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Access to health information among pregnant women in Morogoro municipal, Tanzania

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ABSTRACT

The purpose of this study was to assess the accessibility of health information among pregnant women in Morogoro Municipality in Tanzania. This study was conducted in four main health stations (hospitals) which were selected purposively. This cross-sectional study involved 80 pregnant women who were randomly selected. Data were obtained by using questionnaires. Results showed that pregnant women in the study area expressed various information needs, categories of most needed health information were: information on miscarriage, information on immunization, and information on breast feeding. Moreover, results revealed that information on delivery and family planning were highly accessible. Moreover, the study results showed that age and education were positively and statistically significant at 0.05 level of probability. For increasing access to expert advice on reproductive health and current health information among pregnant women, it is recommended that the Tanzanian Government should employ health information officers in all health care centers.

Keywords:

Health information, information accessibility, pregnant women, health information needs

1.0 INTRODUCTION

1.1 Background of the Study

Health is defined as a state of complete physical, mental and social well- being and not merely absence of diseases or infirmity (WHO ,1993). Good health consists of low morbidity and low mortality rates and a reasonable quality of life. Health Information as one of the important components of good health has been recognized over the world as an important tool for making health decisions and reducing uncertainty. According to Mousavi and Riahi (2017) having information is the first step to healthy life because it provides the conditions for improving one health level, and healthy literacy as well as economic and social development of a country. Corragio (2011) asserts that lack of access to health information is the denial of choices and opportunities for living better life. Consequently, the quality of health information an individual receives enhances her rightful choice of health care as the case may be. According to the World Health Organization (WHO) (2008), the access level of health information among people is one of the main elements of improving health systems in any society. WHO has emphasized on the importance of having access and obtaining information through self-care for increasing the level of knowledge, and awareness on health.

Pregnant women require timely, correct, reliable and precise information so that they can improve their health during pregnant. Health information plays a significant role among pregnant women as it helping them in supporting and increasing health and social care to during pregnancy to improve their health conditions (Mousavi and Riahi, 2017). According to Das (2013), information exchange during pregnancy is a tool that facilitates women's decision-

making process regarding prenatal care as well as the care of their newborn infants, so that they can better manage their health during pregnancy period.

Pregnant women need a series of maternal health information for their informed health decision making. According to Kassim (2020), pregnant women need information on early signs of pregnancy, overdue pregnancy, immunisation and prevention of communicable diseases and obstetric fistula Saleh and Lasisi, (2011) revealed that pregnant women need information on maternity health, delivery and causes of miscarriage. Thus, when all this information is made accessible to pregnant women, it could assist them to live a healthy life during pregnancy and ensure safe delivery.

Hossain and Islam (2012) revealed that women who live in rural areas lack access to health information resources and ability to access Information and Communication Technology. In addition, a study by Ahmad *et al*., (2009), shows that globally, over 80% of community households have limited access to effective, reliable, efficiency and quality maternal and child health information, especially in Sub Saharan Africa (SSA).

Access to quality health care information leads to real improvements on reproductive health in prevention of mother to child transmission (PMCT) in this era of HIV and AIDS pandemic (Corragio, 2011). Health information empowers women to make informed choices and increase their perceptions in satisfaction of health provision towards primary prevention (Das, 2013).Access to health information among pregnant women helps them to prevent complications and abnormalities during pregnancy (Kassim, 2020).According to Silali and Owino (2016), limited access to health information may cause majority of pregnant women to

underestimate the risks of pregnancy related complications and how they may respond to pregnancy danger signs and other ill-health conditions raised during pregnancy. In addition, Sibiya*et al.,* (2018) state that the problem of not preventing or eliminating these avoidable or treatable conditions or diseases through disseminating maternal health information to households, using reliable and accessible sources, have led to majority of maternal and under five child deaths.

Surprisingly, the extent of accessibility of health information among pregnant women in Tanzania and Morogoro Municipality in particularly is not known. Most studies done so far in the country have either assessed the sources of maternal health information (Kassim, 2020), women access to information (Benard and Monica, 2017)or maternal health information and its' impact on healthcare utilization behavior (Mwangakala, 2016).Thus, this study aimed at investigating the accessibility to health information among pregnant women in Morogoro Municipality, Tanzania. Specifically, the study intended firstly, to find out the information needs of pregnant women in Morogoro Municipality; secondly, the study intended to ascertain the accessibility of health information of pregnant women in Morogoro Municipality and lastly, the study sought to find out the influence of demographic variables on health information accessibility among pregnant women.

2.0 LITERATURE REVIEW

2.1 Health Information Needs of Pregnant Women

The most common information needs among women during pregnancy were information on maternity, information on delivery and information on breast feeding. The findings of the study by Corragio.(2011) and Mwangakala (2016), further affirmed that women are more interested in nutrition information during pregnancy than before conception. On the other hand, Sibiya *et al*. (2018) identified information relating to baby feeding as an information need of pregnant women. Furthermore, Saleh, and Lasisi (2011), carried out an information needs in Nigeria and identified that women particularly needed information on pre- and post-natal care and current immunization facilities for their children and themselves.

2.1 Health Information Sources Consulted by Pregnant Women

Sources of information as classified by Corragio. (2011) are formal and informal sources. Saleh, and Lasisi (2011) found that 57.5% of the respondents considered interpersonal communication from friends and relatives to obtain valuable and relevant sources of health information. In Mokoo's studies (2005) particularly in Botswana, it was identified that most of the participants turn to medical practitioners such as village nurses and traditional doctors for their needs and also, they depend on their prior experience. Similarly, Musoke (2005) studied information access used by primary health care provider in rural Uganda are reported that the women disseminated health information informally to relatives and friends. Formal sources of information usually carry information that is public through print and non-print media. Likewise, Ogunmodede e*t. al*, (2013) observed that sometimes information sources such as

friends, family and relatives are the ones pregnant women turn to when they need health information.

2.2 The Constraints on Accessing and Using of Health Information by Pregnant Women

In a study by Musoke (2005), it was found out that barriers to accessing information includes the use of medical terminology by the information source or provider which may not be understood by the information seeker and lack of communication skills by the information seekers. Also, Sibiya *et al*. (2018) affirmed that health information professionals can exhibit bias based on race, culture, and social economic status when sharing information. Corragio (2011) also revealed that lower level of literacy and the understanding of medical information constitute is a barrier to health information seeking. Moreover, the study of Saleh, and Lasisi (2011) revealed that language barrier, financial problems, ignorance and lack of technology literacy can limit access and use of information resources among pregnant women. It was therefore pertinent for this study to find out the information needs of pregnant women in Morogoro Municipality; secondly, the study intended to ascertain the accessibility of health information of pregnant women in Morogoro Municipality and lastly, the study sought to find out the influence of demographic variables on health information accessibility among pregnant women. This is because from the literature review such gaps were found not addressed especially in Morogoro municipality.

3.0 METHODOLOGY

A cross-sectional research design was adopted for this study. The selection was based on the fact that the design allows are searcher to collect data very quickly at once in a single point and inexpensive since the researcher had no enough funds to carry out an extensive baseline cohort study. The nature of study objectives dictated the adoption of such kind of a research design. The population for the study was pregnant women selected purposively from four main health stations (hospitals) from Morogoro Municipality were studied. In this study, both random and non-random sampling techniques were employed. Purposive sampling was used to select the hospitals to be included in the study area. John and Christensen (2004) argue that purposive sampling relies on the decision of the researcher, based on some well-known criteria. The four hospitals were selected purposively, namely Morogoro Referral Hospital, Sabasaba Hospital, Mazimbu Hospital and Nunge Health Centre. In this regard the hospitals were chosen based on the fact that, they are mainly government hospitals which provides a clinic service to the pregnant women.

Simple random sampling was used to select pregnant women at the four health centres. The sampling process required the development of a sampling frame. In in this study the sampling frame was the current list of all pregnant women who attended maternal clinic from each of the mentioned hospitals. The selected list of pregnant women was obtained from each hospital in collaboration with hospital reception staff and pregnant ward attendant nurses. Simple random sampling was used since it gives each case in the population an equal chance of being included in the sample (Singleton, 1993). 20 pregnant women were randomly selected from each hospital making a total sample size of 80 respondents. Saunders *et al*., (2007) argue that a sample size

of 30 or more will usually result in a sampling distribution that is very close to the normal distribution and the larger the absolute size of a sample, the closer its distribution will be to the normal distribution. Data were collected from the respondents through the use of a structured questionnaire. Collected data were coded and summarized prior to analysis by using the Statistical Package for Social Sciences (SPSS). The researcher utilized descriptive statistics, such as frequencies, percentages in data analysis.

To ascertain if there were influence of demographic variables on health information accessibility, the ordinal logistic regression model was used. Under this analysis, the Null hypothesis was that demographic variables have no influence on accessibility to health information and the Alternative hypothesis was their influence of demographic variables on health information accessibility among pregnant women (i.e $H_o = 0$; and $H_1 \neq 0$). Sirak and Rice (1994) revealed that the logistic regression model is more powerful, convenient and flexible and is often chosen if the dependent variable is ordinally arranged. Thus, since the dependent variable in this study is ordered therefore this study used the ordinal logit regression model.

The ordinal regression equation used for analysis was as follows:

$$Logit(Y) = \ln\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_n X_n + \varepsilon_i$$

Where: π = probability of the event,

α = Y intercept,

β_i= regression coefficients,

X_s = a set of predictors.

Y= Dependable variable (degree of information accessibility) ranges from 1to 4 corresponding to four point scale levels of: 1= Highly accessible, 2 = accessible, 3= moderately 4= Not accessible

X_1 …X_n are explanatory variables or independent variables (Age, Marital status, Education level, house hold size,)

4.0 RESULTS AND DISCUSSION

4.1 Socio-demographic Characteristics of Respondents

Table 1 presents results for background characteristics of respondents. Out of 80 respondents, 23 (28.8%) were in the 18-25 age category, 36 (45.0%) were in the 26-35 age category while 21 (26.2%) were in aged above 35. This implies that majority of the pregnant women were very young. On the other hand, the study revealed that 39 (48%) of respondents were married, 19(23.8%) were single, 12(15.0%) were separated, 7 (8.8%) were divorced, while 3(3.8%) were widowed. This implies that majority of the pregnant women were married couples. Likewise, findings showed that 25(31.2%) respondents were graduates, 43(53.7%) respondents had attained Secondary school level, 7(8.7%) respondents had attained primary school,3(3.7%) had not attained school while 2(2.5%) of the respondents were post-graduates. This means that more than half of the respondents had secondary level of education. It has been reported that the level of education may affect information accessibility and usability (Benard *et al*., 2018). Results further revealed that 26(32.0%) of the respondents were traders, 22(27.5%) of the respondents were farmers, 12(15.0%) were students, 11(13.8%) the respondents were civil servants and 9 (11.2%) were artisans

Table 1: Socio-demographic characteristics of respondents (N= 80)

Variable	Response	Frequency	Percentage
Age	18-25	23	28.8
	26-35	36	45.0
	35-45	21	26.6
	Total	**80**	**100.0**
Marital Status	Single	19	23.8
	Married	39	48.8
	Divorced	7	8.8
	Separated	12	15.0
	Widowed	3	3.8
	Total	**80**	**100.0**
Education	None	3	3.7
	Primary school leaving	7	8.7
	Secondary school leaving	43	53.7
	Graduates	25	31.2
	Post graduate	2	2.5
	Total	**80**	**100.0**
Occupation	Farmer	22	27.5
	Traders	26	32.0
	Civil servant	11	13.8
	Artisan	9	11.2
	Student	12	15.0
	Total	**80**	**100.0**

4.2 The Health Information Needs of Pregnant Women in The Study Area

The respondents were asked to mention health information needed during their pregnancy. Results in Table2 indicate that majority (12.2%) of the pregnant women needed information on miscarriage (which was also ranked number one) while11.5% needed information on immunization (which was ranked number 2). Others information needs with their ranks in brackets were information on breast feeding (3), information on nutritional/dietary (4), baby care (5), disease prevention and control (6), maternity (7), personal care (8), delivery (9), pregnancy period (10) and lastly family planning (11).

Table 2: Health Information needs of pregnant women Information need

Information needs	**Frequency**	**%**	**Rank**
Information on Maternity	47	8.3	7
Information on delivery	41	7.3	9
Information on breast feeding	63	11.2	3
Information on family planning	29	5.1	11
Information on pregnancy period	40	7.1	10
Information on Immunization	65	11.5	2
Information on miscarriage	69	12.2	1
Information on diseases prevention and control	48	8.5	6
Information on personal care	46	8.1	8
Information on baby care	57	10.1	5
Information on nutritional/Dietary	60	10.6	4
Total	**565**	**100**	

Health information needs of the pregnant women encompassed information on:miscarriage, immunization, breast feeding, nutritional/dietary and baby care. This consonance with

Ogunmodede *et al*., (2013) who pointed out that pregnant women need information on immunization, miscarriage, breastfeeding and emotion support. This implies that pregnant women lack to access to information on miscarriage and immunization. This information is very important to pregnant women as many miscarriages occur so early in pregnancy that a woman doesn't realize she's pregnant. This also implies that the responsible stakeholders handling/delivering information should put effort and priority to make sure that such information is included in pregnant information packages.

Likewise, pregnant women were complaining on lack information on immunization this is due to the fact that immunization is very important during pregnant period as it prevent women from various disease attack or infections. In supporting this argument, Alessandro *et al.* (2018) stated that it is extremely important for expectant mothers to have a knowledge of vaccines and their related preventable diseases. Furthermore, the results revealed that pregnant women were in need of information on breast feeding. supporting this results, Motee and Jeewon (2014) revealed that pregnant women need information on breast feeding because it help them to know when and how to introduce a complementary foods to their expected children (weaning process) also to be aware on difficulties encountered during the weaning process.

Also, the study findings revealed that pregnant women need information on nutritional/dietary. This implies that pregnant women lack knowledge or information on how to feed their expected children with the right nutritive food. This information on nutrition is very important as it help to guide the mother on how and which food to feed their children during child growth development. In supporting this view, Mank. *et al. (*2020) revealed that having the information on which dietary habits are associated with child growth could lead to better long-term health

outcomes and improve the design of food-based interventions. Further results revealed that pregnant women were complained on lack of information on baby caring. This means that pregnant women are in need on information on baby care as it very crucial in helping or guiding the expected mother to be aware on important issues needed during newborn caring like, how to identify a sickness from the newborn, time for initiation of breast feeding, when and how to cut umbilical cord and so many things relating to baby care. This is supported by Alidirawi *et al*., (2019) who pointed out that information or knowledge on baby care especially on how to identify sickness in newborn is still poor among pregnant women.

4.3 Accessibility of Needed Health Information by Pregnant Women

Results in Table 3indicates the level of accessibility of needed health information among pregnant women. Respondents were asked to rate the accessibility of needed health information on scale of 1= Highly accessible, 2 = accessible, 3= moderately 4= Not accessible.

The results in Table 3 show that 57.5% of the respondents rated information on delivery as highly accessible followed by information on family planning (47.5%). Results indicate further (56.2%) of the respondents' rate information on maternity as accessible, followed by 55% of the respondents' rate information on diseases prevention and control, as moderate accessible. Furthermore 76.2% of the respondents' rate information on baby care, followed by information, on miscarriage (61.2%), and nutritional/Dietary (56.2 %) as not accessible.

Table 3: Accessibility of needed health information by pregnant women

Category of health information needed	Accessibility of needed information							
	Highly accessible		Accessible		Moderate		Not accessible	
	N	%	n	%	n	%	N	%
Maternity	15	18.7	45	56.2	15	18.7	5	6.2
Delivery	46	57.5	17	21.3	8	10	9	11.3
Breast feeding	3	3.8	9	11.3	28	35	40	50
Family planning	38	47.5	23	28.8	9	11.3	10	12.5
Pregnancy period	33	41.3	20	25	16	20	11	13.8
Immunization	9	11.2	21	26.3	18	22.5	32	40
Causes of miscarriage	10	12.5	13	16.3	8	10	49	61.2
Diseases prevention and control	9	11.2	11	13.8	44	55	16	20
Personal care	15	18.7	20	25	35	43.2	10	12.5
Baby care	5	6.25	8	10	6	7.5	61	76.2
Nutritional/Dietary	5	6.25	10	12.5	20	25	45	56.2

These results imply that the level of accessibility of health information needed by pregnant women was not the same. Pregnant women accessed information on delivery, family planning, maternity and information on disease prevention and control. The accessibility of these categories of information is mainly due to the fact that they are made available through government campaigns aiming at reducing pregnancy related deaths. These categories of information are accessed through various channels like television, radio, newspapers and other channels. According to Das (2013), access to maternal health information among pregnant

women does not only help them to prevent complications and detect abnormalities of both the mother and unborn baby, but also encourage them to seek and utilize maternal health care services available in a timely manner.

Moreover, results revealed that majority of the respondents did not access information on baby care, causes of miscarriage and nutritional/dietary. Limited accessibility of these categories of health information reduces awareness among pregnant women on issues related to baby care, causes of miscarriage and nutritional/dietary. Thassri et *al*., (2000), adds that effective utilization of maternal healthcare services is associated with access to maternal health information. Thus, inaccessibility of these categories of health information may result into prevalence of pregnancy child care related problems. During pregnancy, the inaccessibility of these categories of information may increase the number of occurrences of pregnancy-related complications leading to increased maternal morbidity and mortality.

4.4 Regression Results of Influence of Demographic Variables on Accessibility To Health Information

Out of the four demographic characteristics that were regressed on pregnant women' accessibility to health information, only age and education were positively and statistically significant at 0.05 level of probability ($p = 0.021$ and 0.003 respectively) (Table 4). These results are in line with the work of Benard *et al.* (2018) who reported that a unit increment in education increase one's ability to access information. This implies that the higher the level of education of the pregnant woman the more they can have access to health information. An educated person is likely to access various information sources like brochures, internet,

newspapers, and other channels so as to access information thus, increasing the chance of accessing health information.

Likewise, results indicate that the probability of accessing health information increased with the age of the pregnant woman by 5% (Table 4). This indicates that the older the pregnant woman the higher is the possibility of accessing health information from multiple sources. This is supported by Mtega *et al*. (2015) who found that the level of accessibility of information increased with an increase in age. This phenomenon is due to the fact that an older woman accumulates more experience and knows more sources of information than the young women and hence may seek or search information from known multiple sources.

Table 4: Regression results of influence of pregnant women demographic variables on access to health information

Variable	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**p-value**
	B	Std. Error	Beta		
(Constant)	1.420	3.438		0.438	0.644
Age categories	0.618	0.520	0.095	1.119	0.021
Householdsize (number of children)	0.683	0.859	0.061	0.653	0.479
Marital status	-0.569	1.206	0.044	0-.425	0.664
Education level of respondent	1.742	0.579	0.242	3.008	0.003

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Access to timely and relevant health information is very crucial for guiding pregnant women in her pregnant period. Improving health information accessibility among pregnant women is of a great importance in the improvements of reproductive health necessary for pregnant period development. It can plausibly be concluded that to enhance access to relevant health information among pregnant women, accessibility status of health information and information needs assessment must be conducted from time to time. Thus, public and private providers of health information services can use the results of this study to meet the needs of pregnant women.

5.2 Recommendations

For enhancing provision of timely, accessible, relevant and adequate health information to pregnant women, the study recommends the following;

1. The Tanzanian Government should increase the number of health information officers in all health care centers. This will enhance access to expert advice on reproductive health education and current health information among pregnant women.
2. Likewise, actors in the health sector should empower pregnant women through frequent seminars and workshops on issues related to miscarriage, immunization, breastfeeding, nutritional/dietary and baby care from time to time for updating their knowledge and skills.
3. Also, in designing any programs relating to health information provisions or health information repackaging among pregnant women age and education should be taken into consideration.

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