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Review Article

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Maternal Health Information Dynamics: Types, Sources, And Perceived Impacts Among Pregnant Women in Selected Primary Health Centers, Nigeria

Adeniyi Dorcas Adejumoke[1*], Adetunmise Oluseyi Olajide[1] and Deborah Tolulope Esan[2]

[1]*Faculty of Nursing Sciences, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria*

[2]*Faculty of Nursing Sciences, Bowen University Iwo, Osun state, Nigeria*

[*]**Corresponding author**

Adeniyi Dorcas Adejumoke, Faculty of Nursing Sciences, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria.

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ABSTRACT

Study's background: Maternal health information is vital for ensuring the well-being of the mother and the developing fetus during and after pregnancy.

Method: A descriptive cross-sectional design was used in this study. A total of 137 respondents were recruited via a simple random technique. A self-structured questionnaire was used for data collection. Data analysis was performed via SPSS.

Results: Most respondents 41(29.9%) were aged 30-35 years. Sources of maternal health information are health providers, friends and family, internet, television, songs, what's app and printed materials. Types of maternal health information are nutrition and diet in pregnancy, birth-preparedness, immunization schedules, breastfeeding, labor and childbirth, family-planning, personal care, postnatal car and baby care. The perceived impacts include: adequate knowledge on nutrition in pregnancy 131(95.6%), good attitude towards accessibility of maternal health information 122(89.1%), knowledge about birth preparedness 105(76.6%), knowing the proper way to breastfeed baby 123(92.7%), observing personal care daily 133(97.1%), knowing the schedules for immunizations 90(65.7%), knowing the proper way to take care of baby 114(83.2%) and improved health status 127(92.7%).

Conclusions: Access to maternal health information through various sources significantly impacts pregnant women's practices in Nigeria. Although, the accessibility to types of maternal health information and perceived impact are commendable, there is a need for the health providers should develop time management strategies for routine antenatal clinic and provide counseling services on types of maternal health information which can further contribute to reducing maternal and infant mortality rates.

Keywords: Maternal Health Information (MHI), Perceived Impacts, Pregnant Women, Sources and Types

Introduction

Globally, maternal health information is a critical component of global public health, significantly impacting the well-being of mothers. Despite advancements in healthcare, access to maternal health information remains inadequate for many pregnant women worldwide [1]. According to the World Health Organization (WHO), approximately 295,000 women died during pregnancy and childbirth in 2017, with most of these deaths being preventable through proper health information and care. However, disparities in the accessibility to maternal health information contribute to this high mortality rate, with women in low- and middle-income countries facing the greatest challenges [2]. According to the WHO, Sub-Saharan Africa accounted for nearly 200,000 maternal deaths [3]. The high maternal mortality rate in Africa is largely attributed to inadequate access to maternal health information [4,5].

The most commonly used maternal health information media was magazines, newspapers, televisions, radios and other printed material like leaflets, pamphlets, flyers and books.3 However, despite its wide reach, the effect of the disseminated

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information was found to be very low which may have been due to the generic nature of the information provided which fails to meet the specific information needs of the target audience. In rural areas, messages are usually communicated through songs, drama, role play and stories. In Nigeria the Health Workers used songs and dances to disseminate health information to pregnant women and nursing mothers on maternal health during the antenatal clinic visits [6].

Impact of maternal health information on pregnant women is an effects and outcomes that result from the use of maternal health information, including improvements in health status, patient satisfaction, and healthcare costs. Pregnant women's dissatisfaction with the provided maternal health information referred to negative feelings pregnant women had about the given maternal health information at the health Facility [7]. Studies have indicated that poor maternal health delivery in developing countries results in more than half a million maternal deaths during pregnancy, childbirth or within a few weeks of delivery. This is partly due to unavailability of maternal health information in limited-resource settings [8]. Hence, this study determines maternal health information dynamics: types, sources, and perceived impacts among pregnant women in selected primary health centers, Nigeria.

Materials and Methods

1. The study determines the types of maternal health information received by pregnant women in selected Primary Health Centers, Nigeria.
2. The study determines the sources of maternal health information among pregnant women in selected Primary Health Centers, Nigeria.
3. The study determines the perceived impacts of maternal health information among pregnant women in selected primary health centers, Nigeria.

Inclusion criteria

Pregnant women who are currently attending the selected Primary Health Centers in Ogbomoso are willing to participate in the study.

Exclusion criteria

Non-Pregnant Women were excluded from the study.

Research design

A descriptive cross-sectional design was utilized for this study: maternal health information dynamics: types, sources, and perceived impacts among pregnant women in selected primary health centers, Nigeria. The target population was pregnant women in selected primary health centers, Nigeria. The sampling technique used was a simple random technique. Using Taro Yamane (1975).

The formula is Nf = N/(1 + N (e) 2)

where Nf is the expected size.
e is the level of significance, 0.05
1 is a constant
N: The total assessable population for pregnant women in selected primary health centers in Ogbomoso is 180. Therefore,

Nf = 180/(1+180 (0.05)2)
Nf= 180/(1+180 (0.0025))
Nf = 180/1 + 0.45
Nf = 180/1.45
Nf = 124.14

The Nf for pregnant women in selected primary health centers is approximately 124.

Since the researcher is dealing with human beings, there is a tendency for some of the respondents not to return the instrument or that the instrument would have been filled incorrectly.

A standard 10% attrition rate is sufficient.

Therefore, the researcher determined the attrition rate as follows:
Attrition rate = (10/100) × 124.14) + 124.14
= (0.1 x 124.14) + 124.14
= 12.414+ 124.14
=136.55
Hence, the sample size is approximately 137

A total of 137 pregnant women were randomly selected from selected primary health center, Nigeria.

Pilot study

A pilot study was carried out by administering 10% of the estimated sample size, which was equal to 14 questionnaires. They were administered to 14 pregnant women in selected primary health centers, Nigeria, which are not part of the sample size used for this study. This was done to examine the feasibility of the approach intended for use in a large-scale study.

Ethical Considerations

The letter of ethical approval to carry out the research was collected from the ethical committee of the selected primary health centers, Nigeria with ethical approval number OGB.N.2134/78/133 for north which was collected on 4th of July 2024 and OGBS:212/56 for south on 2nd of August 2024. The ethical approval was presented to the Head of Nurses in the ward before the administration of the questionnaires. The questionnaires were administered to the respondents after seeking verbal consent and explaining each item in the instrument to the pregnant women. Data collection was done physically by the researchers for four weeks. All guidelines as per declaration of Helsinki and good clinical practice guidelines were followed.

Discussion

This study was aimed to examine the maternal health information dynamics: types, sources, and perceived impacts among pregnant women in selected primary health centers, Nigeria.

This study revealed that the majority of the respondents were between the ages of 18 and 23 years, 50 (36.5%). This age distribution is often considered optimal for pregnancy, which is consistent with findings from, who reported that most respondents were 25 and 35 years (52%), with a mean age of 28.04 years [9]. Additionally, with respect to marital status, a larger percentage of the respondents (100, 73.0%) were married, which aligns with many societies, and marriage is often a precursor to childbearing. However, this contrasts with a study by Benard in the Morogoro region, where 39 (48%) respondents were married [10].

Additionally, with respect to the level of education, 64 (46.7%) had secondary leaving certificates, and secondary education is often the highest level of formal education that many women in certain regions may attain due to various socioeconomic factors. This is similar to the findings of Benard, in Tanzania, where 43 (53.7%) respondents had reached the secondary school level [10]. Almost all the respondents (122, 89.1%) belong to the Yoruba tribe, reflecting the location in a predominantly Yoruba region. Most of the respondents (93, 67.9%) were self-employed. This contrasts with the results reported by Benard in Tanzania, where 26 (32.0%) of the respondents were traders [10].

Furthermore, 64 (46.7%) of the children had no children, which is common among younger women or those who have recently started their families. This is in contrast to the study performed by Mwangakala, in Tanzania, where 13 (52%) were uniparous [9]. Additionally, regarding the number of antenatal clinic visits, 69 (50.4%) indicated less than 4 weeks, which might be due to the age distribution. This is in contrast to the study performed by Ahmad, in Nigeria, where more than 4 weeks were indicated for the number of antenatal visits [11].

The study revealed the types of maternal health information the pregnant women in selected primary health centers as access to are as follows; nutrition and diet in pregnancy 132(96.4%), this is possibly due to that the health centers have adequate health education programs focused on nutrition and diet in pregnancy. This contradicts a study done by Mank in Burkina which it was stated that pregnant women lack knowledge or information on the right nutritive food. Also birth preparedness 112(81.8%), immunization schedules 105(76.6%), breastfeeding 125(91.2%), labor and childbirth 104(75.2%) [12]. This is possibly due to that birth preparedness, immunization, breastfeeding, labor and childbirth are key component of routine antenatal care programs at these health centers. Healthcare providers likely emphasize the importance of planning for the delivery. This is similar to the study done by Aku-Akai in Windhoek which stated that respondents had access to birth preparedness, immunization, breastfeeding, labor and childbirth [13].

Also, family planning 85(62.0%), this is possibly due to government initiatives promoting contraceptives awareness and wide availability of contraceptives method in every health centers. Also, personal care 133(97.1%), postnatal care 129(94.2%) and baby care 122(89.1%), these might be due to that they are regular prenatal check-ups in various primary health centers. These findings are similar to study done by Benard & Chipungahelo in Tanzania, which it was stated that younger women have access to maternal health information about family planning, personal care, post- natal care, family planning and child care [10].

Additionally, many of the respondents 75(54.7%) have low access to pregnancy danger signs, possibly due to that the health centers do not have adequate health education programs focused on pregnancy danger signs. This is consistent with the study done in Tanzani where it was stated that most pregnant women were not aware of the pregnancy danger signs and had very little knowledge of how to manage the danger signs or complications when they arise. The majority of women in this group were first-time mothers and although some had already attended the ANC clinic more than once, they were still unaware of any pregnancy danger signs [9]. This caused most pregnant women to assume that the pregnancy danger signs are harmless revealing the existing low maternal health literacy.

The study showed the sources of maternal health information used by the respondents are; health providers 131(95.6%), the health providers are a good source of maternal health discussion, as many respondents recorded. Also, friends and family 102(74.5%) and internet 80(58.4%). This findings aligns with Ghiasi study where the most frequent information source used by women during pregnancy was health professionals followed by informal source (family and friends), and Internet. 102(74.5%) access information from friends and family, this aligns with the findings where it was found that most pregnant women used mothers-in-law and older women as their primary source of health information rather than healthcare providers [3]. Concerning television 89(65.0%), possibly television may regularly feature in-depth maternal health information content. Also, radio 97(70.8%), this might be due to almost all the respondents had access to radio [9].

Additional sources identified include; songs 121(88.3%), songs are a good source of maternal health information, as most of the respondents recorded. This might be due to that songs are used to spread important messages in a culturally relevant and engaging way. What's app 72(52.6%) and printed materials 77(56.2%), what's App and printed materials play important roles in maternal health information, but their reliability and usage vary. It helps to promote accurate sources and empower pregnant women to make informed decision. This aligns with the study done in Iran where it was indicated that the most commonly used maternal health information was what's app, other printed material like leaflets, pamphlets, flyers and books [3].

The study showed that the perceived impacts of maternal health information include: having proper and adequate knowledge on nutrition in pregnancy 131(95.6%), this is possibly due to that the health centers have adequate health education programs focused on nutrition and diet in pregnancy. This is consistent with the study done in Enugu which showed that majority of the respondents had adequate knowledge on nutrition in pregnancy. Having proper knowledge about birth preparedness 105(76.6%), knowing the proper way to breastfeed baby 123(92.7%), knowing the proper way to take care of baby after delivery 114(83.2%) and knowing the schedules for immunizations 90(65.7%), this is possibly due to that birth preparedness, immunization, and breastfeeding are key components of routine antenatal care programs at these health centers [14]. Healthcare providers likely emphasize the importance of planning for the delivery, immunization and breastfeeding. This is similar to the study done in Windhoek which stated that respondents had access to birth preparedness, immunization and breastfeeding [10].

Furthermore, having a good attitude towards accessibility of maternal health information 122(89.1%), this might likely be due to the understanding of the respondents that when maternal health information is readily accessible, it can lead to good impacts. This finding is similar to study done in Tanzani where

it was showed that the respondents had good attitude towards accessibility to maternal health information while those with poor attitude are poor women. Observing personal care daily 133(97.1%), and maternal health information has improved health status 127(92.7%), this is possibly to the high rate of accessibility and impact of maternal health information [9]. This is consistent with the study done in Nigeria where it was stated that high accessibility to maternal health information led to good impact and which improve respondents' health status [15].

Findings

Table 1: Socio-demographic characteristics of the respondents

		N=137 (100%)	
Variables	**Categories**	**Frequency**	**Percent**
Age(Years)	18-23years	50	36.5
	24 – 29years	31	22.6
	30 – 35years	41	29.9
	36 and above	15	10.9
Marital status	Single	35	25.5
	Married	100	73.0
	Divorced	2	1.5
Level of education	None	6	4.4
	Primary	33	24.1
	Secondary	64	46.7
	Tertiary	34	24.8
Ethnicity	Yoruba	122	89.1
	Ibo	7	5.1
	Hausa	8	5.8
	Others (please specify)	0	0
Occupation	Unemployed	20	14.6
	Self-employed	93	67.9
	Government employee	6	4.4
	Private sector employee	9	6.6
	Student	9	6.6
	Others (please specify)	0	0
Number of children	None	64	46.7
	1-2	44	32.1
	3-4	29	21.2
	5 and above	0	0
Number of antenatal clinic visit	Less than 4 weeks	69	50.4
	More than 4 weeks	68	49.6

Table 1 showed the majority of the respondents were between the ages of 18 and 23 years, 50 (36.5%). A larger percentage of the 100 respondents (73.0%) were married. Additionally, with respect to the level of education, 64 (46.7%) had secondary leaving certificates. Almost all the respondents (122, 89.1%) belong to the Yoruba tribe, and 93 (67.9%) were self-employed. Additionally, of the number of children, 64 (46.7%) had no children, and half of the respondents (69 (50.4%) indicated less than 4 weeks for the number of antenatal clinic visits.

Table 2: Showing types of maternal health information

			N=137 (100%)	
Variables	**Yes**		**No**	
	Frequency	**Percent**	**Frequency**	**Percent**
Pregnancy danger signs	62	45.3	75	54.7
Nutrition and diet in pregnancy	132	96.4	5	3.6
Birth preparedness	112	81.8	32	23.4
Immunization schedules	105	76.6	32	23.4
Breastfeeding	125	91.2	12	8.8
Labor and childbirth	104	75.9	33	24.1
Family planning	85	62.0	52	38.0
Personal care	133	97.1	4	2.9
Postnatal care	129	94.2	8	5.8
Baby care	122	89.1	15	10.9
Others (Specify)	54	39.4	83	60.6

Table 2 revealed the above table revealed the types of maternal health information the pregnant women in selected primary health centers as access to are as follows; Nutrition and diet in pregnancy 132(96.4%), birth preparedness 112(81.8%), immunization schedules 105(76.6%) , breastfeeding 125(91.2%), labor and childbirth 104(75.2%), family planning 85(62.0%), personal care 133(97.1%), postnatal care 129(94.2%) and baby care 122(89.1%) .

Table 3: Showing sources of maternal health information

			N=137 (100%)	
Variables	**Yes**		**No**	
	Frequency	**Percent**	**Frequency**	**Percent**
Health-providers	131	95.6	6	4.4
Friends and family	102	74.5	35	25.5
Internet	80	58.4	57	41.6
Newspaper	59	43.1	78	56.9
Television	89	65.0	48	35.0
Radio	97	70.8	40	29.2
Songs	121	88.3	16	11.7
What's app	72	52.6	65	47.4
Google meet	48	35.0	89	65.0
Facebook	68	49.6	69	50.4
Printed materials e.g. leaflet, pamphlets, flyers or books	77	56.2	60	43.8

Table 3 showed the sources of maternal health information used by the respondents are; health providers 131(95.6%), friends and family 102(74.5%), internet 80(58.4%), television 89(65.0%), radio 97(70.8%), songs 121(88.3%), what's app 72(52.6%), printed materials 77(56.2%).

Table 4: Showing perceived impacts of maternal health information

			N=137 (100%)	
Variables	**Yes**		**No**	
	Frequency	**Percent**	**Frequency**	**Percent**
Having adequate knowledge of pregnancy danger signs	71	51.8	66	48.2
Having proper and adequate knowledge on nutrition in pregnancy	131	95.6	6	4.4
Having a good attitude towards accessibility of maternal health information	122	89.1	15	10.9
Having proper knowledge about birth preparedness	105	76.6	32	23.4
knowing the proper way to breastfeed baby	123	92.7	10	7.3
Observing personal care daily	133	97.1	4	2.9
Knowing the type of family planning to use	78	56.9	59	43.1
Knowing the schedules for immunizations	90	65.7	45	32.8
Knowing the proper way to take care of baby after delivery	114	83.2	23	16.8
Maternal health information has improved health status	127	92.7	10	7.3

Table 4 revealed the perceived impacts of maternal health information include: having proper and adequate knowledge on nutrition in pregnancy 131(95.6%), having a good attitude towards accessibility of maternal health information 122(89.1%), having proper knowledge about birth preparedness 105(76.6%), knowing the proper way to breastfeed baby 123(92.7%), observing personal care daily 133(97.1%), knowing the schedules for immunizations 90(65.7%), knowing the proper way to take care of baby after delivery 114(83.2%) and maternal health information has improved health status 127(92.7%).

Strengths and Limitations

Strengths

1. Relevance to maternal health improvement
2. Inclusion of pregnant women's perceptions

Limitations

3. Self-report bias: Since the study relies on self-reported data from pregnant women regarding their accessibility of maternal health information, there are possibilities that participants may underestimate or overestimate their actual accessibility.
4. Schedule: The researcher had limited time to combine the study with other academic activities.

Clinical Implications

The findings of this study have significant clinical implications for maternal healthcare in Nigeria. Understanding the dynamics of maternal health information its types, sources, and perceived impacts can help healthcare providers develop more effective patient education strategies directed to the specific needs of pregnant women. Training programs should emphasize effective communication and counseling skills to ensure that healthcare providers deliver clear, evidence-based information in a manner that is both culturally sensitive and easy to understand.

By improving access to maternal health information, pregnant women will be better equipped to make informed decisions regarding prenatal care, nutrition, birth preparedness, and complication readiness. Ultimately, these interventions can contribute to a reduction in maternal and neonatal morbidity and mortality.

Research Implications

1. Cultural and socioeconomic influences on maternal health information
2. Examine the role of technology in accessibility to maternal health information

Conclusion

The study showed that access to maternal health information through various sources significantly impacts pregnant women's practices in Nigeria. Although, the accessibility to types of maternal health information and perceived impact are commendable, there is a need for the health providers should develop time management strategies for routine antenatal clinic and provide counseling services on types of MHI which can further contribute to reducing maternal and infant mortality rates.

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References

1. Dahab R, Sakellariou D. Barriers to accessing maternal care in low-income countries in Africa: A systematic review. International Journal of Environmental Research and Public Health. 2020. 17: 4292.
2. Aktar S, Majumder UK, Khan MS. Antenatal and postnatal care practices among indigenous people in Bangladesh: A case study in Dinajpur. Asian Journal of Education and Social Studies. 2020. 38-56.
3. Ghiasi A, Keramat A, Farjamfar M, Vakilian K. Perceived barriers to accessing pregnancy-related health information among married adolescent women: A qualitative study in Iran. Journal of Pediatric and Adolescent Gynecology. 2020. 33: 58-63.
4. Mohammed S, Worku A, Girma E. Receiving quality antenatal care service increases the chance of maternal use of skilled birth attendants in Ethiopia: Using a longitudinal panel survey. PloS One. 2022. 17: e0279495.
5. Shewiyo EJ, Mjemmas MG, Mwalongo FH, Diarz E, Msuya SE, et al. Does knowledge of danger signs influence use of maternal health services among rural women? Findings from Babati Rural district, Northern Tanzania. PAMJ One Health. 2021. 4.
6. Cockcroft A, Omer K, Gidado Y, Baba M, Aziz A, et al. The impact of universal home visits with pregnant women and their spouses on maternal outcomes: a cluster randomised controlled trial in Bauchi State, Nigeria. BMJ Global Health. 2019. 4.
7. McCool J, Dobson R, Whittaker R, Paton C. Mobile health (mHealth) in low- and middle-income countries. Annual Review of Public Health. 2022. 43: 525-539.
8. Adde KS, Dickson KS, Amu H. Prevalence and determinants of the place of delivery among reproductive age women in sub–Saharan Africa. PloS One. 2020. 15: e0244875.
9. Mwangakala HA. Accessibility of maternal health information and its influence on maternal health preferences in rural Tanzania: A case study of Chamwino District. South African Journal of Information Management. 2021. 23: 1-9.
10. Benard R, Chipungahelo MS. Accessibility of women to health information in Tanzania: A case study of Morogoro Region. Library Review. 2019. 66: 415-429.
11. Owolabi O, Wong K, Dennis M, Radovich E, Cavallaro F, et al. Comparing the use and content of antenatal care in adolescent and older first-time mothers in 13 countries of west Africa: a cross-sectional analysis of Demographic and Health Surveys. The Lancet. Child & adolescent health. 2017. 13: 203-212.
12. Mank I, Vandormael A, Traoré I, Ouédraogo WA, Sauerborn R, et al. Dietary habits associated with growth development of children aged< 5 years in the Nouna Health and Demographic Surveillance System, Burkina Faso. Journal of Nutrition. 2020. 19: 81.
13. Aku-Akai L. Assessment of Maternal Health Knowledge and Access to Maternal Health Information among Mothers in Windhoek. 2024.
14. Xie R, Tan H, Taljaard M, Liao Y, Krewski D, et al. The Impact of a Maternal Education Program Through Text Messaging in Rural China: Cluster Randomized Controlled Trial. JMIR mHealth and uHealth. 2018. 6.
15. Maitanmi B, Adelaja A, Okunola D, Maitanmi J, Tola Y, et al. Association between Socioeconomic Status and the Utilization of Maternal Health Services in Nigeria. Iranian Journal of Nursing and Midwifery Research. 2023. 28: 514-519.