

Relationship between Attendance of ANC and labour Complications among Mothers who delivered at Fort Portal Regional referral Hospital

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ABSTRACT

Appropriate antenatal care (ANC) is key for the health of the mother and child. Globally, approximately 515,000 women die from pregnancy-related complications each year. It has been estimated that 25 percent of maternal deaths occur during pregnancy, with variability between countries depending on the prevalence of unsafe abortion, violence, and disease in the area. This study focused on the relationship between attendance of ANC and gestational or labor complications among mothers who delivered at Fort Portal Regional Referral Hospital (FPRRH). A cross-sectional study was conducted whereby quantitative data was acquired using participant self-administered questionnaires, investigator administered questionnaires. A total of 323 mothers were randomly sampled from the population using the convenience sampling technique. Results are depicted in 95% Confidence Intervals, Odd Ratios (OR), and P-values; all calculated using Binary Logistic Regression with Pearson's correlation in the Statistical Package for Social Sciences. Graphical representation was done by Microsoft Excel Software. A total of 323 mothers were studied with a response rate of 91.02%. Results based on 294 participants show that 70(23.7%) of the mothers studied were in the age range of 15-25 years, majorly 170(57.8%) were 26-35 years, 54(18.5%) were 36-45 years; of these 33(11.1%) were single, 171(58.2%) were married, 55(18.6%) were separated and 36(12 %) were widows; 39(13.2%) attained primary level of education, 117(39.8%) secondary, 88(29.8%) tertiary, and 51(17.2%) were university graduates; 40(13.5%) were casual laborers, majority 208(70.8%) self-employed, and 46(15.7%) were civil servants. The study showed that the overall attendance of ANC among mothers in Fort Portal FPRRH was low. This trend was shown to be significantly associated with a number of factors. Intensive health education and awareness campaigns on the importance of ANC should be done to equip mothers with the knowledge so as to reduce the burden of pregnancy-related complications. More effort must be applied to spreading awareness about proper health service seeking by mothers.

Keywords: Antenatal care, Pregnancy, Maternal mortality, Labour, Health facilities.

INTRODUCTION

Appropriate antenatal care (ANC) is key for the health of mother and child [1]. Globally, approximately 515,000 women die from pregnancy-related complications each year. 2008 data from the United Nations Development Programme (UNDP) suggest 250 (maternal deaths per 100,000 live births) whereas 2006 data from the Demographic Health Survey (DHS), indicate a much higher value of 733 [2]. It has been estimated that 25 percent of maternal deaths occur during pregnancy, with

variability between countries depending on the prevalence of unsafe abortion, violence, and disease in the area [3]. Between a third and a half of maternal deaths are due to causes such as hypertension (pre-eclampsia and eclampsia) and antepartum hemorrhage, which are directly related to inadequate care during pregnancy [4], [5]. Certain pre-existing conditions become more severe during pregnancy [6]. Malaria, HIV/AIDS, anemia, and malnutrition are associated with increased maternal and

newborn complications as well as death [7]-[10]. The World Health Organization (WHO) also envisions a world where “every pregnant woman and newborn receives quality care throughout their pregnancy, childbirth, and postnatal periods” [11]. The basic materialization of this vision is only through the efforts of a well-utilized antenatal care service, as the WHO has demonstrated a positive relationship between ANC service utilization and pregnancy outcomes [12]. Antenatal care is a type of health service upkeep provided by skilled health professionals to pregnant women so as to ensure the best health condition of both the mother and the unborn baby throughout the pregnancy period [13], [14]. This service is composed of risk identification, prevention and management of pregnancy-related or concurrent conditions, and health education and health promotion with essential interventions such as early identification and management of obstetric complications, identification and management of sexually transmitted infections (HIV/AIDS, syphilis and others), tetanus toxoid immunization, and intermittent preventive treatment for malaria during pregnancy [15], [16]. Regardless of the fact that about half of pregnant women globally received at least one prenatal care in the year 2013, most pregnant women persistently miss these indispensable services provided by antenatal care [3]. Kuhnt and Vollmer [17] found in their research that at least one ANC visit is associated with 1.04% points reduced probability of neonatal mortality and 1.07% points lower probability of infant mortality. Moreover, it was found in the same study that, at least one ANC visit is associated with 3.82% points reduced probability of giving birth to a low birth weight baby, 4.11% and 3.26% points reduced stunting and underweight probability respectively. A conclusion was therefore drawn from the same study that, currently, the existing and accessed ANC services in most low-income

Study Design

A cross-sectional study was conducted whereby quantitative data was acquired using both participant self-administered questionnaires and investigator-

and middle-income countries are directly associated with improved birth outcomes and long-term reduction of child mortality and malnourishment [17].

Complications during pregnancy, mortality, and other pregnancy-related disorders remain inadmissible high on the global front claiming millions of women's and infants' life [12]. It is a recommendation by the world health organization that, all pregnant women should have at least four antenatal visits throughout their pregnancy period [11]. Globally, while 86 percent of pregnant women access antenatal care with skilled health personnel at least once, only three in five (62 percent) receives at least four antenatal visits [11] which is even worse in countries with high maternal mortality rates such as sub-Saharan Africa (51.9%) and least developed countries including Uganda (45.8%) [18]. Despite this effort by the government of Uganda to minimize maternal mortality, facility-based deliveries continue to be low. This is attributed to the poor quality of antenatal care which prevents pregnant women from giving birth at health facilities [19]. Uganda has high maternal and neonatal morbidity and mortality ratios, typical of many countries in sub-Saharan Africa [20]. Women in rural areas of Uganda are two times less likely to attend ANC than urban women [20]. Most women in Uganda have registered late ANC attendance, average at 5.5 months of pregnancy, and do not complete the required four visits [20]. The inadequate utilization of ANC is greatly contributing to persisting high rates of maternal and neonatal mortality in Uganda. It is therefore important to investigate the factors associated with ANC utilization to help with the implementation of necessary policies which can help deal with pregnancy complications and help produce healthy babies. Thus, this study is set to identify the relationship between ANC attendance and labor complications among mothers who delivered at Fort Portal Regional Referral Hospital.

METHODOLOGY

administered questionnaires.

Area of Study

This study was conducted within the premises of Fort Portal Regional Referral Hospital.

Study Population

The study focused on all mothers who delivered with the exception of primi gravidas. These were interviewed about their current and previous pregnancies and ANC attendance.

Sample Size

The sample size was calculated using the formula.

$$n = \frac{Z^2 p(1-p)}{d^2}$$

Where:

n= Sample Size

p= Expected Prevalence of Diarrhea in Children Under Five (p=30%) d= Margin of Error (d= 0.05).

z= Standard Normal deviation at 95% confidence level (1.96).

Therefore,

$$n = \frac{1.962 \times 0.3(1-0.3)}{0.052}$$

n = 323

Inclusion Criteria

All Mothers who delivered who have carried a pregnancy before irrespective of the outcome who gave informed consent were included in the study.

Exclusion Criteria

All Mothers who delivered who had carried a pregnancy before irrespective of the outcome who did not give informed consent were excluded from the study.

Data collection tools

The questionnaire used in this study was both interviewer and participant guided to minimize bias and loss of data. The questionnaire focused on collecting demographic and descriptive data.

Pre-testing of the questionnaire

The questionnaire used in this study was pre-tested to ensure the feasibility and acquaintance of research assistants to interview skills and questionnaire administration.

Data Analysis

Data capture was done based on the dependent and independent variables of the study. The data field included the questionnaire codes in order to ensure excellent data entry. The data was entered; cleaned and analyzed using IBM Statistics SPSS and graphics by Microsoft Excel.

Ethical Consideration

Informed consent was sought from participants after a thorough establishment of rapport and an explanation of the purpose of the study. This was backed up by an introductory letter from the administration of Kampala International University.

RESULTS

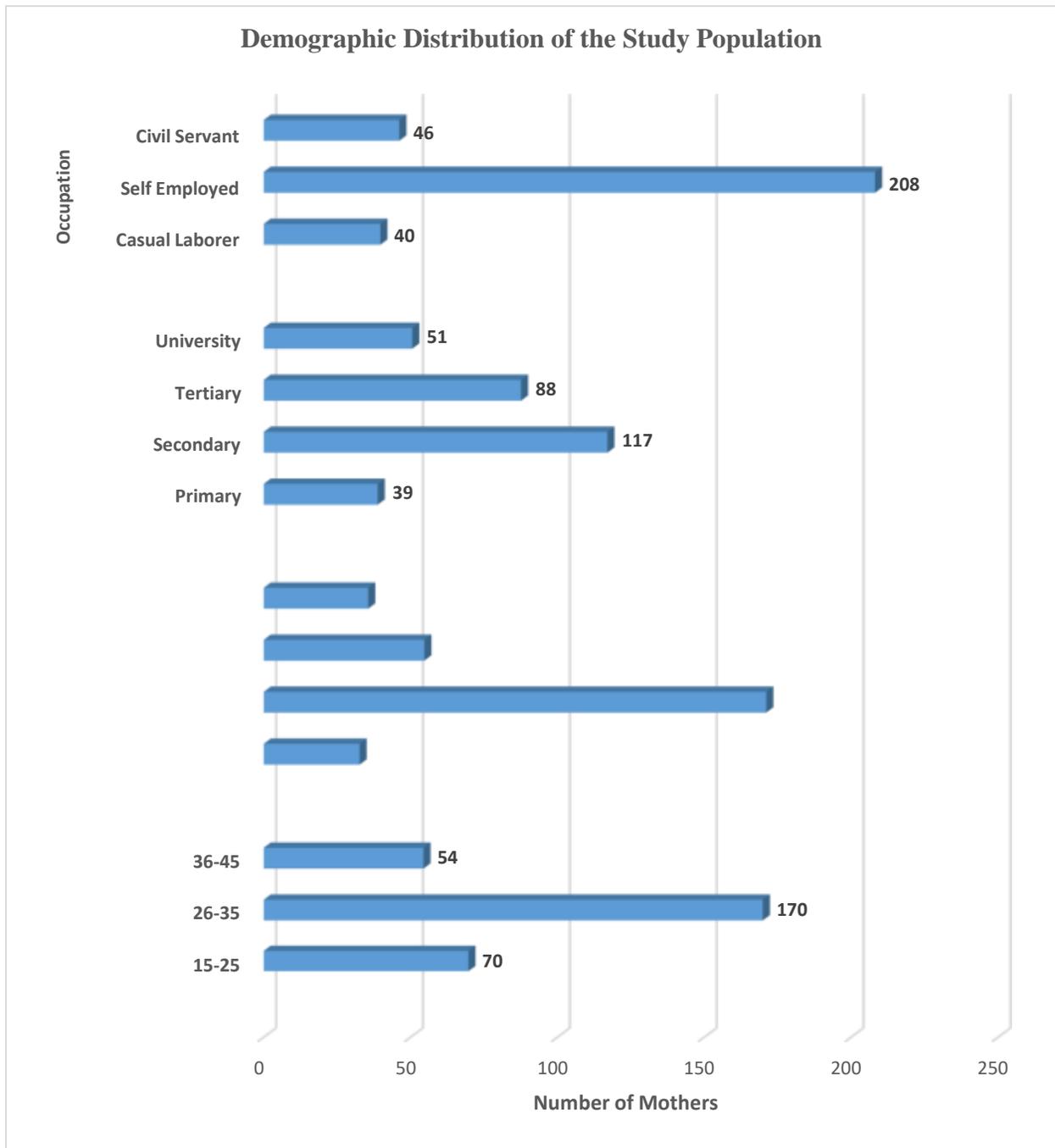


Figure 1: Demographic Distribution of the Study Population

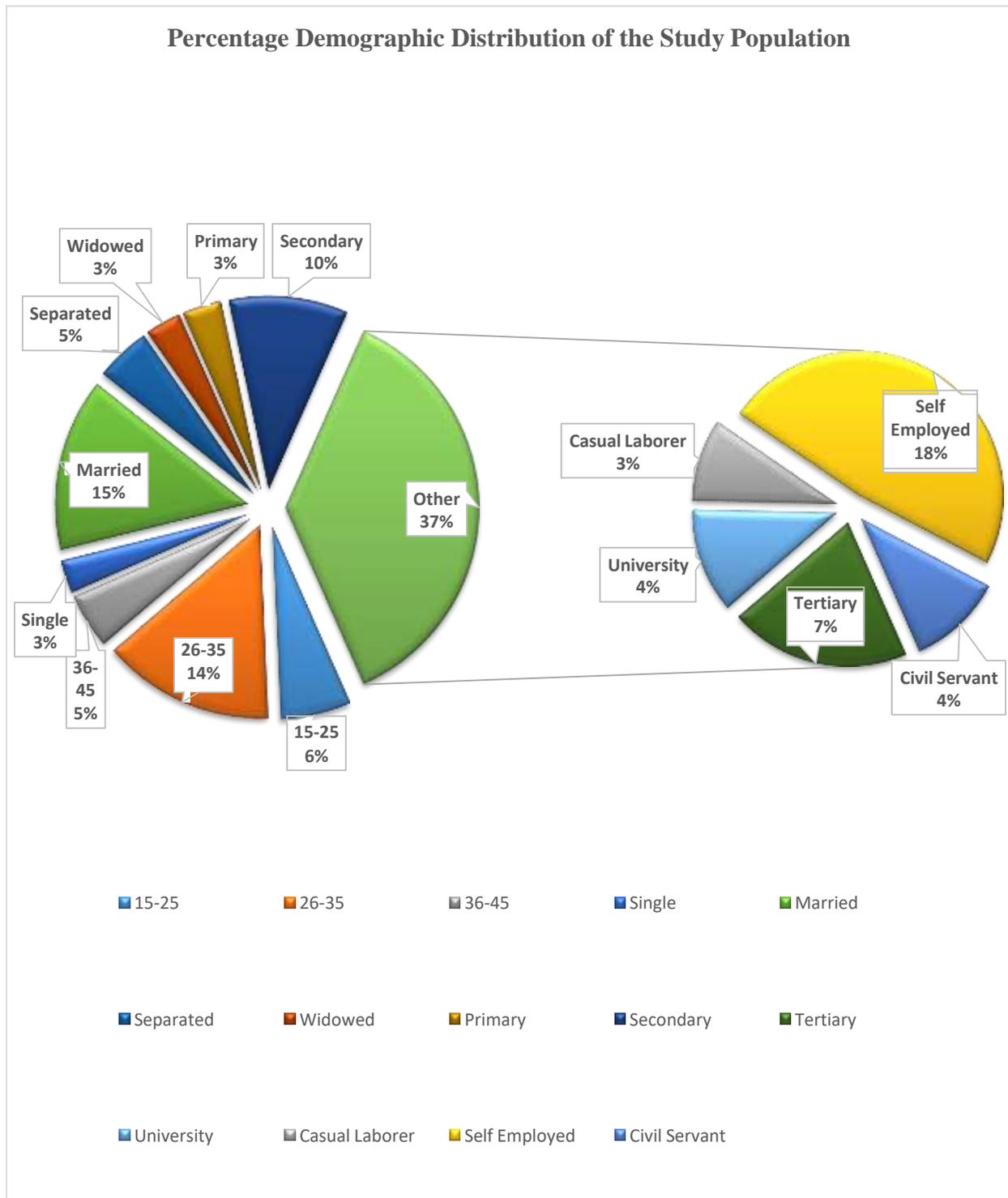


Figure 2: Percentage Demographic Distribution of the Study Population

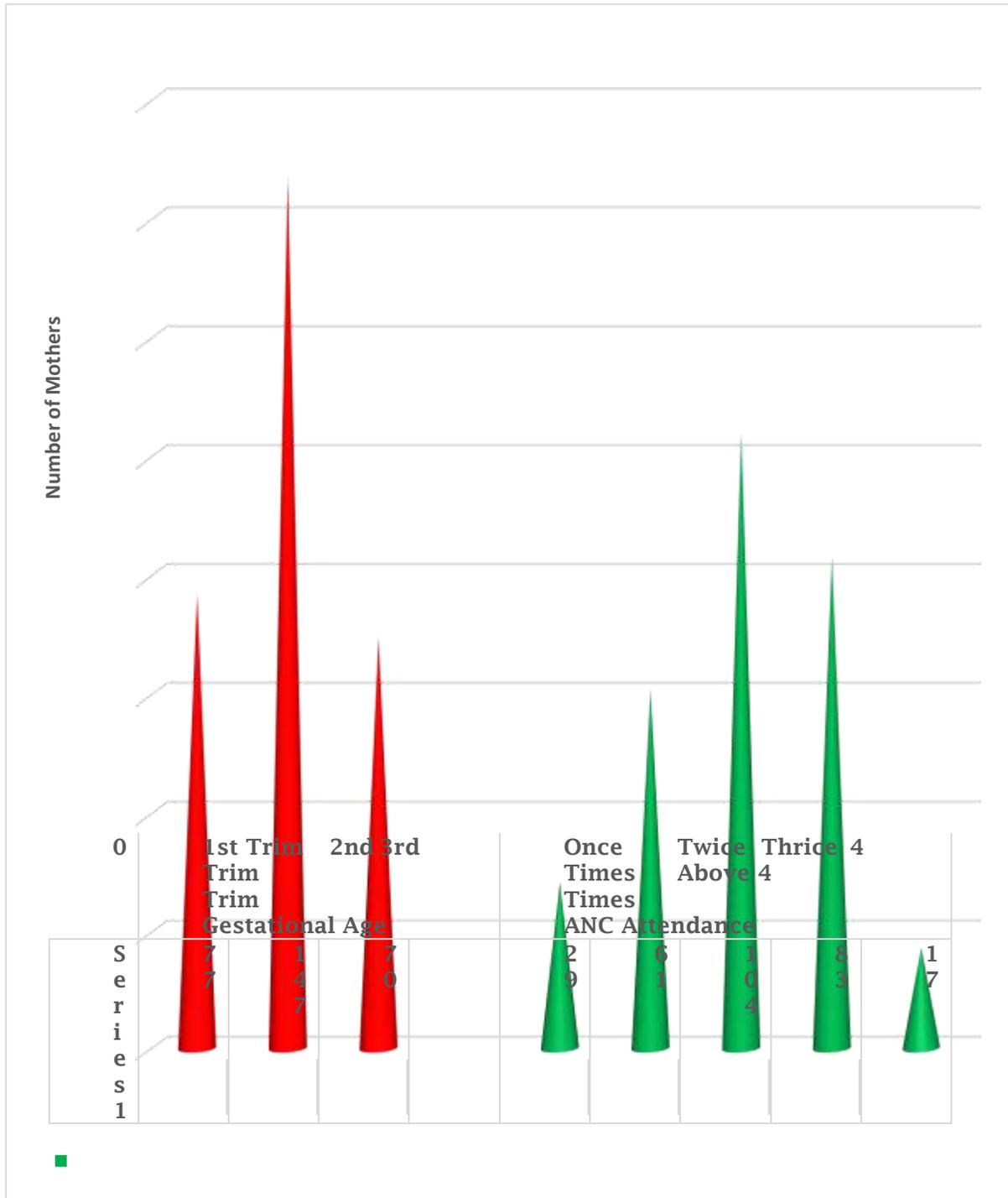


Figure 3: ANC Attendance of Participants in Comparison to Gestational Age

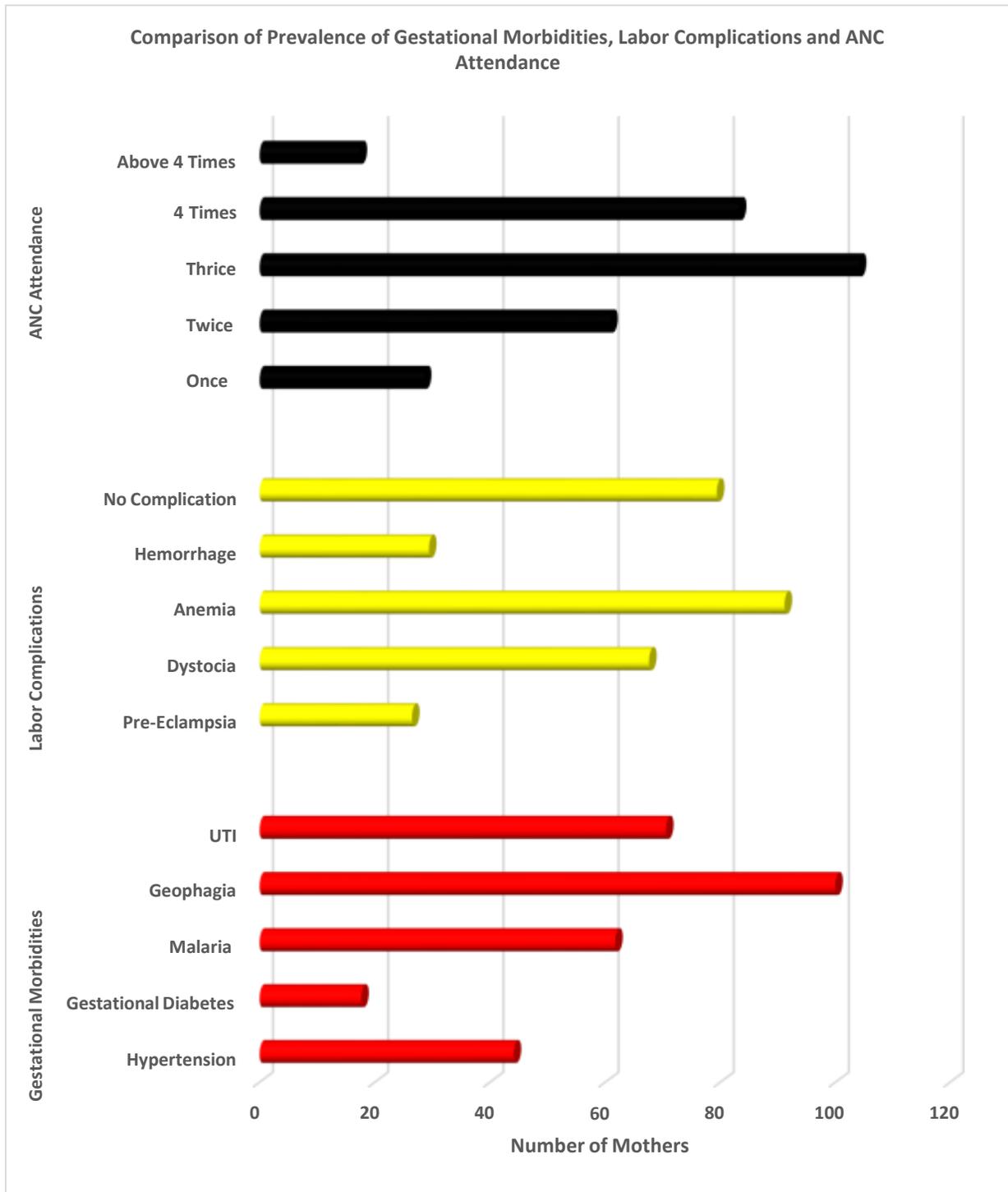


Figure 4: Comparison of Prevalence of Gestational Morbidities, Labor Complications and ANC Attendance

Table 1: Multivariate Analysis

Characteristic	Frequency	Percentage (%)	AOR	95% Confidence Interval		P-Value
				Lower	Upper	
Age						
15-25	70	23.7				0.068
26-35	170	57.8	0.653	0.068	6.507	0.044
36-45	54	18.5	0.267		6.121	0.596
Marital Status						
Single	33	11.1				0.643
Married	171	58.2	0.607	0.022	6.461	0.223
Separated	55	18.6	0.485			0.111
Widowed	36	12.1	0.606	0.021	6.460	0.004
Education Level						
Primary	39	13.2				0.135
Secondary	117	39.8	0.852	0.267	6.706	0.115
Tertiary	88	29.8	8.279	7.694	14.133	0.455
University	51	17.2	0.144			1.554
Occupation						
Casual Laborer	40	13.5				0.047
Self Employed	208	70.8	2.017	1.432	7.871	0.152
Civil Servant	46	15.7	0.152		6.006	0.306
Gestational Age						
1 st Trimester	77	26.2				0.163
2 nd Trimester	147	50.1	0.101	0.484	5.955	0.033
3 rd Trimester	70	23.7	1.593	1.008	7.447	0.004
ANC Attendance						
Once	29	9.7				0.002
Twice	61	20.7	2.235	1.650	8.089	0.004
Thrice	104	35.4	1.417	0.832	7.271	0.005
4 Times	83	28.3	1.091	0.506	6.945	0.005
Above 4 Times	17	5.9	1.100	0.515	6.954	0.006
Gestational Morbidities						
Hypertension	44	15				0.001
Gestational Diabetes	18	6	1.235	0.650	7.089	0.002

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Malaria	62	21	1.679	1.094	7.533	0.004
Geophagia	100	34	2.829	2.244	8.683	0.003
UTI	71	24	1.783	1.198	7.637	0.001
Labour Complications						
Pre-Eclampsia	26	9				0.002
Dystocia	68	23	1.754	1.169	7.608	0.003
Anaemia	91	31	1.794	1.209	7.648	0.011
Hemorrhage	29	10	1.360	0.775	7.214	0.003
No Complication	79	27	4.044	3.459	9.898	0.003

DISCUSSIONS

ANC Attendance of Participants

This study was a cross-sectional study that focused on the relationship between attendance of ANC and gestational or labor complications among mothers who delivered at Fort Portal Regional Referral Hospital. The study showed that the overall attendance of ANC among mothers who delivered in Fort Portal Regional Referral Hospital was low as depicted by Figure 3 according to the number of mothers seeking care with respect to the gestational age with respect to the number of ANC visits at the instant of data collection. This trend was shown to be significantly associated with a number of factors including education level, occupation, marital status and gestational age where mothers who had attained university and tertiary education were observed to attend more ANC visits than their counterparts of secondary and primary level education. Self-employed and civil servant mothers were seen to attend more ANC visits than the casual labourers. It was also observed that increase in the age of the mother increased the frequency of ANC attendance. The significance of these variables was computed using Pearson's correlation of which Marital Status being significant with a value of 0.156*(P=0.004); Mother's Age being highly significant with a value of 0.257* (P=0.001); Occupation Status shown to be significant with a value of 0.144*(P=0.001) with a 2 tailed test at 95%

confidence level, $P < 0.05$. This study is seen to similarly rhyme with other studies done. Although generally reported to be important, respondents' understanding of the procedures involved in ANC was limited. Factors influencing attendance fell into three main categories: accessibility, attitudes to ANC, and interpersonal issues [3]. Although women saw accessibility (distance and cost) as a barrier, those who lived close to health facilities and could easily afford ANC also demonstrated poor attendance. Attitudes were shaped by previous experiences of ANC, such as waiting times, quality of care, and perceptions of preventative care and medical interventions during pregnancy [1]. Interpersonal factors included relationships with healthcare providers, pregnancy disclosure, and family conflict. A desire to avoid repeat clinic visits and ideas about the strength of the fetus and parity were particularly relevant to the timing of the first ANC visit [1]. This long-term in-depth study shows how sociocultural and economic factors influence ANC attendance. These factors must be addressed to encourage timely ANC visits: interventions could focus on ANC delivery in health facilities, for example, by addressing healthcare staff's attitudes towards pregnant women [1]. The ANC Service utilization in Ethiopia was significantly influenced by maternal age, where mothers aged between 25 - 29 years were less likely to utilize ANC service than

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women who were 35 years and older. Positive husband attitude towards ANC was also significantly related to ANC service utilization. Mothers' level of education influenced the use of ANC for which mothers with primary educational levels were more likely to attend ANC than women who are unable to read and write. This study further revealed that the availability of women's time is important as women spend more time on their multiple responsibilities for the care of children, collecting water or fuel, cooking, cleaning, and trading than on their own health. In Hadiya; Ethiopia, the family size was a strong determinant of ANC service utilization with greater household size limiting the use of ANC service. A study done by Simkhada *et al.* [21] also included maternal education, husband's education, marital status, availability, cost, household income, women's employment, media exposure, and having a history of obstetric complications. But not leaving out cultural beliefs, parity, and ideas about pregnancy. Whilst women of higher parity tend to use antenatal care less [20]. A study done in a rural Local Government Area in Ogun State, Nigeria, identified that women preferred TBAs for various reasons which included: cheap easily accessible culturally acceptable services and more compassionate care than orthodox health workers, and for some it was the only maternity they knew. However, some respondents acknowledged that complications could arise from TBA care [22]. In many countries, TBAs are an important source of social and cultural support to women during childbirth and

The overall attendance of ANC among mothers who delivered in Fort Portal Regional Referral Hospital is low as depicted by Figure 3 according to the number of mothers seeking care. Intensive

due to economic constraints, and the difficulty in posting trained professionals to rural areas; many women continue to deliver with TBAs.

Prevalence of Labor Complications

Countries with good indicators in maternal and infant mortality have pregnancy-related complications identified and managed early. However, the overall one-time antenatal attendance in Uganda was found at 94% with women in rural areas being twice less likely to attend ANC than the urban women [20]. According to the report, only 8% of rural women in Uganda received ANC from a doctor. Regionally South western Women were more likely to receive skilled care (20%), than Eastern women (3%), while only 2% of the women in Karamoja were reported to seek the same. It was reported that women in Uganda tend to seek antenatal care very late—37% attending for the first time at 6 months or more [1]. Globally, developing countries still face the challenge of poorly implemented ANC programs with irregular clinical visits and long waiting times plus poor feedback to the women. A study in the Hadiya zone, Ethiopia found that the majority of the mothers who attended ANC did not receive an adequate number of visits and initiated the visits later than recommended by the WHO [23]-[28]. A similar study done in a Nigerian teaching hospital found that Nigerian women tended to obtain care late in pregnancy, and about one-third of the care was inadequate with almost half (47 percent) of women attending the ANC clinic in the third trimester [24],[29]-[34].

CONCLUSION

health education and awareness campaigns on the importance of ANC should be done to equip mothers with the knowledge so as to reduce the burden of pregnancy-related complications.

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