

Mass Media Exposure and utilization of Antenatal care services among women in Gilgit-Baltistan

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Abstract: *In Pakistan, the maternal mortality rate is 186 per 100,000 live births, and 49% of women aged 15-49 years don't receive adequate Antenatal care (≥ 4). Due to the lack of awareness regarding the importance of antenatal care visits, women's access to maternal healthcare services is still a challenge for women in Pakistan. This study investigated the influences of women's exposure to media on the utilization of antenatal care (ANC) services in Gilgit-Baltistan. The study adopted a cross-sectional descriptive survey design, and multi-stage sampling techniques were employed to select the participants. A total of 1000 samples were selected from the four districts of the Baltistan division; the response rate was 92% in this way total of 928 responses were collected. The results show that women current Age (17-24 in years) were strongly associated with the utilization of ANC services (OR 5.273 CI: 2.317-11.999, $p=0.001$). Further women women's education and occupation were also strongly associated with the utilization of antenatal care services (OR, 4.230, CI: 95% 2.761-6.479 with P-value .000), furthermore, among women who were found exposed to media (electronic, Print and social media) were more likely to use antenatal care services. Keeping in view the current findings it strongly recommended that state agencies and non-governmental organization should focus on female literacy and media literacy in the study area. The provision of higher educational facilities and the media literacy will lead to the betterment of reproductive health in the region.*

Keywords: Women, Pregnancy, Antenatal care, Education, Media Exposure, Gilgit-Baltistan

Introduction

Despite international commitments and efforts, statistics show that 287,000 women died during pregnancy or after childbirth in 2020. Low and lower-middle-income countries accounted for approximately 95% of all maternal deaths, the majority of which were preventable. In 2020, Sub-Saharan Africa and Southern Asia accounted for around 87% (253,000) of all maternal deaths worldwide. Approximately 70% of maternal deaths (202,000) occurred in Sub-Saharan Africa alone, with Southern Asia accounting for only 16% of these occurrences (47,000) (WHO, 2019). According to UNICEF, in regions with the highest rates of maternal mortality, such as Western and Central Africa and South Asia, fewer women received at least four antenatal care visits (56% and 55%, respectively)(UNICEF, 2023). Pakistan is a developing country and falls in the region of South Asia, South Asia is also a vulnerable region in the context of maternal health. Pakistan's maternal mortality ratio is 186 per 100,000 live births, and 49% of women aged 15-49 years still receive less than 4 antenatal care visits(NIPS, 2019).

The maternal mortality rate in Gilgit-Baltistan is 196 per 100,000 live births (NIPS and ICF, 2020). According to a multiple Indicator cluster survey 2016-2017, 28.5% of women don't visit to seek antenatal care (ANC) visits in Gilgit-Baltistan, further 40.1% of women seek antenatal care (ANC) from other than health professionals like traditional birth attendants, family elders and friends (P&DGB & UNICEF Pakistan, 2016), at district level data has shown that in Gilgit-Baltistan, in district Ghanche 87.2%, district Nagar 26%, district Hunza 17.7% of women received antenatal care services from other than health professionals. (P&DGB & UNICEF Pakistan, 2016)

The current study was conducted in Gilgit-Baltistan, a mountainous and remote region located in the northern part of Pakistan. A combination of socio-cultural, geographical, and infrastructural factors are influencing the accessibility and utilization of maternal health care services. Further, the rugged terrain and harsh climatic conditions also make it difficult for women to access health facilities. Traditional gender norms, women's free mobility, health beliefs, and socio-economic conditions are also key determinants in accessing and utilizing maternal healthcare services. Among these factors, women's awareness regarding the importance of ANC in reducing the complications during and after pregnancy is a key determinant in accessing and utilizing ANC services. In this way, the current study's aims was to examine the role of media exposure among women in accessing and utilizing antenatal care services in the study area. Among women who are more exposed to modern media either it is print or electronic media have more information and awareness regarding maternal healthcare services and the pregnancy related complications (Hamal et al., 2020). Modern media, especially social media is also a good source of information regarding maternal health care services.

Methodology

The current study is a part of the PhD research project and it is the requirement of the completion of the degree. In the study, a cross-sectional descriptive community survey design was adopted. Multi-stage sampling techniques were employed to select the participants of the study. In the first stage, districts were selected purposively, in the second stage, Tehsil was selected by simple random sampling techniques, in the third stage, union councils were selected using the probability proportional to size sampling method, in the fourth stage villages were selected by simple random sampling techniques, in the fifth stage, a list of married women (15-49 year age) were developed through Lady health worker's data, from the selected villages. In the six stages through a systematic random sampling technique study participants were selected from the list which were provided by Lady Health Workers (LHWs). A total of 1000 samples were selected from the four districts of the Baltistan division; the response rate was 92% in this way a total of 928 responses were collected. For data collection, a structured questionnaire was developed, and translated into the local language (Urdu). Before the start of data collection Pilot study was conducted and required changes were made. Trained enumerators were hired for the data collection process. SPSS (version 26) was used for data analysis and univariate analysis frequency, percentage were used. Logistic regression was performed to identify the influence of women's educational status and participation of women in decision-making on the utilization of antenatal care services during pregnancy. The results were expressed as odds ratio (OR) and 95% confidence interval (CI). P Value 0.05 denoted a significant association between outcome and explanatory variables.

Ethical consideration

Department of Sociology issued a letter and granted permission for data collection, further, the divisional Health directorate also issued a letter and granted permission to collect the data from the jurisdiction, and they also granted permission to consult with Lady Health workers regarding the selection of samples. Furthermore, the local leaders were also informed about the purpose of the study. Explanation of the study objectives and rationale was told to the respondents and they were informed of their rights to stop the interview at any time if they didn't want to give information without giving any reasons. Respondents were also told that their names would not be revealed anywhere, it is clearly stated that the information collected from the participants was used for only academic research

purposes.

Outcome variable

Antenatal care: any antenatal care taken by women during pregnancy, 0 were coded as no antenatal care visits while 1 is coded as yes antenatal care visits during pregnancy.

Explanatory variables

Socio-demographic variables are: women current age, Women's status of education, the educational status of husbands, household monthly income in PKR, types of family system. Explanatory variables of media exposure are included: use of Mobile phone, news paper reading, Habits of watching TV, Use of social Media (Facebook, insta), use of YouTube for searching contents, habits of book reading, exposure of public messages regarding sexual and reproductive health of TV or social media, exposure to printed content regarding SRH.

Results

Univariate analysis

Table 1.1 presents the percentage and frequency of socio-demographic characteristics of married women. Data has shown that the majority (39.7%) of respondents belong to the age category of 25-31 in years. In the study area majority (74.3%) of married women were housewives and were engaged in farming, in the context of Gilgit-Baltistan, especially in the peripheries women have very limited opportunities of employment either in government sectors or private sectors. Data shows majority (49.4%) of women were illiterate, and 30% were having secondary+ educations. In the study area majority (21%) were having 50000+ Household monthly income and very few (5%) were having 10000 or less Household monthly income. In the study area joint family system were common and majority (61.5%) of married women were living in joint family system.

Table 1.2 describe about women's exposure to media (electronic/print/social media). According to the data, majority (73.7%) of married women were having Mobile phone, while 26.3% of women had no mobile phone. Among mobile phone user, majority (45.9%) were using simple mobile phone while 27% were using android mobile phone in the study area. Majority (90.5%) of respondent were saying that they were not habitual of newspaper reading, whereas only (9.5%) were found habitual of newspaper reading. Television were found common in the study area, and majority responded that they were habitual of watching television. Majority (82%) of respondents were not using YouTube to search different kind of information, while 18% of married women were using YouTube as source of information. Data shows, majority (88.3%) of respondent were not habitual of book reading, only 11% were saying that they used to read books. Data shows that majority (88.3%) of women were not exposed to video regarding family planning and pregnancy related contents, while only (11.7%) were exposed such kind of contents.

Table 1.1 Descriptive Statistics of Socio-Demographic Characteristic of Married Women (N=928)

Variables	F	(%)
Current Age of Women		
17-24	138	(12.7)
25-31	398	(39.7)
32-38	194	(18.4)
39-45	150	(13.9)
46 +	48	(3.9)
Profession of Married Women		

Employed(Govt./Private)	213	(20.3)
Housewife & farming	715	(74.3)
Women's Education		
No Formal Education	488	(49.4)
Basic (Primary/Middle)	133	(12.2)
Secondary +	307	(30.1)
Monthly Household Income in PKR		
00001-10000	60	(5.0)
10001-20000	175	(16.4)
20001-30000	215	(20.5)
30001-40000	129	(11.8)
40001-50000	124	(11.3)
51000 +	225	(21.6)
Family Types		
Nuclear Family	328	(32.3)
joint Family	600	(61.5)

Table 1.2 descriptive statistics of women's exposure to media (N=928)

	F	(%)
Availability of Mobile phone		
No	244	(26.3)
Yes	684	(73.7)
Types of Mobile Phone, Use by Respondents		
No	244	(26.3)
Simple	426	(45.9)
Smart phone	258	(27.8)
New Paper Reading		
No	840	(90.5)
Yes	88	(9.5)
Watching Television		
No	413	(44.5)
Yes	515	(55.5)
Use of social media/Facebook		
No	752	(81.0)
Yes	176	(19.0)
Use of YouTube		
No	761	(82.0)
Yes	167	(18.0)
Reading of Books		
No	760	(81.9)
Yes	168	(18.1)
Habits of Watching video/ Post On Facebook Regarding Family Planning and pregnancy		
No	819	(88.3)
Yes	109	(11.7)
Habits of Reading Material Regarding Family Planning and Pregnancy		
No	620	(66.8)
Yes	308	(33.2)

Bivariate Analysis

Table 1.3. Explains the influence of socio-demographic variables on women's appropriate visits for antenatal care. According to the cross-tabulation, Out of the total sample size, 125(90.6 %) of the married women having age 17-24 years are attaining antenatal health care visits while only 13(9.4%) of them are not attaining these visits. The odd ratio of married women having age 17-24 years is 5.273 times greater for the attainment of ANC visits as compare to those whose ages are 46 or above. The statistical association shows that current age of the married women is statistically significant to the ANC visits attainment. Their confidence interval and p values are (2.317-11.999, .001).

The cross-tabulation results show that for women with government/private employment, the majority (89.7%) of women attended ANC, while 10.3% had no ANC. In contrast, women with the occupation as housewife and farmer 84.1% of women attended ANC, whereas 16% didn't visit ANC. According to binary logistic regression analysis, women with government or private employment were 2.778 times more likely to attend ANC compared to those women who were housewives and engaged in farming (OR 2.778, CI: 1.190-6.482, P.Value=.018).

Employment, particularly in formal sectors, often enhances women's access to resources, including financial autonomy and social networks, which can improve their awareness and utilization of healthcare services. In contrast, housewives and women engaged in farming may face economic constraints, limited mobility, and a lack of understanding about the importance of regular antenatal visits. Furthermore, women in formal employment are likely to have greater empowerment and decision-making autonomy, enabling them to prioritize their health needs.

With the category of 51000 and above monthly household income 4.9% of women have no antenatal care visits whereas 95.1% of women availed antenatal care during their pregnancy. The odds of this income category are 9.727 times higher compared to the reference category 00001-10000 monthly household income, with a confidence interval (OR 9.727, CI:4.329-21.855). The P.Value is .000, indicating a highly significant relationship.

Table 1.3 presents women's educational status in relation to women's visits to ANC. Women's education is divided into three categories, no formal education, basic education (primary and middle), and secondary education and above. No education has been taken as a reference category for analysis. For the category "no formal education", 22.5% of women had no visit for ANC, whereas 77.5% availed ANC services from any health facility during their pregnancy. The first category (no formal education) has been taken as a reference category.

With the category, of basic education (primary/Middle), 89.5% of women visited for antenatal care (ANC) during their pregnancy from any health facility, whereas 10.5% of women had no antenatal care visits. The odds ratio for the category basic education is 2.474 times higher as compared to the reference category (no formal education) with a confidence interval (OR 2.474, CI: 1.367-4.476). This result represents a 147.4% increase in visiting for antenatal care services compared to the category of no formal education of women. The P.Value is 003, Showing significant association. For the category of women's education, secondary and higher, 96.1% of women avail antenatal care while very few (3.9%) have no visits for antenatal care during their pregnancy. The odds ratio with confidence interval is (OR, 7.154 CI: 3.868-.123.232). The odds of visiting Antenatal care are 7.154 times higher as compared to the reference category of no formal education. Further, the results indicate a 615.4% increase in visiting antenatal care among women who have secondary and higher education compared to those women who do have not any formal schooling. Among women who lived in a nuclear family system, 80.8% of women had ANC while 19.2% had no ANC visits during their pregnancy. In contrast, among women who lived in a joint family system, 87.8% of women visited ANC whereas 12.2% didn't visit ANC.

The odds ratio for the category (joint family) is 1.716 times higher compared to the reference category (nuclear family) with a confidence interval, ranging from 1.188 to 2.480. This indicates a 71.6% increase in the odds of visiting antennal care among women who live in a joint family system. The

P.Value is .004, showing statistically significant results.

Table 1.4 present the influence of women's media exposure on antenatal care visits. Among women, who were not using any mobile phone, 73.1% have antenatal care visits, whereas 26.2% haven't any antenatal care visit from any health facility. In contrast, among women who were using mobile phone, 90.2% have antenatal care visits, while 10.5% had no antenatal care visits. The odds ratio with confidence interval for the women who were using mobile phone is OR 3.022, CI: 2.076-4.399. These results indicate, 202.2% increase in the likelihood of visiting antenatal care for the women who have mobile phone compared to the women who were not using any mobile phone. The P.Value is .000, indicating highly significant relationship.

Among women who were not the user of mobile phone, 73.8% having antenatal care visits, while 26.2% not having any antenatal care visits. This category has taken as reference category in the analysis. Among the women who were the user of simple mobile phone 85.7% women had antenatal care visits while 14.3% have no antenatal care visits during their pregnancy. The odd ratio with confidence interval for the women who were the user of simple mobile phone is (OR 2.128CI: 1.435-3.153). The odds ratio represents 112.8% increase in visiting antenatal care service for the women who were the user of simple mobile phone compared to the reference category (women who were non-user of mobile phone). The P.Value .000 shows highly significant association. Among women who were the user of smart-phone, 95.7% women availed antenatal care services, whereas very few (4.3%) had no antenatal care services during their pregnancy. The odds ratio for the women who were using smart-phone is 7.984 times higher compared to the women who were not user of mobile phone (reference category), with confidence interval (CI:4.094-15.550). Additionally, the odds ratio for the user of smart-Phone, 698.4% increase in visiting antenatal care compared to the non-user of mobile phone. The P.Value .000, indicate statistically highly significant association.

Among women who were not habitual of newspaper reading, 16.4% women were not receiving antenatal care services, whereas 83.6% women were availing antenatal care services during their pregnancy. In contrast, women who were habitual of newspaper reading, 92.7% were availing antenatal care services conversely, less than ten percent (7.3%) were not seeking antenatal care during their pregnancy. The odds ratio for the women who were habitual of newspaper reading, is 2.490 times higher compared to the women who were not reading newspaper with confidence interval (CI: 1.371-4.522). Additionally, this result represent 149% increase in availing antenatal care services among the women who are reading newspaper compared to women who were not reading newspaper. The P.Value 003, further confirming statistically significant association.

Women who have experienced to listening Radio (FM), 95.8% were receiving antenatal care services while 4.2% not having antenatal care services during their pregnancy. The odds for the t women who are habitual to listening radio is 4.665 times higher compared to those women who were not habitual to listening radio (FM), with confidence interval (CI:2.138-10179). The confidence interval is entirely above 1.00 which indicates statistically positive relationship between the listening of FM radio and visiting antenatal care services. The P.Value is.000, further has shown statistically significant association.

Among women who were habitual of watching television, majority (91%) were availing ANC while 8.4% were having no antenatal care services during their pregnancy. Comparatively, women who were not habitual of watching television, 72.9% women were receiving antenatal care services while 27.1% were not having antenatal care visits during their pregnancy. The Cross tabulation is indicating that with habitual of watching television, women are more likely to avail antenatal care services compared to the women who are not habitual of watching television, as data indicated, women with watching television (91% vs. 72%) and women without watching television (8.1% vs. 27.1%). Further, binary logistic regression result, indicate that the odd ratio for those women who are habitual of watching television is 3.923 times higher compared to those women who were not habitual of watching television, with

confidence interval of (CI: 2.691-5.720). The confidence interval is entirely above 1.00, indicating statistically positive relationship.

Women without exposure to social media, 17.1% were not availing antenatal care services while 82.1% were availing ANC during their pregnancy. In contrast, women with exposure to social media (Face book, instagram), majority (94.6%) were seeking antenatal care services from any health facility during their pregnancy. The odds ratio for the women who were having exposure to social media is 3.801 times higher compared to the women who were not using social media (face book, whatsapp, insta), with confidence interval (CI: 2.103-6.871). Additionally, there is 280.1% increase in the likelihood of availing antenatal care services among women who were the user of social media compared to the women who were not familiar with social media. The P.Value .000. Is highly significant statistically.

With regard to the use of YouTube among women, those women who were not familiar with YouTube, 17.3% women were not receiving antenatal care services whereas 82.7% were availing antenatal care services during delivery. In contrast, women with the familiarity of YouTube, almost 94% were attending antenatal care visits while less than ten percent (6%) were not seeking antenatal care services from any health facility during their pregnancy. The odds ratio for the women, who were familiar in searching contents on YouTube, is 3.144 times higher compared to the women who were not familiar with YouTube. The confidence interval for the category is, ranging from 1.769 to 5.589, entirely above 1.00, indicating statistically positive relationship between the familiarity of YouTube and attending antenatal care visits. The P.Value .000, further strengthen the association.

Among women who used to read books, 94.3% women were seeking antenatal care services, while very few (5.7%) women were not availing antenatal care services during their pregnancy. The odds ratio for the category (women used to read books) is 248 times higher compared to the reference category (women who were not habitual of book reading) with confidence interval, ranging 2.107 to 6.42. Confidence interval is above 1.00; indicate statistically positive relationship between the habitual of book reader and antenatal care visits. Additionally, here is 267.2% increase in the likelihood of availing antenatal care visits among women who were book reader compared to the women who were not book reader. P.Value .000 is highly significant statistically.

Among women who haven't any exposure to read material regarding reproductive health, 18.4% were not seeking antenatal care services, while 81.8% were having antenatal care visits during their pregnancy. Comparatively, women with exposure in reading materials related to reproductive health, 93% women were attending antenatal care visits whereas less than ten percent (7%) having no antenatal care visits. The odds ratio is 2.929 time higher among women who have exposure to read materials related to reproductive health compared to the reference category (women with no exposure with reading materials related to reproductive health). The confidence interval for the odd ratio, ranging from 1.814 to 4.728, is indicating statistically positive association between exposures with reading materials related to SRH and visits for antenatal care visits. The P.Value is .000. Indicating statistically strong association.

Table 1.3 Relationship between socio-demographic factors and Utilization of Antenatal Care services among married women (n=928)

Socio-Demographic Variable (Ages)	Married Women, Visit for ANC		OR, 95% C. I	% Change in Odds	P.Value
	No	Yes			
	F (%)	F (%)			
The Current Age of Women					
17-24	13(9.4)	125(90.6)	5.273(2.317-11.999)	427.3	.001
25-31	40(10.1)	358(89.9)	4.908(2.497-9.647)	390.8	.001

32-38	26(13.4)	168(86.6)	3.543(1.722-7.290)	254.3	.001
39-45	40(26.7)	110(73.3)	1.508(.754-3.017)	50.8	.246
46 +	17(35.4)	31(64.6)	1.00		
Profession of Married Women					
Employ(Govt./Private	22(10.3)	191(89.7)	2.778(1.190-6.482)	177.8	.018
Housewife & farming	114(15.9)	601(84.1)	1.00		
Education					
No Education	110(22.5)	378(77.5)	1.00		
Basic Education	14(10.5)	119(89.5)	2.474(1.367-4.476)	147.4	.003
Secondary +	12(3.9)	295(96.1)	7.154(3.868-13.232)	615.4	.000
Household monthly Income					
00001-10000	20(33.3)	40(66.7)	1.00		
10001-20000	45(25.7)	130(74.3)	1.444(.766-2.725)	44.4	.256
20001-30000	30(14.0)	185(86.0)	3.083(1.592-5.972)	208.3	.001
30001-40000	16(12.4)	113(87.6)	3.531(1.668-7.474)	253.1	.001
40001-50000	14(11.3)	110(88.7)	3.929(1.814-8.510)	292.9	.001
51000 +	11(4.9)	214(95.1)	9.727(4.329-21.855)	872.7	.000
Family Type Having Married Women					
Nuclear Family	63(19.2)	265(80.8)	1.00		
joint Family	73(12.2)	527(87.8)	1.716(1.188-2.480)	71.6	.004

Table 1.4 Influence of Women's exposure media on Antenatal care Utilization (n=928)

Availability of media services/sources	Married Women, Visit for (ANC)		OR, 95% C. I	% Change in Odds	P.Value
	No F %	Yes F %			
Availability of Mobile phone					
No	64(26.2)	180(73.8)	1.00		
Yes	72(10.5)	612(89.5)	3.022(2.076-4.399)	202.2	.000
Types of Mobile Phones, Use by Respondents					
None-User	64(26.2)	180(73.8)	1.00		
Simple	61(14.3)	365(85.7)	2.128(1.435-3.153)	112.8	.000
Smartphone	11(4.3)	247(95.7)	7.984(4.094-15.570)	698.4	.000
New Paper Reading					
No	123(16.4)	627(83.6)	1.00		
Yes	13(7.3)	165(92.7)	2.490(1.371-4.522)	149	.003
Listening of FM Radio					
No	129(17.0)	632(83.0)	1.00		
Yes	7(4.2)	160(95.8)	4.665(2.138-10.179)	366.5	.000
Watching Television					
No	82(27.1)	221(72.9)	1.00		
Yes	54(8.6)	571(91.4)	3.923(2.691-5.720)	292.3	.000
Use of social media/Face book					
No	123(17.9)	565(82.1)	1.00		
Yes	13(5.4)	227(94.6)	3.801(2.103-6.871)	280.1	.000

Use of YouTube					
No	122(17.3)	582(82.7)	1.00		
Yes	14(6.3)	210(93.8)	3.144(1.769-5.589)	214.4	.000
Reading of Books					
No	121(18.2)	544(81.8)	1.00		
Yes	15(5.7)	248(94.3)	3.677(2.107-6.420)	267.7	.000
Habits of Reading Material Regarding Family Planning and Pregnancy					
No	114(18.4)	506(81.6)	1.00		
Yes	22(7.1)	286(92.9)	2.929(1.814-4.728)	192.9	.000
Exposure to Materials in the form of pictorial or video regarding family planning					
No	114(18.4)	505(81.6)	1.00		
Yes	22(7.1)	287(92.9)	2.945(1.824-4.754)	194.5	.000

Discussion

According to descriptive analysis, the study found that the majority (39.7%) of respondent's age were 25-31 years. The majority (74.3%) of married women were housewives and were engaged in farming in the study area. In the context of the study area (Gilgit-Baltistan), women have very limited opportunities for employment in the private and government sectors, especially in peripheries (rural areas). Therefore the data has shown that majority were housewives and engaged in farming activities. According to the descriptive analysis, majority (49.4%) of women have no formal education while 30% were having secondary+ educational level. Female educational status were found alarming in rural areas due the lack of educational facilities and early marriages. Early marriages is a common practice in the study area. Need reference. The current study revealed that joint family system is common in the study area, especially in peripheries. Further, study revealed that majority (73.7%) of women were not using mobile phone. In the context of study area, especially in peripheries there is not internet services and in rural setting use of mobile phone is prohibited culturally, religious authorities most of time considered as against the teaching of Islam especially for women. Need reference. The habits of newspaper reading were found very less in the study areas, the reason might be that majority of respondent were found illiterate and in the current era the newspaper reading has been decline. The current study revealed that majority (82%) were found to expose to the television. Majority of respondent were not aware about the use of YouTube and social media (Facebook, insta etc). Very less respondent were found habitual in book reading in the study area.

According to binary logistic regresion analysis, with the age category of women (27-24 in years) were more likely to use antennal care services compared to the women whose current age were 46+ in years. A study conducted in Guinea also found similar results. For ANC utilization, women aged 15–25 had higher odds (AOR = 1.29, CI = 1.03–1.62) of ANC uptake compared to those aged 35 + (Bright Opoku Ahinkorah et al., 2021). In the study area, early marriage is a socially approved practice. The family of a young married girl and her in-laws prefer early pregnancy with a male child; therefore, they encourage the young pregnant woman to avail of antenatal care from a nearby health facility, while women of a later age are not encouraged to avail of antenatal care from a health facility. Overall, the results indicated that as women grew older, the trend of receiving antenatal care decreased. The reason might be with the growing age women experience childbirth issues and in this way, they manage the process on a self-help basis.(Teklesilasie & Deressa, 2020).

The cross-tabulation results show that for women with government/private employment, the majority (89.7%) of women attended ANC, while 10.3% had no ANC. In contrast, women with the occupation as housewife and farmer 84.1% of women attended ANC, whereas 16% didn't visit ANC. According to binary logistic regression analysis, women with government or private employment were 2.778 times more likely to attend ANC compared to those women who were housewives and engaged in farming

(OR 2.778, CI: 1.190-6.482, P.Value=.018).

Employment, particularly in formal sectors, often enhances women's access to resources, including financial autonomy and social networks, which can improve their awareness and utilization of healthcare services. In contrast, housewives and women engaged in farming may face economic constraints, limited mobility, and a lack of understanding about the importance of regular antenatal visits. Furthermore, women in formal employment are likely to have greater empowerment and decision-making autonomy, enabling them to prioritize their health needs.

A study conducted in Nigeria is consistent with the current findings, according to the study, economic factors, including employment status significantly influence antenatal care (ANC) utilization, and unemployed women show lower ANC uptake, likely due to limited financial resources. Women in government jobs utilize ANC more than those who were housewives and engaged in farming-related activities (Christopher T. Oluwadare, 2024). With the category of 51000 and above monthly household income 4.9% of women have no antenatal care visits whereas 95.1% of women availed antenatal care during their pregnancy. The odds of this income category are 9.727 times higher compared to the reference category 00001-10000 monthly household income, with a confidence interval (OR 9.727, CI:4.329-21.855). The P.Value is .000, indicating a highly significant relationship.

In summary, monthly household income influences the women's availing of antenatal care services during their pregnancy as shown by the results, with the increase in monthly household income for women visiting for antenatal care during their pregnancy. Different studies also confirm that women's seeking antenatal care is influenced by monthly household income. A similar study conducted in Guinea was consistent with the current study findings, according to the study, women who belong to the richest wealth quintile were 5.09 times more likely to attend antenatal care visits compared to the women who belong to the lowest wealth quintile (OR 5.09, CI: 3.70-7.00) (Bright Opoku Ahinkorah et al., 2021). Binary logistic regression results revealed that educational status has much influence on accessing maternal health care services, especially visiting for ANC services. The result is consistent with other studies. A study conducted by Hamal et al. in India also revealed that women's education was consistently associated with the utilization of maternal health care. According to the study the odds ratios for using ANC and PNC among women with elementary, secondary, and high school education compared to illiterate women were 1.5, 1.9, and 2.7; and 1.3, 1.7, and 2.4, respectively (Hamal et al., 2020).

A study from sub-Saharan Africa by Bain et al., (2022) found that young women who have some levels of formal education were more likely to utilize maternal healthcare, especially ANC and PNC. Women having primary education 1.63times, with secondary education 2.66 times and higher education 6.05times more likely to Use ANC, PNC (Bain et al., 2022)

The results are consistent with Another study conducted by Furuta and Salway, which found a significant association between women's educational attainment and access to maternal healthcare services according to the study, women with a primary education were more likely (2.4) than those without education to get prenatal care (Furuta & Salway, 2006). A study conducted in India by (Hamal et al., 2020), is also consistent with the current study findings. According to the study, family structure particularly joint family system was found to be associated with higher use of maternal health services compared with women who were living in nuclear and small families. Further, for women who resided in a joint family system the PNC utilization was higher (OR 1.5).

According to the bivariate analysis (binary logistic regression analysis) user of mobile phone were more likely to use antenatal care (ANC) services compared to non-user of mobile phone. Further among women who were exposed to social media, YouTube, and exposure to content regarding sexual and reproductive health in video or printed form were more likely to visit for antenatal care compared to those women who were not exposed to such kind of media sources. According to the study after controlling for mothers, husband, and household socio-demographic factors, women exposed to mass media are 46–86% more likely to receive antenatal care, 24–53% more likely to deliver their babies by skilled birth attendants, and 36–94% more likely to receive postpartum check-ups across countries. (Fatema & Lariscy, 2020)

A study conducted by (Hamal et al., 2020) revealed that Exposure to mass media and maternal healthcare services-related information was found to influence maternal health service use in India. According to the study, as compared to women without any exposure to mass media, women who had been exposed were more likely to use ANC (OR=1.4) and PNC (OR=1.3) in India. Further study revealed that women who had not been exposed to or seen any messages about ANC were less likely to use ANC service (OR=0.7) than women who had heard or seen messages about ANC in nine Indian states. Similarly, women who had a high level of awareness of PNC services were 2.4 times more likely to use them than those who had a low level of awareness in rural Karnataka.

Another study conducted in Nepal by [Acharya](#), et al, also consistent with the current study and revealed that mothers exposed to mass media were more likely to attending antenatal care visits (OR 6.28; 95% CI: 1.01, 38.99), the odd ratio for rest and sleep during pregnancy (OR 2.65; 95% CI: 1.13-6.26, P-Value=0.025) and the odds ratio with confidence interval for TT immunization (OR 5.12, CI: 1.13-21.24) were significantly associated with the exposure to mass media. (Acharya et al., 2015).

Conclusion and Recommendations

The current study findings illustrated that women's education, age, occupation, household monthly income were found strongly associated with the utilization of maternal health care services, further women's exposure to media like Television, social media, and YouTube were also strongly associated with the utilization of maternal health care services especially availing antenatal care services during pregnancy. Similar studies are also consistent with the current study. Keeping in view the current findings it is strongly recommended that state agencies and non-governmental organizations should focus on female literacy and women empowerment. Further, according to the findings media literacy also established as strong determinants in accessing and utilizing antenatal care services among women in the study area. Therefore state agencies and non-governmental organization should focus on the media literacy among women in the study area.

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