https://www.inosr.net/inosr-experimental-sciences/
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INOSR Experimental Sciences 12(3):28-43, 2023.

International Network Organization for Scientific Research ISSN: 2705-1692
https://doi.org/10.59298/INOSRES/2023/3.2.11322

Exploring Factors Influencing Paternal Engagement in Prenatal Health Services within Hoima East Division, Hoima City: A Comprehensive Assessment

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ABSTRACT

Socioeconomic, cultural, and gender dynamics continue to impede women's autonomy in healthcare decision-making. Men often wield control over financial resources, time allocation, and access to medical services, creating disparities in women's health choices. This study investigated male engagement in antenatal care among residents of Hoima East Division, Hoima City in Western Uganda. Employing a cross-sectional survey design and quantitative methods, data was meticulously coded, cleaned, and analyzed using Microsoft Excel Version 13 and STATA 14.0. The study encompassed 534 participants, with a predominant age range of 21-30 years (59.4%) and a majority being married (82.2%). Most participants had completed secondary education (53.8%), identified as Catholic (41.1%), and had 3-4 children (50.1%). Results indicated that 263 individuals (69.8%) exhibited low levels of male involvement in antenatal care, while 114 (30.2%) demonstrated high levels of engagement. Notably, 54.6% displayed inadequate knowledge, contrasting with the 45.4% who exhibited a strong grasp of antenatal care. The analysis revealed significant associations between male involvement and various factors including age, marital status, educational attainment, employment status, decision-making capacity, monthly income, perception of healthcare providers' attitudes, privacy provisions at antenatal clinics, and waiting times. Despite these findings, the level of male involvement and understanding of antenatal care remained suboptimal. In summary, this research highlights the multifaceted interplay of factors influencing male involvement in antenatal care. Factors such as age, marital status, education, employment, decision-making capacity, income, healthcare provider attitudes, and clinic conditions emerged as pivotal determinants. Addressing these variables can potentially enhance male participation and knowledge regarding antenatal care, ultimately empowering women in making informed health decisions.

Keywords: Antenatal care and associated factors, Attitude of health care providers, Health facilities, Maternity care, Male partners.

INTRODUCTION

Becoming pregnant is a natural process and often comes with excitement. However, this excitement could end up threatening the lives of women because of obstetric-related complications [1]. One of the essential components of antenatal care (ANC) is birth preparedness and complication readiness (BP/CR) [2]. Birth preparedness and complication readiness (BP/CR) include the detection of danger signs, a plan for a birth attendant, a plan for the place of delivery, preparing potential blood donors, and saving money for transport or other [3]. The behavior of men, their beliefs, and attitudes affect the maternal health outcomes of women and

their babies [4, 5]. The exclusion of men from maternal health care services could lead to few women seeking maternal health services and as a result, worsening the negative maternal health outcomes for women and children [6]. Increasingly, recognition is growing on a global scale that the involvement of men in reproductive health policy and service delivery offers both men and women important benefits [7, 8]. The World Health Organization (WHO) recommends that interventions to promote male involvement in maternal and child health should be implemented provided that they respect, promote, and facilitate women's choices and their autonomy in decision-making [9]. The 2015 World Health Organization (WHO) recommendation on maternal and newborn health promotion interventions included the active involvement of men during pregnancy, childbirth, and post-partum period as an effective intervention to improve maternal as well as newborn health outcomes [10]. However, male involvement is recommended provided only that women's autonomy in making their own decisions is respected. Men have an important role in ANC as partners and parents and can influence behaviours related to ANC within their households and communities [11, 12]. Since the mid-1990s there has been increased recognition of the importance of including men in ANC programs [13]. Globally, an estimated number of 303,000 maternal deaths occur annually from causes related to pregnancy and childbirth. Around 99% of these deaths occur in developing countries and sub-Saharan African accounts for almost half of the maternal deaths (44%) [14]. In most of the developing countries, men play the role of gatekeepers to health care. They are the primary decision-makers that directly affect their partner's and children's health [15, 16]. Their decisions affect the utilization of resources and access to health care services, use of contraceptives and child spacing, availability of nutritious food and women's workload [17].

In many low and middle-income countries (LMICs), men are the primary providers and key decision-makers in the family, often determining women's access to economic resources and restricting women's ability to make choices about their health and children's health [18]. Since many health systems require out-of-pocket payments, this practice can limit women's access to maternal health services and obstetric care, which are essential to overall maternal, newborn, and child health [19]. Sub-Saharan Africa has the highest maternal mortality ratio of about 510 maternal deaths per 100,000 live births [20]. In Uganda, around 2% of women die from maternal causes. With the current maternal mortality ratio of 368 maternal deaths per 100,000 live births, many women die from pregnancy and childbirth-related complications [21]. This is far above the global average, which was 152 deaths per 100,000 live births in 2020 [22]. The government of Uganda established strategies and policies focusing on the reduction of maternal and infant mortalities. The most common strategies which have been promoted to invite the support and involvement of men in pregnancy and childbirth include mass media campaigns, workplace and community outreach and health education for men and women, and facility-based counselling for couples [9]. Despite this initiative, currently, the country's maternal and infant mortality rates are still unacceptably high [21]. Understanding the level of male involvement in ANC and associated factors can attract the attention of the government when planning strategies to increase male involvement in ANC services within the country. However, up to now, there is no evidence of a study that was done in Hoima City addressing the issue of male involvement in ANC. Therefore, this study is to set to fill the information gap. Thus, this study was designed to assess the level of male involvement in antenatal care and associated factors among residents of Hoima East Division, Hoima City.

METHODOLOGY

Study Design

The study was a descriptive and analytic study using a cross-sectional survey research design utilizing quantitative methods of data collection. The cross-sectional survey research design was used because the method gathers data from a relatively large number of different categories of respondents at a particular time without having to follow up with the participants.

Area of Study

This study was carried out from Hoima East Division, Hoima City which is located in District in the Western region of Uganda. Hoima City is surrounded by Hoima District. Hoima City has a total area of about 228.00 Sq. Kilometres and average population density of 296.1. Hoima City has population of 114012 (53,920 males, 60,092 females) people as projected from National Population and Housing Census 2014 (Unicef, 2019). The City has two constituencies (Hoima East and Hoima West). In 2018, Hoima Municipality was upgraded to Hoima City.

Study Population

The study populations were males with partners who had a pregnancy in the recent 12 months and are residents of Hoima East Division, Hoima City.

Inclusion criteria

- Males who had partners with a pregnancy in the past 12 months.
- Males who were residents of Hoima East Division
- Those who were above 18 years of age
- Those who consented to participate in the study

Exclusion

i. Males who were unwilling to answer questions about male involvement in ANC.
ii. Male who were not residents of Hoima East Division.

Sample size calculation

The sample size was determined using Fisher's [23] method in which the sample size is given by the expression

$$n = \frac{Z^2 pq}{d^2}$$

n= Desired sample size

Z= Standard normal deviation usually set as 1.96 for maximum sample size at 95% confidence interval.

P=56.9% (constant) or 0.569% according to a study done in Tanzania which showed that the prevalence of men attending ANC visits with their partners was found to be 56.9% (Kabanga et al. [24]).

Q= 1-p =1-0.569= 0.431 and,

d=degree of accuracy desired 0.05 or 0.05 probability level (at 95% confidence level)

Therefore, by substitution in the formula,

$$n = \frac{1.96^2 \, x0.569x0.431}{0.05^2}$$

n= 377

Therefore, data was collected from 377 study participants

Sampling procedures

Households were mapped and numbered according to the mapping strategy. Systematic sampling technique was used where a house was selected (from a random start) and the rest of houses were selected at the sampling interval. Systemic sampling technique was used to ensure that each house had equal probability of being selected.

Selection of Respondents in Households

Purposive sampling techniques was adopted in selecting eligible respondents; this was on the premise of having a male who had a partner with a pregnancy in the past 12 months.

For each of the households approached, it was first determined which household members were eligible for participation. If only one person met the eligibility criteria, that individual was asked to participate in the study. If more than one person from the household met the eligibility criteria, then one of them was randomly selected and asked to participate in the study.

Data collection techniques/methods and tools

This study used one data collection technique. Quantitative methods of data collection were used. Data was gathered from the study participants using closed-ended questionnaires.

Data collection

The researcher collected data from study participants using a structured

interviewer-administered questionnaire. It consisted of four parts: (1) socio-demographic characteristics (2) Level of male involvement in ANC (3) Level of knowledge of ANC, and (4) Health services related factors. The questionnaires were close-ended and had items that required study participants to tick yes or no, and to make choices among a number of possible alternatives.

Data analysis

Data was entered using Microsoft Excel Version 13 and analyzed using STATA 14.0, Prior to data entry; the data was coded and cleaned to get for inconsistencies and missing values. Cross checking was done where necessary. The level of male involvement and level of male knowledge on ANC among study participants was analyzed in terms of frequency and percentage with a 95% confidence interval and information was summarized in form of tables, pie charts and narrations. A scoring system was used to define poor knowledge & good knowledge and low male involvement and high male involvement. Continuous variables were described in median (inter-quartile range, IQR) and categorical variables were described in percentages. Continuous variables were compared using Mann-Whitney test and categorical variables were compared using Chi-square test or Fischer's exact test as appropriate. A logistic regression model was used to determine independent factors associated with high male involvement. A P value < 0.05 was considered significant.

RESULTS

Socio-demographic characteristics of the respondents

Socio-demographic characteristics are presented in Table 1 below. 224(59.4%) were aged 21-30 and 310(82.2%) were married. Majority attained secondary education 203(53.8%), were catholic 155(41.1%) and had 3-4 children 189(50.1%). A total of 223(59.2%) males said they have shared decision-making with their women and 258(68.4%) were unemployed. The majority 205(54.4%) of the study participants were earning 100,000-200,000/= per month.

Table 1: Socio-demographic characteristics

Variable	Frequency(n=377)	Percentage (%)
Age(Years)		
≤20	45	11.9
21-30	224	59.4
≥31	108	28.6
Marital status		
Married	310	82.2
Co-habiting	67	17.8
Highest level of education		
No formal education	21	5.6
Primary	88	23.3
Secondary	203	53.8
Tertiary	65	17.2
Religion		
Catholic	155	41.1
Anglican	135	35.8
Muslim	67	17.8
Others	20	5.3
Number of children		
1-2	91	24.1
3-4	189	50.1
≥5	97	25.7
Decision maker		
Myself	127	33.7
My wife	27	7.2
Both of us	223	59.2
Employment status		
Employed	119	31.6
Unemployed	258	68.4
Average monthly income		
≤100,000/=	28	7.4
100,000-200,000/=	205	54.4
≥200,000/=	144	38.2

Level of male involvement in antenatal care

Findings show that 263(69.8%) had a low level of involvement and 114(30.2%) had a high level of involvement as shown in the figure below.

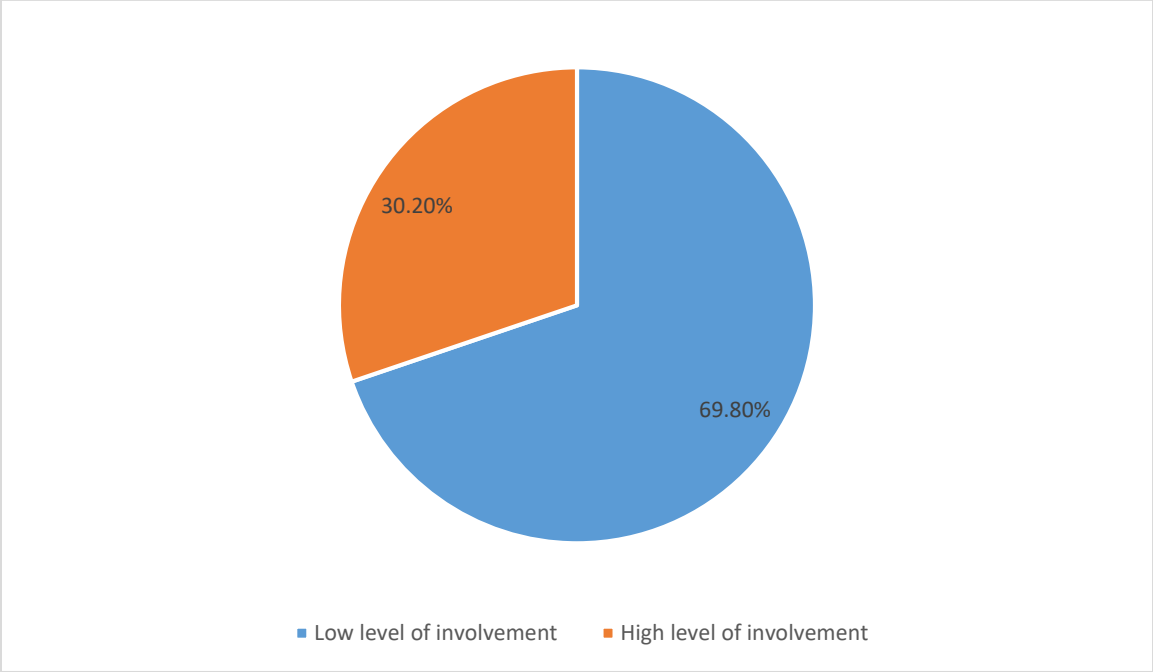

Figure 1: Level of male involvement in antenatal care

The majority (71.1%) of the study participants do not accompany their partners for antenatal services. More than half (52.3%) share workload like before their partner became pregnant and only 32.1% provide physical support to their partners during antenatal care. Majority (65.3%) do not plan jointly with their partners about when and where to seek antenatal care and only 16.2% discuss maternal health issues with health care providers as shown in table 2 below.

Table 2: Male involvement in antenatal care

Variable	Frequency (n=377)	Percentage (%)
Do you accompany your partner for antenatal services?		
Yes	109	28.9
No	268	71.1
How did you share household work with your partner compared to the times when she was not pregnant?		
The same work	197	52.3
More than usual	113	30.0
Not at all	67	17.8
Do you provide physical support during antenatal period?		
Yes	121	32.1
No	256	67.9
Do you plan jointly of when and where to seek antenatal care?		
Yes	131	34.7
No	246	65.3
Do you discuss maternal health issues with health care providers during antenatal period?		
Yes	61	16.2
No	316	83.8

Level of male knowledge on antenatal care

According 54.6% of the participants had poor knowledge while 45.4% had good knowledge about antenatal care as shown in the figure below.

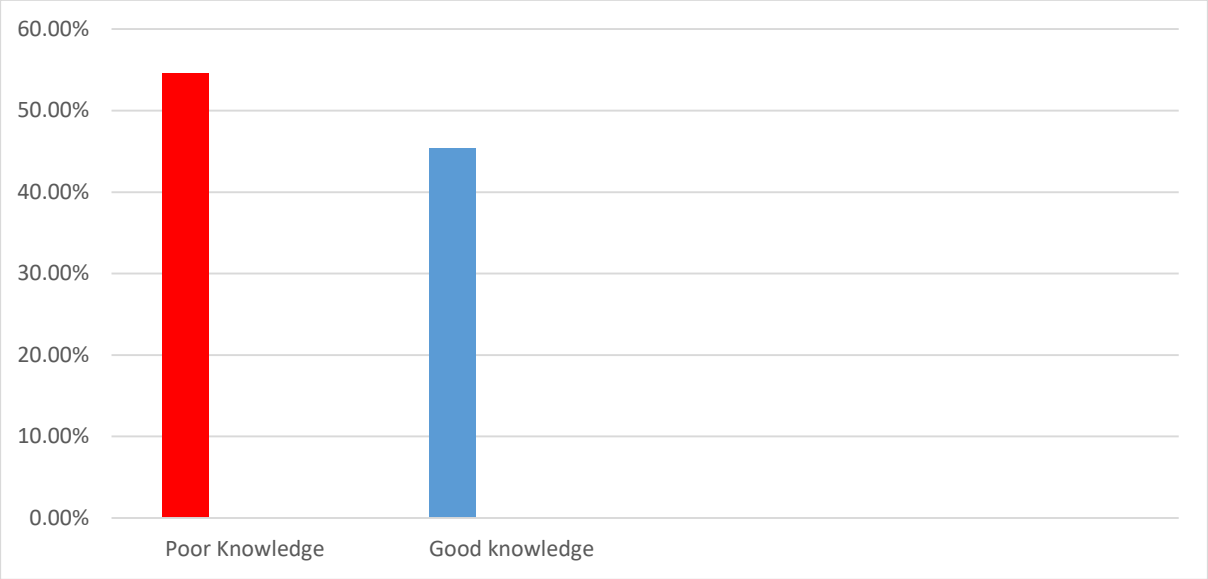

Figure 2: Level of male knowledge on antenatal care

Majority (74.4%) knew that antenatal care is valuable and it is necessary to go for ANC even if there is no complication (56.5%). More than half (63.1%) replied that a minimum of 4 antenatal visits is required and less than half (49.1%) knew that TT injection should be given during pregnancy. 35.8% knew that a pregnant woman needs vitamin supplements and majority (67.9%) knew that a pregnant woman needs iron/folic acid supplements. 78.8% reported that alcohol consumption/smoking by a pregnant woman is harmful to the fetus and only 28.9% reported that weight measurement is required during every antenatal visit. 32.6% knew that BP should be measured during every ANC visit,27.9% knew that hemoglobin measurement is required during pregnancy, majority (76.9%) reported that blood screening for HIV is required,17.8% knew danger signs of pregnancy and only 19.9% knew that blood sugar testing is required during pregnancy as shown in the table below.

Table 3: Male knowledge on antenatal care

Variable	Category	Frequency	Percentage (%)
Do you think antenatal care is valuable?	Yes	281	74.5
	No	96	25.5
Is it necessary to go for ANC even if there is no complication?	Yes	213	56.5
	No	164	43.5
Are minimum of 4 antenatal visits required?	Yes	238	63.1
	No	139	36.9
Is TT injection required to be given during pregnancy?	Yes	185	49.1
	No	192	50.9
Does a pregnant woman need vitamin supplements?	Yes	135	35.8
	No	242	64.2
Does a pregnant woman need Iron/folic acid supplements?	Yes	256	67.9
	No	121	32.1
Is alcohol consumption/smoking by pregnant woman harmful to the fetus?	Yes	297	78.8
	No	80	21.2
Is weight measurement required during every antenatal visit?	Yes	109	28.9
	No	268	71.1
Is BP measurement necessary during every ANC visit?	Yes	123	32.6
	No	254	67.4
Is hemoglobin measurement during pregnancy required?	Yes	105	27.9
	No	272	72.1
Is blood screening for HIV required?	Yes	290	76.9
	No	87	23.1
Are you aware of danger signs of pregnancy?	Yes	67	17.8
	No	310	82.2
Is blood sugar testing required during pregnancy?	Yes	75	19.9
	No	302	80.1

Health service related characteristics

Majority (79.3%) had a good perception about health worker's attitude, did not believe that health workers are overworked (50.9%), reported that there is no privacy at the antenatal clinic (56.2%), had a waiting time of 3-4hours (62.3%), did not feel that distance from their home to health facility was far (76.4%) and their main source of health information the health worker at the facility (80.4%) as shown in the table below.

Table 4: Health care related characteristics

Variable	Frequency(N)	Percentage (%)
How do you perceive health worker's attitude?		
Good	299	79.3
Bad	78	20.7
Do you believe that health workers are overworked?		
Yes	185	49.1
No	192	50.9
Is there privacy at the antenatal clinics?		
Yes	165	43.8
No	212	56.2
How long do you have to wait before being attended to?		
1-2hours	95	25.2
3-4hours	235	62.3
≥5hours	47	12.5
Do you feel that distance from your home to the health facility is far?		
Yes	89	23.6
No	288	76.4
What is your main source of health information?		
VHT	31	8.2
Health worker at the facility	303	80.4
Community campaign	43	11.4

Association between socio-demographic factors and level of male involvement in antenatal care

There was an observed association between age, marital status, level of education, employment status, decision making, monthly income and male involvement in antenatal care as shown in the table below.

Table 5: Multivariate analysis on socio-demographic factors affecting male involvement in antenatal care

Variable	N=377	Male involvement		P-Value
		Low involvement n(%)	High involvement n(%)	
Age(Years)				
≤20	**45**	36(80.0)	09(20.0)	
21-30	**224**	170(75.9)	54(24.1)	0.002
≥31	**108**	57(52.8)	51(47.2)	
Marital status				
Married	**310**	211(68.1)	99(31.9)	0.013
Co-habiting	**67**	52(77.6)	15(22.4)	
Highest level of education				
No formal education	**21**	17(81.0)	04(19.0)	
Primary	**88**	69(78.4)	19(21.6)	0.001
Secondary	**203**	155(76.4)	48(23.6)	
Tertiary	**65**	22(33.8)	43(66.2)	
Religion				
Catholic	**155**	103(66.5)	52(33.5)	
Anglican	**135**	89(65.9)	46(34.1)	0.643
Muslim	**67**	58(86.6)	09(13.4)	
Others	**20**	13(65.0)	07(35.0)	
Number of children				
1-2	**91**	35(38.5)	56(61.5)	
3-4	**189**	145(76.7)	44(23.3)	0.075
≥5	**97**	83(85.6)	14(14.4)	
Decision maker				
Myself	**127**	114(89.8)	13(10.2)	
My wife	**27**	18(66.7)	09(33.3)	0.032
Both of us	**223**	131(58.7)	92(41.3)	
Employment status				
Employed	**119**	98(82.4)	21(17.6)	0.004
Unemployed	**258**	165(64.0)	93(36.0)	
Average monthly income				
≤100,000/=	**28**	10(35.7)	18(64.3)	
100,000-200,000/=	**205**	132(64.4)	73(35.6)	0.017
≥200,000/=	**144**	121(84.0)	23(16.0)	

Association between Health service related factors and male involvement in antenatal care

According to the study, perceived attitude of health workers, privacy at antenatal clinics and waiting time was associated with male involvement in antenatal care as shown in the table below.

Table 6: Multivariate analysis on Health service related factors affecting male involvement in antenatal care

Variable	N=377	Male involvement		P-Value
		Low involvement n(%)	High involvement n(%)	
How do you perceive health worker's attitude?				
Good	299	199(66.6)	100(33.4)	0.028
Bad	78	64(82.1)	14(17.9)	
Do you believe that health workers are overworked?				
Yes	185	149(80.5)	36(19.5)	0.913
No	192	114(59.4)	78(40.6)	
Is there privacy at the antenatal clinics?				
Yes	165	94(57.0)	71(43.0)	0.016
No	212	169(79.7)	43(20.3)	
How long do you have to wait before being attended to?				
1-2hours	95	40(42.1)	55(57.9)	
3-4hours	235	184(78.3)	51(21.7)	0.003
≥5hours	47	39(83.0)	08(17.0)	
Do you feel that distance from your home to the health facility is far?				
Yes	89	61(68.5)	28(31.5)	0.452
No	288	202(70.1)	86(29.9)	
What is your main source of health information?				
VHT	31	23(74.2)	08(25.8)	
Health worker at the facility	303	206(68.0)	97(32.0)	0.823
Community campaign	43	34(79.1)	09(20.9)	

DISCUSSION

Level of male involvement

Findings show that 263(69.8%) had a low level of involvement and 114(30.2%) had a high level of involvement. This is inconsistent with the finding of a study in Tanzania which found the majority (53.9%) had a high level of involvement in ANC [20]. A study found more than half (55.6%) of men were involved in ANC [25]. However, the finding is supported by a study in Indonesia which revealed a low level (41.2%) of male involvement in ANC [26]. This may be attributed to cultural discouragement which views antenatal care as a woman's domain, the majority (71.1%) of the study participants did not accompany their partners for antenatal services. More than half (52.3%) share workload like before their partner became pregnant and only 32.1% provide physical support to their partners during antenatal care. The majority (65.3%) do not plan jointly with their partners about when and where to seek antenatal care and only

16.2% discuss maternal health issues with healthcare providers. These findings are not in line with the findings of a study which revealed that the majority (63.4%) report accompanying their women to ANC, and 89.0% reported making joint decisions with their partners regarding ANC [20]. The difference may be due to cultural variation and limited exposure to information pertaining to antenatal care.

Level of male knowledge of antenatal care

According to the study, 54.6% of the participants had poor knowledge while 45.4% had good knowledge about antenatal care. This finding agrees with the finding of a study which revealed that more than half (58%) of men had poor knowledge about ANC [27]. Unlike this study, the findings of a study in Nigeria found that sixty-three per cent of the participants had good knowledge about pregnancy-related care [28]. The low level of knowledge may be due to low male involvement by health workers in maternal and child health services. The majority (74.4%) knew that antenatal care is valuable and it is necessary to go for ANC even if there is no complication (56.5%). More than half (63.1%) replied that a minimum of 4 antenatal visits is required and less than half (49.1%) knew that TT injection should be given during pregnancy. 35.8% knew that a pregnant woman needs vitamin supplements and majority (67.9%) knew that a pregnant woman needs iron/folic acid supplements. 78.8% reported that alcohol consumption/smoking by a pregnant woman is harmful to the fetus and only 28.9% reported that weight measurement is required during every antenatal visit. 32.6% knew that BP should be measured during every ANC visit,27.9% knew that haemoglobin measurement is required during pregnancy, the majority (76.9%) reported that blood screening for HIV is required,17.8% knew danger signs of pregnancy and only 19.9% knew that blood sugar testing is required during pregnancy.

Factors associated with male involvement in antenatal care.

There was an observed association between age, marital status, level of education, employment status, decision-making, monthly income and male involvement in antenatal care. Low level of male involvement was observed to be highest among men ≤ 20 years, co-habiting, no formal education, employed, earning ≥200,000/= per month and those who make decisions by themselves. This is concordant with the findings of a study that found men with low-income levels to be least likely to be involved in ANC care [26]. Accordingly, Ongolly and Bukachi [29] found that men with low-income levels were more likely to leave their women to attend ANC alone. Participants who were co-habiting were reported to engage in low involvement in ANC according to a study [30]. The differences may be due to methodological variation and differences in study characteristics. Additionally, this is inconsistent with a study that revealed low involvement with an increase in age among males and high involvement among those who make decisions solely [25]. This may be due to a decrease in the level of care with an increase in age among males. The current study further established that the perceived attitude of health workers, privacy at antenatal clinics and waiting time were associated with male involvement in antenatal care. Participants who reported a bad attitude toward health workers, no privacy at the antenatal clinic and long waiting hours (≥ 5 hours) had the highest rate of low level of involvement in antenatal care. A study in Kenya reported that men who reported a bad attitude toward healthcare providers were less likely to attend ANC [29]. Poor health staff attitude and delays during ANC visits encountered by men reduced the likelihood of male involvement [30]. This is because they get discouraged and never want to attend therefore affecting their involvement in maternal health services.

CONCLUSION

The level of male involvement and knowledge about ANC was still suboptimal. Factors associated with male involvement include age, marital status, level of education, employment status, decision-making capacity, monthly income, attitude

of health care providers, privacy at antenatal clinic and waiting time.

Recommendation

The health care delivery system is most suited to promote male participation in ANC. To encourage more male involvement, health worker attitudes need to be friendlier. To minimize clients' wait time and service delivery should also be carried out quickly.

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CITE AS: Jacan Patrick (2023). Exploring Factors Influencing Paternal Engagement in Prenatal Health Services within Hoima East Division, Hoima City: A Comprehensive Assessment. INOSR Experimental Sciences 12(3):28-43. https://doi.org/10.59298/INOSRES/2023/3.2.11322