

Original Research Article

Topic: An analysis of factors contributing to late focused Antenatal Clinic (FANC) booking for pregnant women attending Hartcliffe Polyclinic in Harare, Zimbabwe

ABSTRACT

Introduction:

Expectant mothers are recommended and encouraged to book for focused antenatal care on or before the 12th week of pregnancy or within the first trimester to prevent or manage pregnancy-associated challenges. Booking late is when a pregnant woman reports for focused antenatal care for the first time after the first trimester. Focused antenatal care is an individualized and quality care provided to pregnant woman for good outcomes. Antenatal care registers at Hartcliffe Polyclinic indicated that the majority of pregnant women were booking late for antenatal care which means they booked after the first trimester against the recommendations. Booking late in pregnancy suggests missed antenatal care as the woman is unlikely to have the recommended visits required of that pregnancy. Without focused antenatal care, the wellbeing of the mother and *in-utero* child may be potentially to be negatively impacted. This study aims to establish the major factors that lead to late booking for focused antenatal care. Unmasking these factors may be an important precursor-step which may provide insight and trigger thoughts around mitigating strategies, which potentially will promote early booking for focused antenatal care services.

Methods:

Fifty pregnant women, who had booked late for focused antenatal care, were randomly selected to participate in the study. Questionnaires were used to collect data from the participants and quantitative methods were used for data analysis.

Results:

The majority of the pregnant women were not aware of the correct time of booking for focused antenatal care and were not aware of the recommended number of clinic visits per pregnancy. The major factors suggested to lead to late-booking were financial challenges, attitude of health personnel, quality of health service, further to cultural and religious beliefs.

Conclusion:

Lack of knowledge, age, level of education, marital status, parity, financial difficulties, bad attitude and some cultural beliefs were noted to be the main drivers of late booking. It is envisaged that in future, if these main factors are addressed, potentially an increase in pregnant women registering early for FANC may proportionally be achieved.

Recommendations: Pregnant women are encouraged to book for focused antenatal care at or before the 12th week of pregnancy and be dissuaded from allowing low education level, marital status, financial difficulties, cultural beliefs and religion to determine how they attend to their needs and of unborn child during pregnancy. Steps should be taken by all relevant stakeholders to ensure that all pregnant women register for focused antenatal care within the first semester.

Key words: Focused antenatal care, Hartcliffe Polyclinic, pregnancy, maternal new-born and child health, late booking, first trimester

1.0 Introduction

Over 13,000 sub-Saharan Africa mothers, new-borns, and children die every day, with nine deaths per every sixty seconds having been commonly reported [1]. There is an over-representation of maternal, new-born and children global deaths as two-thirds of global HIV/AIDS deaths and 90% of global malaria deaths are roughly attributable to the 11% of the world's population [2]. However, Botswana, Cape Verde, Eritrea, Malawi, Mauritius, and Seychelles seem to be winning the battle for maternal, new-born, and child health (MNCH) in Africa. These countries had achieved the Millennium Development Goal (MDG) 4 targets by 2015 and are working towards vision 2036 [3].

One of the drivers of MNCH is focused antenatal care (FANC). FANC is a personalized and quality care provided to a pregnant woman which underscores on the woman's overall health, her preparation for childbirth and readiness for complications during her term of pregnancy which may be different to general antenatal care. FANC is the personalized medical and nursing care which is recommended for women during pregnancy who may have other causes of adverse pregnancy outcomes such as small for dates babies, diabetes mellitus, [6].

Historically, the traditional antenatal care (ANC) service model was developed in the early 1900s. The FANC model undertakes that frequent visits and classifying pregnant women into low and high risk by predicting the complications ahead of time, is the best way to care for the mother and the foetus. The traditional approach was replaced by FANC which is a goal-oriented antenatal care approach, which was recommended by researchers in 2001 and adopted by the World Health Organization (WHO) in 2002 and is the accepted policy in some African countries. FANC allows Midwives and Doctors to regularly examine pregnant women to ensure the well-being of the mother and unborn child [7]. Regular examinations permit early detection of any risk factors which may lead to adverse health outcomes for the duo. Focused ANC offers women advice and information about options regarding place of delivery. This advice is based mainly on the pregnant women's medical history and clinical assessment. Opportunities arise to provide information with regards to the risks of pregnancy and specialist care which may be indicative to pregnant women during FANC. Principally, FANC is preventive and may assist in ameliorating the severity of pregnancy-related complications. For instance, monitoring and prompt treatment of pregnancy-induced hypertension, malaria, diabetes mellitus and anemia minimize the risk to both the mother and the unborn baby [8-11].

Health systems in the developing countries have tried to keep pace with the developed world through a paradigm shift from traditional to being modern in the context of what is disseminated by the Modernization Theory. Despite these endeavors, traditional medicine is still in common use. The concept of modernization incorporates the full spectrum of the drastic transition and transformation that a traditional society has to undergo in order to become modern [12]. The general consensus is that people in developed and developing countries have moved from the use of traditional birth attendants (TBA), traditional healers and traditional medicines in child birth and care to the use of the FANC clinics. However, in

practice the contrary is true. The Government of Zimbabwe has established the Antenatal Clinics to enable women to receive appropriate and effective health care from pregnancy through to child birth (focused ANC- FANC). Great strides ensuring that pregnant women have FANC services access, and this is thought to promote good pregnancy outcomes, have been made. However, gains and strides made to divert the population from alternative medical practices seem to be eclipsed by the world economic recessions and human centered factors may have a play as well [13-17].

There is a global consensus regarding health being an important indicator for development of a country. Sustainable Development Goal (SDG) Goal 3 focuses on ensuring healthy lives and promoting wellbeing for all ages. It focuses on reducing the global maternal mortality ratio to less than 70 per 100000 live births. In line with this goal, World Health Organization (2005) stipulates that provision of FANC is one of the pillars of maternal health care, and may possibly contribute to reduce maternal mortality [18]. This service provides a range of opportunities for delivering health information and interventions that can significantly enhance health of the would-be mothers. FANC provides an entry point to a wide range of programs/interventions such as prevention, control, and treatment of conditions like malaria, Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome (HIV/AIDS) and Tuberculosis (TB) that could potentially cause adverse effects to either the pregnant woman or her baby [19]. Early antenatal booking allows accurate dating, early detection of medical disorders that could threaten the pregnancy and its outcome, objective assessment of maternal baselines such as weight, blood pressure and urinalysis. Early FANC booking has been associated with optimal utilization and reduction of perinatal morbidity and mortality have been noted.

In Zimbabwe, the National Child Survival Strategy advocates for the FANC period as an opportunity in the continuum of care, to reach pregnant women with health interventions. The *Ministry of Health and Child Care*, has decentralized FANC to all clinics, hence improving accessibility of maternal health care in tandem with SDG 3. A sub-objective under this goal focuses on reducing the global maternal mortality ratio to < 70 per 100 000 live births. The FANC program has also presented another window of intervention by introducing the *Prevention of Mother to Child Transmission (PMTCT)* programs to pregnant women who may be living with HIV. This is significant, given the intensity of HIV-related illnesses and deaths predominantly in Southern Africa. PMTCT has been introduced at most health centers in Zimbabwe and under the FANC, pregnant women are encouraged to book at or before 12 weeks of pregnancy to ensure they receive comprehensive interventions.

The ANC Sentinel Survey (Harare) show that the majority of women are booking for FANC after the recommended first trimester. The worst-case scenario is in which some women even book for delivery when they are already in labour. In most cases, pregnant women who book in labour will not have attended the FANC clinic, except for a few who would have been previously registered elsewhere, but end up in labour at a different institution. This as explained elsewhere poses great risks to both the mother and the baby before, during and after birth.

FANC provides pregnant women with health education on various pregnancy related topics and prepare them for post-delivery care of the baby. Therefore, by implication this suggests

that the pregnant woman and the unborn baby receive inadequate monitoring and supervision during pregnancy when FANC booking is done late.

Statistics for FANC booking show that more than 80% of the pregnant women who delivered at Hartcliffe Polyclinic booked after 12 but at < 20 weeks. Therefore, only 20% of the women that booked at this clinic booked during the recommended time. This demonstrates that interventional strategies to ensure pregnant mothers book for FANC at the recommended times is an issue that will require urgency and priority to rectify. However, the current study is not investigating this and therefore will not be discussed further.

The reasons for individuals to book late are equivocal. This is exacerbated by a versatile and very mobile people population. The reasons seem to vary from generation to generation and also according to geographical location. The Hartcliffe area is a heterogeneous community which can neither be described exclusively as an urban or rural settlement. Consequently, the population is fluid in context of social demographics. The noted versatility gave Hartcliffe polyclinic the candidature as a suitable study centre, as the results from the study are applicable across the rural-urban divide.

The study, in part, aims to assess the level of knowledge of pregnant women on the role of FANC, as it relates to their well-being and that of their unborn-child. It extends to establish factors which may drive late booking. Early booking for FANC is universally thought to lead to good health outcomes for the mother and baby [6] through routine checks by which risk factors can be identified and interventions instituted. Hypothesis is that this study may provide insight into the drivers of late booking potentially triggering thoughts around strategies pertinent to promoting early booking for FANC.

2.0 Materials and Methods

2.1 Materials

2.1.1 Ethical considerations

This study conformed to the *Declaration of Helsinki-Ethical principles for medical research involving human subjects*. Particularly, confidentiality was upheld, written informed consent was sort from the participants, and coded interview responses could not be linked with the interviewees. Permissions and ethical clearance to conduct the study were obtained from the Hartcliffe Polyclinic and the Harare District Council.

2.1.2 Study population

The study population were pregnant women aged 15 to 49 years who were resident in Hartcliffe and surrounding areas who had booked late (as define elsewhere) for focused ANC at Hartcliffe Polyclinic.

2.1.3 Study Sample

Systematic sampling, a type of probability sampling method, was used to select the respondents from the study population according to a simple randomly selected starting point followed by fixed, periodic intervals. The sampling interval was calculated before hand by dividing the population size ($N = 247$) by the desired sample size ($n = 50$). This sampling technique offers each individual the same probability of being selected [23].

2.1.4 Sample size and data collection

Every 3rd woman, starting with the first to register late, was selected into the sample from the population of pregnant women attending FANC who had booked late. During the period of data collection 247 ANC mothers had booked late for FANC and 50 were interviewed. Data was collected through administering questionnaires to the selected participants.

2.1.5 Study site

This research was conducted at Hartcliffe Polyclinic in Hartcliffe suburb. Hartcliffe is a low-income, peri-urban and high-density suburb situated to the North of Harare under ward 12. Currently, it is the only high-density area in the Northern suburbs of Harare. The government started allocating un-serviced stands in Hartcliffe in 2005 in the aftermath of the Operation Murambatsvina that saw around 700,000 people lose their homes and some ultimately their livelihood [24].

2.1.6 Theoretical Framework

This study is based on the theoretical framework of the Health Belief Model of the Cognitive theories, which has perceived barriers, benefits and to cues to action. Perceived benefits are the advantages women may derive by registering early for FANC. Barriers are factors that will impede pregnant women from reporting early for FANC such as costs of travel and FANC registration fees. The driving force for women to report late for FANC is potentially multifaceted. However, in communities such as Hartcliffe, no study has been carried out previously to pinpoint these factors. Strategies are required to improve the proportion of women who register early for FANC. In order to robustly do so, it is necessary to identify those factors which lead women to register late, and this forms the basis of this study. Plausibly, if the health workers, policy-makers and other agencies or partners understand the barriers for women to registering early for FANC and the women appreciate the benefits to be derived when they register early, it is possible efforts to ensure women register early for FANC will gain traction.

2.1.7 Research Design

This study is descriptive, cross-sectional study employing quantitative methods in which women attending FANC late were systematically selected. To qualify for selection, women needed to have booked late for FANC. Quantitative data was collected through questionnaires given to mothers.

2.1.8 Structured Questionnaire

Structured questionnaires were administered to collect quantitative data from 50 women selected by random sampling and who had booked late for FANC. The questionnaire had both closed-ended questions. This gave the respondents the opportunity to explore issues not specified as would normally happen under routine clinic visits. The structured questionnaire allowed assessment of the participants' knowledge, attitudes and practices (KAP) in context of FANC. This, so it was thought, would allow the factors that lead to late booking to be unmasked.

2.2 Research Methods

This study employed quantitative research techniques. The quantitative approach was used primarily for the post positivism claims for developing knowledge (cause and effect thinking,

reduction to specific variables and hypothesis and questions, use of instruments and observation and the test of theories) and employed surveys as the means to collect data using as predetermined outcomes. The quantitative approach used closed ended questions and was assigned numerical values for the respondents to choose from. The downside is that the subjects did not have a chance to express their views or opinions about the questions in the testing of the objective theory. Statistical analysis was used to collect and evaluate numerical.

2.2.1 Sampling Techniques

Systematic probability sampling was used to select 50 women from the 247 pregnant women who had booked for FANC after the recommended 12 weeks. All women registering late for FANC had the same chance of being selected. This study sample makes it plausible to generalize the findings back to the study population.

2.2.2 Sampling procedure

Systematic probability sampling was used as a one stage cluster-sampling, selecting nth member of the population. The technique spaced respondents more evenly across the entire population, this perhaps makes it more representative and minimises bias.

The first pregnant women who reported late for FANC was counted as number one and every third subsequent pregnant women coming late to book for FANC was selected until number fifty was reached.

The expected pregnancies per year in Hartcliffe are estimated to be around 2,176 out of 30% of the population who are women of child bearing age. There was a population of 45,355 people (22,470 males and 22,885 Females) at the time of the study. The referred polyclinic is the only clinic servicing this area. Hartcliffe is also surrounded by farms and some women also come from these to register for FANC at the Polyclinic.

2.2.3 Data collection tool development and pretesting

A questionnaire was developed and pre-tested at Mt Pleasant Primary Care Clinic, Harare. Anticipation was that the devised interview questions would enable extracting information from the subjects, which would then enable coining inferences as pertains to factors causing woman to register late for FANC.

2.2.4 Quantitative data analysis

GraphPad InStat software version 5 (GraphPad Software, San Diego, California, USA) was used to analyse the data after collection onto Microsoft Excel spreadsheets. Data was compared amongst client groups ($n = 50$). The data expressed as Means. P values < 0.05 was considered as statistically significant.

3.0 Results

Findings are presented as an analysis of results obtained structured questionnaires and narratives of procedures used.

3.1 Booking Process for FANC

A *group-health-education* talk was given to pregnant women when they reported to the clinic. The health staff educated and provided them with options for extension services such as HIV testing and counselling.

The women paid 30 dollars (USD) or equivalent in local currency as user fees to be eligible to be issued with a FANC registration card triggering the booking process. The registration card enabled women to receive basic education on the FANC program in the Maternity Ward irrespective of their parity status.

Health-education content entailed the benefits on the FANC program, laboratory tests to be performed during pregnancy, examinations to be carried out, recommended nutrition during and after pregnancy, necessities to bring before and after delivery and how to care for the baby.

Demographic information for the research subjects was captured in the ANC register. Weight and blood pressure were measured and recorded. Blood and urine samples were collected for profiling risk factors inclusive of anaemia, urinary tract and HIV infections. Foetal heartbeat and positioning of the foetus were also established.

3.2 Demographics

The personal attributes of participants that includes age, and marital status, level of education, employment status, and religion were assessed, and their influence on delaying the booking for FANC compared.

3.2.1 Age

A young woman was defined as being of age 15-24 years, middle-age was 25-34 and older age was 35-49, for the purpose of this study. Middle-age women had a relatively higher chance of reporting late for FANC when compared to the older age group (** P < 0.05; 25-34 vs 35-45+ age groups) and to the younger age-group (*P < 0.05, 25-34 vs 15-24 age groups).

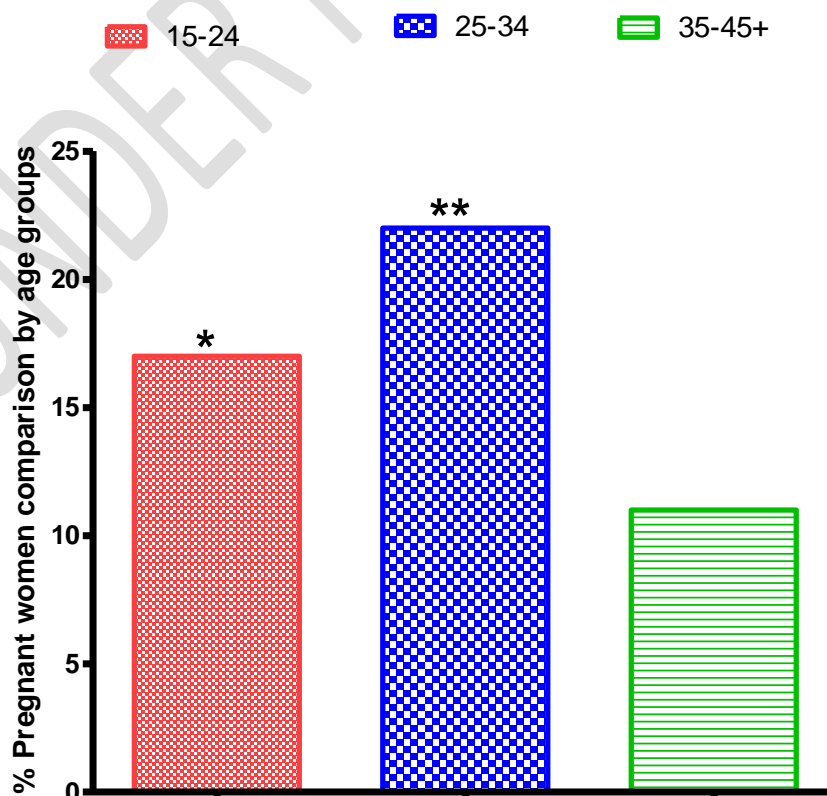


Figure 1: Women who reporting late for FANC by age group.

3.2.2 Marital status

Women legally married had a relatively higher potential to book late for FANC late as compared to those who were single (**P < 0.05; Married vs single women).and to those who were cohabiting (**P < 0.05; Married vs cohabiting women). Cohabiting women had a **threefold** higher chance of reporting late for FANC booking when compared to single women (*P < 0.05; cohabiting vs single women).

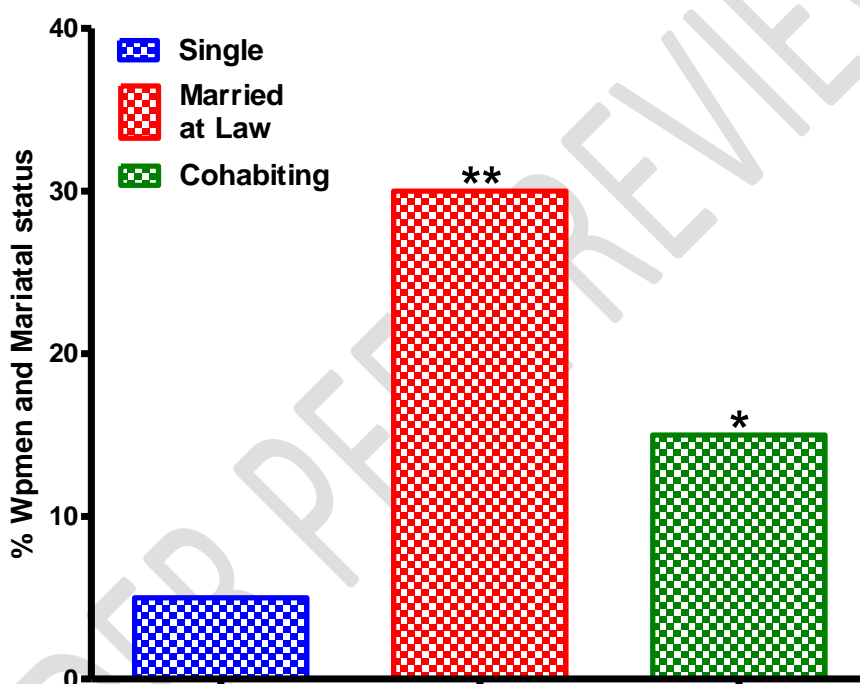


Figure 2: Distribution by marital status.

3.2.3 Academic level

Women who had completed secondary school level of education were more likely to report late for FANC booking compared to those who had attained primary school (**two and a half-fold**) [***P < 0.05; secondary vs primary education levels) and tertiary level (**P < 0.05; Secondary v tertiary education level). Women who had attained tertiary level were less likely to report late for FANC as compared to those with primary (**twofold** lower) level education (*P < 0.05; tertiary vs primary education level).

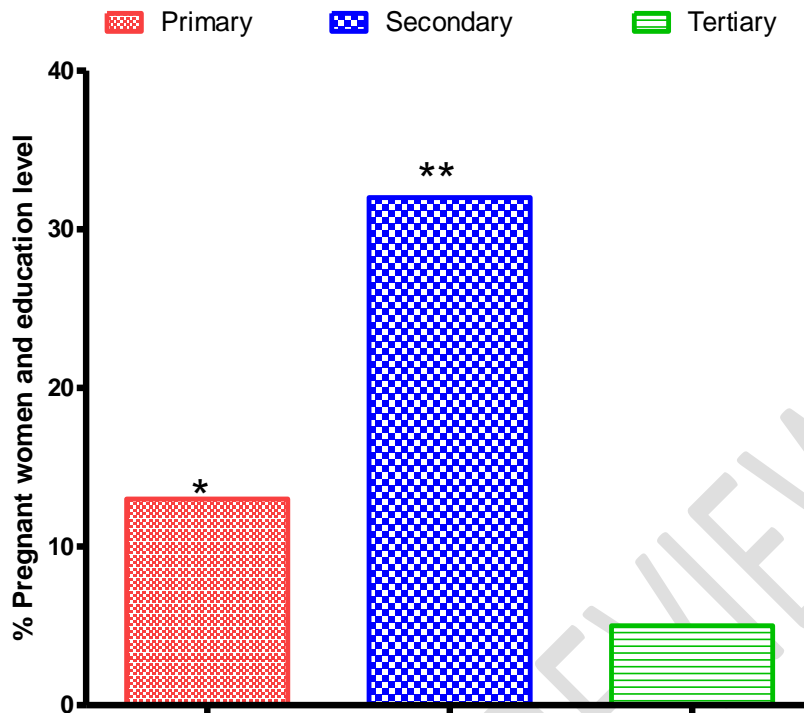


Figure 3: Influence of academic background on FANC late booking

3.2.4 Employment status

House wives or the not employed women had a relatively higher chance (five and four-fold higher) of reporting late for FANC booking as compared to the women who were employed formally (**P < 0.05; house wife vs formally employed women) and to women who were informally employed (**P < 0.05) respectively. Women with formal and informal employment had equal chances of reporting late for FANC booking.

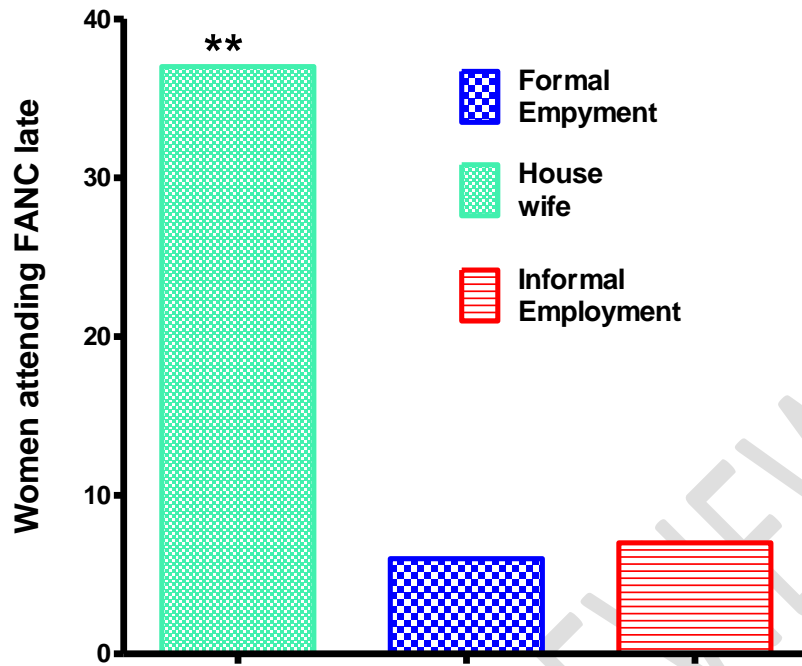


Figure 4: Effect of employment status on FANC late booking

3.2.5 Source of extra income

Women who were funded by their husbands had higher chances of reporting late for FANC booking, as compared to either women who were self-funding (** $P < 0.05$; husband vs self-funding women) and those who were funded by boyfriends (** $P < 0.05$). Self-funded women were less likely to report late for FANC booking when compared to women who were funded by their boyfriends ($*P < 0.05$; self-funded vs boyfriend-funded women). Overall, women funding themselves had higher chances of early FANC registration compared to those women who depended on their husbands or boyfriends for travelling costs.

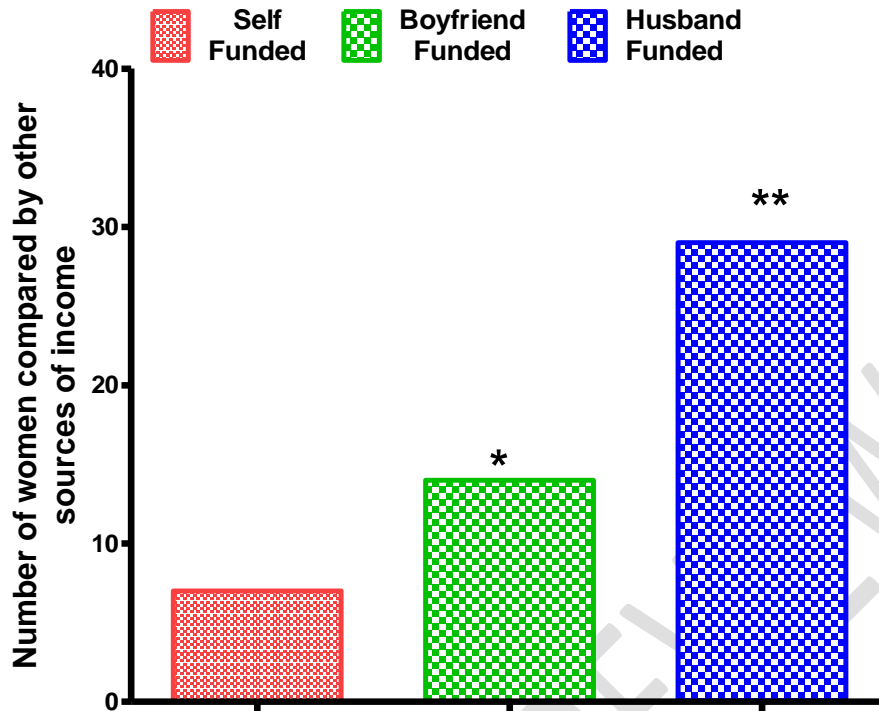


Figure 5: Influence of source income on late FANC booking

3.2.6 Religious beliefs

Women with Christian beliefs were seven and twelve times more likely to register late for FANC as compared to women with African or Traditional beliefs (**P < 0.05; Christians vs Traditional Religious women) and Non-religious women (**P < 0.05; Christians vs Non-religious Women). Non-religious women were twice less likely to report late for FANC booking when compared to women with African Traditional belief (*P < 0.05; African Traditional vs Non-religious women). Non-religious women reported early for FANC as compared to either Christianity or African Traditional religion.

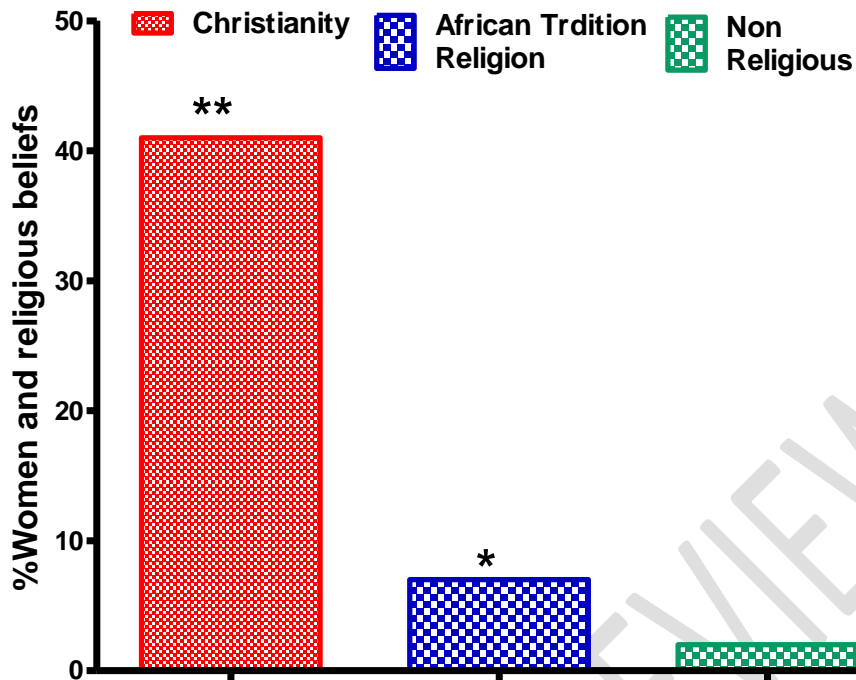


Figure 6: Impact of religious beliefs on late FANC booking.

3.2.7 Influence of number of pregnancies

Women who had two previous pregnancies were more likely (2.5, 4 and 8-fold more) to report late for FANC booking as compared to their counterparts of first (**P < 0.05; 2nd Vs 1st parity), third (**P < 0.05; 2nd vs 3rd parity) and fourth (**P < 0.05; 2nd vs 4th parity) parity, respectively. Women of 4th parity had 3.5-fold chances of coming early for FANC reporting compared to 1st parity women (**P < 0.05; 4th vs 1st parity) and 2.5-fold to book early as compared to 3rd parity women (*P < 0.05; 4th vs 3rd parity women). Overall women with 4th parity were more likely to report early for FANC as compared to 1st, 2nd and 3rd parity women.

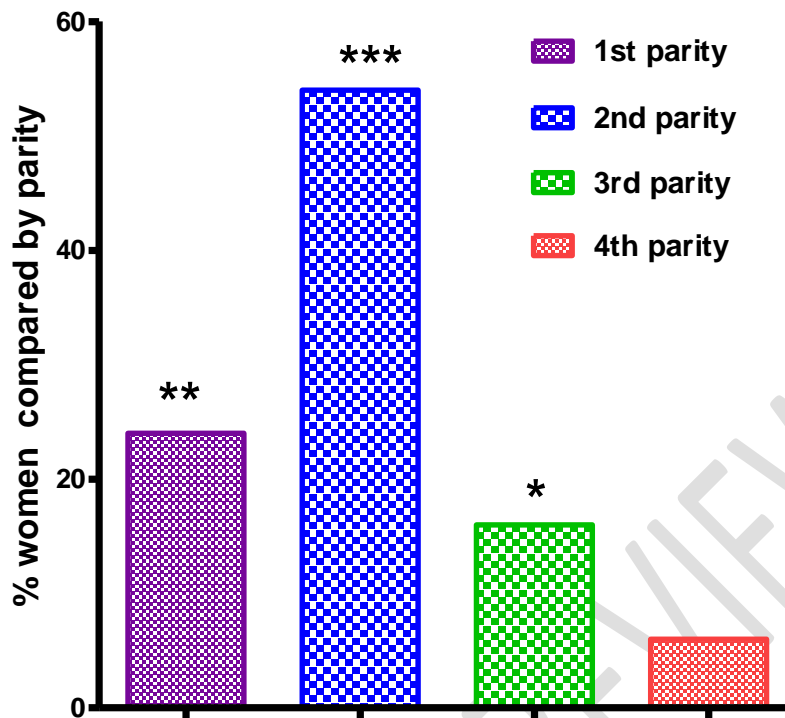


Figure 7: Impact of parity on reporting late for FANC

3.3 Knowledge of FANC effect on late booking

Sources and type of knowledge were explored.

3.3.1 Source of information

The Community Worker was the most commonly reported as source of information on FANC compared to mass media, health workers or friends (**P < 0.05; community worker source vs Mass Media source or vs Health Worker source or vs Friends as source). Friends were relatively the least noted as source of information on FANC, while the health worker and the mass media were comparatively equally stated.

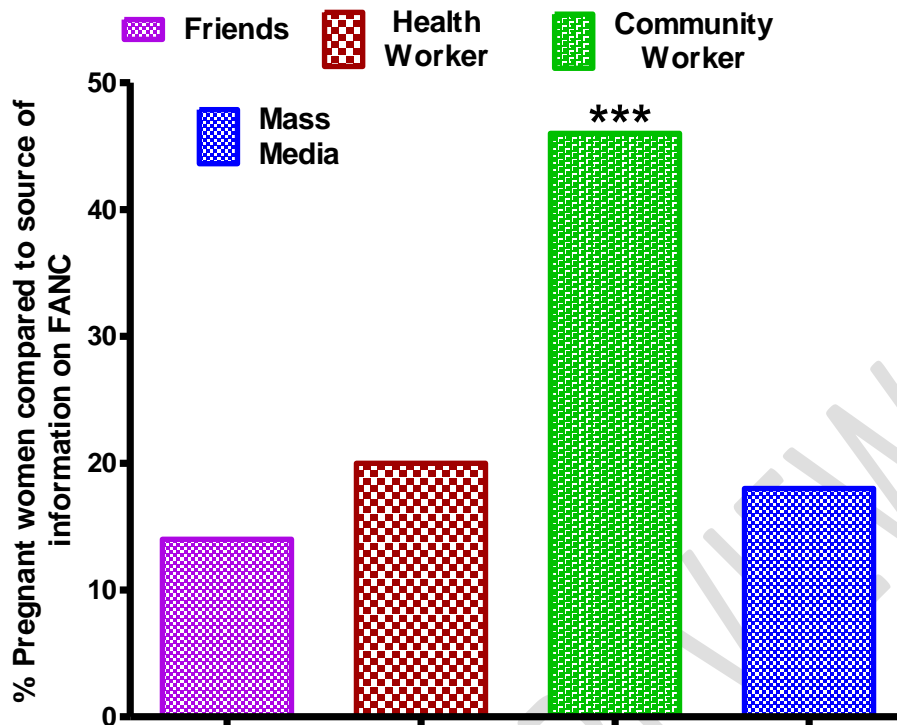


Figure 8: Comparison of information source on FANC among women who reported late for FANC.

3.3.2 Knowledge regarding recommended FANC visits per pregnancy

A relatively large % of women indicated that visits should be at least 3 as compared to those who said at least once, twice or **four-fold** in a pregnancy (**P < 0.05; at least thrice vs at least twice or vs at least once or vs at least **4-fold**). The women who said at least once were relatively a smaller % when compared to those who said at least **4-fold** (*P < 0.05; % who said at least once vs % who said at least twice) and those who said at least **4-fold** (*P = 0;05; % women who said at least once < % women who said at least twice < % women who said at least **4-fold**). A substantial % of women were aware of the number of times which were adequate for FANC for each pregnancy.

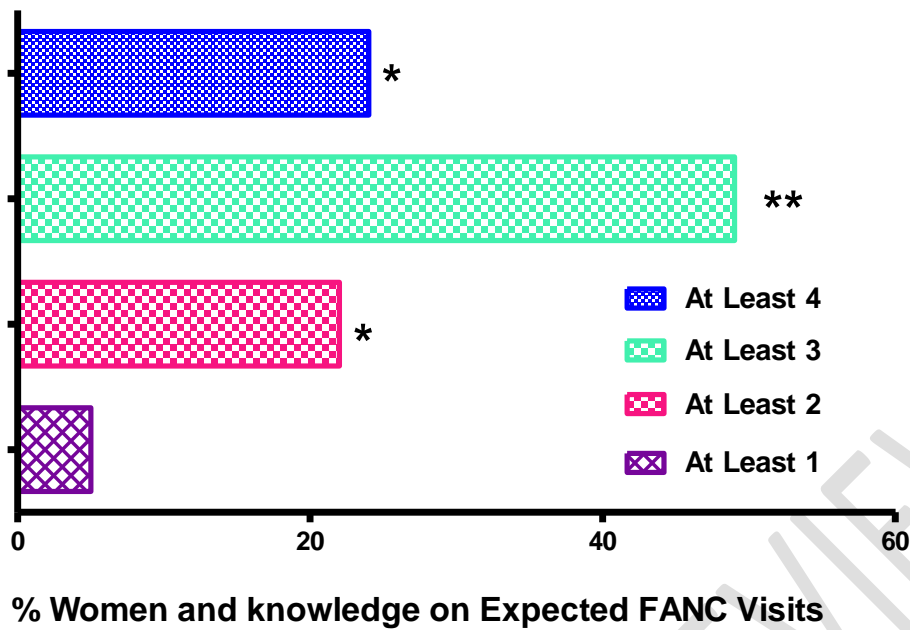


Figure 9: Comparison of knowledge on how many FANC visits are expected per pregnancy amongst women reporting late for FANC.

3.3.3 Knowledge of risks associated with late FANC booking

A relative majority of women saw no risk associated with late FANC booking as compared to those who identified some pregnancy complications associated with late FANC booking (**P < 0.05), or as compared to women who knew risks associated with delays in commencement of prophylaxis (**P < 0.05), and as compared to those who did not know of any risks associated with late FANC booking (**P < 0.05). Moreover, the % of women who did not know of any risks associated with late FANC booking was relatively higher than the % of women who knew of pregnancy complications associated with delayed FANC reporting (**P < 0.05) and the % of women who were aware of risks associated with delayed prophylaxis (**P < 0.05). Combined, % of women who did not know about any risk and those who did not see any risk associated with late FANC booking, formed the greater part of the study sample as compared to the combined % of those who recognised pregnancy complications and those who identified risks of delayed prophylaxis.

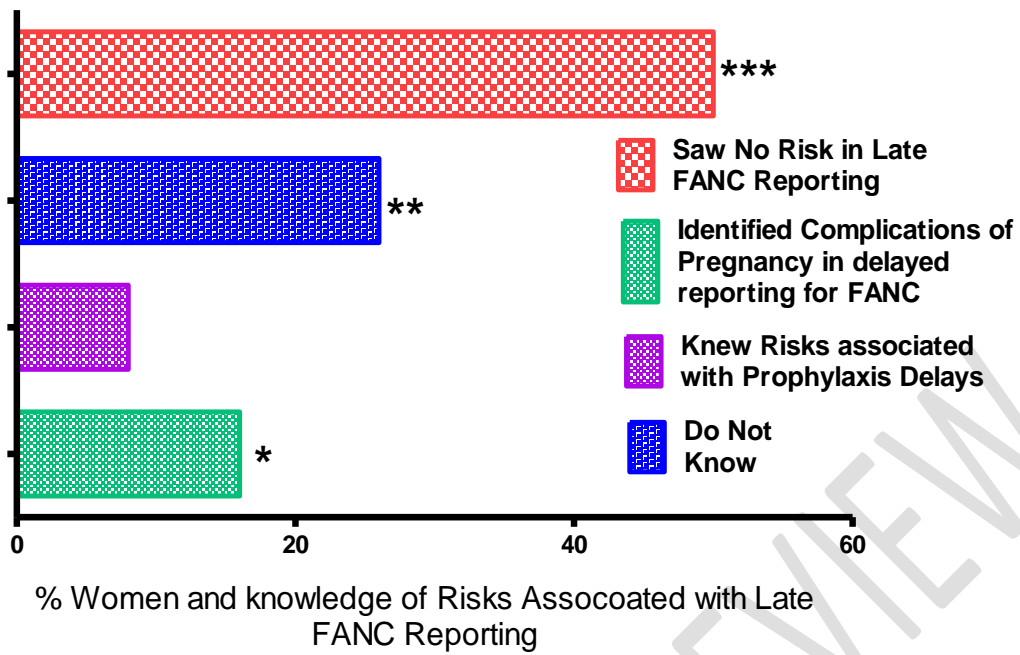


Figure 10: Awareness of risk factors

3.3.4 Knowledge of risks associated with delayed prophylaxis

Relatively higher responses were obtained for awareness of risks in delaying malaria prophylaxis as compared to risks associated with HIV prophylaxis ($***P < 0.05$), or as compared to those who were not aware of the risks or those who saw no risks ($***P < 0.05$). Responses were relatively higher for those who were aware of risks associated with delayed prophylaxis for HIV infections as compared to those who were not aware of any risk and those who saw no risks ($**P < 0.05$).

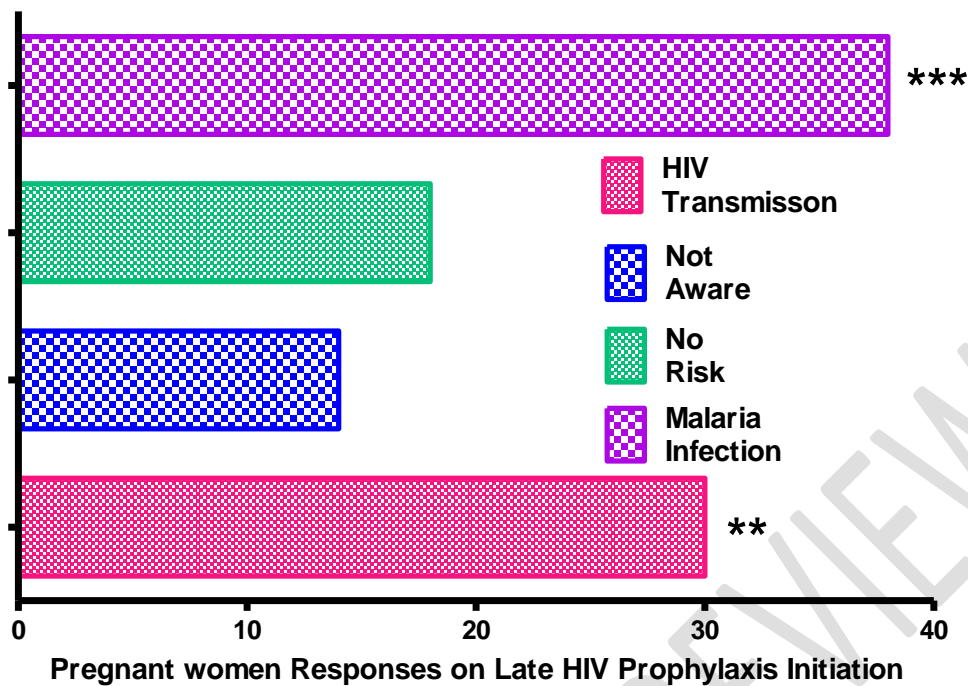


Figure 11: Knowledge of late initiation of infectious

3.4 Barriers towards FANC booking

The women gave their reasons for booking for FANC.

3.4.1 Reasons for engaging the FANC services

Gut feeling was noted relatively common as a reason for booking for FANC as compared to information by others, suffered sickness during pregnancy or had complicated previous pregnancy (** $P < 0.05$). Information obtained from others on FANC booking had more influence on women than did sickness during pregnancy or complicated previous pregnancy (* $P < 0.05$). Complicated previous pregnancies persuaded women to book early for FANC. However, complicated previous pregnancies were least represented in the study sample to draw meaningful conclusions.

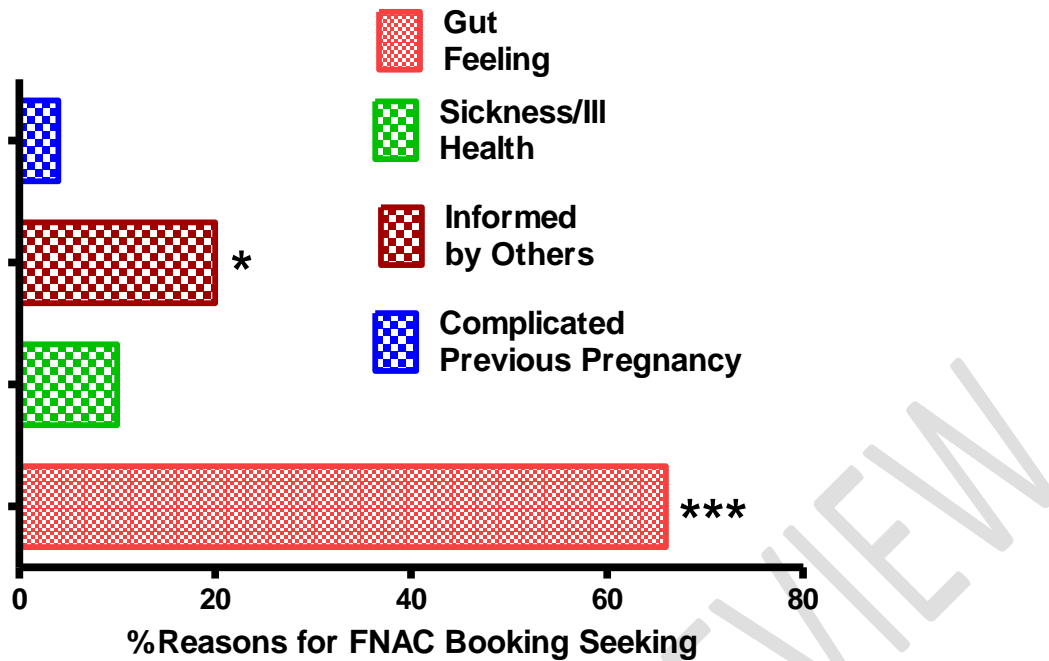


Figure 12: Reason to attend FANC profiles

3.4.2 Reasons for late FANC booking

Financial constraints had the highest proportion as compared to either ignorance of booking time (**P < 0.05) or fear of being tested for HIV (**P < 0.05) among late FANC reporters. There was no comparative difference in % women who responded as being afraid of being tested for HIV and knowing their status, and those who were ignorant of booking times.

3.4.3 Religious and cultural practices

Non-disclosure of early pregnancy cultural practice had the highest influence on women delaying FANC booking as compared to the use of “*holy water*” during pregnancy (**P < 0.05) and use of traditional herbal medicines during pregnancy (**P < 0.05). Herbal use in pregnancy did influence some women (24%) to report late as well as fear of being tested for HIV. Pregnant women used herbal medicines at the beginning of pregnancy or at conception and 20% were terrified by being screened routinely for HIV infection.

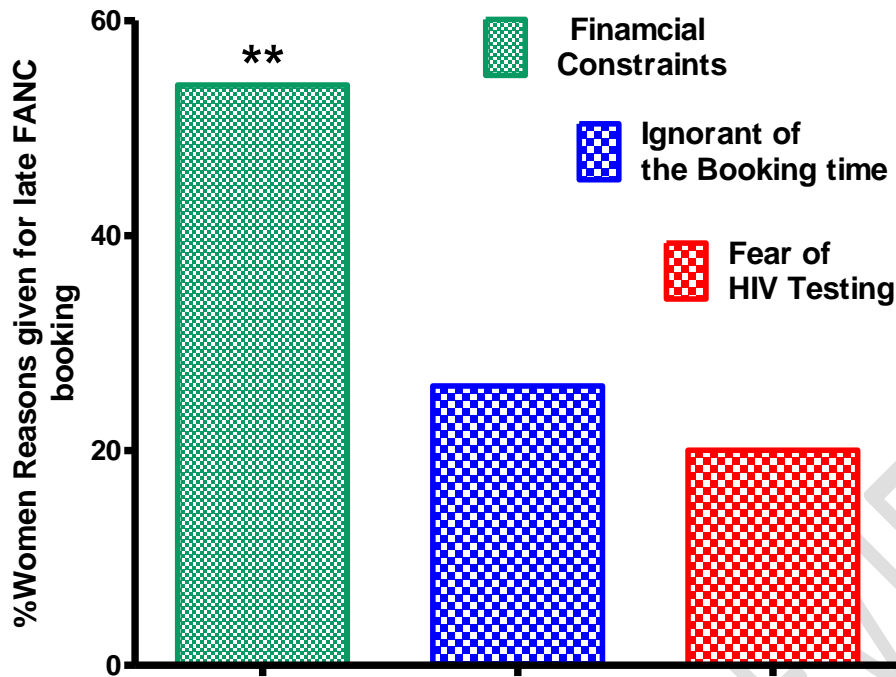


Figure 13: Comparison of reasons given for late FANC booking.

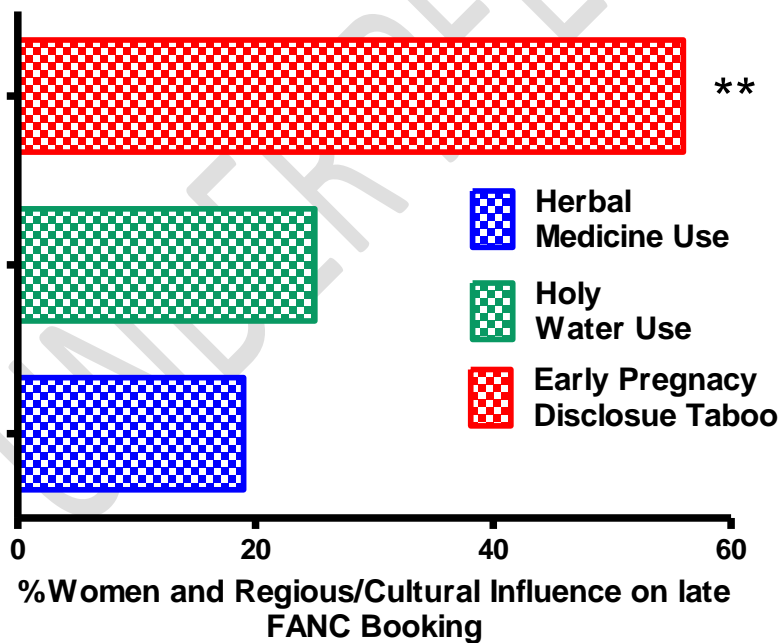


Figure 14: Influence of religious and cultural beliefs

3.4.5: Health facility accessibility

Fewer women travelled for 5-10kM to the nearest health centre as compared to those who travelled < 1kM (*P – 0.05) and those who travelled 1-5kM (**P < 0.05). A bigger % women travelled between 1-5kM to the clinic which was not statistically different from the % women travelling <1kM.

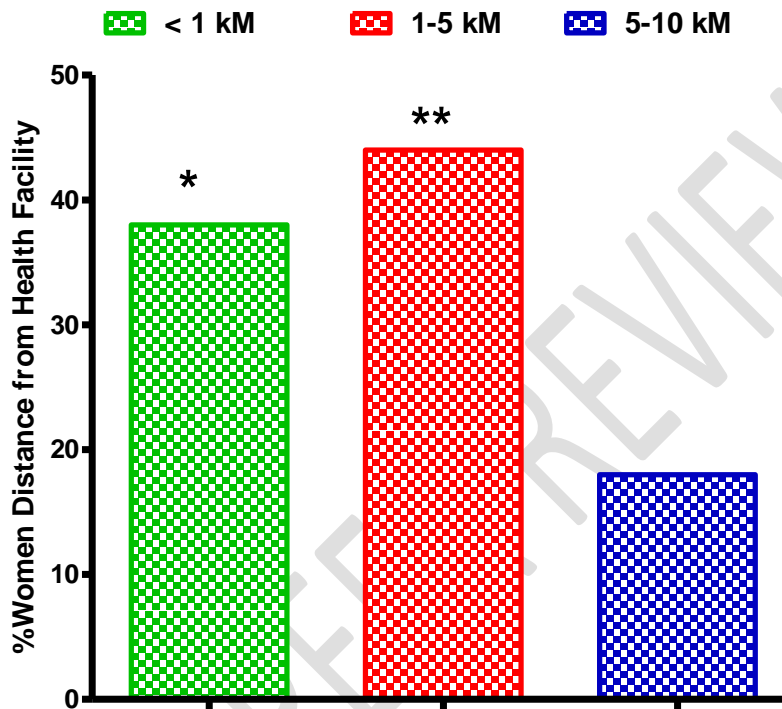


Figure 15: Comparison of distances travelled to health centres for FANC by women who reported late for the service.

3.4.6 Mode of transport influence of late reporting for FANC

Various modes of transport have always been available for people living in peri-urban areas. Most women walked to the polyclinic. Approximately 70% walked to the health facility alone or accompanied by a relative or husband, 20% could afford public commuter services or own vehicle, and the rest used either a bicycle or a motor cycle. In general, the distance travelled to the health facility was <10kM.

3.5 Perceived benefits of FANC

Despite reporting late for FANC booking, there were some benefits which the participants noted for FANC.

3.5.1 Knowledge on benefits of FANC

Owning of a Clinic Baby Card was rated as the least important when compared to other FANC benefits like early risk detection, receiving preventive treatment, receiving health education and healthy mother and baby outcomes.

3.6 Enhancements to FANC services usage

The research subjects noted that issues such as quality of FANC service, and attitude of health workers were important attributes which could persuade them to book early.

3.6.1 FANC Quality of service

The proportion of women who rated the FANC service as good was higher than those who rated the FANC as very good ($***P < 0.05$), as bad ($***P < 0.05$) and as very bad ($***P < 0.05$). Those women who rated the service quality as very bad formed the least % whilst a high but insignificant proportion also rated the FANC service provision as very good.

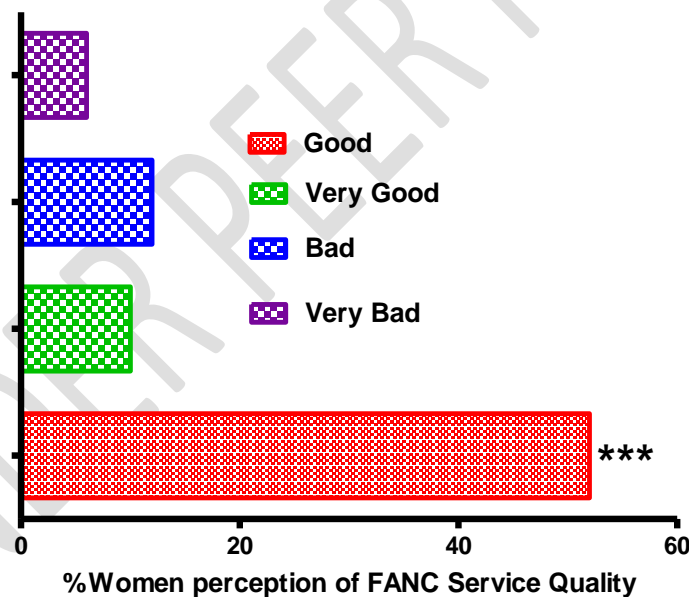


Figure 16: A comparison of % women's perceptions on the quality of FANC services provided.

3.6.2 Health workers attitude

The % women who reported that the attitude of Health Workers was good was the highest, compared to the % that rated the attitude as very good ($***P < 0.05$), as bad ($***P < 0.05$), as very bad ($***P < 0.05$) and as not sure ($***P < 0.05$). The % women who were not sure

about the attitude of Health Workers were the least when compared to the % women who said the attitude was very good (**P = 0.0) and the attitude was very bad *P < 0.05). Compared to the women who said they were not sure or ignorant about the attitude of the health workers, those who said the attitude was bad (14%), were twice as much as the former.

3.6.3 Perceptions about future use of FANC

A relatively higher % of women responded affirmatively to using the FANC service again in the future compared to those who were not willing to use the services again (***P < 0.05) and to those who were not sure about their use of the FANC service again (***P < 0.05). Those who were not sure about their use of FANC services formed the smallest % of women.

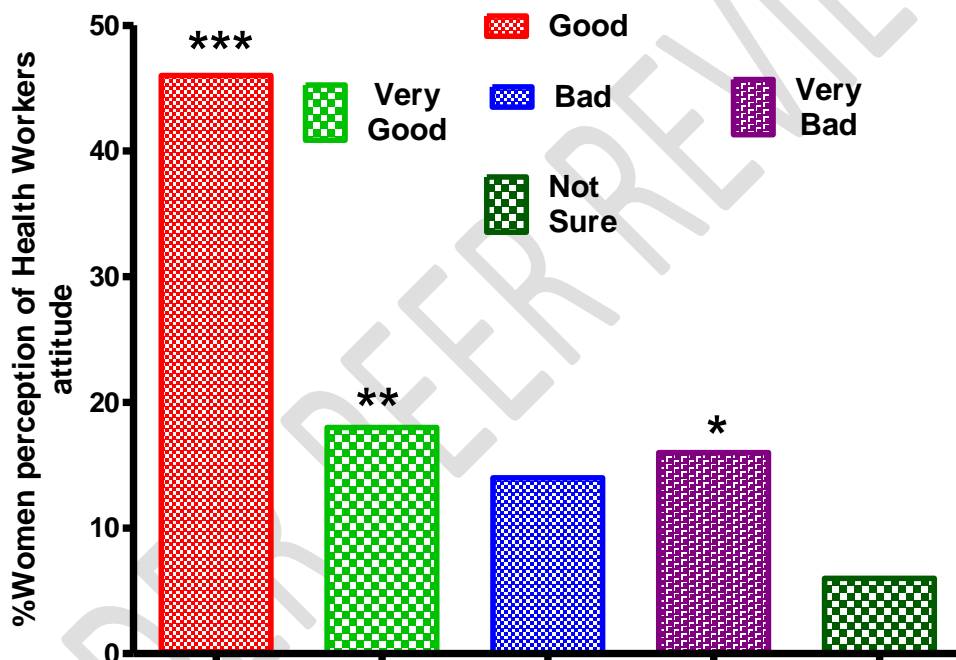


Figure 17: Participant perceptions of Health Worker attitude

3.6.4 Reasons for future use of FANC

The health facility's closeness to the women's residential area was viewed as the most important reason why the women would want to use the facility for FANC booking in the future, when compared to good quality service (***P < 0.05) and to low cost of service (***P < 0.05).

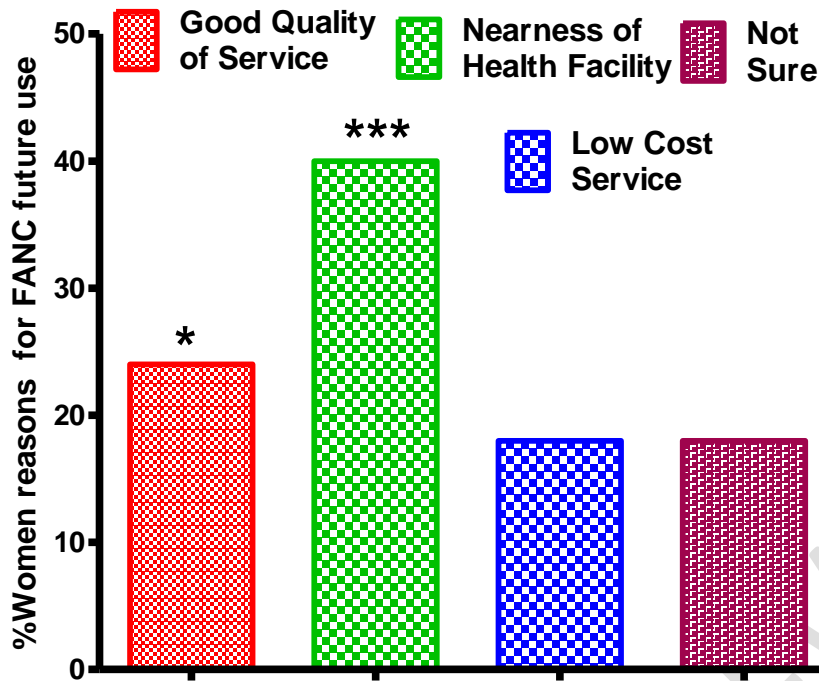


Figure 18: Reasons for possible future use of FANC service

4.0 Discussion:

Focused antenatal care (FANC) is a critical process that has been demonstrated to provide a very safe landing for the mother, the foetus and the new-born [13]. It is an integral component of the four pillars of Safe Motherhood (Family Planning, Antenatal Care, Clean/Safe Delivery, Essential Obstetric Care) and one of the two Basic Maternal Care footsteps of which Primary Health Care and Equity for Women form the foundation [26-28]. When pregnant women report late for FANC, they risk missing some or all of the preceding monitoring visits first before 12 weeks, second at 24-26 weeks, third at 32 weeks and fourth visit at 36-38 weeks. Without this regular assessment, the effects to the mother and foetus may occasionally be untoward [29]. Barriers, benefits and cues for action were observed in the women who reported late for FANC.

The middle age group had a higher relative possibility of reporting late for FANC booking followed by the younger age group, with the older age group forming an insignificant 10%. Studies have revealed that younger pregnant women were more likely to book early for FANC as they had no previous experience with pregnancy [30, 31]. Perhaps the excitement may be more for first time would-be-mothers or it could be anxiety. However, it could not be ascertained which age groups had the highest parity or whether the younger women were reporting for the first time.

A notable relationship was demonstrated between age and timing of booking for FANC, as has been previously established [32]. Conflicting reports on the influence of age on early or late booking for focused FANC have previously been documented [33]. The difference in some reports and ours may emanate from differences in geographical areas, stage of development of the referred country, accessibility to information, differences in general ages when child bearing start and or ends, and even some government policies.

When compared to single women, women legally married had a relatively higher potential (over six times more) to book late for FANC. Possibilities exist that this may be explained by the need to seek validation or mutual acceptance from their spouses on either when to disclose the pregnancy and or when to register for FANC. A community like Hartcliffe, if one goes to clinic, they are likely to meet someone they know. Hence thinking of attending clinic cannot be separated from letting the community know of the pregnancy. Possibly, women may be prepared to register for FANC when they are prepared to let the public know of the pending addition to their family. Another relatively similar finding, that cohabiting women had a 3+ times higher chance of reporting late for FANC booking when compared to single women perhaps adds weight. While women who are married have possibly more financial security, the freedom to decide and act may be limited as decision making largely rests with men in the referred community. Cohabiting women are potentially vulnerable and are more likely to have insecurities arising from interdependence on partners especially financially, and caution driven by the notion that they may derail the possibility of the relationship to move into marriage finally. Therefore, having a partner, was a risk factor for registering late for FANC at the polyclinic. This highlights the need to involve their partners to improve early registration. However, this is outside the scope of this study.

The study compared also the employment status of pregnant women with the propensity for reporting late for FANC. House wives were observed to report late for FANC more than their counterparts who are formally and informally employed. Given the flexibility in respect of time for the house-wife, it may seem reasonable that they would report earlier for FANC. Perhaps the house-wives realised they have fewer competing needs in respect of time; hence they may be more prone to procrastination. The study did not stratify the pregnant women's employment status against their other demographics to delineate other pertinent information to explain this phenomenon.

Relatively higher respondents reported late for FANC if they had attained secondary level of education as the highest qualification while those who accomplished tertiary level of education had the least representation in this group. Fewer women attained primary level of education as their highest qualification, which may indicate a higher literacy level amongst women reporting late for FANC. This finding excludes illiteracy as a factor in exposing the mother and the unborn foetus to risks associated with late FANC booking. This is contrary to some reports which suggested that lower education levels predisposes pregnant women to late FANC booking[34]. This may be explained by differences in the education systems across nations. Currently in Zimbabwe, Health Education is available to all women across all educational levels and literacy levels are remarkably high.

The number of previous pregnancies influenced when a woman registered for FANC. Having a second pregnancy was associated with relatively higher proportions for late FANC booking compared to the 1st or 3rd or 4th parity. Having more previous pregnancies translated to having more experience on FANC booking and feasibly repetitive health-education. Perhaps this explains the early booking by the 3rd and 4th parity compared to the 2nd. Regarding, the 1st parity, maybe either fear of complications, anxiety or excitement of first pregnancy explains their less late FANC registering relative to 2nd pregnancy. Perhaps after the first pregnancy, women realise it was not as complicated as they initially thought hence, they may become complacent on the 2nd too. The explanation for the trend is not unambiguous.

Religion was associated with booking late for FANC with Christianity being over represented influenced by the prevalent of the religion. Therefore, being within the age group of 25-34 years, legally married, having attained secondary education, being a house wife, funded by

the husband to attend FANC, being a Christian and being in the second pregnancy increased the chances of reporting late for FANC.

To enrol for FANC, a fee of \$30 (USD) or its equivalent in local currency was required. This was not be easy for most households, despite the amount seemingly modest. Against other competing needs for the scarce money, this could have seen the booking for FANC postponed in some instances. Women who received FANC booking fees from their husbands had twice as much and four times as much chance of booking late for FANC as compared to those funded by their boyfriends (cohabiting) and the self-funded, respectively. The women who depended on their husbands for maternity booking fees were most likely to be house wives and legally married.

Concerning the source of information about the FANC booking, the majority of women reported that the Community Social Worker was their source of information, as compared to the Health Workers, media or friends. Perhaps the Community Social Worker was more accessible by the nature of their work making them to be always where the people were. Possibly, there could have been poor media coverage or some of the participants did not have access to most media, and some of their friends could have been equally incapacitated.

On assessing knowledge of FANC, a relatively higher percentage did not seem to know that four visits were expected for FANC during each pregnancy. A larger % of women reported that they either did not know or saw no risk in registering late for FANC. The women who neither knew of complications of registering late for FANC nor risks associated with delayed prophylaxis were a minority.

Most women reported using gut feeling to register for FANC. Previous sickness during pregnancy or complicated previous pregnancy did not seem to influence when the women reported for FANC booking. Women tended to pay attention more to other women for them to initiate the booking process. Listening to the talk of someone who would have “walked the road before” was most likely to influence decision when to report for FANC early. Besides, it seemed most people still practised some concepts of traditional medicine. As a result, they may have shied from discussing these issues with modern medicine practitioners such as the health workers and community social workers. Imaginably, justification of women listening to other women was plausible.

Woman knew about the benefits of FANC, however booking late was still common.

A relatively higher % of women who reported late for FANC registration cited the FANC services as “good” with equal responds either saying the service was “very good” or “bad and very bad”, indications that could influence late registering for FANC. Equally so was the rating of the attitudes of the health workers. Greater % of women rated the health workers’ attitude as “good” and not as “very good”. Rating of workers in a small community may be less objective, as the rating may be influenced by other issues or unrelated experiences, as generally people may tend to know each other. Moreover, the rating may be limited by sample size as polyclinics are usually understaffed.

The majority of women most likely did not want to disclose early pregnancy to outsiders. A good % either used herbal medicine during early pregnancy or holy water whose use is associated with secretive behaviour. Some of the traditional beliefs could be barriers to registering early for FANC.

Most pregnant women walked to the clinic and were within the 5km radius which could be a deterrent factor for most women in early pregnancy who were having to ask for money from husbands, did not rate highly the services provided at the clinic, thought the attitude of the health workers was not very good, were modestly educated, had previous experience with pregnancy and were financially constrained.

The participants responded overwhelmingly that they were going to use the Hartcliffe Poly Clinic FANC booking services with the majority citing that the institution was close to their residential area.

5.0 Conclusion:

The issue of reporting late for booking for FANC is multifactorial and the factors are equivocal. Most participants aged 25-34, attained secondary education, were house wives who were legally married, with Christian background, on their 2nd parity, and who got information from a community social worker were more likely to report late for booking. The research-subjects were also generally ignorant of the number of recommended FANC visits per each pregnancy. Some did not see any risk for reporting late for FANC booking and others were not aware of prophylaxis with respect to PMTCT. Financial constraints, fear to be tested for HIV and wanting to keep early pregnancy a secret, were associated factors for late FANC reporting. These factors may act in isolation or in concert in driving pregnant women to register late for FANC.

References

1. Kinney M V, Kerber K J, Black R E, Cohen B, Nkrumah F, Coovadia H, et al. (2010)Sub-Saharan Africa's Mothers, Newborns, and Children: Where and Why Do They Die? *PLoS Med* 7(6):e1000294
2. Greco G, Powell-Jackson T, Borghi J, and Mills A. (2008)Countdown to 2015: assessment of donor assistance to maternal, newborn, and child health between 2003 and 2006 *Lancet*. 371:1268-1275
3. Musekiwa N and Mandiyanike D. (2019)Botswana development vision and localisation of UN Sustainable Development Goals. . *Commonwealth Journal of Local Governance*. 20:135-145
4. Jones G, Steketee R, W., , Black R, E., , Bhutta Z A, and Morris S S. (2003)How many child deaths can we prevent this year? . *Lancet*. 362:65-71
5. Darmstadt G L, Bhutta Z A, Cousens S, Adam. T., and N. W. (2005)Evidence-based, cost-effective interventions: how many newborn babies can we save? . *Lancet*. 365:977-988
6. Sibeko S. and J. M. (2006)Health Care Patterns by Pregnant Women in Durban South Africa. *SA Family Practice*. 48(10):59-66
7. WHO. The World Health Report. Make Every Mother and Child Count. Organisation WH, Editor.(2005), WHO: Geneva.
8. Bloom S S, Lippeveld T and Wypij D. (1999)Does antenatal care make a difference to safe delivery? A study in urban Uttar Pradesh, India. *Health Policy Plan*. 14(1):38-48
9. Gross K, Schellenberg J A, Kessy F, Pfeiffer C, and Obrist B. (2011)Antenatal care in practice: an exploratory study in antenatal care clinics in the Kilombero Valley, south-eastern Tanzania. *BMC Pregnancy and Childbirth*. 11(1):36.10.1186/1471-2393-11-36
10. Guliani H, Sepehri1 A and John Serieux J. (2014)Determinants of prenatal care use: evidence from 32 low-income countries across Asia, Sub-Saharan Africa and Latin America. *Health Policy and Planning*. 29:589-602.10.1093/heapol/czt045
11. Trujillo J C, Carrillo B and Iglesias W J. (2014)Relationship between professional antenatal care and facility delivery: an assessment of Colombia *Health Policy and Planning*. 29(4):443-449.<https://doi.org/10.1093/heapol/czt033>

12. Matunhu J. (2011)A Critique of Modernisation and Dependency Theories in Africa African J History, Culture. 3 (5):65-72
13. McHenga M, Burger R and von Fintel D. (2019)Examining the impact of WHO's Focused Antenatal Care policy on early access, underutilisation and quality of antenatal care services in Malawi: a retrospective study. BMC Health Services Research. 19(1):295.10.1186/s12913-019-4130-1
14. Gupta S, Yamada G, Mpembeni R, Frumence G, Callaghan-Koru J A, Stevenson R, ., et al. (2014)Factors Associated with Four or More Antenatal Care Visits and Its Decline among Pregnant Women in Tanzania between 1999 and 2010. PLoS ONE 9(7):e101893.<https://doi.org/10.1371/journal.pone.0101893>
15. Basha G W. (2019)Factors Affecting the Utilization of a Minimum of Four Antenatal Care Services in Ethiopia. Obstetrics and Gynecology International. 2019(5036783):6 pages.<https://doi.org/10.1155/2019/5036783>
16. Cader A A and Perera L. Understanding the Impact of the Economic Crisis on Child and Maternal Health among the Poor: Opportunities for South in Asia ADBI Working Paper 293.(2011), Tokyo: Asian Development Bank Institute: Tokyo.
17. Okedo-Alex I N, I Akamike I C, Ezeanosike O B, and Uneke C J. (2019)Determinants of antenatal care utilisation in sub-Saharan Africa: a systematic review. BMJ Open. 9:e031890.10.1136/bmjopen-2019-031890Obstetric
18. Friberg I K, Kinney M V, Lawn J E, Kerber K J, Odubanjo M O O, Bergh A-M, et al. (2010)Sub-Saharan Africa's Mothers, Newborns, and Children: How Many Lives Could Be Saved with Targeted Health Interventions? PLoS Med. 7(6):e1000295.10.1371/journal.pmed.1000295
19. Say L and Raine R. (2007)A systematic review of inequalities in the use of maternal health care in developing countries: examining the scale of the problem and the importance of context. Bull World Health Organ. 85.(10):812-819
20. Guddissa Damme T, Workineh D and Gmariam A. (2015)Time of Antenatal Care Booking and Associated Factors among Pregnant women Attending Ambo Town Health Facilities. J Gynecology Obstetrics. 5 (3):132-142
21. Stanton C, Lawn J E, Rahman H, Wilczynska-Ketende K, and Hill K. (2006)Stillbirth rates: delivering estimates in 190 countries. Lancet. 367:1487-1494
22. ZNASP. Zimbabwe National HIV and AIDS Strategic Plan 2015- 2018.(2015), Zimbabwe National HIV AIDS Network: Harare, Zimbabwe.
23. Bryman A. Social Research Methods. Vol. .3rd ed. 2008, New York, NY: Oxford University Press.
24. Tibaijuka A K. Report on the Fact Finding Mission to Zimbabwe to Assess the Scope and Impact of Operation Murambatsvina by the UN Special Envoy on Human Settlements issues in Zimbabwe.(2005), United Nations: New York, NY.
25. Collins D. Pretesting Survey Instruments: An Overview of Cognitive methods. 2001, London: Kluwer Academic Publishers.
26. UNICEF. Programming for Safe Motherhood: Guidelines for Maternal and Neonatal Survival. UNICEF, Editor.(1999), UNICEF: New York.
27. WHO. The World Health Report 2005: Make Every Mother and Child Count.(2005), WHO: Geneva.
28. WHO. Mother-baby Package: Implementing safe motherhood in countries. Organization WH, Editor.(1996), Maternal Health and Safe Motherhood Programme Division of Family and Health, WHO Geneva.
29. Bale J R, Stoll B J and Lucas A O e. Improving Birth Outcomes: Meeting the Challenge in the Developing World. Reducing Maternal Mortality and Morbidity, ed. Outcomes IoMUCoIB. 2003, Washington (DC): National Academies Press (US).
30. Banda I, Michelo C and Hazemba A. (2012)Factors Associated with late Antenatal Care Attendance in Selected Rural and Urban Communities of the Copperbelt Province of Zambia. Medical J Zambia. 39(3):29-36
31. Tekelab T T and Berhanu B. (2014)Factors Associated with Late Initiation of Antenatal Care among Pregnant Women Attending Antenatal Clinic at Public Health Centers in Kembata

- Tembaro Zone, Southern Ethiopia. Sci Technol Arts Res J. 3(1):108-115.<http://dx.doi.org/10.4314/star.v3i1.17>
32. Chisholm D K. (1989)Factors associated with late booking for antenatal care in central Manchester Author links open overlay panelDiana K.Chisholm. Public Health. 103(6):459-466
 33. Simkhada B D, Van Teijlingen E R and Simkhada P. (2008)Factors affecting the utilization of antenatal care in developing countries: systematic review of the literature. J Advanced Nursing. 61(3):244-260
 34. Oladokun A, Oladokun R, Morhaso-Bello I, Bello A F, and Adedokun B. (2010)Proximate Predictors of Early Antenatal Registration among Nigerian Women. Annals of African Medicine. 9(4):222-225