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RESEARCH PAPER

Role of Socio-Economic Status of Family on the Utilization of Mother-Child Healthcare Services, Punjab, Pakistan

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ABSTRACT

This study aimed to determine the socio-economic factors influencing maternal health care services utilization in Punjab, Pakistan. In Pakistan, various maternal and mother-child health initiatives are ongoing. Still, the impact of the family's socio-economic status on the utilization of mother-child healthcare services is a neglected area of study. A multi-stage random sampling method was used in the sampling process. The sample consisted of 360 married women (15-49) with at least one child under five years of age. The interview Schedule was used as a research tool. Data were analyzed by using descriptive and inferential statistical techniques. It was found that most mothers were matriculated and belonged to middle class. Many mothers had 1-3 visits to clinics for antenatal care, and most received various antenatal care services. It was found the socio-economic status of mothers significantly influenced their use of mother-child health care services. There should be increased awareness campaigns about the importance of regular antenatal care visits and available services.

Keywords: Health, Mother-Child Health Care Services, Socio-Economic Status, Utilization

Introduction

Maternal wellbeing relates to a woman's physical and mental well-being during conception, childbirth, and postpartum. To mitigate maternal mortality and morbidity, it requires the health care aspects of preconception, family preparation, prenatal, and postnatal care (Jejeebhoy and Sathar, 2001). In developed nations, complications during pregnancy and childbirth are the leading causes of maternity and infant deaths (UNICEF, 2014) and these deaths are credited to the fact that most pregnant mothers do not get the proper care (Tsui *et al.*, 1997) as a result of certain barriers they need health care facilities. According to WHO (2005), reproductive death is described as the woman's death while pregnant or within 42 days of delivery, regardless of the length or location of the pregnancy, from any cause linked to or irritated by the pregnancy or its management, but not from incidental or secondary causes (Adanu et al., 2009). About 12 million people die worldwide due to abortion or maternity problems, with developed nations accounting for almost half of these deaths. However, India ranked first in the world with the highest number of pregnancy deaths, with almost 50,000 people dying due to irregularities during pregnancy or childbirth (UNICEF, 2014).

Every year, millions of pregnant people, new moms (giving birth to their first child), and infants suffer from a severe disease or die due to preventable or treatable factors. Developing countries account for almost all maternal and infant fatalities, with Africa being the hardest affected. The United States government is the world's leading contributor to MCH programs, actively funding global maternal and child health (MCH) campaigns for more than 50 years. It is now the world's single largest donor to nutrition efforts. In recent times, the US government has made MCH a higher priority, and one of its three key global health targets has been to "end preventable infant and maternal deaths." In FY 2019, the US invested $1.36 billion on MCH and diet, up from $728 million in FY 2006. It includes US

donations to Gavi, the Vaccination Partnership, the United Nations Children's Fund (UNICEF), and polio-related assistance. On the other hand, the current administration has suggested slashing funds for MCH and wellness in FY 2020 (GHP, 2019).

In the last ten years, Pakistan's maternal mortality rate has decreased from 276 per 100,000 to 178 per 100,000 (Sathar, 2019). While positive, it falls well short of MDG 5a, which called for a three-quarters decrease in maternal mortality between 1990 and 2015 (WHO, 2016). Goal 5b of the Millennium Development Goals was to gain equal access to sexual health by 2015. At present, the most pressing issue is lowering the maternal death rate dramatically. Appropriate antenatal, natal, and postnatal treatment will tip the balance in a woman's favor, as they have been proven to play a crucial role in lowering maternal mortality rates. Just half of the pregnant women in the world obtain the required dose of antenatal treatment. In developed nations, the condition is much worse. According to one report, 65 percent of people in developing countries obtained antenatal treatment, while 97 percent of women in developed countries did (Safdar and Omair, 2002). When opposed to lives in the region, lives in the country are dramatically correlated with poor usage of antenatal care facilities (Tran *et al.*, 2012). This is compounded by the inadequate state of public healthcare facilities in rural and post regions. While research on the use of maternity services facilities in the area areas has been undertaken, there are limited studies on using these services in or before settings.

According to a recent survey released by United Nations related organizations, a mother or her unborn child dies every 11 seconds in any country's region, according to the daily DAWN (2019). Even as the global incidence of neonatal morbidity has halved since 2000, and the number of fatalities has decreased by one-third, most of these deaths arise in areas where healthcare access remains a problem. South Asia, which is home to a fifth of the world's population, remains among the most challenging maternal and child welfare areas.

In Pakistan, as in other South Asian nations, women have fewer resources in terms of schooling, health, and labor force participation. As a result, women had relatively little influence over family decisions. However, a microscopic study has been undertaken in Pakistan to explore different socio-economic influences on maternal and child health care facilities (Ahmed, et. al., 2015). Specifically, the effects of women's decision-making empowerment on maternal health care use at three stages: antenatal care, childbirth in a health-care hospital, and post-antenatal care. As a result, the current research aims to investigate the effect of women's emancipation and other socio-economic causes on the use of reproductive health care services in Pakistan.

Maternal health care must reduce morbidity and mortality of mothers and newborns. Maternal health is an indicator of safe pregnancy, risk-free childbirth, and a step toward a healthy childhood and prosperous life. There is evidence that pregnancy-related complications cause maternal mortality and disabilities (WHO, 2016). Large variations of maternal mortality ratios represent the consistent gap in health index between developing and developed countries, specifying the dilapidated condition of maternal health care in some developing countries (Rosenfield et al., 2016). The Universal Declaration of Human Rights states that special care and assistance should be privileges for pregnant women. The significance of maternal health care was initially acknowledged in 1987 internationally, and a progressive campaign on safe motherhood is continued by several organizations subsequently (Starrs, 2006). More than 50% of all maternal deaths occurred in only six countries, worldwide, including Pakistan where the maternal mortality rate is 276 deaths per 100,000 births reflecting the dire condition of maternal health care (Hogan et al., 2010 and Mahmood and Sultan, 2006). Pakistan is yet a far way to achieve the millennium development goals in maternal health. This failure is because maternal health care plans have failed to identify the factors that restrict access to pregnancy-related care for women belonging to the social and economic edges of a specific community. Concern about the potential determinants of maternal health care utilization across geographical areas has

been discussed. Although research in Pakistan has reported significant socio-economic factors of maternal health care utilization employing descriptive analyses of covariates, few investigations could precisely explore the significant causes of this issue using complex statistical methodology (National Institute of Population Studies, 2013 Agha, 2018). This study examines the socio-economic factors influencing utilization of maternal health care services in Punjab, Pakistan.

Literature Review

Mahmood and Bashir (2012) looked at the equity of using and providing health care services for married women. Wealth and other socioeconomic variables are major determinants of healthcare disparities, particularly in terms of accessibility to private and public health care. Their findings indicate that accessibility to MHC facilities has increased. Women's educational attainment was shown to have a consistent association with institutional distribution and maternal treatment. Women's educational achievement has a major effect on their ability to obtain MHC services. Overall, their results enhance the previous evidence that women who are least educated, poor and residing in rural areas encounter bigger constraints in accessing prenatal and delivery services from skilled health personal, which contributes to higher rates of maternal mortality and morbidity.

According to Pandey and Karki (2014), the value of maternal health facilities in reducing maternal mortality and morbidity, and also neonatal deaths, has grown significantly in recent years. The absence of antenatal treatment has been linked to maternal mortality and other complications during birth. The aim of the research was to figure out what factors influence antenatal care attendance in Nepal. The findings revealed that more than half of the females were unaware of the dangers of not receiving antenatal treatment. Attendance at an antenatal care provider was closely linked to age, schooling, salary, and family structure. The utilization of maternal health resources is influenced by a variety of variables such as socioeconomic, sociodemographic, cultural, and program accessibility, as well as usability.

According to Tsawe *et al.* (2015), women who are categorised as having a middle-income quintile are five times more likely to utilise prenatal care than women who are categorised as having a low wealth quintile.

Akowuah *et al.* (2018) suggested that the lack of accessibility to healthcare services of high calibre constitutes a significant impediment to the enhancement of maternal morbidity and mortality. The findings revealed differing degrees of ANC use. Age, family size, and occupational status were established as significant socioeconomic determinants of antenatal care use among the respondents based on the deterioration results. Distance to ANC, level of operation, and service fulfilment are all significant system variables that affect respondents' antenatal care use. According to the findings, socioeconomic and healthcare system considerations are significant determinants of antenatal care usage. Enhancing antenatal care use by pregnant women in Ghana could be strengthened by speeding up programs to enhance socioeconomic status and resolve health sector and proximity problems.

Material and Methods

A research methodology is a systematic scientific way to resolve research problems. It is a method of systematic and theoretical analysis of the relevant fields of study. It involves principles, a body of methods and theoretical analysis associated with a branch of knowledge. The methodology provides solutions and offers theoretical pinning applied to specific cases. It involves qualitative, quantitative techniques, theoretical models and paradigms. The methodology is not a method, but a collection of procedures, typically a specific set of beliefs and laws. It is a method and producer which derived or interpret to resolve dissimilar difficulties within a specific discipline (Berg, 2001).

Population: The present research was accompanied in Punjab province Pakistan, all married women of age between (15-49) who had at least one child under five years of age were the population of the study.

Sampling procedure: A multi-stage random sampling method was used in the sampling process. Punjab Pakistan consisted of 36 districts and three zones Central, North and South Punjab. At the first stage three districts (Faisalabad Central Punjab, Chakwal North Punjab and Vehari South Punjab) one from each zone were selected randomly. At the second stage, three tehsils one from each district (Faisalabad, Talagang, and Burewala were selected randomly. At the third stage, six rural union councils were selected randomly, at next 18 villages (3 from each UC) were selected randomly. At the fifth stage 360 (20 from each village) married women (15-49) who had at least one child under five years of age were selected randomly. Each district's number of selected respondents were the same in numbers.

Tool for data collection: Interview Schedule

Data analysis: Data were analyzed by using descriptive (frequency, percentage, mean etc.) and multiple linear regression model.

Ethical considerations: There are a number of important ethical factors that must be taken into account while studying how socio-economic status affects the use of mother-child healthcare services in Punjab, Pakistan. Clear information regarding the study's objective, methods, risks, and benefits and voluntary participation without compulsion are essential for informed consent. Handling sensitive data requires anonymization and safe data storage to ensure confidentiality. The beneficence concept requires minimising hazards and offering support services to reduce study-related suffering. Respect for people requires cultural awareness, equal participation, and local customs and beliefs. Justice requires fair participant selection, equal research gains and burdens distribution, and community benefit from findings. A collaborative approach with local communities and stakeholders assures research relevance and respect for local needs. Transparency in reporting findings and disclosing conflicts of interest is essential, alongside obtaining local ethics approval to uphold the study's integrity.

Results and Discussion

Table 1
Division of the study participants concerning their socio-economic characteristics

Age clusters (in years)	***f***	**%**
Upto 25	98	27.2
>25-35	204	56.7
>35	58	16.1
	Mean age = 28.72	Std. Dev. = 5.76
Respondents' education level		
0 (Illiterate)	77	21.4
5-8 (Primary-Middle)	98	27.2
10 (Matric)	129	35.8
10+ (Above matric)	56	15.6
Husbands' education level	*f*	%
0 (Illiterate)	68	18.9
5-8 (Primary-Middle)	83	23.1
10 (Matric)	137	38.1
10+ (Above matric)	72	20.0

Income (PKR)		
Up to 25,000	95	26.4
25,001 to 50,000	176	48.9
Above 50,000	89	24.7
Age at marriage	*f*	%
18 to 22 years	124	34.4
23 to 27 years	154	42.8
28 to 32 years	58	16.1
above 32 years	24	6.7
Age at first birth	*f*	%
Up to 20 years	52	14.4
21 to 25 years	236	65.6
Above 25 years	72	20.0
Total number of pregnancies		
One to two	86	23.9
Three to four	148	41.1
Above 4	126	35.0
Total no. of children (Nos.)		
1-2	103	28.6
3-4	164	45.6
Above 4	93	25.8
Geographical background		
Rural	259	71.9
Urban	101	28.1

Age: In the present research, the mothers were selected under age 15-49 years. Data presented in the above table show that a major proportion (56.7%) sampled mothers had >25-35 years of age, while 27.2 percent mothers had up to twenty-five years of age and 16.1 percent had >35 years of age. The mean age of the mothers was 28.72 years with standard deviation 5.76 years representing that a large majority of mothers were in their prime reproductive age where health issue is of excessive significance. Almost similar findings were presented by Batool (2010). She found that mean age of mothers (who had at least one child under five years) was 29.89 years with std. dev. 6.11 years.

Education: Education plays a vital role in every society. It gives information and empowers one to control his/her condition. Therefore, the higher the degree of education, the higher the degree of presentation and selection of new innovation for example utilization of contraceptives. Education level negatively associated with family size (Kaboudi *et al.,* 2013). Table 1 shows that 21.4 percent of the sampled mothers were illiterate. However, 27.2 percent of mothers had primary to middle level education, while mostly (35.8%) sampled mothers were matriculated (ten years of education) and 15.6 percent had above ten years of education (above matric level). However, Akhtar (2014) found that around one-third (33.7%) mothers were middle passed.

Husbands' education: According to the study outcomes, around 19% respondents' husbands were uneducated, 23.1 percent had five to eight years of schooling (primary-middle), 38.1 percent were matriculated, and twenty percent husbands had higher level education (above matric). Almost same outcome presented by Akhtar (2014). She found that mostly husbands had matric (32.3%) and above matric (21.8%) level of education

Income: Carolan and Frankowska (2010) found a positive correlation among the mothers' economic status and the use of maternal and child health care services. The monthly earnings of study population were divided into three categories as shown in Table 1. About 26.4% earned up to Rs. 25,000, a large proportion (48.9%) earned Rs. 25,001-50,000, while 24.7% earned above Rs. 50,000 per month.

Age at marriage: Table 1 illustrates that a big quantity (42.8%) respondents were having 23-27 years of age at marriage, 34.4 % respondents were having eighteen to twenty-two years of age. However, 16.1 and 6.7 percent respondents were having 28-32 years and above 32 years of age at marriage, respectively. Darroch *et al.* (2011) suggested that if the age of marriage is raised, the incidence of pregnancy is reduced due to knowledge of contraceptive use. Kaboudi *et al.* (2013) and Muzaffar, et.al., (2018)**.** concluded that there has been a sustained decline in childbirths over the past three decades due to women's education and marriage in adulthood.

Age at first birth: Table 1 illustrates that a big quantity (65.6%) respondents were having 21-25 years of age at their first birth, 20.0 % respondents were having above 25 years of age and 14.4 percent respondents were having up to 20 years age at their first birth.

Total number of pregnancies: Table 1 discloses that 23.9 % sampled population reported that they were having 1-2 pregnancies, however 41.1 percent told that they were having 3-4 pregnancies and 35% respondents said that they had more than 4 pregnancies. So, majority of the respondents were having 3-4 pregnancies.

Total no. of children: Table 1 tells that 28.6 percent study population were having one to two (1-2) children, mostly (45.6%) study population were having three to four (3-4) children & around twenty-six percent study population were having above four children. Mwaniki *et al*. (2002) concluded that the mothers having large no. of children displayed meager interest to avail mother-child health care services. In another study (Arshad, 2006) reported that in Faisalabad (Pakistan) mostly families (38.7%) had three to four children and 37.3% had five and above and twenty-four percent of the mothers had one to two kids. Ahmad (2008) also found similar outcomes that thirty-nine percent of the mothers had three to four babies.

Geographical background: Rural disadvantaged communities are at a loss when it comes to basic because of tertiary health care, and they do not gain as well from universal health programs. Because of public health care's inadequate and diminished position, private medical centers and their operation have significantly increased (Afzal and Yusuf, 2013). Study outcome declared that a large proportion (71.9%) mothers belonged to rural areas, while 28.1 percent mothers' geographical background was urban.

Table 2

Division of the study population concerning their knowledge about important antenatal care (ANC) services

Antenatal services	To a large extent		To little extent		Not at all		Mean	S.D.	Rank
	f	%	*f*	%	*f*	%			
Physical examination	310	86.1	21	5.8	29	8.1	2.78	.22	1
Immunization	303	84.2	27	7.5	30	8.3	2.76	.20	2
Multivitamin (Iron & folic acid) tablets	280	77.8	29	8.1	51	14.2	2.64	.33	3
Physiotherapy	139	38.6	76	21.1	145	40.3	1.98	.50	5
Counseling	208	57.8	93	25.8	59	16.4	2.41	.36	4

Scale: 1 = Not at all, 2 =To little extent, 3 = To a large extent

Antenatal, pre-antenatal, and postnatal care are designed to keep track of pregnant mothers and their babies to eliminate maternal mortality and morbidity (Joshi et al., 2016). To promote mothers' health and neonatal, it is imperative to raise awareness about important ANC. Dhakal *et al*. (2007) stated that awareness about postnatal services is one of the barriers associated with the utilization of these services. Antenatal care includes the

parameters mentioned above and coaches the mother for handling pregnancy-related issues, better nutrition management, exercise, and infant caring practices.

The above table reflects the respondents' level of knowledge about ANC services. Mostly respondents were found to know about physical exams (2.78±.22), immunization (2.76±.20) and Multivitamin (Iron & folic acid) tablets (2.64±.33) and these services are ranked as 1st to 3rd, respectively. Mean values of these services fell between little to large extent but tending more to a large extent. However, Counseling (2.41±.36) and Physiotherapy (1.98±.50) were ranked as 4th to 5th, respectively, based on respondents' knowledge about antenatal care (ANC) services (Table 2). Similar results were also found by Akhtar (2014). She found that majority of the mothers knew immunization of herself (86.6%), Physical examination (82.2) and Iron and folic acid tablets (75.5%).

Table 3
Division of the study population concerning to type of ANC services they received

ANC services	Yes		No	
	f	%	*f*	%
Physical examination	281	78.1	79	21.9
Immunization	287	79.7	73	20.3
Multivitamin (Iron & folic acid) tablets	290	80.6	70	19.4
Physiotherapy	100	27.8	260	72.2
Counseling	70	19.4	290	80.6

Table 3 specifies that the majority of the sampled mothers received a variety of ANC services such as Multivitamin (Iron & folic acid) tablets (80.6%), immunization (79.7%) and Physical examination (78.1%). However, 27.8 percent received physiotherapy services and 19.4 percent received counselling service.

Table 4
Division of the study population concerning to their no. of visit to health clinic for ANC

No. of visits	*f*	%
No	36	10.0
One to three	231	64.2
Four to six	73	20.3
Above six	20	5.6
Total	360	100.0

A great number of the respondents (64.2%) had one to three visits to health clinics for ANC, whereas 20.3 percent had four to six visits and 5.6 percent mothers had above six visits to health clinics for ANC (Table 4). According to Singh et al. (2012), women's visit to health clinics had positive impact on their wellbeing. It was also observed rich mothers had more visits as compared to poor.

Liu *et al.* (2011) conducted a study on maternal health care services utilization. In the light of study findings, 95 percent women availed ANC and the mothers who availed above four PNC visits was 53%. Around eighty-six percent women delivered at health clinics/hospital and average no. of ANC and PNC visits were 4.9 & 2.2, respectively. Out of total 98 percent women had at least one ANC visit.

Table 5
Division of the study population as regards to their knowledge about postnatal care services (PNC)

PNC services	To a large extent		To little extent		Not at all		Mean	S.D	Rank
	f	%	*f*	%	*f*	%			
Physical examination	210	58.3	114	31.7	36	10.0	2.48	.34	2
Immunization of baby	324	90.0	36	10.0	0	0.0	2.90	.10	1

Iron and folic acid tablets	172	47.8	90	25.0	98	27.2	2.21	.42	6
Immunization of herself (after delivery)	102	28.3	97	26.9	161	44.7	1.84	.58	8
Family planning services	225	62.5	42	11.7	93	25.8	2.37	.53	3
Counseling	164	45.6	93	25.8	103	28.6	2.17	.62	7
Physiotherapy	180	50.0	103	28.6	77	21.4	2.29	.55	4
Breast feeding education	176	48.9	110	30.6	74	20.6	2.28	.52	5

PNC is one of the preferred methods for lowering maternal and newborn mortality during the prenatal and postpartum periods (WHO, 2010). As a result, the World Health Organization (WHO) advises that mothers and newborns obtain PNC in health facilities for at least 24 hours after birth if the birth occurs in a health facility. Study results declared that a big proportion of the sampled mothers had knowledge about immunization of baby (2.91±.10). Knowledge about this PNC service fell between some extent to large extent but tending more towards large extent. However, physical examination (2.48±.34), family planning services (2.37±.53), physiotherapy (2.29±.55), breast feeding education (2.28±.52), iron and folic acid tablets (2.21±.42) and counseling (2.17±.62) were ranked as 2nd to 7th, respectively. However, knowledge about immunization of herself (after delivery) were ranked as the lowest with a mean value 2.28±.58.

Table 6

Categorization of the study population concerning to type of PNC services they received

PNC services	**Yes**		**No**	
	f	**%**	***f***	**%**
Physical examination	253	70.3	107	29.7
Immunization of baby	346	96.1	14	3.9
Iron and folic acid tablets	107	29.7	253	70.3
Immunization of herself (after delivery)	190	52.8	170	47.2
Family planning services	151	41.9	209	58.1
Counseling	169	46.9	191	53.1
Physiotherapy	122	33.9	238	66.1
Breast feeding education	108	30.0	252	70.0

Table 6 specifies that majority of the sampled mothers received variety of PNC services such as Immunization of baby (96.1%), Physical examination (70.3%) and Immunization of herself (after delivery) (52.8%). However, 46.9 percent received counseling, 41.9 percent received family planning services, 33.9 percent received physiotherapy, 30.0 percent received breast feeding education and 29.7 percent were taking iron and folic acid tablets.

Table 7

Socio-economic factor affecting the utilization of mother-child health care services

		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	1.269	.113		11.197	.000**
	Age	-.982	.086	-.779	-11.453	.000**
	Education	.181	.087	.220	2.090	.037*
	Husbands' education	.190	.097	.235	1.965	.050*
	Family income	.468	.103	.334	4.538	.000**
	Age at marriage	-.205	.075	-.220	-2.748	.006**
	Age at 1st birth	.069	.101	.061	.683	.495NS
	No. of pregnancy	-.086	.081	-.080	-1.058	.291NS

Total No. of children	-.328	.063	-.296	-5.188	.000**
Background	1.147	.106	.630	10.810	.000**

a. Dependent Variable: Utilization of mother-child health care services

R^2 = .64 Adjusted R^2 = .63 F-value = 69.88 P-value = .000**

Multiple regression analysis was carried out to investigate the impact of socio-economic indicators on the utilization of mother-child health care services. To check the model's overall significance of the model R2, adjusted R2 and F-test are used. The respective R2, adjusted R2 and F-test values were calculated as 0.64, 0.63 and 69.88. The value of R^2 indicated that about 64 percent of the total variation in utilization of mother-child health care services is explained by the 8 explanatory variables included in the model. As the primary data is used in the analysis, the estimated value is very high and the overall model is considered as reliable. To check the reliability of model F-test was also used. The calculated value of 69.88 is statistically significant at less than one percent significance level, indicating that all the independent variables included in the model explain the dependent variable.

The dependent variable in this regression model is 'utilization of mother-child health care services' and the continuous independent variables are age, education, husband's education, family income, age at marriage, age at 1st birth, No. of pregnancies, No. of children and background. The impacts of 4 explanatory variables such as education, husband's education, family income and background are positive while that of three variables such as age, age at marriage and no. of children were negative. While age at 1st birth and No. of pregnancies were non-significant. It means, education of the respondents, husbands' education, income and background had positive impact on the utilization of mother-child health care services. However, current age, age at marriage and total no. of children had inverse relation with the utilization of these services. Nisar and White (2003) also presented that the socio-economic factors that influence the utilization of antenatal is decision-making among the reproductive age women in Karachi. According to the findings, people with higher incomes were twice as likely to seek antenatal treatment as women with lower incomes. Since only 25% of the study people were literate, there was no meaningful connection between schooling and obtaining antenatal treatment. People who received antenatal treatment had a higher understanding of antenatal care and dietary requirements than those who did not. According to Tsegay *et al.*, (2013) education and age of the women along with husband's education had a positive impact on the choice of maternal health care facility. Woldemicael & Tenkorang (2010) concluded that women's autonomy in decision-making had a significant affiliation with the maternal and child health. However, compared to the findings from Nepal (Paudel & Pitakmanaket 2010), it has been found that in Ethiopia there is 47% more likelihood that working women will use maternal health care facilities than non-working women. Woldemicael (2007) also reported that in Eritrea and Ethiopia women's independence in decisions regarding visiting friends or relatives and household purchases positively and significantly impacted the utilization of antenatal care services.

Conclusions

It was concluded that a major proportion of the mothers had >25-35 years of age. Mostly of them were matriculated. However, more than one-third of their husbands were matriculated, and one-fifth had higher-level education (above matric). A large proportion of the respondents had Rs. 25,001-50,000 monthly household income. A considerable number of respondents were 21-25 years of age at their first birth. A significant number of the respondents had one to three visits to health clinics for ANC. And a majority of the mothers received a variety of ANC services such as Multivitamin (Iron & folic acid) tablets, immunization and Physical examination. Multivariate analysis showed that current age, age at marriage, and family size had an inverse relationship with the utilization of mother-child

health care services. However, education, husbands' education, and background had a positive relationship with the utilization of mother-child health care services. It can be concluded that the mothers' socio-economic status influenced the utilization of mother-child health care services.

Recommendations

- Governments and healthcare institutions should implement policies that provide affordable or free maternal and child healthcare services, especially for low-income families. This can include subsidizing prenatal and postnatal care costs, vaccinations, and regular health check-ups.
- Implement specific health campaigns with a special focus on educating families with low incomes about the significance of using healthcare services for mothers and children.

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