association between the respondents' age group and knowledge of antenatal care (χ^2=15.8, P=0.001)

The survey showed that there was no significant association between ethnicity and knowledge of antenatal care (χ^2 =3.30, P=0.347) but there is a significant statistical association between the respondents' wives number of pregnancies and knowledge of Antenatal Care (χ^2 =18.7, P=0.001). We also found statistically significant association between respondents' age distribution and the number of pregnancies of the respondents' wives with the level of knowledge of the ways of prevention and management of complications of pregnancy (χ^2 =11.2, P=0.01). This showed that the more the number of pregnancy, the more the number of antenatal care

visits and the likelihood of attending health talks, and compliance with management of pregnancy complications for avoidance of maternal complications and death.

Conclusion

This survey revealed good knowledge of antenatal care among men but poor knowledge on what it entails and the ways of preventing and managing complications of pregnancy that lead to maternal death. Therefore, there is a need for improvement on the knowledge of men on maternal care during pregnancy and delivery. We recommend establishment of programs for men awareness of what antenatal care entails about, the causes of maternal death and preventive measures in our communities through media stations such as radio or television. Hospitals should also recommend the presence of husbands at antenatal sessions especially during health talk.

Conflicts of Interest: None

Sponsors: None

References

1. Antenatal care. Backe B, Pay AS, Klovning A, Sand S. Antenatal Care. Available from: http://www.nfog.org/files/guidelines/1%20NGF%20Obst%20Antenatal%20care%20Backe.pdf. Accessed on 19/01/2020.
2. WHO. Recommendations on Antenatal Care for a Positive Pregnancy Experience.?: World Health Organization.;1, Introduction. [Internet]. 2016;Available from: https://www.ncbi.nlm.nih.gov/books/NBK409110/
3. WHO | Maternal mortality ratio (per 100 000 live births). [cited 2019 Oct 14];Available from: https://www.who.int/healthinfo/statistics/indmaternalmortality/en/
4. Maternal mortality. UNICEF DATA [cited 2019 Oct 14];Available from: https://data.unicef.org/topic/maternal-health/maternal-mortality/
5. Wekesah FM, Izugbara C. Maternal health in Nigeria: facts and figures. 2017. available from: https://aphrc.org/publication/maternal-health-in-nigeria-facts-and-figures/. Accessed on 19/01/2020.
6. Background of the Sustainable Development Goals [Internet]. UNDP [cited 2019 Oct 17];Available from: https://www.undp.org/content/undp/en/home/sustainable-development-goals/background.html
7. The Sustainable Development Goals and Maternal Mortality [Internet]. Maternal Health Task Force2017 [cited 2019 Oct 17];Available from: https://www.mhtf.org/topics/the-sustainable-development-goals-and-maternal-mortality/
8. WHO recommendation on male involvement interventions for maternal and neonatal health | RHL. [cited 2019 Oct 17];Available from: https://extranet.who.int/rhl/topics/improving-health-system-performance/who-recommendation-male-involvement-interventions-maternal-and-neonatal-health
9. Ugwu NU, de Kok B. Socio-cultural factors, gender roles and religious ideologies contributing to Caesarian-section refusal in Nigeria. Reproductive Health 2015;12(1):70.
10. Somé DT, Sombié I, Meda N. How decision for seeking maternal care is made - a qualitative study in two rural medical districts of Burkina Faso. Reprod Health 2013;10:8.
11. Interceptum - Online Surveys & Intercepts - Publications on online surveys. [cited 2019 Oct 17];Available from: http://interceptum.com/pci/en/60981/67350/69868
12. Lawoyin TO, Lawoyin OOC, Adewole DA. Men's perception of maternal mortality in Nigeria. J Public Health Policy 2007;28(3):299318.
13. Religion in Nigeria - Wikipedia. [cited 2020 Jan 16];Available from: https://en.wikipedia.org/wiki/Religion_in_Nigeria
14. Situation of women and children in Nigeria | UNICEF Nigeria. [cited 2019 Oct 20];Available from: https://www.unicef.org/nigeria/situation-women-and-children-nigeria
15. Ntoimo LF, Okonofua FE, Ogu RN, Galadanci HS, Gana M, Okike ON, et al. Prevalence and risk factors for maternal mortality in referral hospitals in Nigeria: a multicenter study. Int J Womens Health 2018;10:6976.
16. Roser M, Ritchie H. Maternal Mortality. Our World in Data 2013 [cited 2019 Oct 20];Available from: https://ourworldindata.org/maternal-mortality
17. Gize A, Eyassu A, Nigatu B, Eshete M, Wendwessen N. Men's knowledge and involvement on obstetric danger signs, birth preparedness and complication readiness in Burayu town, Oromia region, Ethiopia. BMC Pregnancy and Childbirth 2019;19(1):515.