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Determinants of Maternal and Child Health Services in Bihar: A Literature Review

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Abstract – Bihar is one of the states of India having lowest health profile. The accessibility of health facility is very poor. Child bearing is one of the hazardous experiences that women engage in while bringing a new life to this world. It is often associated with complications that may cause morbidities, disabilities and mortalities. Skilled attendance at childbirth is crucial for decreasing maternal and neonatal mortality ,yet many women in low- and middle-income groups deliver outside of health facilities, without skilled help. The main conceptual framework in this field implicitly looks at home births with complications. The level of utilization of maternal and child healthcare in Bihar is low. Use of maternal health services is an effective means for reducing the risk of maternal morbidity and mortality, especially in places where the maternal and child health services utilization is poor. The main objective of this study is to assess the factors affecting utilization of Maternal and child health services in Bihar.

Keywords: Antenatal care, Factors, Maternal and child services, Postnatal care, Utilization

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INTRODUCTION

Child bearing is one of the hazardous experiences that women engage in while Bringing a new life to this world. It is often associated with complications that may cause morbidities, disabilities, and mortalities. World Health Organization estimates that more than half a million women lose their lives in the process of reproduction worldwide every year; of these deaths, about 99 percent are from developing countries. In addition to the risk of dying during pregnancy and childbirth, many more women suffer from short and long-term maternal disabilities and illness. According to WHO (2001) for every maternal death, an estimated 30 to 50 women suffer pregnancy related health problems such as infertility and depression that can be permanently debilitating. Globally more than 70 percent of maternal deaths are due to complications. The World Bank estimates that 74 percent of maternal deaths could be averted if all women had access to interventions that address complications of pregnancy and childbirth, especially emergency obstetric care. Similarly, studies that focused on maternal morbidity and mortality in developing countries have repeatedly recommended the need for antenatal care and availability of trained personnel to attend women during labor and delivery.

Maternal and child healthcare services are very important for the health outcomes of the mother and that of the child by ensuring that both maternal and child deaths are prevented. Many health programs have been launched in the country in last two-three decades for women and child health care. Health care utilization overall, and for maternal health specifically, has improved in India but Maternal mortality and morbidity continue to be high despite the existence of national programs which could be due to sub optimal levels of utilization of services especially amongst the rural poor and urban slum population. Studies have also found the need for such services is greatest, i.e., among disadvantaged populations. Various studies conducted worldwide and in India have recognized socio-economic, demographic factors and service delivery environment as important determinants for the use of maternal health services. Caring for the carers of children is an extremely important topic. Studies show that maternal health is essential to ensure the health of children - and, by extension, the whole family. Still, many mothers suffer from lack of access to health, poor conditions and poor quality of life – especially in developing countries. A healthy child needs a healthy mother. According to the United Nations Children's Fund (UNICEF), at least 20% of the disease burden in children under 5 is related to problems in maternal health and malnutrition, as well as the quality of care at delivery and during the newborn period. Moreover, according to UNICEF, a baby whose mother dies during childbirth is less likely to survive, and children who lost their mothers are 10 times more likely to die within two years of the death of their mothers."No child can be happy with an unhappy

or sick mother", "The care of the mother has to be intensive, not only in prenatal care, but also postpartum. The mother needs to be well, both physically and mentally, to take good care of her child. "Mothers are also fundamental to ensure the health and quality of life of children. According to the World Health Organization (WHO), mothers are the main providers of care such as nutrition, oral health and psychological health. The role of women in health is also important: data from a survey conducted by Kantar Health in 2015 show that most health decisions are made by women. According to the survey, 94% of women make decisions of their own healthcare and 59% make healthcare decisions for others. So ensuring the mother's health is a way to ensure the health and well-being of the entire family.

The Maternal Mortality Ratio (MMR) estimate for the country indicates an overall decline from 212 in 2007-09 to 178 per one lack live births in 2012, resulting in saving lives of about 9,000 mothers per year (The Hindu, Bangalore, December 26, 2013). Maternal mortality is affected by a range of socioeconomic and cultural factors, such as women's status in the household and society, their educational and economic status, accessibility facility (distance, transport) and availability and quality of care (availability of staff and equipment in the health facility) (Singh et al., 2011). The aim of maternal health services in reducing infant and maternal morbidity and mortality was received in increasing recognition since the Cairo Conference on Population and Andersen's health care utilization and behaviour model have been adapted to consider more system-level measures and to focus on the availability, accessibility and organization of services during last 40 years (Aday & Andersen, 1974). Keeping it in mind the appropriate behavioural model for maternal health care utilization adopted for this study has included predisposing factors, enabling factors, need factors and environmental variables (Andersen, 1995). Existing studies have found that people living in the poorest neighbourhoods are least likely to receive adequate care (Pearl et al., 2001; Collins Schulte, 2003; Magadi et al., 2003). These deaths were unadjusted and might be avoided with essential health interventions, like provision of antenatal care and medically assist redelivery (Adam et al. 2005; MCcaw - Binns et al., 2007). Women's autonomy has also been found to be associated with lower child mortality and better maternal and child health (Kishor, 2000).

India is a one in developing nations with a high rate of maternal mortality. Government launched many maternal health care (MHC) programmes to reduce MMR and some other maternal and child health complication. But, it still lacks behind to fulfil Millennium Development Goal (Gogoi, Unisa & Prusty, 2014). Progressing of MCH is one of the essential components of the RCH programme for woman to receive at least three antenatal check-up, two Tetanus Toxoid injections (TT) and a full course (100 tablets) of Iron and folic acid supplementation. Maternal health is more affects by the nation's socioeconomic diversity. However, according to the special bulletin on maternal mortality in India 2010-2012 (SRS, December, 2013), the maternal mortality ratio (MMR) for Bihar is 219 per 100,000 live births, but at India level is 178. Moreover, according to Indian census 2011, female Literacy Rate of Bihar is 53.33% and for India is 65.46 %. Healthcare Infrastructure of Bihar is not fulfilled the required target of both governments of India and Government of Bihar. Required sub-Centre in the state was 18533, but 9696 units were in a position, so that 8837 shortfalls was observed according to the latest estimates available through Health statistics of the Government of India 2012. Required Primary Health Centre was 1863 in the position of 3083, and shortfall was observed up to 1220. Required Community Health Centre in Bihar was 770, but only 70 in place so 700 shortfalls that were around 91 percent of the CHC infrastructure in the state. Female health worker, ANM at sub-centres & PHCs 11559 required 16943 in place. Male health Worker at sub-Centres 9696 required 1074 in position 8622 shortfall. Female health Assistant at PHCs 1863 required 358 in position 1505 shortfall. Male health Assistant at PHCs 1863 required (Ministry of Health & F.W., and GOI, RHS Bulletin, March, 2012). So, there is a need i) to analyze the utilization of maternal health care services and ii) determinants that affects utilization of maternal health care services in Bihar.

Bihar is one of the poorest states in India as approximately 55 % of populations lives below the poverty line. There is an overwhelming need for quality health care facilities and workers in this region. In the past ten years, the World Bank Group and the Bill and Melinda Gates Foundation have made great strides toward the improvement of healthcare in Bihar. The world bank's collaboration with the Bihar Government led to an increase in the accountability and accessibility of healthcare from 2005 to 2008. By 2008, the number of outpatients visiting a government hospital grew from 39 per month to almost 4,500. The number of babies delivered in healthcare facilities also increased from some 100,000 to 780,000.

Bihar's infant and maternal mortality rates are higher than India's national average. According to the Sample Registration Survey in India conducted in 2013, 208 women per 100,000 died during childbirth. Furthermore, 28 out of every 1,000 newborns die within their first month of life. Most of these deaths are preventable if basic care is provided to women and newborns during and immediately following childbirth. Unfortunately, the infrastructure of healthcare in Bihar falls short in

nearly all required categories, including the number of health assistants and nurses.

Maternal and Child Health Care Indicators :- Four dichotomous dependent variables measure utilization of maternal and child health care-

- **Safe Delivery:** Safe delivery is considered as institutional delivery performed in a health institution.
- **Full immunization:** Children who received one dose each of the BCG and measles vaccines and three doses each of the DPT and polio vaccines.
- **Full antenatal Care:** At least three antenatal care visits during pregnancy, received 100 Iron Folic Acid (IFA) tablets and two Tetanus Toxoid injections.
- **Assistant during delivery:** This variable explains whether the women received any assistance from health professionals during delivery or it occurs through traditional birth measures.

Factors affecting utilization of maternal and child health services:-

Health services utilization depends on a number of factors. These factors can be understood through the demand–supply framework (Ensor & Cooper, 2004). In the demand–supply framework, demand-side determinants are defined as individual, household, or community characteristics that influence the demand for health services. These factors may operate at the individual, household, or community level. In contrast, supply-side factors are those characteristics of the health system that exist beyond the control of potential health service users, such as health facilities, drugs, equipment, finances, human resources, geographic distance, and so on (Peters et al., 2008). A number of previous studies have identified several demand-side factors as important obstacles to health care utilization in developing countries (Ensor & Cooper, 2004; Kesterton et al., 2010; O'Donnell, 2007;

Table 1 : Comparative data of health care uses among mothers and child

Sr. No. (Dimension)	Sr. No. (Indicator)	Dimension/ Indicator	Bihar		India	
1.		**Health care status**	**NFHS 3**	**NFHS 4**	**NFHS3**	**NFHS 4**
	1	Mothers who had at least four antenatal care visits (%)	11.20	14.40	37.00	51.20
	2	Mothers who consumed iron-folic acid for 100 days or more when they were pregnant (%)	6.30	9.70	15.20	30.30
	3	Mothers who received postnatal care from a health personnel within two days of delivery (%)	13.40	42.30	34.60	62.40
	4	Mothers whose last birth was protected against neonatal tetanus (%)	73.20	89.60	76.30	89.00
	5	Institutional births (%)	19.90	63.80	38.70	62.40
	6	Births assisted by a health personnel (%)	29.30	70.00	46.60	81.40
	7	Births delivered by caesarean section (%)	3.10	6.20	8.50	17.20
	8	Births in a private health facility delivered by caesarean section (%)	17.20	31.00	27.70	40.90
	9	Births in a public health facility delivered by caesarean section (%)	7.60	2.60	15.20	11.90
2		**Some determinant of women's health**				
	1	Women who are literate (%)	37.00	49.60	55.10	68.40
	2	Women age 20-24 years married before age 18 years (%)	60.30	39.10	47.40	26.80
	3	Women who have comprehensive knowledge of HIV/AIDS (%)	11.70	10.10	17.30	20.90
	4	Any contraceptive method used (%)	34.10	24.10	56.30	53.50
	5	Women who use any kind of tobacco (%)	8.00	2.80	10.80	6.80
3		**Infant mortality rate**	61	48	57	41

Data source : NFHS3 and NFHS4

Sharma, 2009). However, only a few have truly addressed supply-side barriers (Metcalfe & Adegoke, 2013). Although many studies have documented the shortages of drugs, equipment, physical infrastructure, finances, and human resources in the provision of health care (Bajpai, Dholakia & Sachs, 2008; Bajpai, 2014; Bhandari & Dutta, 2007; Hazarika, 2013; Raut-Marathe, Sardeshpande & Yakkundi, 2015; Varatharajan, Thankappan & Jayapalan, 2004), the evidence on how these supplyside factors affect service provision at publicly funded rural health facilities in India is still very sparse (Kumar & Dansereau, 2014).

Some important factors are:-

1. **Financial accessibility:-** It refers to the relation between financial capability of the family and costs of a facility delivery.

A) **Mother's occupation:-** Working women who are earning money may be able to save and decide to spend it on a facility delivery. However, in many situations women either do not earn money for their work or do not control what they earn. Factors associated with occupation may include education, wealth and place of residence. Several studies found that farming women are less likely to have skilled attendance at delivery than women in other occupations. This may be caused by limited financial resources and health services in rural areas. A number of studies do not find any effect of maternal working status or occupation, while others find that formally employed women are more likely to use delivery services.

B) **Husband's occupation:-** Wives of husbands with higher salaried occupations

could be more able to use facilities for delivery as greater wealth, make it easier for the family to pay costs associated with skilled delivery care. Most studies find that higher salaried occupation of the husband is associated with skilled attendance at delivery.

C) **Ability to pay:-** The cost of care-seeking include costs of transportation, medications and supplies. Where women cannot travel alone, accompanying adults or children for whom no caretaker can be found increase transportation costs and costs for staying overnight in the town where the health facility is located . Households on a limited budget have great difficulties to pay these costs and therefore be less likely to use a health facility for delivery. Another reason for greater avoidance of use of services is that "families with higher living standard are more modern and therefore more receptive towards modern health care services".On a larger scale, communities with less economic development are likely to be more traditional, give women less autonomy and have less positive attitudes towards service use . An alternative mechanism how economic status affects care-seeking is that the "characteristics of the health facilities serving the poor may discourage use". Nearly all qualitative studies shows cost as an important barrier to formal care. A study found that poorer communities in both rural and urban areas are further away from a hospital, that staffing, equipment and drug supplies in their closest health centre are worse, and that delivery at facilities and with skilled providers is less common.

2. Physical accessibility:- physical accessibility affects indirectly and directly the delay in achieving healthcare facilities.

A) **Region and place of residence:-** services and social environments are very different in urban and rural areas, strong urban-rural differences in use of delivery care are expected. Place of residence may be included education, ability to pay, religion, beliefs, information availability, autonomy, availability, accessibility of services and quality of services. studies found a large advantage for urban women compared to rural women, and even larger for those living in large cities or in the capital.

B) **Distance and transport:-** Distance to health services leave a dual influence on use, as an actual obstacle to reaching care after a decision has been made to seek it . Many pregnant women do not even attempt to reach a facility for delivery since walking many kilometres is difficult in labour and impossible if labour starts at night, and transport means are often unavailable. The obstacle effect of distance is stronger when combined with lack of transport and poor roads. A number of studies have examined the effect of distance. Some also considered road quality, bus services or transportation means. Many studies mention distance as an important deterrent from delivering in facilities, in particular when labour starts unexpectedly or at night and in the absence of transport options. The majority of studies that include distance report less use of skilled attendance at delivery in women living far away from a health care facility.

3. Perceived benefits and needs:- These factors influencing the perception of how a facility delivery with skilled attendance would benefit mother and newborn and how big is the personal need for such care . This perception is shaped by general awareness of the dangers of childbirth and information's available at health facilities.

A) **Information availability:-** Access to information through modern media could influence women's knowledge about delivery risks and availability of services. Many studies examine exposure to radio or TV and to family planning messages in the media.

B) **Health knowledge:-** Knowledge about the risks of childbirth and the benefits of skilled attendance always increase preventive care-seeking, while recognition of danger signs. Contact with a skilled attendant could increase specific knowledge on childbirth via health education. Specific knowledge may also be associated with educational level in general.

C) **Desire to pregnancy:-** Women with unwanted pregnancy may be less likely to invest in skilled attendance at delivery than those who attach high value to the expected child. However, delivery care may be sought due to the risk for the mother rather than the child.

D) **Quality of care:-** Assessment of quality of services largely depends on own experiences with the health system and those of people they know. Although some elements such as waiting times can be measured and satisfaction with the service received – including staff friendliness, availability of supplies and waiting times. Perceived interpersonal quality of care overlaps to some extent with traditional beliefs and possibly sometimes with ethnic

discrimination. Concerns about quality interact with other barriers, for example with distance or cost. Several studies of service use in the literature report quality of care to be an important issue, with staff attitudes featuring prominently. Many women report dissatisfaction with rude, arrogant and neglectful behaviour at health facilities.

E) **Antenatal care:-** Antenatal care (ANC) services can provide opportunities for health workers to promote a specific place of delivery or give women information on the status of their pregnancy, which in turn informs their decisions on where to deliver. Risk assessment during ANC may explicitly recommend a place of delivery, for example to deliver in a hospital for a twin pregnancy.

F) **Previous delivery service use:-** Women who delivered with a skilled attendant previously become more familiar with this setting, which may make them more likely to use it again. Also most determinants, particularly those that do not change (e.g. education, place of residence, beliefs) which influence a previous place of delivery, are likely to operate in the same fashion again. Studies indicate that women tend to deliver with the same provider if a previous delivery went well and tend to change when they are dissatisfied.

G) **Birth order:-** The first birth is known to be more difficult and the woman has no previous experience of delivery. Often a high value is placed on the first pregnancy and in some settings the woman's natal family helps her get the best care possible. Very high-order births, however, are more risky. Additionally, women with several small children may have greater difficulty in attending facilities due to the need to arrange child care.

H) **Complications:-** Complications experienced during previous deliveries or loss of the newborn can make women aware of the dangers of childbirth and the benefits of skilled interventions and thus make them use skilled attendance for subsequent deliveries. complications during an attempted home delivery often influence women and their families to seek professional care, even though the original intention was to deliver at home.

4. Socio cultural factors:- Sociocultural factors influence decision-making on whether to seek care, rather than affecting whether women reach a facility.

A) **Maternal age:-** Age is an important factor in the use of health services. Older women are possibly more confident and influential in decision-making than younger women, and then adolescents in particular. Older women may be told by health workers to deliver in a facility since older age is a biological risk factor . On the other hand, older women may belong to more traditional cohorts and thus be less likely to use modern facilities than young women. Most studies on determinants of delivery service use consider age, find either no effect of age or a higher use of skilled attendance among older mothers compared to younger mothers.

B) **Religion and traditional beliefs :-** Religion is often considered as markers of cultural background and are thought to influence beliefs, norms and values in relation to childbirth and service use and women's status. Certain ethnic or religious groups may be discriminated against by staff, making them less likely to use services. In many societies, minority ethnic or religious groups may live in remote areas with worse health infrastructure and transport. Inadequate control for socioeconomic position, place of residence or access to services will lead to residual confounding.

C) **Family composition:-** Women with young children may have difficulties finding child-care while they deliver at a health facility, in particular if they live in a nuclear family. Sometimes women are accompanied by family members during their hospital stay, so that even these cannot take care of other children during the time. Living with an extended family may also influence decision-making power of the woman; and the number of small children at home may also be a proxy for socioeconomic status, which may be hard to control for. Few studies consider family composition. Some find a significant influence of the number of births in the previous five years on whether the mother delivered the index birth in a health facility

D) **Mother's education:-** Maternal education is consistently and strongly associated with all types of health behaviour. These include increased knowledge of the benefits of preventive health care and awareness of health services, higher receptivity to new health-related information, socialisation to interact with formal services outside the home environment, familiarity with modern medical culture, access to financial resources and health insurance, more control over resources within the

household and wiser spending, more egalitarian relationship and better communication with the husband, more decision-making power, increased self-worth and self-confidence, better coping abilities and negotiating skills as well as reduced power differential towards health care providers and thus better communication and ability to demand adequate services.

E) **Husband's education:-** Educated husbands may be more open toward modern medicine[11], aware of the benefits of skilled attendance and more able to communicate with health workers and demand appropriate care, as described for women's education. Husband's education is associated with occupation and with household wealth. Some studies even use husband's education as their measure of household socioeconomic status. Nearly all studies that consider husband's education find that higher education is associated with skilled attendance at delivery, although the effect is often less than that of the mother's own education.

F) **Women's autonomy:-** The various dimensions of autonomy, such as position in the household, financial independence, mobility and decision-making power regarding one's own healthcare, may all impact on health facility use. In many countries, women cannot decide on their own to seek care, but have to seek permission from a husband or mother-in-law. Several studies examine the effect of autonomy dimensions on use of skilled attendance at delivery. Dimensions studied include freedom of movement, aspects of decision-making, control over earnings, communication and sharing of housework with the husband, sex of household head and presence of the mother-in-law in the household.

Table 2 : Data about utilization of MCH services

Indicators	**NFHS-4 (2015-16)**			**NFHS3 (2005-06)**
Maternal and Child Health	**Urban**	**Rural**	**Total**	**Total**
Maternity Care				
1.Mothers who had antenatal check-up in the first trimester (%)	50.4	32.7	34.6	18.7
2. Mothers who had at least 4 antenatal care visits (%)	26.3	13.0	14.4	11.2
3. Mothers whose last birth was protected against neonatal tetanus (%)	93.1	89.1	89.6	73.2
4.Mothers who consumed iron folic acid for 100 days or more when they were pregnant (%)	12.3	9.4	9.7	6.3
5.Mothers who had full antenatal care (%)	6.6	3.0	3.3	4.2
6.Registered pregnancies for which the mother received Mother and Child Protection (MCP) card (%)	76.2	80.3	79.9	na
7.Mothers who received postnatal care from a doctor/nurse/LHV/ANM/midwife/ other health personnel within 2 days of delivery (%)	52.6	41.1	42.3	13.4
8.Mothers who received financial assistance under Janani Suraksha Yojana (JSY) for births delivered in an institution (%)	40.0	55.8	53.9	na
9. Average out of pocket expenditure per delivery in public health facility (Rs.)	1,835	1,778	1,784	na
10.Children born at home who were taken to a health facility for check-up within 24 hours of birth (%)	2.1	1.7	1.8	0.4
11.Children who received a health check after birth from a doctor/nurse/LHV/ANM/ midwife/other health personnel within 2 days of birth (%)	16.5	10.1	10.8	na
Delivery Care				
12.Institutional births (%)	74.3	62.6	63.8	19.9
13.Institutional births in public facility (%)	42.7	48.2	47.6	3.5
14.Home delivery conducted by skilled health	5.7	8.5	8.2	9.7

personnel (out of total deliveries) (%)				
15. Births assisted by a doctor/nurse/LHV/ANM/other health personnel (%)	79.0	68.9	70.0	29.3
16.Births delivered by caesarean section (%)	13.9	5.4	6.2	3.1
17.Births in a private health facility delivered by caesarean section (%)	37.1	29.5	31.0	17.2
18. Births in a public health facility delivered by caesarean section (%)	5.0	2.3	2.6	7.6
Child Immunizations and Vitamin A Supplementation				
19. Children age 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT) (%)	59.7	61.9	61.7	32.8
20.Children age 12-23 months who have received BCG (%)	91.5	91.7	91.6	64.7
21.Children age 12-23 months who have received 3 doses of polio vaccine (%)	71.6	73.0	72.9	82.4
22.Children age 12-23 months who have received 3 doses of DPT vaccine (%)	79.3	80.2	80.1	46.1
23.Children age 12-23 months who have received measles vaccine (%)	77.3	79.6	79.4	40.4
24.Children age 12-23 months who have received 3 doses of Hepatitis B vaccine (%)	64.7	65.5	65.5	na
25.Children age 9-59 months who received a vitamin A dose in last 6 months (%)	58.6	62.7	62.3	25.1
26.Children age 12-23 months who received most of the vaccinations in public health facility (%)	87.0	96.4	95.5	73.2
27.Children age 12-23 months who received most of the vaccinations in private health facility (%)	11.4	3.2	3.9	9.8
Treatment of Childhood Diseases				
28. Prevalence of diarrhoea (reported) in the last 2 weeks preceding the survey (%)	8.0	10.7	10.4	10.7
29.Children with diarrhoea in the last 2 weeks who received oral rehydration salts (ORS) (%)	62.1	43.8	45.2	20.9
30.Children with diarrhoea in the last 2 weeks taken to a health facility (%)	56.3	54.7	54.9	56.1
31. Children with fever or symptoms of ARI in the last 2 weeks preceding the survey taken to a health facility (%)	57.0	60.1	59.8	61.9
Child Feeding Practices and Nutritional Status of Children				
32.Children under age 3 years breastfed within one hour of birth (%)	41.8	34.1	34.9	4.0
33.Children under age 6 months exclusively breastfed (%)	46.8	54.1	53.4	28.0
34.Children age 6-8 months receiving solid or semi-solid food and breastmilk10 (%)	41.2	29.5	30.8	54.5
35.Breastfeeding children age 6-23 months receiving an adequate diet (%)	8.4	7.1	7.3	na
36.Non-breastfeeding children age 6-23 months receiving an adequate diet (%)	11.0	9.0	9.2	na
37.Total children age 6-23 months receiving an adequate diet (%)	8.8	7.4	7.5	na

Data source: NFHS3 and NFHS4

CONCLUSION:-

There is a significant variation in the usage of maternal and child healthcare services in Bihar. Resource-rich people (urban residents and richest population) are way ahead of marginalised people (rural residents and poorest population) in the usage of healthcare services. Coverage of health service interventions, as an important outcome and essential part of any policy to monitor improvement of health programmes, is well recognised in the literature. Microlevel planning complemented by careful monitoring and evaluation of the current programme design and its implementation to ensure effective and efficient use of resources is the need of the hour to improve maternal and child healthcare in all corners of the nation. The improvement is required in all aspects of maternal health, pregnancy, child birth and post-partum care. Health system strengthening coupled with strong political will and community mobilization are some of the urgent strategies required in Bihar. As per various reports the median age at marriage in Bihar is below the legal age at marriage in India which leads to early child birth resulting in various maternal health complications. Above all community awareness has a greater role in improving the health status in the state besides other efforts. In several studies women were aware of a few components of ANC like registration, TT vaccination, consuming Iron and folic acid tablets but their level of awareness on doses of TT vaccine and number of Iron and folic acid tablets tablets was not adequate. Very few of them were aware of other ANC components like weighing, haemoglobin estimation, urine analysis, abdominal examination and minimum numbers of ANC visits. The findings of this study will help the nurse-midwife who are working in community and hospital setup to understand the factors that hinder women from utilization of MCH services and provides evidence to address women's problem for ensure effective utilization of available MCH services.

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