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Antenatal Care and its implication on children mortality: An intersectionality Approach

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Abstract

Antenatal Services (ANC) or pre- natal services are those services that a woman gets while she is pregnant. World Health Organization (WHO) recommended that all pregnant women must get ante- natal care in the first trimester of pregnancy followed by 4 ANC visits at regular time intervals. In India, there is a wide gap in antenatal care services and there is also wide variation along the lines of social groups. The research on how antenatal care services vary along the social identity is limited. In this paper, the intersectionality approach is used to visualize the differences in ANC access among different social groups in Bihar and its impact on various mortality indicators of children. For this purpose, data are collected from secondary sources i.e., NFHS- 4. For the analysis of data, bar graphs, composite bar graphs, scatter plots, and correlation coefficients are used. Antenatal care services are not accessible and affordable to all women in the same way. There is wide inequality in access to these services and it results in a high mortality rate in general and among SC and ST in particular in Bihar. The result shows that there is a need to consider the social differences in policy-making to reduce mortality among children in Bihar.

Keywords: Intersectionality, Ante natal care, children Mortality, social identity

INTRODUCTION

In the last three decades, a plethora of research has been done on health and its related issues. Every paper tries to understand the issue in great detail and focus on bringing equality and equity to health-related issues. For this purpose, the line of differences among diverse populations needs to be discovered. To do so, researchers have employed various frameworks (i.e. sex and gender-based analysis, health equity impact assessment) (Hankivsky et al; 2014). In order to deal with these issuesthe differences within and between the population need to be access and our research work needs to move beyond the single- axis framework of analysis. This can be achieved through incorporating the framework of intersectionality.

Intersectionality has its long roots in the history of rebellion and injustice. However, this term is naïve in research work and the term was coined by black feminist scholar Crenshaw in 1989 to conceptualize the suffering of black women which differs from both black men and white women (Crenshaw, 1989). She argued that the black movement was meant for black men only whereas women's movement meant for the white women only. Thus, intersectionality came to be viewed from multiple perspectives. It can be regarded as a theory, paradigm, methodology, lens or framework (Hankivsky, 2014).

Intersectionality deals with the notion that human lives cannot be reduced to single factor. No any single factor has profound impact on our lives rather the multiple factor which interacts to one another and creates a

complex whole (Hankivsky, 2014). Social categories such as race, gender, sexuality, caste etc are socially constructed and thus rather flexible and fluid. Human life is exposed to various privileges and exploitation and thus these experiences are not additive rather they mix and create a new whole. The intersectionality approach focuses on heterogeneity among homogeneity i.e. differences among those categories which are earlier or on a casual look considered as similar.

In this paper, the intersectionality framework is used to analyse the differences among women of different social groups to get antenatal care services and its implication on children's mortality. Antenatal Services (ANC) or pre- natal services are those services that a woman gets while she is pregnant. ANC are mechanism of multiple interventions.These services are very useful for the pregnant mother as well as for the baby. World Health Organisation (WHO) recommended that all pregnant women must get ante-natal care in the first trimester of pregnancy followed by 4 ANC visits at regular time intervals. However, in India, there is a wide gap in access to these services. Also, NFHS data showed that SC, ST women visit less than the other women and they often visit in the later period of their pregnancy and as a result the mortality rate of children is high for SC ST Community.

LITERARURE REVIEW

There are plethora of research that incorporates the intersectionality framework while researching health and its related issues. Since health is a wide field of study and thus various researchers worked on its different components and with different methodology. Hankivsky (2012) has mentioned that intersectionality leads us to move beyond gender and sex as a preferred axis of analysis and incorporate various dimensions of it. The earlier frameworks refers to differences between women and men this framework shift the focus of analysis to differences among those categories which are earlier considered as homogenous i.e. differences among women of different identity. It rejects the notion that different dimensions affect health differently and separately. It motive is to bring a conceptual shift in health research so that equity in health may be achieved.

Hankivsky and kapilashrami (2018) have written about why intersectionality matter for global health issues. They consider the goal of intersectionality informed analysis is to map health inequalities with more precision and then utilized it in better policy and program formulation. They dealt in great detail about how to conceptualize, design the study and interpret it while utilizing the intersectionality framework. George et al (2016) have mentioned about what are are the basic tenants of intersectionality and what are its focus of analysis. This is clearly depicted in table given below.

Focus of intersectionality	What it is...	What it isn't...
Social inequality	Based on mutually constituted and intersecting social categories	Based on adding up advantages and subtracting disadvantages assuming equivalence between them
Dynamic nature of inequality	A way of understanding inequalities as dynamic relationships	A static examination of inequalities which omit relational aspect
Contextual dependency	Based on the understanding that power configurations are time and location dependent	A group of a priori assumptions regarding the importance of any one or multiple social categories
Structural and political context	Focus on structural and political factors which shape inequalities	Focus on individual behaviour without consideration of structural and political constraints
Power relations	Explores how social inequalities are shaped by power relations	Ignores the impact of power relations on social inequalities
Implications for most disadvantaged	Focus on implications for vulnerable and marginalized within a group	Focus on implications for those whose status are protected or elevated with a group
Researcher reflexivity	Researchers reflect upon how their own background identity shapes research process and interpretation of results	Researchers attempt to completely remove themselves from the research and analysis process

Kapilasharami et al (2015) enquired about the fundamental causes of health inequality by analyzing power relations and thus finally led to the potential application of intersectionality on diluting health

inequalities. This paper also mentioned how the intersectionality approach leads to reducing health inequality in the UK. Price (2011) while working on the issue of abortion, mentioned the use of this approach and that we need to think of intersectionality at every stage of our research work from designing research question to sampling the data to using the method of analysis. At last, she pointed out that there is no any set formula for employing intersectionality. However, the key point is to employ strategies that capture the nuances of intersectional identities, inequalities, and privileges of different social groups. Rouhani(2014) has dealt in depth about the how the intersectionality framework is used while doing quantitative analysis. She foucesed on the additive as well as multiplicative approach as well as what things need to be consider while designing the research question and sampling framework.

There are researchers who incorporate this framework while working on India. Mukhopadhayay(2015) has worked on health status of children while following this framework. He used the data from NFHS- 3. He used the intersection of 3 axes gender, caste and class in rural India and focus on regional differences between north India and south India. He found that class inequality dominate caste inequality which in turn dominate gender inequality for all level of stunting in rural north India while caste inequality dominate class inequality and class inequality dominate gender inequality in rural south India for severe stunting.

Swendeman et al. (2015) has worked on the lives of sex workers of Kolkata based on primary in- depth semi- structured interviews. The paper focuses on the interplay of choice, socioeconomic structural factors and empowerment for their engagement in sexual work. Their envolvement in this work is not defined by any one factor rather the complex factor intermingle to bring this result accompanied by poverty, no financial security in other informal work and economic independence in this sex work. Haq(2013) has dealt in depth of the socio- cultural tradition for women in India and thus conclude that there are differences exist between women of different identities. The dalit women are double discriminated for being the women as well as being the dalit. They are more vulnerable to abuse and exploitation than other women. Most of the working professional women in India belong from the privilege class.

There is increasing trend of incorporating intersectionality framework in health research. However, there is no any research which used this framework for dealing with antenatal care services. All the research work which has done on antenatal care are based on single- axis framework of analysis. Andrade et al. (2012) have done the comparative analysis of antenatal care use in Brazil and India. The paper mentioned that since Brazil followed the universal health care model thus antenatal care use in equitable in Brazil. However, there is wide gap in India in the utilization of these services. The paper recommends that India must follow the universal health care model. Stones et al (2004) have worked on inequality in antenatal care in rural north India comprising the states of Bihar, UP, MP and Rajasthan based on NFHS – 2 data. The paper mentioned that about three- fourth women do not receive antenatal care check- up during their last pregnancy. The pregnant women from poor and uneducated background having atleast one child are less likely to receive antenatal care. Rani et al (2008) have compared the antenatal care between north and south India selecting four states for each group. The paper used the NFHS-2 data for the analysis purpose and focuses on to measure the more than four antenatal care visits. It is found that overall antenatal care is low however, quality of services provided is better in south India compared to north India especially among the women of disadvantaged category.

OBJECTIVE

This paper focuses on health inequality in antenatal care and its implication on child mortality among different social groups of women in Bihar.

STUDY AREA

The study area for this paper is Bihar. Bihar is one of the northern states of India. It is divided into 38 districts for the administrative purpose. It is one of the poorest states and has highest density of population and fertility rate (Census of India, 2011). It has a high incidence of maternal mortality and child mortality. The state has Infant Mortality Rate (IMR) of 48 per thousand live birth against the national average of 41 (NFHS -4).

DATA SOURCE

For the analysis purpose, the secondary data is collected from NFHS- 4 which was conducted in 2015-16 under the stewardship of Ministry of Health and Family Welfare (MoHFW) government of India. MoHFW designated the International Institute of Population Studies (IIPS) as a nodal agency for the surveys. All women age 15-49 and men age 15-54 in the selected semple household is eligible for interviewing. There are four types of questionnaire namely- household, women's, men's and biomarker are employed to gather different information. The samples are collected through two – stage sample design for rural as well as urban areas. In the first stage village or census enumeration block are selected and in the second stage 22 houses are selected randomly.

The data are collected from all 38 districts of Bihar from 16 March to 8 August 2015 by academic Management Studies (AMS) and collected information from 36772 household 45812 women age 15-49.

Social group-wise data is mainly used for antenatal care and early childhood mortality rates. Data on school attendance is also utilized.

METHODOLOGY

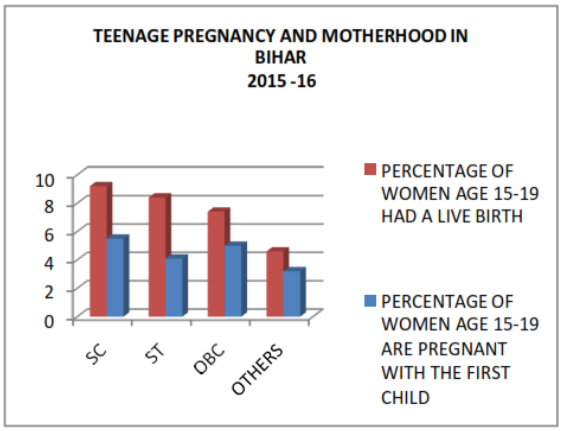
For the purpose of the analysis of data, bar graph, composite bar graph, scatter plot and correlation coefficient is used. Bar graph is one dimensional graph that shows the frequency or percentage of the data by its length on the y- axis. Scatter plot shows the nature of relationship between two variables pictorially. In scatter plot, different data set are represented on x and y axis respectively. The dot represents the nature of relationship. Correlation coefficient is the mathematical way of representing the nature of relationship between two meaningful variables.

DISCUSSION AND ANALYSIS

Patriarchy is deep rooted in India and its states. Therefore, all women are oppressed and have to suffer. But sufferings of all women are not the same. This is because women life are not shaped by one identity marker i.e. gender but there are many identity markers which intersect to differently to produce different outcome for the women of different identity. Here, in this case, for the ease of simplification, intersection of gender and caste is taken into consideration.

Our society is divided between different caste groups. Some caste are historically oppressed and denied was denied all the life opportunity available to them. There are various types of sanctionson their life. When the gender intersects with the caste, it shapes the life of different women belonging to different caste group differently. There are differences in income, education, freedom, social status culture etc available to them. Thus, there lie differences in privilege and oppression in the life of different women. The so called 'upper caste' women and in data referred to as others women has privilege of being 'other women' while Scheduled Caste (SC) and Schedule Tribe (ST) women has to suffer the gender atrocities and caste atrocities at the same time. As a result, they are more vulnerable to good health and education than other women.

The legal marriage age of women is 18 years. However, child marriage is prevalent in Bihar. The rate of child marriage varies with in the social groups. SC and ST girls are married early than the other girls. In Bihar, parents want to marry their children as soon and get rid from their responsibility. Also, dowry is one of the major problems for this. So when they find a good bride groom they marry their girl child. Girls are considered as liability to the parents and purity of girls is considered as sacred. So parents want to marry their girls in young age.

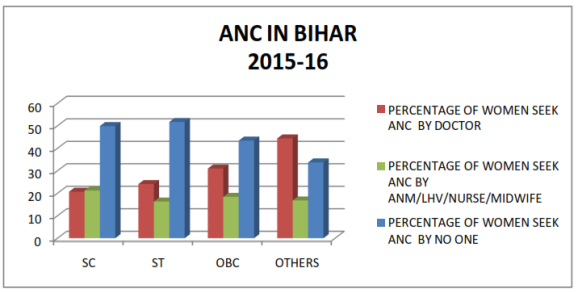


Source- NFHS -4, 2015-16

Since, these SC and ST women are in general non-literate and they have no any idea of family planning. Hence, soon after the marriage they become pregnant and mother. The above figure shows that teenage pregnancy are highest for SC and ST and is least for the others women. Teenage motherhood is also least for the others women and highest for the SC women.

SC and ST women are married in their teenage age and they are poorly nourished. Also, they are non- literate. During the pregnancy period, ANC is very useful for the mother as well as the baby. It helps in screening and diagnosis of various diseases. ANC in Bihar is one of the lowest in the country. However, in the state too, it widely varied between women of different identity.

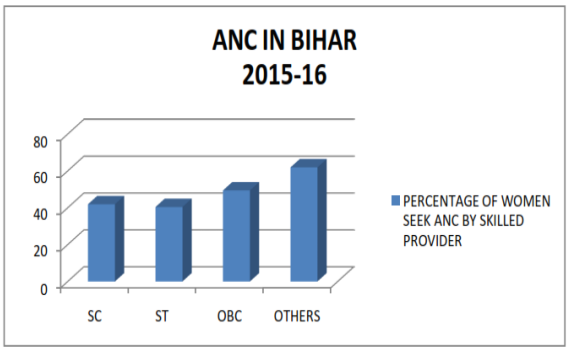
The graph showed that less than 25% of SC and ST women seek ANC by doctor while this figure raised to 44.4% for the others women. Others women have high income as well as they are literate and thus they know the importance of ANC. SC and ST women are busy in earning two days meals. Also, even if they went to meet public doctor, they have to spend the money on their travelling cost. So they do not seek this service from the doctor. Auxiliary Nurse Midwife (ANM), Lady Health Visitor (LHV), nurse and midwife are easily accessible by all women. ANM visit the door to door to provide instructions to the pregnant women. Thus, most of the SC women seek ANC by ANM/ LHV/nurse/ midwife.



Source- NFHS -4, 2015-16

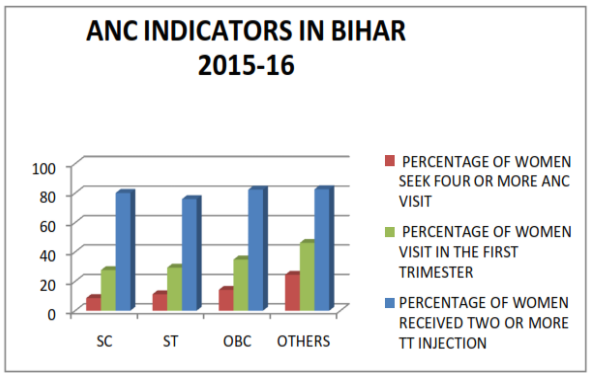
Half of the pregnant SC, ST women do not seek ANC while one in three others pregnant women do not seek this facilities. This shows the poor ANC utilization in the state.

Thus, only 41.9% of SC and 41.4% of ST pregnant women seek ANC by skilled health providers. While this figure raised to 49.4% and 61.2% for OBC and others women respectively. Here, the skilled health provider means those who seek ANC either by doctor or ANM/ LHV/nurse/ midwife.



Source- NFHS -4, 2015-16

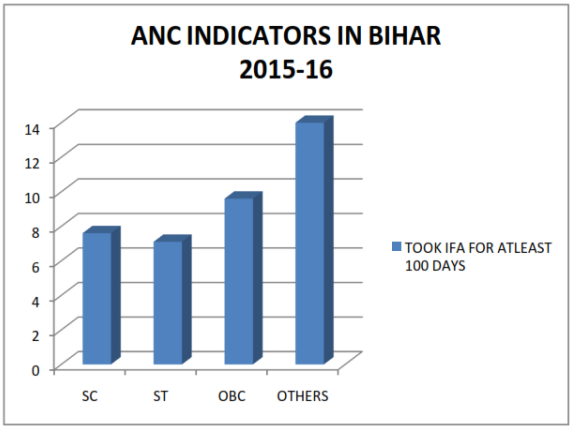
There are various indicator of ANC. These indicators are shown in the graph below. WHO recommended at least 4ANC visits for all pregnant women. However, in Bihar, only 8.6% of SC and 11.2% of ST women seek four or more ANC visit. While this figure raised to 14.4% and 24.4% for OBC and others women respectively. Thus, only one out of four others women seek four and more ANC visit and less than one out of ten SC women seek the same facility.



Source- NFHS -4, 2015-16

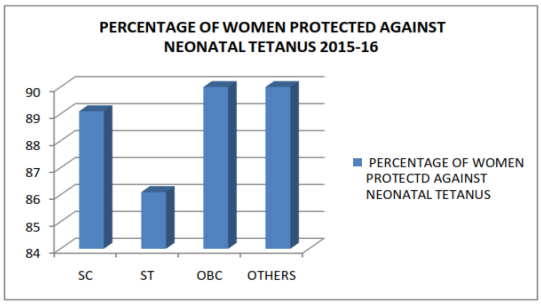
Only 27.6% SC women visit in the first trimester while 46.1% of others female visit in the first trimester. Thus, overall, less than half of the women visit in the first trimester. This will increase the complications as if any complications during the pregnancy are screened in the early phase can be easily diagnosed.

There is uniformity in terms Tetanus Toxoid (TT) injections received by these women. Anemia is prevalent in women in general and during pregnancy in particular. This may lead to pregnancy complications and caused maternal mortality as well. To ensure good health of the pregnant and the baby, free Iron and Folic Acid (IFA) tablets distributed to them for 100 days of consumption. However, even after free distribution, IFA tablets are not reaching to them. Only 14% of others women and 7.6% of SC women consume these tablets for 100 days.



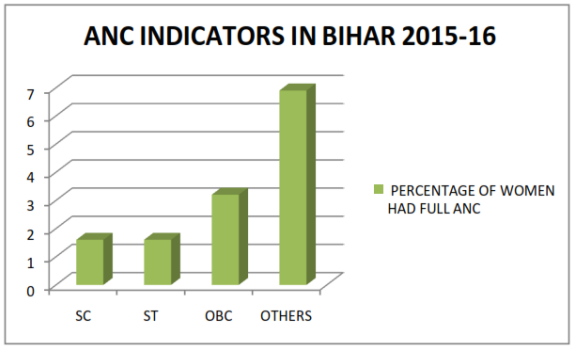
Source- NFHS -4, 2015-16

Thus, even after the government policies and intervention, anemia is prevalent in pregnant ladies and it lead to one of the major causes of maternal mortality. Almost all the pregnant women are protected against neonatal tetanus.



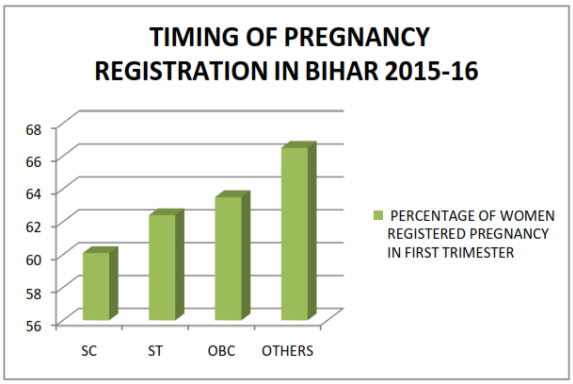
Source- NFHS -4, 2015-16

NFHS- 4 define full ANC as having four or more ANC visit, at least one TT injection and at least 100 days of IFA tablet or syrup consumption. The figure for full ANC is very stark for the Bihar as a whole. Only 6.9% of others women get full ANC while this is just 1.6% for SC and ST women.



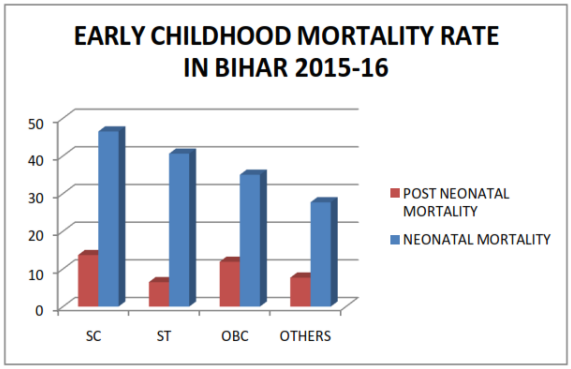
Source- NFHS -4, 2015-16

This graph shows the pathetic condition of ANC in the state of Bihar. The basic ANC are not provided to the women which is made available freely by the government. It is recommended that all pregnancy must be registered in the first trimester. However, only two- third of the pregnancy registered in the first trimester. However, even this figure varies between women of different social groups as shown in the graph below.



Source- NFHS -4, 2015-16

ANC has multiple benefits to mother as well as to the child. Proper ANC visits leads to the screening and diagnosis of the various health related complication at an early stage and thus leads to eliminate/ reduce these complication the delivery. It reduces Infant Mortality Rate (IMR) and children mortality rate and leads towards a health society.



Source- NFHS -4, 2015-16

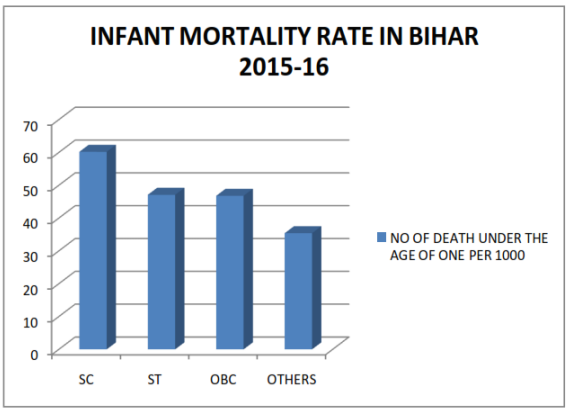
However, ANC is poor in Bihar and it varies widely between the social groups. Therefore, in Bihar, there is high incidence of infant mortality rate. Neonatal mortality rate refers to death of infant within 28 days of birth while post neonatal death refers to death occurring after the 28 days of birth and before one year. Post neonatal can be calculated by subtracting the neonatal death by infant mortality rate.

Post neonatal and neonatal death is closely related to the ANC. If proper ANC will provide then this rate will surely reduce. The high incidence of neonatal death for SC and ST infants shows the poor utilization of ANC by SC and ST women.

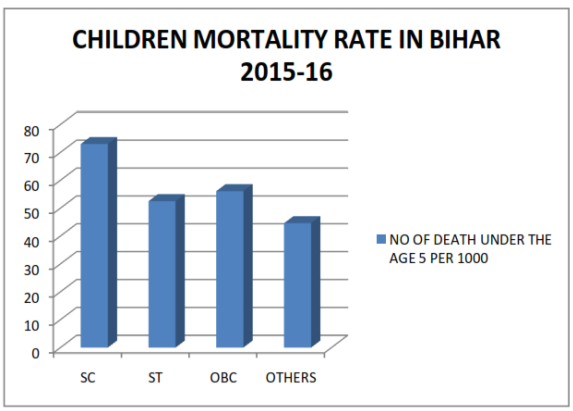
Infant mortality rate is defined as the no of death of children before the age of 1 years and children mortality rate is defined as the death of children before the age of 5 years. Infant mortality rate and children mortality rate can be affected by various factors like how the child is treated after the birth, what type of nutrition he/ she is feed upon. However, the ANC

during the pregnancy is also one of the factors affecting this mortality as a strong child will have great immunization to fight with the disease.

Infant mortality rate and children mortality rate are highest for the SC and ST and is least for the others. This is due to the disparity in ANC access between these communities. In the latter part of the paper, relation between the ANC and mortality is shown in great detail to justify these relationships.

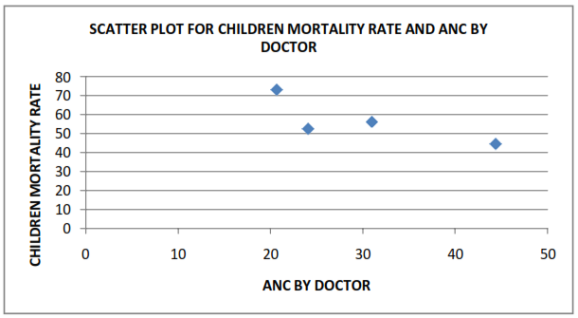


Source- NFHS -4, 2015-16

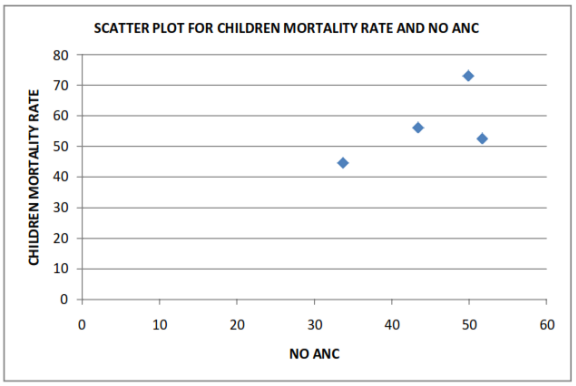


Source- NFHS -4, 2015-16

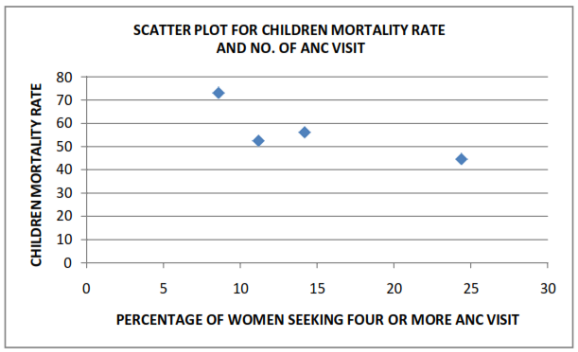
In order to see the association between the ANC and mortality rates, we need to draw the scatter plot.



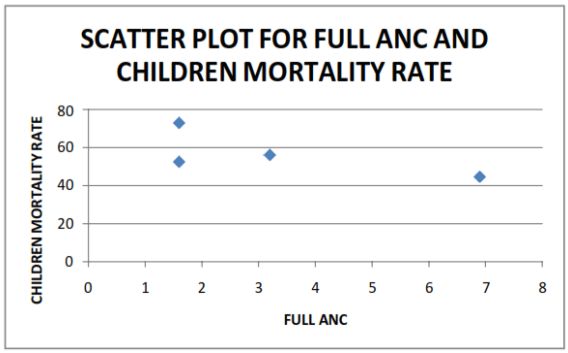
The above scatter plot represents that as the ANC visit by the doctor increases, the children mortality rate will also reduce.



The above scatter plot shows that children mortality rate will increases as the women will not get ANC.



The above scatter plot shows that as women seek more ‘four or more’ ANC visit, children mortality rate will reduced.



The above graph shows that as women visit the ANC in the first trimester, the rate of children mortality rate will reduce.

The above graph shows that as women receive full ANC, the children mortality will reduce.

To show the degree of association mathematically, correlation coefficient is calculated.

	FULL ANC	ANC BY DOCTOR	NO ANC	FOUR OR MORE ANC	ANC VISIT IN THE FIRST TRIMESTER	RECEIVED TWO OR MORE TT INJECTION
INFANT MORTALITY RATE	-0.84	-0.91	0.79	-0.91	-0.89	-0.31
CHILDREN MORTALITY RATE	-0.71	-0.80	0.64	-0.81	-0.77	-0.12
NEONATAL MORTALITY	-0.92	-0.97	0.91	-0.95	-0.95	-0.57

The above table represents the correlation coefficient between the various ANC indicator and mortality rate. The summary of the table are as follows

- There exists the very high negative correlation between the full ANC, ANC by doctor, four or more ANC, ANC visit in the first trimester and the mortality rate.
- There exist the poor negative correlation between the women received two or more TT injection and mortality rate.
- There exist the moderate correlation between the women received two or more TT injection and neonatal mortality rate.
- There exist the very high positive correlation between the no ANC and neonatal and infant mortality rate.
- There exists the moderate positive correlation between the no ANC and children mortality rate.

The point four and five mentioned above lead to the conclusion that children mortality is less affected by the ANC. This is due to the fact that it refer to the under five age of mortality and there are many other factors which affect it. However, infant mortality rate is highly affected by the ANC.

CONCLUSION

Antenatal care services are not accessible and affordable to all women in the same way. Different women 0f having various social idenity access it differently. There is wide inequality in access to these services and it result in high mortality rate in general and among SC and ST in particular. Thus, in order to get those limiting factor, intersectionality framework is used to capture them in a better way. This will help us to remove the hurdle from the path and help in better formulation of policies and help in reducing infant and neo- natal mortality as well as children mortality.

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