



Original Research Article

## Perceived Satisfaction towards Utilization of Maternal and Child Health Care Services Among Beneficiaries Attending District Public Health Care Facility of Haryana

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### ABSTRACT

The health of mother and child constitutes one of the major serious concerns. Health care service utilization is a concept of expressing the extent of interaction between the service and the beneficiaries for whom it is intended. Health care utilization behavior is complex and multifaceted. Understanding which factors are most important to health care utilization can assist in disease prevention and treatment through creation of effective health campaigns, policies and promotional programs.

**Objectives:** To determine perceived satisfaction towards utilization of maternal and child health care services

**Methodology:** The present cross sectional, descriptive study was conducted in district public health care facility Nagrik Hospital Rohtak, Haryana. Women of reproductive age group (15-49 years) who had come at least once previously to avail the maternal and child health services were selected through systematic random sampling. Exit interview technique followed and data collected using predesigned, pretested semi-structured schedule. Data was tabulated and analyzed using software Statistical Package for the Social Sciences (SPSS) for Windows version 18.0.

**Results:** Among 226 study participants, 125 beneficiaries utilized maternal health care services and 101 availed child health care services. Socio-demographic and accessibility attributes were found statistically insignificant towards perceived satisfaction for utilization pattern of maternal and child health care services.

**Conclusion and recommendations:** Need of hour is to strengthen the maternal and child health care services and conduct regular health education sessions to enhance perceived satisfaction. Other factors need to be explored for perceived satisfaction.

**Key Words:** Perceived satisfaction, utilization pattern, maternal and child health care services

### INTRODUCTION

The health of mother and child constitutes one of the major serious concerns affecting the community; especially in developing countries. <sup>[1]</sup> Health care service utilization is a concept of expressing the extent of interaction between the service and the beneficiaries for whom it

is intended. <sup>[2]</sup> Utilization of the health services is influenced by the belief about causation of diseases and thereby prompting a person to take a decision to utilize various available health facilities. <sup>[3]</sup>

In many developing countries, complications of pregnancy and childbirth are the leading causes of death among

women of reproductive age group. The overall mortality ratio (MMR) in developing region is 239 per 100,000 live births which are roughly 20 times higher than that of developed regions, where it is 12 per 100,000 live births. The global lifetime risk of maternal mortality is approximately one in 180 for 2015. Globally, an estimated 303,000 maternal deaths occurred in 2015, when the global maternal mortality ratio is estimated to be 216 maternal deaths per 100,000 live births. At the country level, India accounts for 15% (45,000 in numbers) of all global maternal deaths in 2015. [4] At national level, MMR has declined to 167 [Sample Registration Survey (SRS) 2011-13] from as high as 560 (SRS 1990) per 100,000 live births in 1990. As per SRS 2011-13, MMR in Haryana is 127 per 100,000 live births. [5]

In 2015, the world begins working toward a new global development agenda, seeking to achieve, by 2030, new targets set out in the Sustainable Development Goals (SDGs). The proposed SDG target for child mortality aims to end, by 2030, preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births. [6] Regarding the current scenario of mortality in children, infant mortality rate (IMR) is 39 per thousand live births in India and 36 per thousand live births in Haryana (SRS 2012-14). [7]

Government of India launched the Reproductive and Child Health (RCH) programme during 9<sup>th</sup> plan period in 1997-98 by incorporating components relating Child Survival and Safe Motherhood (CSSM) programme with Reproductive and Child Health services in order to effectively improve the health status of women and children. [1] In continuation with this RCH – Phase II began from 1<sup>st</sup> April 2005 focusing reduction of maternal and child morbidity and mortality with emphasis on rural health care. [8] As per 12<sup>th</sup> plan document of planning commission, the flagship

programme of National Rural Health Mission (NRHM) has been strengthened under umbrella of National Health Mission which will have universal coverage of rural as well as urban area. [9]

Health care utilization behavior is complex and multifaceted. Understanding which factors are most important to health care utilization can assist in disease prevention and treatment through creation of effective health campaigns, policies and promotional programs. Likewise, the study of utilization can further prepare health care organizations for the impending growth of heterogeneous populations. Whether or not a specific health care service is utilized and the frequency a service is utilized will have different determinants based on characteristics of the health services provided and the population to whom services are provided. [10,11] For determining of health care system's performance regarding the services being provided are utilized or not by the beneficiaries, the assessment of beneficiaries' perceived satisfaction is a more sensitive indicator than the traditional measures such as morbidity and mortality patterns and more reliable than other methods such as physician peer review etc. [12] A very few study were reported in India for assessing perceived satisfaction of utilization pattern of maternal and child health care services among the beneficiaries attending district public health care facility. Hence information obtained from such kind of study proved to be useful in planning and organizing health care services for the beneficiaries as per their utilization pattern and need of health care services required related to mother and child health.

**Objectives:** To determine utilization pattern of maternal and child health care services availed by the beneficiaries attending district public health care facility

To find perceived satisfaction of beneficiaries regarding utilized maternal and child health care services

## METHODOLOGY

**Study setting:** District public health care facility Nagrik Hospital Rohtak, Haryana

**Study design:** Cross sectional, descriptive study

**Study subjects:** *Inclusion criteria:* 1. Women of reproductive age group (15-49 years) who attended the district hospital for utilizing maternal and child health services  
2. The beneficiaries who had come at least once previously to avail the MCH services

*Exclusion criteria:* 1. Those study participants who had not given consent for the study.

2. Patients who had been referred by doctor and not utilized the health care services

3. Those persons who had come for other than maternal and child health care services and suffering from mental illness.

**Study period:** 1<sup>st</sup> October, 2016 to 31<sup>st</sup> March 2017.

**Sample size:** The perceived satisfaction rate among beneficiaries was reported for utilizing maternal and child health care services in various epidemiological studies vary from 38.5% to 89.4%. [13-18] Taking average value of patient's satisfaction for MCH services utilization (63.95%) and allowable error of 10%, the target sample size was calculated as below.

**Sample size calculation:** The sample size calculated using the Cochran's sample size formula [19] for qualitative categorical data,

$$N = \frac{4pq}{L^2} = \frac{4 \times 0.639 \times 0.361}{(0.1 \times 0.639)^2} = 226$$

Where n = estimated sample size

p = the estimate of the variance = .0.639 (proportion of satisfaction with MCH care services utilization according to the average value in previous studies. [13-18])

q = (1 - p) = (1 - 0.639) = 0.361, 1 = acceptable margin of error i.e. allowable error = (10% of p)

Hence sample size for this study was taken as two hundred and twenty six (226).

**Sampling technique:** The study participants were selected from the registration register through systematic random sampling from those visiting for

outdoor patient (OPD) treatment for utilizing maternal and child health care services and every 10<sup>th</sup> patient was interviewed.

**Data collection:** The investigator himself collected the information by contacting and interviewing these patients in out-patient department using a predesigned, pretested semi-structured schedule from the eligible participants. The questions were developed from a previously published study done by Husan A et al. [13] Exit interview technique was used by investigator.

**Study variables:** The study variables were socio-demographic characteristics of study participants, accessibility to the maternal and child health care services, assessment of utilization pattern and perceived satisfaction towards utilized maternal and child health care services.

Modified Kuppaswamy's classification adjusted according to Consumer Price Index for the month of June 2012 was applied for assessing the socio-economic status of the study subjects. [20]

**Data analysis:** The complete schedules was checked for completeness and coded for entering into Microsoft Excel 2010. Data clean up was performed to check for accuracy, consistencies and completeness. Data was tabulated and analyzed using software Statistical Package for the Social Sciences (SPSS) for Windows version 18.0. The level of perceived satisfaction regarding various components of maternal and child health care services utilization i.e. antenatal care, postnatal care, family welfare, gynecological care, child health care services, immunization, health education, laboratory tests/investigations and overall satisfaction by the beneficiaries was calculated by categorizing the 5 responses on Likert scale [i.e. very dissatisfied (1), dissatisfied (2), neutral (3), satisfied (4), and very satisfied (5)] into two categories i.e. dissatisfied (value  $\leq 3$ ) and satisfied (value  $\geq 3$ ).

**Ethical issue:** Written permission of Medical Superintendent District Hospital Rohtak for conduction of study was taken

and protocol was approved by Department of Master's in Public Health Faculty Maulana Azad University Jodhpur. Written informed consent of study participants was taken in vernacular language before starting the interview with understanding so that identity will not be revealed in any form and the information gathered in this interview will be used only for thesis purposes.

## RESULTS

The present cross-sectional descriptive study was carried out to assess the perceived satisfaction towards utilization pattern of maternal and child health care services provided to beneficiaries attending a district hospital of Haryana. Among 226 study participants, 125 beneficiaries utilized maternal health care services and 101 beneficiaries availed child health care services. In the present study the age of respondents ranged from 18 years to 35 years with the mean age of  $24.2 \pm 4.4$  years. For availing child health care services, 101 respondents were accompanied by their children. The age of children accompanying the respondents ranged from 2 months to 60 months with the mean age of  $18.25 \pm (17.8)$  months.

The present study described the distribution of accessibility attributes to health care facility for utilization of

maternal and child health care service by the beneficiaries.

**Table-I: Socio-demographic attributes of study participants**

Attribute	Study participants N (%)
Age of respondents < 20 years (n=226)	16 (7.1)
20-24 years	99 (43.8)
25-29 years	63 (27.9)
30 years and above	48 (21.2)
Age of children < 6 months (n=101)	51 (50.5)
7-24 months	17 (16.8)
25-60 months	33 (32.7)
Sex of children Male (n=101)	58 (57.4)
accompanied respondents Female	43 (42.6)
Socio-economic status Upper (n=226)	17 (7.5)
Upper middle	34 (15.0)
Lower middle	67 (29.6)
Upper lower	76 (33.6)
Lower	32 (14.2)
Parity Nulliparous (n=226)	58 (25.7)
Primiparous	71 (31.4)
Multiparous	97 (42.9)

(Figures in parentheses indicate percentage)

**Table-II: Distribution of accessibility to the maternal and child health care service utilization by the beneficiaries (n=226)**

Attribute	Study respondents N (%)	
Source of information	Radio/TV/Newspaper	08 (3.6)
	Family/relatives	170 (75.2)
	Friends/neighbours	24 (10.6)
	Health workers	24 (10.6)
Mode of transport	By foot	18 (8.0)
	Rickshaw	143 (63.3)
	Taxi/cab/Bus	20 (8.8)
	Others (own vehicle)	45 (19.9)
Travel time	Less than 15 minutes	82 (36.3)
	15-30 min.	42 (18.6)
	More than 30 min.	102 (44.2)
Cost of travel	No cost	22 (9.7)
	Less than 20 rupees	170 (75.2)
	20 rupees or more	34 (15.1)
Previous visits	Once or twice	89 (39.4)
	More than 3 times	137 (60.6)

(Figures in parentheses indicate percentage)

**Table-III: Distribution of socio-demographic attributes of study participants as per their perceived overall satisfaction towards maternal and child health care services utilization (n=226)**

Socio-demographic attribute	Dissatisfied	Satisfied	Total
Age respondents <20 years (n=226)	5 (2.2)	11 (4.9)	16 (7.1)
20-24 years	21 (9.3)	78 (34.5)	99 (43.8)
25-29 years	21 (9.3)	42 (18.6)	63 (27.9)
30 yrs and above	15 (6.6)	33 (14.6)	48 (21.2)
Total	62 (27.4)	164 (72.6)	226 (100)
df = 3, P value > 0.05			
Age (children) ≤ 6 months (n=101)	12 (11.9)	39 (38.6)	51 (50.5)
7-24 months	4 (4.0)	13 (12.9)	17 (16.8)
25-60 months	7 (6.9)	26 (25.7)	33 (32.7)
Total	23 (22.8)	78 (77.2)	101 (100)
df = 2, P value > 0.05			
Sex (children) Male (n=101)	13 (12.9)	45 (44.6)	58 (57.4)
Female	10 (9.9)	33 (32.7)	43 (42.6)
Total	23 (22.8)	78 (77.2)	101 (100)
df = 1, P value > 0.05			
Socio-economic Upper	8 (3.5)	24 (10.6)	32 (14.2)
Status Upper middle	19 (8.4)	57 (25.2)	76 (33.6)
Lower middle	24 (10.6)	43 (19.0)	67 (29.6)
Upper lower	6 (2.7)	28 (12.4)	34 (15.0)
Lower	5 (2.2)	12 (5.3)	17 (7.5)
Total	62 (27.4)	164 (72.6)	226 (100)
df = 4, P value > 0.05			

(Figures in parentheses indicate percentage) \*p > 0.05 shows statistically insignificant

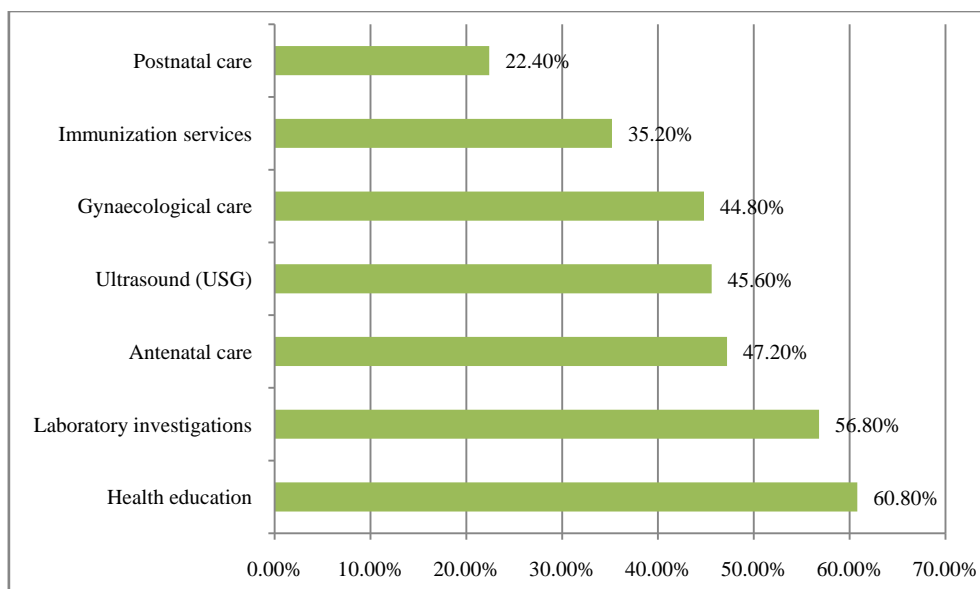
**Table-IV:** Distribution of accessibility to the health care facility utilization attributes of respondents as per their perceived overall satisfaction (n=226)

Accessibility to health care facility	Dissatisfied	Satisfied	Total
Source of Radio/TV/ Newspaper information	3 (1.3)	5 (2.2)	8 (3.5)
Family/relatives (n=226)	46 (20.4)	124 (54.9)	170 (75.2)
Friends/neighbors	7 (3.1)	17 (7.5)	24 (10.6)
Health workers	6 (2.7)	18 (8.0)	24 (10.6)
Total	62 (27.4)	164 (72.6)	226 (100)
df = 3, P value > 0.05			
Mode of transport			
By foot	3 (1.3)	15 (6.6)	18 (8.0)
Rickshaw	39 (17.3)	104 (46.0)	143 (63.3)
Taxi/cab/bus	6 (2.7)	14 (6.2)	20 (8.8)
Others (own vehicle)	14 (6.2)	31 (13.7)	45 (19.9)
Total	62 (27.4)	164 (72.6)	226 (100)
df = 3, P value > 0.05			
Travel time			
< 15 minutes	28 (12.4)	54 (23.9)	82 (36.3)
15-30 minutes	6 (2.7)	36 (15.9)	42 (18.6)
>30 minutes	28 (12.4)	74 (32.7)	102 (45.1)
Total	62 (27.4)	164 (72.6)	226 (100)
df = 2, P value > 0.05			
Cost of travel			
No cost	6 (2.7)	16 (7.1)	22 (9.7)
< 20 rupees	45 (19.9)	125 (55.3)	170 (75.2)
20 rupees or more	11 (4.9)	23 (10.2)	34 (15.0)
Total	62 (27.4)	164 (72.6)	226 (100)
df = 2, P value > 0.05			
Frequency of visits			
2-3 times	24 (10.6)	65 (28.8)	89 (39.4)
More than 3 times	38 (16.8)	99 (43.8)	137 (60.6)
Total	62 (27.4)	164 (72.6)	226 (100)
df = 1, P value > 0.05			

(Figures in parentheses indicate percentage) \*p > 0.05 shows statistically insignificant

The present study described the perceived satisfaction regarding maternal and child health care services utilization by the beneficiaries attending district public health care facility. The maternal health care

services utilized (n=125) were antenatal care, postnatal care, gynecological care, health education, immunization, laboratories investigations and ultrasound services (Figure-1).



**Figure-1: Maternal health care services availed by the beneficiaries**

The child health care services utilized (n=101) were medical care, immunization, laboratories investigations and other services (Figure-2).

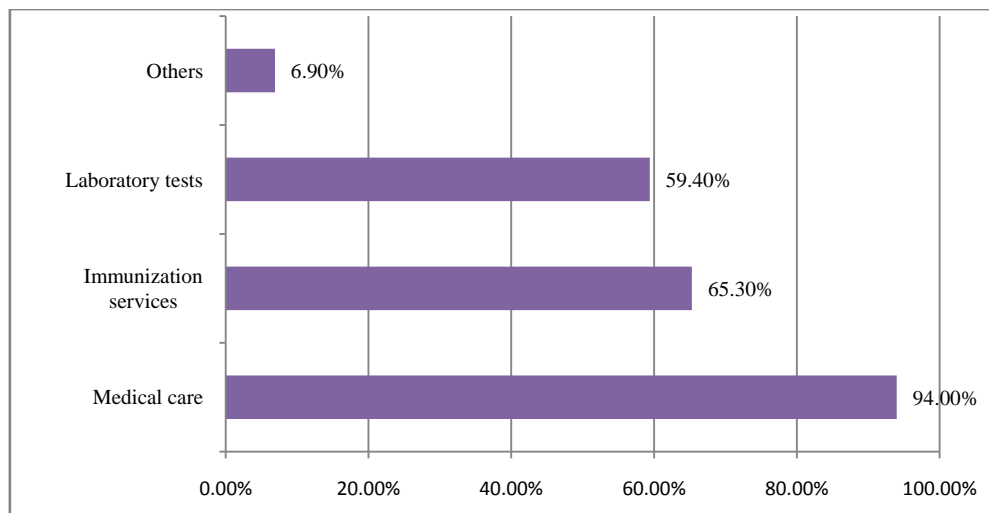


Figure-2: Child health care services availed by the beneficiaries

## DISCUSSION

The present study was undertaken at district health care facility, Nagrik Hospital Rohtak to assess the perceived satisfaction regarding utilization pattern of maternal and child health care services provided to the beneficiaries. The socio-demographic characteristics of study respondents provide useful insight into factors which influence their health seeking behavior for availing maternal and child health care services. The present study described the age of respondents ranged from 18 years to 35 years with the mean age of  $24.2 \pm 4.4$  years. Majority of respondents (43.8%) were in the age group of 20-24 years followed by 27.9% in age group of 25-29 years. Similar observations were recorded in the study conducted by Das P et al [15] in their study "Client satisfaction on maternal and child health services in rural Bengal" and Hasan A et al [14] in their study "Patient satisfaction with maternal and child health services among mothers attending the maternal and child health training institute in Dhaka, Banglaesh". Maternal health care services were maximally utilized by this age group of beneficiaries (20-29 years) as this age of child bearing is considered as normal age for giving birth and rearing of children.

101 respondent beneficiaries were accompanied by their children to avail child health care services. The age of children accompanying the respondents ranged from 2 months to 60 months with the mean age of

$18.25 \pm (17.8)$  months. Half of them 50.5% were in the age group of <6 months followed by 32.7% in the age group of 25-60 months while 16.8% of them were in the age group of 7-24 months. It is due the fact that major causes of illnesses like respiratory infections, diarrheal diseases etc. occurred more during the first year of life and services being utilized for immunization of children mostly in first year of life. According to gender distribution of the children accompanying the respondent mothers, nearly three fifth (57.4%) were males and two fifth (42.6%) were females. Hence maximally children seeking care from health care facility were males (57.4%) as compared to female children which might be due to gender preponderance for utilizing health care services.

Majority of the respondents (77%) were home maker, however as far as occupation of head of the family is concerned majority of them were unskilled worker (44.3%).

"A qualitative analysis of maternal and child health services of an urban health centre, by assessing clients perception in terms of awareness, satisfaction and service utilization" the study conducted by Banerjee B et al [13] found that majority of the study participants were housewives and another study conducted by Hasan A et al [14] reported the similar observations.

It is also described that majority of the respondents were graduate (23.0%) followed by high school (22.6%), senior secondary (19.0%) and not literate were 7.1%. As far as literacy status of head of the family is concerned majority among them (24.8%) were senior secondary and graduate each followed by high school (19.5%) and not literate were (5.3%).

A study carried out by Sharma PK et al on "Health care services in Punjab: findings of a patient satisfactory survey" in year 2008. [21] The authors found that maximum number of participants had secondary education (34.1%) followed by high school. Kapil U also revealed in his study that majority of the beneficiaries were senior secondary level. [22] The findings were inconsistent with our study to the literacy status among majority of head of the family of the respondents. However majority of the respondents were graduate followed by high school and then senior secondary school. The present study was conducted in urban area which might be the possible reason for improved literacy status of the study population. Also various study reported that literacy status significantly affect the perceived satisfaction towards services utilization by the beneficiaries. [21-23] However literacy status of beneficiaries utilizing health care services here in this study not significantly affects the perceived satisfaction towards service utilization. This is due to the fact that there might be other factors responsible for determining perceived satisfaction towards utilization pattern of health care services.

The study also revealed the socioeconomic status and majority of the households (33.6%) belonged to upper lower socio-economic class followed by lower middle (29.6%), upper middle (15.0%), lower socio-economic status (14.2%) and only 7.5% were belonged to upper socio-economic class as per modified Kuppaswamy's socio-economic scale. [20] Public health care facilities were utilized maximally by low socio-economic status group of the families; the findings were

inconsistent with the findings of study conducted by Ghosh BN et al. The authors observed that the lowest socio-economic strata of the beneficiaries seek maximally health care services and higher income group utilized the services least. [24]

As far as parity of the respondents mother was concerned majority of the participants (42.9%) were multipara followed by primipara (31.4%) and one fourth (25.7%) were nullipara. Similar observations were inconsistent with the findings of the study that majority beneficiaries attended the public health care facility were multipara due to that they had availed the maternal and child health care services from there previously. [14,16,25]

The present study described that for majority of the respondents' source of information about the health care facility from family members/ relatives (75.2%). However in study conducted by Hasan A et al observations were lower than that of our study but major source among beneficiaries for accessibility to the health care facility were family members/ relatives. [14] Accessibility to the health care services for beneficiaries got popularity for availing health care facility usually from family members/relatives due to their past experiences shared among them.

The present study described that accessibility of health care facility using mode of transport. A study conducted by Mirza R et al [25] reported that majority of the beneficiaries accessed the health care facility by walking which is different from our study i.e. majority of the respondents accessed this health care facility by rickshaw (63.3%) and by walking only 8.8% of beneficiaries. The present study reported that 54.9% of the study participants reached within 30 minutes and three fourth of the respondents (75.2%) spent less than 20 rupees to avail health care services. However an international study conducted in year 1988 by Gish O et al "Who gets what- utilization of health services in Indonesia" observed that utilization of health care services significantly affected by

distance from health facility. [24] A study conducted by Spizer IS, Bollen KA in year 2000 on “Perception of family planning service quality corresponds to objective measures at Tanzania”. The authors found that study participants perceived minimum utilization of health care services among those who travelled from long distance as compared to those travelled from nearby health facility. [26]

A study conducted by Verma R et al “Evaluation of utilization of health care services under Employees State Insurance Scheme in district Rohtak Haryana.” The authors reported that major antecedents for service utilization were beneficiaries’ place of residence from location and distance from the health care facility. [23] The difference in perceived satisfaction towards this accessibility attribute of mode of transport, time taken and money spent reach for utilizing health care services was found to be statistically insignificant meaning thereby these accessibility attributes were not the significant factors for perceived satisfaction for utilization of maternal and child health care services as described in our study. It might be due the fact that majorities of beneficiaries were utilizing some means of transportation for accessibility to availing the maternal and child health care services and had to spent money for reaching to utilize health care services. Also there might be some other factors which contribute towards perceived satisfaction for utilization of maternal and child health care services and need to be explored for further elaboration of concept.

Nearly three fifth of the study participants (60.6%) had visited this health care facility more than three times or more while two fifth (39.4%) visited it once or twice previously. Perceived satisfaction was more among the beneficiaries who availed the health care services previously as they had more exposure towards the services being provided and might be considered as selection bias for overestimation of perceived satisfaction.

The present study described the maternal and child health care services utilization pattern among beneficiaries who availed these health care services. The most common maternal health care services availed by the beneficiaries from health care facility was health education (60.8%) followed by laboratory investigations (56.8%), antenatal care (47.2%), ultrasound services (45.6%), gynecological services (44.8%), immunization (35.2%) and postnatal care services (22.4%). The study also described that most common child health care services availed by beneficiaries was medical care (94.0%) followed by laboratory services (65.3%), immunization services (59.4%) and others (6.9%).

In a study conducted in Eastern region of India by Das P et al in 2010 on “Client satisfaction on maternal and child health services in rural Bengal” found most common health care service availed was antenatal care and immunization services. [15] However Banerjee B et al revealed the health care services maximally utilized were immunization, laboratory investigations and medical services for illness. [13] The utilization pattern of the health care services depends on the health care facility and availability of concerned staff for providing the particular health care services to the beneficiaries came there for availing the services. Here the beneficiaries availed health education, laboratory investigations, antenatal care, and ultrasound services and gynecological services the most. However for child health care services beneficiaries availed medical care for their children the most. It might be due to the fact availability of three pediatricians in the health care facilities for providing medical care round the clock.

## CONCLUSION AND RECOMMENDATIONS

The study reported that difference in the perceived satisfaction towards utilized different maternal and child health care services was found to be statistical significant for all the assessed maternal and



child health care services. However the factors governing socio-demographic and accessibility attributes to reach health facility were not contributing towards perceived satisfaction for utilization pattern of maternal and child health care services.

Hence need of hour is to strengthen the provided maternal and child health care services and conduct regular health education sessions to enhance perceived satisfaction towards maternal and child health care services utilized by the beneficiaries. There might be certainly other factors which need to be explored for further elaboration of the concept of perceived satisfaction towards utilization of maternal and child health care services.

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**Conflicts of interest:** nil declared

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