HOUSEHOLD AIR POLLUTION AS DETERMINANTS OF HEALTH BARRIERS ASSOCIATED WITH CHILD BEARING MOTHERS IN KOGI STATE, NIGERIA

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Abstract

The study examined household air pollution as determinants of health barriers associated with childbearing mothers in Kogi State, Nigeria. The study adopted descriptive survey research design. The population of the study comprised 8880 childbearing mothers (CBMs) in Kogi State, Nigeria out of which 444 were sampled. Two to five percent is considered adequate as it conforms to the rule of the thumb stated by Nwana (2006). The instrument for data collection was a self-developed questionnaire. Two research questions. Data collected was presented and analyzed using frequency and percentage count. Result showed that child bearing mothers are prone to respiratory problem, cancer, cardiovascular diseases The study concluded therefore that child bearing mothers in Kogi State who use crude method of cooking/heating and those who reside in rural areas with low population density, as well as the education and job opportunities are prone to HAP problem when compare with urban areas in Kogi State, Nigeria. It is recommended that there should be adequate advocacy on the need to limit the use of crude means of cooking among childbearing mothers (CBMs). Sensitization of child bearing mothers on how to improve their cooking methods in order to sustain their good health.

Keywords: child bearing mothers, health barriers, household air pollution

INTRODUCTION

Incomplete combustion of solid fuel which is traditionally used for cooking and heating has a greater effect on homes of many people which can lead to household air pollution (HAP). The effects could range from disability, death and greater health risks of women and children due to their household chore. The levels of health risk as a result household air pollution (HAP) include respiratory problem, cancer, cardiovascular. Majority women and girls in developing countries are usually left for cooking and fuel gathering and as much as such experience the greatest risks to HAP related diseases (Safe Motherhood, 2019). All these are anchored on rate of poverty and low opportunity costs for time spent in gathering fuel and cooking with bad stores. Actually women may be constrained with inability to avert the prevailing situation (Wickramasinghe, 2011). It is expected that consumers and those who are willing to implement the emission and potential health impact of given store, because momentum to improve stores and house hinge hold air quality is growing rapidly on evaluation of the impact of household energy interactions on health is both around and important (Martin et al., 2011). The term material health is rift with efforts, and effective strategies have been constantly sought to reduce maternal mortality and morbidity,

especially in developing countries of sub-Saharan Africa and Asia (Vikaspedia, 2019). Women and girls in developing countries who are child bearing mothers need better health care.

Urban and rural areas differ in several ways such as population density, infrastructure and pace of life (Ma, 2020). The author observed that urban area refers to regions that are highly developed, having numerous education, job opportunities and infrastructure. These regions have better roads, houses, commercial buildings, bridges and railways while rural area is complete opposite of urban area. In rural area the population density is low, as well as the education and job opportunities are not as great when compare with urban areas. Both urban and rural areas have their advantages and disadvantage.

Child bearing mother concept means the attainment of full motherhood. In other words child bearing refers to as motivation for maternal reward (Esienumoh & Ella, 2018). The concept of child bearing mothers denotes physical, reproductive that indicates maturity of space. In human race the phenomenon of having offering appears to denote other meaning socially and culturally Van Rooij, 2014). Child bearing mothers are given adequate and qualitative health care that will prevent them from diseases. In another word maternal mortality and morbidity encompasses series of initiatives, practices, protocols and service delivery guide structure to encourage child bearing mother to receive adequate and qualitative health in order to prevent them from getting infected with diseases like respiratory infection, cancer, cardiovascular among others. Unsafe child bearing mothers accounts for maternal mortality and morbidity due to preventable diseases (The Human Right & Reproductive Health Matrix, 2013). It major areas are improving maternal, mortality and morbidity, eliminating probable diseases that may occur it focuses on areas such as cancer infections, childbirth, maternal, neonatal cardiovascular diseases, respiratory burn and ocular (Viskaspedia, 2019). Child bearing mothers are faced with different diseases.

Safe motherhood (2019) observed that between 30 to 50 women suffer from injuries, infections or diseases associated with household air pollution. The leading cause of maternal mortality and morbidity are complications arising from household air pollution among childbearing mothers in developing countries. The death of women does not only occur for her personal tragedy but represents greater cost of her nation, community and the family responsibilities at large. The problem of health does not only affect the childbearing mother alone but hinge on the child(ren)

and equally pose the child(ren) to great health challenges that they may probably nurture throughout the life time (safe motherhood.org 2019).

The most prevalent cause of maternal mortality and morbidity in Nigeria include cardiovascular diseases, infections, burns, respiratory infections, cancer and ocular etcetera (African population and Health and Research center fact sheet, 2017).When the prevalent of these diseases occur, child bearing mothers are faced with barriers which require optimum health care due to financial constraints, distance to health facilities and administrative bottle neck in seeking care from health facilities (African population and Health and Research center fact sheet, 2017).

According to Birth (2010), assert that thought and feelings are based in individual belief, which in turn affects the health of childbearing mothers and tend to impede on maternal mortality and morbidity in respect to exposure to household air pollution (HAP). Despite effort put in place to improve maternal health in the country there is relatively poor achievement. Report has shown that maternal mortality and morbidity rate globally is at it decline by 34 percent from 339 deaths to 223 death per 100, 000 live births since 2000 to 2020 (United Nations Inter- agency Estimate, 2017). Equally, the organization opined that Nigeria maternal mortality and morbidity is 576 per 100,000 live births and second highest in the world.

Household is achieved with the arrangement made by person or individual or groups for providing themselves with food and other essential for living. Household could be one person household or combined group of persons to forms household. Basically when peoples share food and other essential things within a structural building they are referred to as household (principles and recommended actions for population and housing censuses, 2002).

Health is seen as a functional and metabolic efficiency of a living organism. In humans it is the ability of individuals or community to self - manage when facing physical mental or social changes (Park, Lim & Hwana et al, 2010). Equally, Kujundzic (2017) stated that health is a relative term and that to the extent an individual is able to perform the function or task assigned to him by the society such an individual should be regarded as being healthy.

Barriers are difficulties that hinder effective and efficient management of household air pollution. Ezeah and Robert, (2014) viewed barriers to household air pollution as those factors that constitute infections such as respiratory problem, cardiovascular among others.

Statement of the problem

Household air pollution (HAP) is a major health barrier that is confronting the population in Nigeria. Household air pollution has remained one of the public health barriers in Kogi State among childbearing mothers. Actually, people ought to cook or heat whatever they want without household air pollution but the reverse is the case in Nigeria in which Kogi State is part. Though effort have being put in place to reduce household air pollution but due to economic predicament and non-challant attitude this situation still persist. As a result of household air pollution childbearing mothers are still exposed to maternal mortality and morbidity emanating from household air pollution. It is belief that, if adequate measures are put in place to bail out child bearing mothers (CBM) from menace of household air pollution it will improve their health conditions.

Research question

The following research questions were raised to guide the study:

1. Access whether childbearing mothers using crude methods of cooking /heating such as the use of fire wood, charcoal are more prone to HAP diseases in Kogi State.

2. Access whether child bearing mothers residing in rural areas are more prone to HAP disease than their counterparts in the urban areas of Kogi State.

METHODOLOGY

The research design used in this study ex-post-facto design. According to Omari (2021), a study of this nature requires such condition already existed and therefore the ex-post-facto research design was adequate. The population for this study comprises of all childbearing mothers who were formally registered with some recognized health centers in the state. The entire population for the study is 8880 childbearing mothers. The state has three senatorial districts. The population of the study is childbearing mothers in the state. The total sample used in the study is comprised four hundred and forty-four (444) childbearing mothers (CBM) from the sampled local government areas. Two to five percent is considered adequate as it conforms to the rule of the thumb stated by Nwana (2006).To select the require sample, stratified random sampling and purposive sampling techniques were used. Kogi was stratified into three senatorial zones. From each of the zone, two

local government areas were randomly selected through balloting. The local government includes Lokoja, Kabba/bunu (Kogi West), Adavi, Okene (Kogi Central) and Idah, Dekina (Kogi East).

The names of the local government areas in each senatorial zone were within on piece of paper. The pieces were then folded and put in cartoon. After proper reshuffling, the researcher blind fold someone who happens not to be part of the study population dip his hand in the carton and pick one piece paper at a time. The piece of paper was unfolded and the local government it contained was recorded. This process was repeated until the required number of the local government area was drawn in each of the senatorial zones. Every functional health centers in the sample local government area was selected purposefully based on the accessibility and willingness of childbearing mothers to participate in the study.

In the distribution of questionnaire purposive sampling technique was used. In this technique the researcher distributed the questionnaire to the childbearing mothers, in their respective health centre visited. Participants were drawn from each of the six local government areas sampled. The instrument for data collection for the study was self developed by the researcher. In order to ensure face and constant validity of instrument, a draft copy of the researcher structure questionnaire was given to three experts in field of health education for vetting. Their comments and inputs were taken into consideration and used for the final draft questionnaire that was distributed to the respondents. To collect data for the study a total of four hundred and forty four copies of the questionnaires were distributed to childbearing mothers in the health centres in the six local government areas selected for this study but only four hundred and thirty one 431 copies were returned. The researcher make used of the services of six research assistants. (One research assistant from each of the local government was used for distribution and collection of the questionnaire). The data analysis was based on the responses of the four hundred and thirty one respondents whose questionnaire were correctly completed and returned. Frequency and percentage count was used for the research questions while t-test was used to test hypothesis at 95% confidence level.

Table 1: Access whether childbearing mothers using crude methods of cooking /heating such as the use of fire wood, charcoal are more prone to HAP diseases in Kogi State

S/N	Item	SA	A	D	SD

1	Childbearing mothers who reside in rural areas are more prone to respiratory problems.	103 (45.7%)	145 (32.7%)	48 (10.8%)	48 (10.8%)
2	Childbearing mothers using crude methods of cooking/heating are prone to circulatory diseases.	231 (52.03%)	84 (18.92%)	82 (18.47%)	47 (10.56%)
3	Childbearing mothers using crude methods of cooking/heating are prone to lung cancer.	215 (48.42%)	133 (29.96%)	53 (11.49%)	43 (9.69%)
4	Childbearing mothers using crude methods of cooking/heating are prone to cancer of the esophagus.	222 (50.0%)	126 (28.38%)	54 (12.16%)	42 (10.34%)
5	Childbearing mothers using crude methods of cooking/heating are prone to ocular disorders.	228 (51.35%)	60 (13.51%)	101 (22.75%)	45 (10.34%)
6	Childbearing mothers using crude methods of cooking/heating are prone to untimely death.	43 (9.7%)	81 (18.2%)	102 (23.0%)	218 (49.1%)
7	Childbearing mothers using crude methods of cooking/heating are prone to maternal, neonatal, and child health problems.	40 (9.0%)	65 (14.64%)	108 (24.32%)	231 (52.03%)

Table two: Access whether child bearing mothers residing in rural areas are more prone to HAP disease than their counterparts in the urban areas of Kogi State

Item	Residence	SA	A	D	SD
Childbearing mothers who reside in rural areas are more prone to respiratory disease than their urban counterparts.	**Rural**	128(28.82%)	152(34.23%)	21(4.73%)	20(4.5%)
	Urban	45 (10.1%)	41 (9.23%)	19(4.28%)	18 (4.0%)
Childbearing mothers who reside in rural areas are more prone to circulatory disease than their urban counterparts.	**Rural**	118(26.58%)	85 (19.14%)	30 (6.76%)	25 (5.6%)
	Urban	99 (22.29%)	51 (11. 49%)	16 (3.6%)	20 (4.5%)
Childbearing mothers who reside in rural areas are more prone to cancer of the esophagus than their urban counterparts.	**Rural**	117 (26.35%)	83 (18.69%)	30 (6.76%)	24(5.40%)
	Urban	100 (22.52%)	58 (13.06%)	16 (3.6%)	16 (3.6%)
Childbearing mothers who reside in rural areas are more prone to ocular disorders than their urban counterparts.	**Rural**	114 (25.68%)	45 (10.14%)	58 (13.06%)	22(4.95%)
	Urban	98 (22.07%)	34 (7.665)	45 (10.13%)	18(4.05%)
Childbearing mothers who reside in rural areas are more prone to untimely death than their urban counterparts.	**Rural**	114 (25.68%)	85 (19.14%)	46 (10.36%)	10(2.25%)
	Urban	98(22.07%)	46(10.36%)	40(9.00%)	5(1.13%)
Childbearing mothers who reside in rural areas are more prone to infections than their urban counterparts.	**Rural**	123 (27.70%)	88(19.82%)	30(6.76%)	14(3.15%)
	Urban	99(22.29%)	59(13.29%)	21(4.3%)	10(2.26%)
Childbearing mothers who reside in rural areas are more prone to maternal and neonatal health problems than their urban counterparts.	**Rural**	125 (28.15%)	89 (20.04%)	32 (7.20%)	29(6.53%)
	Urban	78(17.57%)	57(12.84%)	16(3.60%)	18(4.05%)

DISCUSSION

Table one shows that childbearing mothers using crude method of cooking/heating are prone to HAP had 231 (52.03%) 84 (18.92%) 82 (18.47%) 47 (10.56%) circulatory disease followed by228 (51.35%) 60 (13.51%) 101 (22.75%) 45 (10.34%) are prone to ocular disorder. Equally 222 (50%) 126 (28.38%) 54 (12.16%) 42 (10. 34%) are prone to cancer of the oesophagus meanwhile 218

(49.09%) 130 (29.28%) 52(11.72%) 44(9.91%) are prone to respiratory diseases. Also 215 (48.42%) 133 (29.96%) 53 (11.49%) 43 (9.69%) are prone to lung cancer, furthermore 43 (9.7%) 81 (18.2%) 102 (23.0%) 218 (49.1%) are prone to untimely death. Lastly 40 (9.00%) 65 (14.64%) 108 (24.32%) 231 (52.03%) are prone to infections maternal, neonatal and child health problems. Findings from the study was supported by Safe motherhood .org (2019) observed that 30 to 50 women suffer injury, infections, or diseases. The leading cause of maternal mortality and morbidity and complications arising from household air pollution among childbearing mothers in developing countries.

Table two shows that childbearing mothers who resides in rural areas are more prone to HAP infection had 128(28.2%) 152(34.23%) 21(4.73%) 20(4%) than their counterparts who resides in urban area which had 45(10.1%) 41(9.23%) 19(4.28%) 18(4.0%). More so lung cancer had counterparts who resides in rural areas had 118(26.58%) 85(19.14%) 30(6.76%) 25(5.6%) than their counterparts who reside in urban area had 99(22.29%) 51(11.49%) 16(3.6%) 20(4.5%). Equally prone to cancer of the oesophagus than their counterparts who resides in urban area had More prone to circulatory disease than their counterparts who resides in urban area had child bearing mothers who reside in rural area had 117(26.35%) 83(18.69%) 30(676%) 24(5.40%) than their counterparts in urban area which had 100(22.52%) 58(13.06) 16(3.6%) 16(3.6%). Furthermore, child bearing mothers in rural areas more prone to ocular disorder had 114(25.68%) 85(19.14) 46(10.36%) 10(2.25%) than their counterparts who resides in urban area than their counterparts had 98(22.07%) 46(10.36%) 40(9.00%) 5(1.13%). Respectively child bearing mothers in rural area had 123(27.70%) 88(19.82%) 30(6.76%) 14(3.15%) are more prone to untimely death than their counterparts who resides in urban area with 99(22.29%) 59(13.29%) 21(4.3%) 10(2.26%). Finally, childbearing mothers are more prone to maternal, neonatal health problems had 125(28.15%) 89(20.04%) 32(7.20%) 29(6.53%) than their counterparts who resides in urban area who had resides in urban area 78(17.57%) 57(12.84%) 16(3.60%) 18(4.05%). Result from the finding shows that most prevalent cause of maternal mortality and morbidity in Nigeria include cardiovascular diseases, infections, burn respiratory, cancer and ocular etcetera. When the prevalent of the diseases occur, they are faced with the barriers to seek optimum health care due to financial, constraints, distance to health facilities and long wasting time for those seeking care from health facilities which is in line with (African population and Health and Research center fact sheet, 2017).

CONCLUSION/RECOMMENDATION

It is concluded that childbearing mothers in Kogi State who uses crude methods of cooking/heating and those who resides in rural areas are more prone to HAP problems based on the results of the findings.

It is recommended that childbearing mothers should avoid using crude methods of cooking in their respective homes in order not to fall victims of the problems.

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