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Determining the Utilization of Antenatal Care Services by Pregnant Women in Zomba District, Malawi

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ABSTRACT

Purpose of the Study

The purpose of the study was to determine the utilization of antenatal care services by pregnant women in Zomba district, eastern region of Malawi.

Methods

The method used was a cross a cross sectional quantitative and descriptive study. The study included pregnant women from 24 weeks' gestation and above. A total of 140 pregnant women and 7 nurses (Health workers), making a total of 147 participants, were enrolled and interviewed in the study. In this study, extent of utilization of antenatal care services among pregnant women was determined based on number of visits and timing of starting of starting the first antenatal visit.

Results

Almost all 140 (100%) participating women had at least some knowledge of antenatal care services. 87.14% of them had attended antenatal care more than four visits and 12.86% attended antenatal care services less than four visits. On timing of starting first visit of antenatal care, 27.857% of the women started antenatal care within 0-3 months as required by World Health Organization and 72.143% started their first antenatal care visit from four months after being pregnant, which was late starting of antenatal care according to World Health Organization declaration.

Significance of the study

Knowledge gained from the findings would be used to formulate suggestions and recommendations to improve the utilization of antenatal care services through early starting of antenatal care (between 0-12 weeks) of becoming pregnant and by having a recommended antenatal care visits of more than four and at least eight visits per each pregnancy or more.

Conclusion

There was a high percentage of underutilization of antenatal care services in the area of starting the first antenatal visit which was after four months instead of within the first three months of being pregnant.

1. INTRODUCTION

Maternal heath still remains a burden to the health system in developing countries such as Malawi. Maternal health is simply defined as pregnancy related health. Maternal death is defined as the death of woman while pregnant or within forty-two days of termination of pregnancy, irrespective of duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental cause. Maternal Mortality Ratio (MMR) is defined as the number of maternal deaths per 100,000 live births.

The most common causes of maternal deaths are related to diseases and complications during pregnancy and delivery and these are hemorrhage, infection, eclampsia, obstructed labor and abortions (Malawi Martenal Mortality Rate, 2023).

Malawi is a developing country in Sub-Saharan African region with high maternal mortality rate (MMR) of 439/100, 000 live births. Reducing MMR is a priority of Malawi's Health System and ANC forms part of the essential health care package. In 2016, to reduce MMR and improve women's experience of care, the World Health Organization (WHO) recommended ANC models with a minimum of eight contacts instead of a maximum of four visits throughout the pregnancy, as in Focused Antenatal Care (FANC).

Malawi maternal mortality rate has been as follows:

In 2017 it was 349 which was 2.51% decline from 2016.In 2016 it was 358 which was a 3.24% decline from 2015.In 2015 it was 370 which was 2.89% decline from 2014.In 2014 it was 381 which was a 3.79% decline from 2013(Mgawadere,2017).

Malawi's maternal deaths decreased by 35% from 675 to 439 deaths per 100,000 live births between 2010 and 2016.This fell short of MDGs target of 150 deaths per 100,000 live births. The SDGs introduced a new target of reducing the maternal mortality ration even further to 70 per 100,000 live births by 2030. This requires strengthening current best practices and developing new strategies for reducing maternal death (WHO., 2015:).

In Malawi, up to one third of maternal deaths occur during the antenatal period. Women who die during pregnancy are less likely to attend ANC visits and often attend less than four ANC visits. Significant maternal deaths occur outside health facilities and as many as half of maternal deaths are attributed to delays in seeing antenatal care at heath facilities (Cimaterol, Reproductive Heath, 2018).

In 2015-2016 up to 70% of women of child bearing age experienced at least one or more changes in using antenatal care services. During this period, only 25% of pregnant women started ANC in the first trimester and only half finished the recommended minimum of four or more visit (Cimaterol, 15:158, 2018).

Delays in utilizing ANC services had been attributed to women's failure to recognize danger signs or adhere to timey attendance of antenatal care services, the use of traditional birth attendants for antenatal services and lack of transport to health facilities. Addressing these changes ensures women are identified and referred in timely manner to health facilities and may help increase the utilization of ANC services by pregnant women in Zomba district of Malawi. Antenatal care service provides pregnant women an opportunity to access to skilled healthcare, early pregnancy detecting and prompt treatment of complications. Evidence shows that most women die of pregnancy related complications in countries with lower antenatal care utilization.

1.1 Problem Statement

In Malawi there are only a few studies done on ANC (Chiwaula, 2011,). Furthermore, no recent study on the extent of utilization of ANC has been carried out in some districts like Zomba. In Ntchisi Health Management Information System (HMIS) reports of 2008 and 2011 indicated that less than 12% of the pregnant women came for antenatal care in the first trimester and the rest came after four months of being pregnant and often times women only made an average of two visits per pregnancy. A lot of initiatives are in place to encourage adequate ANC utilization and these include intensive information, education and communication (IEC) on maternal health services offered in all health facilities. It is worrying that despite availability of the reproductive health policy and initiatives promoting adequate utilization of ANC services, very few pregnant women utilized these services. Therefore, this study aimed at determining the extent of utilization of ANC services among pregnant women in Zomba district in Malawi

2. MATERIAL AND METHODS

2.1 Study Design

A descriptive cross-sectional design quantitative study using face to face individual interviews was applied, to understand the extent of utilization of antenatal care services among pregnant women in a study area.

2.2 Study Sites

The study took place in Zomba district. Zomba is in the eastern region of Malawi. The population of Zomba is 101140 people as of 2023.It is one of the old cities in Malawi. There are 22 health facilities, one central hospital and a national mental hospital. Some people get medical treatments from traditional doctors and traditional birth attendants. The study sites were seven health facilities of which one was a central hospital, three urban and the other three were rural health facilities. The study was done between November 2022 -January 2023.

2.3 Participants

The study included 140 pregnant women of whom 70 were young adolescent pregnant women and the 70 were adult pregnant women and 7 health workers (Nurses and midwives) making a sample size of 147 participants. Inclusion criteria were: Pregnant mothers of 24 weeks and above, those attending ANC, residents of Zomba district during the study period, willing to participate in the study, and given oral informed consent.

2.4 Tools for data collection

Data collection instrument used was a questionnaire which was administered by a research nurse.

2.5 Tools for data analysis

Descriptive data analysis was done using the frequencies and percentages.

3.0 RESULTS

3.1 Demographic Characteristics of the Study.

Variable	Frequency	Percentage (%)
Age		
Less than 19 years	70	50
More than 19 years	70	50
Total	**140**	**100**
Literate		
Yes	129	92.14
No	11	7.857
Total	**140**	**100**
Marital status		
Single	15	10.71
Married	117	83.57
Widowed	3	2.14
Divorce d	5	3.57
Separations	0	0
Total	**140**	**100%**
Religion		
Christianity	101	72.14
Muslim	39	27.857
Total	**140**	**100%**
Tribe		
Chewa	31	22.14
Tumbuka	3	2.14
Ngoni	1	0.71
Yao	51	36.42
Lomwe	40	28.57
Others	14	10
Total	**140**	**100**
Source of living		
Business	40	28.57
Casual work for wages	25	17.857
Employed	30	21.428
Commercial farming	0	0
Subsistence farming	45	32.14
Total	**140**	**100**
Number of deliveries		
None	56	40
One	42	30
Two	22	15.71
More than two	20	14.2857
Total	**140**	**100**
Number of live children		
None	56	40
One	38	27.14
Two	22	15.71

More than two	14	10
Total	**130**	**92.85**
Grand total	**140**	**100%**

Interpretation

On demographic characteristics of the respondents, a total of 147 participants of residence of Zomba district were interviewed for the study, with a response rate of 100%. Socio-demographic information sought from them included age, literacy level, marital status, religion, tribe, source of living, number of deliveries and number of live children. Out of 140, 70 were adolescent pregnant women of ages 10-19 and the other 70 were adult pregnant women from above 19 years of age. The 7 participants were nurses and midwives working in ANC clinic at the time of data collection.

On marital status, out of 140 women,15 were single, meaning there had never been married despite being pregnant, 117 were married, widowed 3, divorced ones were 5 and they were no separations.

On tribes, many participants were from Lomwe tribe (40), followed by Yao tribe (51), then Chewa tribe (32), other tribes like Nyanja (14), Tumbuka tribe (3) and finally Ngoni tribe (1).

On religion or denomination, those belonging to Christian were 101 and the Muslims were 39.

On literacy level, out of 140 women, 129 were literate and the illiterate were just 11.

On source of living, 45 women depended on subsistence farming, 40 on business,30 were employed,25 depended on casual wages and nobody was involved in commercial farming.

And lastly, on number of deliveries,56 participants had their first pregnancy, 42 had one delivery and out of 42, 38 were still live children at the time this data was being collected. Those with two deliveries were 22 and the 22 were still living at the time of data collection and those with more than two deliveries were 20 and out of 20, 14 were still living.

3.2 Extent of ANC utilization

VARIABLES	FREQUENCY	PERCENTAGE (%)
Attended ANC clinic during previous pregnancy	79	56.42857
Presence of ANC card of this pregnancy	140	100%
Started ANC of this pregnancy between (0-3 months of pregnancy	**39**	**27.857**
ANC attendance of this pregnancy more than 4 visits	122	87.14
Attended by more than one provider at ANC	139	99.2857

Interpretation

On objectives, the first objective of the study was to describe the extent of utilization of antenatal services by pregnant women in Zomba district, Malawi. The results showed that most women had attended the ANC visits more than 4 times which was encouraging according World Health Organization. ANC clinics were also offering comprehensive antenatal care services to all pregnant women. These were the positive results. The negative finding was that there was a very high percentage of underutilization among pregnant mothers in the area of late starting of ANC services.

3.3 Showing the Factors Influencing the Utilization of ANC Services by Women in Zomba District

VARIABLES	FREQUENCY	PERCENTAGE (%)
Financial support given	113	80.71
Distance more than 10KM	11	7.857
Spouse accompany	98	70
ANC service satisfaction	140	100%
Quality of ANC	140	100%
Attitude of ANC providers	140	100%
Average to short period of stay at ANC	140	100%
Resources such as drugs and vaccines	140	100%
Social support availability	140	100%
Explanation of procedures and examinations explained	140	100%
Danger signs and complications explained	140	100%
History of past obstetric problem	26	18.57
Planned pregnancy	80	57.14

Interpretation

The second objective of the study was to determine the factors that influence utilization of ANC services by pregnant mothers. The findings showed that good economic and social factors such as good financial support, family or social support lead to adequate use of ANC services and also, health facility factors such as good attitude and friendliness of health workers, availability of drugs and quality care influences women to have adequate ANC services. Short or long distances had no significant relationship with the use of ANC services. Obstetric factors such as previous history of pregnancy complications had significant relationship with ANC use while parity, planned or unplanned pregnancies had no significant relationship with the use of ANC services.

4.0 DISCUSSION

World Health Organization recommends a minimum of four ANC visits and a maximum of at least 8 ANC visits (P. K. Singh, Rai, Alagarajan, & Singh, 2012), initiated during the first trimester of pregnancy. In this study, almost all (100%) participating women had at least some knowledge of ANC, also 87.14% of the participating women had attended ANC more than 4 times which was very encouraging. 27.857% of the women started ANC within 0-3 months and 72.143% started late, that was after 3 months of being pregnant. This was very discouraging.

The findings revealed a high percentage of underutilization. The associated factors to the late starting of ANC were not yet established.

4.1 Demographic Characteristics of Respondents (Pregnant Women Only)

A total of 147 participants of residence of Zomba district were interviewed for the study, with a response rate of 100%. Socio-demographic information sought from them included age, marital status, tribe, religion, literacy status, source of living, number of deliveries and number of live children. Out of 140, 70 were adolescent pregnant women of ages 10-19 and there 70 were adult women from above 19 years of age. The 7 participants were nurses and midwives working in ANC clinic at the time of data collection.

On marital status, out of 140 women,15 were single, meaning there had never been married despite being pregnant, standing for 10.7%, 117 were married representing 83.57%, widowed 3, which represented 2.14%, divorced ones were 5 representing 3.57% and they were no separations. When people are married, it is assumed that they have a good source of social support than those who are single, so this data helps to predict the kind of antenatal experience the client would have. In this study,83.57% were married and thus no wonder many women had attended more than 4 or more ANC visits. Matua, as cited by (Chaibva, 2009.), indicated that pregnant single adolescents might shun ANC services for fear of being labelled “promiscuous”. On the other hand, older women who have had uneventful pregnancies and deliveries with previous pregnancies might see no reason to attend ANC.

On tribes many participants were from Lomwe tribe (36.42%), followed by Yao tribe (28.57%), then Chewa tribe (22.14%), other tribes like Nyanja which was 10%, Tumbuka tribe which was 2.14% and finally Ngoni tribe which was 0.71 %. The region is the original home of Lomwes, Yaos and Chewas and no wonder they are in large numbers. Knowing the tribe is important in ANC care system because some tribes believe in polygamy and having more children so this data is important because it helps in ANC planning.

On religion or denomination, those belonging to Christian were 101 representing 72.14% and the Muslims were 39, representing 27.85%. Knowing the religion of participants was important because it is believed than some religions like Muslims in Malawi do not priotize education which is a source of knowledge to women and also that many Muslims marry more than one wife and many children. Having many children risks a woman and this risk can force a pregnant woman to use ANC services adequately.

On literacy level, out of 140 women, 129 were literate, meaning that they were able to read and write. This represent 92.14% and the illiterate were just 11 representing 7.857%. The study however showed, there was significant relationship between level of education and utilization of ANC services. As shown by (Emelumadu et al., 2014) higher level of education has been shown to improve utilization of ANC servicers. When many women are literate, they are able to understand issues of ANC, its importance and also, they are able to understand issues of family planning. It is also likely that educated women seek higher quality services and have greater ability to use health care inputs that offer better care (Ragassa, 2011). This finding was also in agreement with other studies such as an Ethiopian study which indicated that education was likely to enhance female autonomy so that women develop greater confidence and capability to make decisions for their own health. As shown by(Emelumadu, 2014) higher level of education has been shown to improve utilization of ANC servicers for women of reproductive age (15-49 years).

On source of living, many participants had their source of income from subsistence farming (32%, then business (28.57%), employment of themselves or their husbands (21428%) and casual for wages was 17.857%. No any participant was involved in commercial farming. Knowing source of income contributes to how women use ANC services. Issues of transportation to clinics which requires a woman to have money is important. Also, availability of food for good health of a women, issues of obstetric complications coming due to poor general health status also come in during ANC services. Dallas (C., 2013), observed that the unemployed, single and economically dependent adolescent mothers were not likely to utilize ANC services.

And lastly, on number of deliveries,56 participants had their first pregnancy which was 40%, 42 had one delivery which was 30% and out of 42,38 were still live children at the time this data was being collected. Those with two deliveries were 22 standing for 15.71% and the 22 were still living at the time of data collection and those with more than two deliveries were 20 representing 14.2857% and out of 20 14 were still living. Number of deliveries can influence women to attend ANC services as required in fear of complications. Also, number of living children influences a woman to have another child or not it also influences the family or a pregnant woman to value ANC services.

4.2 Extent of utilization of ANC Services

The study established that out of 140 pregnant women who were interviewed,79, had one or more children standing for 56.42857%.

All 140 participants presented to the clinic with ANC card. The health passport book was important because it was the primary source of information for confirming the number of visits women had and for identification of past obstetric complications.

On timing of starting of ANC services, only 39 out of 140 had started ANC at 0-3 months as recommended by World Health Organization (WHO). This presented 27.857% of the total respondents. This turn up was very small and something needed to be done to reverse this situation. This finding is consistent with the result of the studies in rural Guatemala which showed that out of 90% ANC attendance (Glei, 2003a).

, only 56.7% of the adolescent mothers reported delays in attending and starting ANC service. There was a need for information, communication and education to the public on timing of starting of ANC services and more research in this is also encouraged.

On number of visits for ANC, 122 women out of 140 had their visits more than four. WHO recommends 8 visits and at least a minimum of 4 visits (Mrisho, 2009.). This represented 87.14% which was very good and encouraging.

Good attendance of ANC services which was found during the study period (87.14%) could be due to good social economic factors such as financial support, good health worker's attitude, quality care, education and short distance among others as indicated by(Beaering, 2007,). More has to continue to be done so that at ANC attendees should make 8 visits or at least more than four.

The 12.857% did not attend the four recommended visits although they attended at least once. This could be attributed to inadequate information about the existence and importance of ANC services, ignorance, and shyness, culture, economic reasons and health facility factors (Mrisho et al., 2009). Banda, commented that regular antenatal care is necessary to establish confidence between the woman and her health care provider, to individualize health promotion messages, and to identify and manage any maternal complications or risk factors(Banda, 2013,).

On number of activities done for the participants during ANC, statistics showed that 139 out of 140 women were seen by different providers on each date if their visit. This represents 99.2857%. This shows that pregnant women had comprehensive care such as HIV testing, vaccinations, other STDs screening, screening and treatment of other diseases. This was a commendable task in ANC heath service delivery as it helped to identify diseases at an early stage and treatment sought out early.

4.3 Factors Influencing the Utilization of ANC Services

4.3.1 Social-cultural factors

This study revealed that social factors such as short period of stay at ANC centers, family support, spouse escort, health workers' friendliness, planned pregnancies and good attitude of health workers were all good and contributed much to the good attendance of pregnant women at the. This finding was contrary to the findings of previous study conducted in Italy(Chiavarini, (2014)),which showed that maternal education, maternal age and maternal occupation were strong determinants of ANC service utilization and study done by Edward (Edward, (2011).) in Uganda with findings as per pressure as a factor that influenced utilization of ANC services by adolescent mothers.

4.3.2 Economic factors

From the study, various economic factors did not show to be influencing the good utilization of ANC services. Economic factors such as financial support, distance to the clinic, source of living where most participant showed to be depending on subsistence farming and casual work for wages did not show a significant association with ANC service utilization. This study disagreed with studies by Mlilo-Chaibva, (Chaibva, 2009) which showed that poverty as one of the social factors was responsible for the non-utilization of health services, including ANC.

On distances to the clinic, this finding was contrary with the study carried out in Siaya country by (A Sweto CO.O., (2014))which revealed mothers who travel less than one hour had seven times more likely to have early ANC initiation and five times more likely to have at least 4 ANC visits than mothers who travel more than one hour and by another study (Mngadi, (2002)), which identified that long distance to the antenatal care facility was an obstacle to the antenatal care.

4.3.3 Health facility factors

The study determined that the following facility related factors such as period of stay at ANC, availability of drugs, explanation of complications and danger signs, **A**NC service satisfaction, quality of ANC, attitude of ANC providers, resources such as drugs and vaccines had an influence on the utilization of ANC services. Findings of this concur with those of Ministry of Health-Kenya, 2010, that quality of care can be measured from the perspectives of clients or providers (perceived quality) or by measuring adherence levels to the set standards and guidelines.

4.3.4 Obstetric factors

This study revealed that parity of a woman had no significant association with utilization of ANC services. Having one or more deliveries had no influence. The study showed a positive relationship between the presence of complications of previous pregnancy and the use of current ANC services. So previous obstetric complications had a positive association with the current use of ANC services. Planned or not planned pregnancy had no significant association with the current utilization of ANC.

5.0 SUGGESTIONS AND RECOMMENDATIONS

- Parents and husbands should play complimentary role of emphasizing ANC attendance by pregnant women.
- In addition to routine health education sessions, marketing ANC services targeting colleges, universities and adolescent mothers in general, should be established to increase uptake. This would address issues related to peer influence and fear of disclosing pregnancy.
- Extension of working hours antenatally such as afternoon clinics and introducing more mobile clinics
- Academic education for women and general community people
- Economic improvement of women in general.
- Public campaigns taking an advantage of any kind of public gathering to spread the message of ANC services.
- Lastly, further ANC research would help to uncover new knowledge which then could be used to manage ANC effectively.

5.1 Areas of further research

i) An investigation on why women do not start an ANC services within 0-3 months of pregnancy

ii) Utilization and uptake of antenatal care services among adolescent pregnant mothers in schools, colleges and universities in Malawi.

6.0 CONCLUSION

There was a very high percentage of pregnant mothers starting the first ANC visit late, mainly after 4 months of pregnancy which was at 27.857 % only. This was too low. To the positive side 87.14% of the pregnant women had attended ANC visits more than four times, which was very encouraging. WHO encourages eight visits and at least more than four visits at ANC clinic.

6.1 Limitation of the study

Firstly, the sample did not include women who benefited from mobile health clinic services since the student researcher was only recruiting from the health facilities where he normally works as a nurse. Furthermore, the researcher did not include those who may have been using traditional birth attendants.The information on socio-demographic variables was not be counter checked for its validity and completely relied on self-reports of the respondents. The use of non-probability sampling technique i.e. convenience sampling might have affected the selection of participants for the study but this could not have been avoided considering the short time for data collection.

6.2 Approval and consent to participate

The approval and consent to conduct the academic study was from the District Health Office, by a District Research Committee-Zomba District.

6.3 Author Contributions

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6.4 Funding

There was no money expenditure in this study because the researcher used an advantage of his already available times of his duties as a research nurse employee. It happened that the researcher's usual ANC clients were also his potential participants. The researcher is an employee of local Medical Research Organization, who gets deployed to different health facilities to work with ANC mothers hence used the same opportunity to interact with the participants on the study topic.

6.5 Acknowledgement

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