

# **UTILIZATION OF ANTENATAL CARE IN MADHYA PRADESH, INDIA.**

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**India**

44<sup>th</sup> International Course in Health Development (ICHHD)  
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KIT (ROYAL TROPICAL INSTITUTE)  
Development Policy & Practice/  
Vrije Universiteit Amsterdam

## **UTILIZATION OF ANTENATAL CARE IN MADHYA PRADESH, INDIA.**

*A thesis submitted in partial fulfillment of the requirement for the degree of  
Master of Public Health*

*By*

**Dr Chandra Kumar Dolla  
India**

Declaration:

Where other people's work has been used (either from a printed source, internet or any other source) this has been carefully acknowledged and referenced in accordance with departmental requirements. The thesis "*UTILIZATION OF ANTENATAL CARE IN MADHYA PRADESH, INDIA.*" is my own work

Signature:

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*List of Abbreviations:*

ANC;	Antenatal Care
ANM;	Axucillary Nurse Midwife
CHC;	Community Health Center
DLHS;	District Level Household Survey
Govt.;	Government
HSB;	Health Seeking Behaviour
IEC;	Information Education and Communication
ICMR;	Indian Council of Medical Research
LHV;	Lady Health Visitor
MGD's;	Millennium Development Goals
MPW;	Multi Purpose Worker
MOHFW;	Ministry of Health and Family Welfare
MP;	Madhya Pradesh
NMBS;	National Maternity Benefit Scheme
NFHS;	National Family Health Survey
NGO's	Non Governmental Organizations
PHC;	Primary Health Center
RCH;	Reproductive and Child Health
RMRCT;	Regional Medical Research Center for Tribals
RMPs;	Registered Medical Practioners
SHC;	Sub Health Center
SC;	Scheduled Caste
SEARO;	South East Asia Regional Organization
ST;	Scheduled Tribe
TFR;	Total Fertility Rate
UN;	United Nations
UNCEF;	United Nations Childrens Emergency Fund
WHO;	World Health Organization

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## *Executive summary:*

### Introduction:

Improving the utilization of antenatal care services is a global challenge for the health system in low and middle income countries. Antenatal care is one of preventive health care to diagnose early the morbidity during the pregnancy and plan to avert any complication to mother and new born during delivery. During the pregnancy it is very essential and important to have antenatal care consultation as soon as possible.

### Objective:

To describe the factors affecting the utilization of Antenatal care services in the state of Madhya Pradesh and recommend appropriate measures to improve the utilization

### Methodology:

Review of literature. The conceptual framework for this analysis using the health seeking behaviour model; The Five 'A's Model, Availability, Accessibility, Affordability, Acceptability/ *Accommodation*

### Results & Discussion:

The literacy of women is found to be important factor in utilizing the antenatal care. The distance to health facility and the time taken to reaching the facility are important determinants in seeking the antenatal care. The acceptability of the provider services depends on the satisfaction of the service and this is a major factor in utilization of health service in general. The religion, caste have important role in utilization of antenatal care. Muslim women tend to use less likely due to privacy. Lack of women autonomy is another barrier for no utilization or low utilization of antenatal care in several Asian studies and in African studies.

### Conclusion:

The health seeking for antenatal care is influenced by education of the women, Place of residence (Urban/Rural), transportation difficulties in rural areas, perception of problems during pregnancy in multi-para and high birth order women.

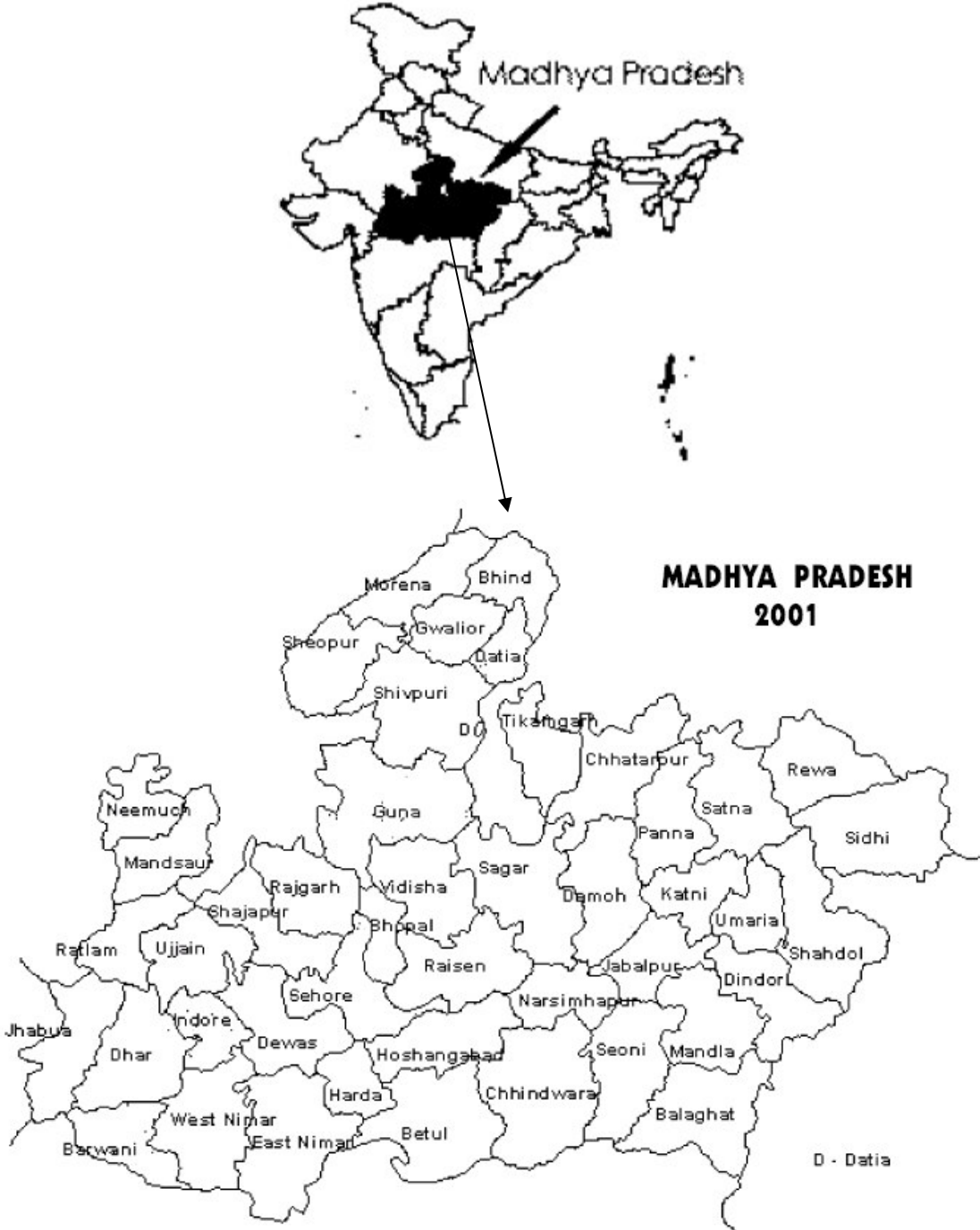
### Recommendations:

*More emphasis on socioeconomic inequities, Implementation and evaluation of interventions, Strengthen antenatal care as recommended by WHO, Strengthening of ongoing female education.*

### Key words:

Antenatal care utilization, health service access, equity, inequality, determinants, socioeconomic, income, Madhya Pradesh.

MAP OF Madhya Pradesh





## Chapter 1

### *Introduction, Antenatal care*

I was working as Senior Research Officer (Medical) in the Regional Medical Research Centre of Indian Council of Medical Research (New Delhi) in Jabalpur city, Madhya Pradesh state, central part of India. I am a Medical graduate, I do carryout the community based surveys in rural areas of Madhya Pradesh.

#### 1.1 Introduction:

Improving the utilization of antenatal care services is a global challenge for the health system in low and middle income countries. The goal set by the UN (United Nations) MGDs (Millennium Development Goals) to reduce maternal mortality ratio to three quarters during the period 1990-2015. The tool of maternal deaths in poorer women is large and it is disproportionate. Lack of accessibility to health services, illiteracy, and cultural belief and social characteristics of women prevent them to seek health care (World Bank). Madhya Pradesh is one of the five states (Bihar, Rajasthan, and Uttar Pradesh, Assam) which have shown consistently high maternal mortality ratio than the national average during periods 1992-93 and 1997-98 (Asha, R. 2003). The states are lagging behind in development, have weak public health indicators, weak infrastructure (Laveesh Bhandari, 2007) and high in fertility, mortality and morbidity. These states are low in utilizing maternal health care services (N. P. Das, 2001, Manju Rani, 2008). Antenatal care is one of preventive health care to diagnose early the morbidity during the pregnancy and plan to avert any complication to mother and new born during delivery (Fourn L, 2002, (Lindmark and Cnattingius 1991, Omigbodun AO 2002, Ekwempu CC. 1998). The estimates of maternal mortality ratio in India is 540 maternal deaths per 100,000 live births, accounts for more than 20% of the global maternal deaths. The maternal mortality ratio is 619 per 100,000 live births in rural areas of India. The States which contribute more maternal mortality ratio are Rajasthan, Madhya Pradesh, Jharkhand, Orissa, Uttar Pradesh and Bihar (UNICEF, 2006).

Table: 1.1 Maternal Health Care Indicators (%), India

Maternal Health Care Indicator.	NFHS 1 (1992-93)	NFHS 2 (1998-99)	NFHS 3 (2005-06)
Pregnant women with anaemia	NA	50	58
Three antenatal check ups	44	44	51

(Source; Kranti, S. Vora. 2008)

The association between not utilizing antenatal care and risk in maternal mortality rates is well documented in the literature (Asha, R. 2003; Melrose 1984; Boes 1987; Kwast et al. 1989; Bhatia 1993, Suresh, S). The important causes of maternal death are excessive bleeding during labor (Unplanned home deliveries), and obstructed labour, infection, unsafe abortion, disorders related to high blood pressure and anaemia. 47% of maternal mortality in rural India is due to excessive bleeding and

anaemia resulting from poor nutrition practices (UNICEF, 2006). The use of maternal health care services related to the availability, social, economic, Women's cultural and demographic factors such as age, education, Employment, race and autonomy (Addai, I.2000, Acharya, L.B. 2000, Celik, Y. 2000, Weller, S.C. 1997).

The aim of this thesis is to know use of antenatal care services in Madhya Pradesh, by elucidating the different reasons affecting the use of antenatal care services. The study results will help policy makers to understand and develop solutions to improve the utilization of antenatal care in the state.

1.2 Antenatal care: Antenatal care is modern term used in medical terminology to the bio-medical health care given during pregnancy. The health care provided by Doctor, Auxillary Nurse Midwife (ANM), or Other Health professional. There are most commonly defined components that constitute antenatal care are carried out at primary care level in most developing countries. The procedures are carried out to screen for risk factors. These include the measurement of weight, blood pressure, abdominal examination, immunization against tetanus toxoid, testing for syphilis etc. There is variation in components used in antenatal care from country to country (Nagey 1989; Field 1990; Rooney 1992; Gertler et al. 1993). The antenatal care also an opportunity for health education and health promotion and gives social and family support (Pallikadavath, et al. 2004). The basic components to access of antenatal care are checkup during pregnancy, to receive Iron & Folic acid tablets and received two or more tetanus toxoid injections (N. P. Das, 2001).

In rural areas of state, the delivery of the antenatal services is through a network of Sub-Centers (SC), Primary Health Centers (PHC) and Community Health Center (CHC). In urban areas the antenatal care services provided through government dispensaries and municipal hospitals.

## Chapter 2

*Back ground information of Madhya Pradesh:*

### *2.1. Brief History, Industries, Agriculture, Tourist places (Dept. of Public relation, Madhya Pradesh).*

*Brief History:* Madhya Pradesh was existing from 1951 which called is 'undivided Madhya' Pradesh. Madhya Pradesh was the second big state in India. In November 2001 a part of the Madhya Pradesh is separated and created as separate state called 'Chattisgarh'. The state has history of ancient rich archaeological culture. The state was famous in freedom struggle movements like salt styagraha in 1930, Flag satyagraha 1923. The famous musician Tansen and poet-dramtist Kalidas belong to the state. The famous pilgrimage centres in the state are Hoshangabad, Amarkantak, Mandleswar, and Joytirlingas.

*Gram Saba (village club):* In Jan 2001, the concept of village level administration has been started to develop welfare activities at the village's level, it is called 'Gram Saba'. The similar development planning already exists at the district level for the district welfare activities.

*Districts:* There are 48 districts in Madhya Pradesh.

### *2.2. Demographic information (Annexure-I)*

*Growth of population:*

Population is important human resource but at the same it is overburden when it exceeds the capacity of resources available. The total population in Madhya Pradesh is 66.14 million; it is 7.8 percent of the India population. In 1997 population of Madhya Pradesh is 7.9 percent of the total India population. During the periods 1981-1991 there are differences in growth of urban and rural populations between India and state. The average growth rates for rural and urban are 22.11 percent and 44.98 percent. The corresponding figures for all India averages in rural and urban areas are 19.71 percent and 36.19 percent (MP Environment Policy). The growth rate of Madhya Pradesh came down after the initiation of Family Planning programmes. Now the growth rate is 2.2 percent while that of India is 2.0 percent (Govt. of M.P.).

*Birth rate:*

The crude birth rate of Madhya Pradesh is 29.1 higher than the national average of India which is 23.5.

*Death rate:*

The death rate of Madhya Pradesh was 15.2 in 1980 declined to 10.2 in 2000, which 20 percent higher than death rate of India. The death rate in urban areas is 7.5 is less than the death rate of rural areas which is 11.0 (Govt. of M.P.).

*Infant mortality rate:*

In Madhya Pradesh the Infant Mortality rate has declined from 135 per 1,000 live births in 1971 to 104 per 1,000 live births in 1991. The increase in life expectancy of women from 51.4 years to 54.7 years and increased

use of contraceptives increased in spacing pregnancies improved the health outcome of the newborns.

*Total Fertility Rate:*

The total fertility rate of India is 5.4 in 1971; in 1997 it is declined to 3.4. In Madhya Pradesh the TFR is 5.6 in 1971 and it is declined to 3.5 in 1997. The decline is very rapid in Madhya Pradesh than the national average.

*2.3 Health Infrastructure.*

*Health delivery:*

The health delivery is a three tier system consists of Sub-Centers (SC), Primary Health Centers (PHC), and Community Health Centers (CHC). Sub Center is at the gross root level of health system and it is first link between community and health system. The Sub-Center is managed by one male Multi-purpose Worker MPW and Auxiliary Nurse Midwife (ANM). A Lady Health Visitor is in charge of six Sub-Centers. Primary Health Centres are second in three tier system of health care is managed by one Medical officer with fourteen other staff including paramedical staff. The functions of Primary Health Centers are curative, preventive and family Welfare services. Primary Health Center is the first link between Medical Officer and community. The Primary Health Center is referral unit for six Sub-Centers. Community Health Centers are top of the three tier health system. The Community Health Centers provide the specialised care and managed by four specialists; Paediatrician, Gynaecologist, Physician and Surgeon. The Community Health Center is referral unit for four Primary Health Centers (Laveesh Bhandari, 2007). The Coverage by the Primary Health Center is only 9 percent in Madhya Pradesh (DLHS-RCH, 2002-04)

*Public sector:*

This system of medicine based on allopathic and according to policy consists of Sub Centers (SC) 8835; private health centers 1194; Community Health Center (CHC) 227. Sub-Center (SC) has to cater a population of 5000 population (six villages in Madhya Pradesh), but in hilly regions it serves 3000 population. There are minimal health care services at Sub Health Center. Primary Health Center (PHC) is serves a population of 30,000, has 6 beds. One PHC will cater for 20,000 populations in hilly areas. It consists of 30 beds, one operating theatre and laboratory facilities (Govt. of M.P.).

*Private sector:*

Rural private sector consists of Traditional practioners, Dais, Registered Medical Practioners (RMPs), qualified practioners, Hospitals etc. Traditional practioners are hebalists mainly reside in villages provide low cost treatment; often defer the consultation fee. Dais, they called in village 'Traditional birth attendant' available for assistance during child birth. Dai is most preferred because, she provide personal touch, experienced and offer convient method of payment. Registered Medical Practioners (RMPs)/unqualified practioners are most accessible during the emergencies because they stay near in village or nearby village. In

addition to outpatient treatment, the qualified practitioners and private hospitals in villages provide laboratory and diagnostic facilities and inpatient treatment (Govt. of M.P.).

#### *2.4 Geographic accessibility-distribution of health facilities:*

The Geographic accessibility of the health centers for the community in form of radial distance is 21.45 kms for nearest community health center and 4.33 kms for subcenter. The distance for the community health center is less compared to the official distance 26.52 kms but in case of the subcenter it is higher the official distance (3.41 kms). Despite of these distances not very far from normal official figures, due to the difficult geo-terrain of the state, it is very difficult to reach the health facility in time of emergency (Govt. of M.P.).

#### *2.5 Human resource and health facilities:*

The total sub-centres in Madhya Pradesh 8874, without ANM (Auxiliary Nurse Midwife) are 603 and without Health worker is 1539. The status of health worker (male) required 8874 sanctioned 7715, in position 7298, vacant 417, short fall 1576. The status of health worker (female) required 10066 sanctioned 10027, in position 9345, vacant 682, short fall 721.

There are about 229 CHCs (Community Health Centers) in Madhya Pradesh all these having govt. buildings. The total 1192 PHCs (Primary Health Centers) working in the state 746 is having govt. buildings and 446 in rented buildings. The total 8874 SCs (Sub Centers) working in the state, 3996 is having govt. buildings and 4878 in rented buildings. The total population of Madhya Pradesh is 44380878, sub-centres required 10402, in position 8874, short fall 1528. The PHCs required 1670 in position 1192 short fall 478. The CHCs required 417 in position 229 short fall 188. The number of sub-centres, PHCs, CHCs functioning; 8874, 1192, 229. The number PHCs without doctor 253 with one doctor 839 two doctors 86 female doctor 22 no lab. technician 1106 no pharmacist 412. Health assistants/LHV (Lady Health Visitor) at PHCs (female) required 1192, sanctioned 1192, in position 1074, vacant 118, short fall 118. Health assistants at PHCs (Male) required 1192, sanctioned 1192, in position 1168, vacant 24, short fall 24. Doctors at PHCs required 1192, sanctioned 1278, in position 839, vacant 439, short fall 353. Obstetricians and Gynaecologist at CHCs required 229, sanctioned 63, in position 13, vacant 50, short fall 216. Nurse/Mid wife at CHCs and PHCs required 2795, sanctioned 908, in position 902, vacant 6, short fall 1893 (MOHFW, 2006).

## Chapter 3

### *Problem statement, Literature review, Objectives, Methodology,*

#### *3.1 Problem Statement:*

During the pregnancy it is very essential and important to have antenatal care consultation as soon as possible. The consultancy of antenatal care is every four weeks and two weeks interval depending on duration of pregnancy (Mac Donald, 1989). In the first seven months it is at every four weeks and it is at every two weeks after seven months for two months. During the last phase of pregnancy it is every week. The minimum visits are four; recommended at 3<sup>rd</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup> months (Park and Park, 1989). In developing countries the WHO recommends the first visit for antenatal care within first four months pregnancy (WHO 1994). The first visit for antenatal care should be within 6 months of pregnancy. The morbidity of pregnancy outcome can be reduced to a large extent even if visit is during the third trimester of pregnancy (Ramachandran, 1992). The RCH programme advises three visits for an antenatal care during pregnancy. The programme says to register the pregnancy within the first 12-16 weeks i.e. during the second trimester.

In the state of Madhya Pradesh, the maternal morbidity and mortality rates are higher than the southern states of India. In Madhya Pradesh and other northern states antenatal care utilization rate lower than the southern states of India. The range of utilization antenatal care (three visits) in the states; Madhya Pradesh, Bihar, Uttar Pradesh and Rajasthan is 4.4 – 10.9 percent, but in southern states; Kerala, Tamilnadu and Karnataka it is 41.5 – 64.9 percent and the Maternal Mortality ratio is 451 – 707 and 195 – 198 respectively (Asha, R. 2003). The maternal mortality ratio in Madhya Pradesh is 498 per 1,00,000 live births in the year 2000 (Govt.of India, 2000). Many reasons explain for the higher mortality in state; poor maternal nutrition, high percentage of home deliveries, lack of adequate pre-natal care (Saseendran, P. 2004).

Community based surveys by the Regional Medical Research Center (ICMR) has reported that about 75-80 percent of rural women (Kodaku tribe is group of ST) not received antenatal care. Only 8 per cent received the tetanus toxoid and Iron & Folic acid tablets (Surv. Rep. RMRCT, 2000). The in-depth studies of the state revealed that 18 percent women suffered complications during pregnancy have not received antenatal care. Out of these women, 27 percent said the reason that it is not serious and 16 percent said it will resolve. The women avoid utilizing the public sector health provider for morbidity during pregnancy, instead they consulted private health provider and sometimes they opt to seek care with unqualified personnel (SEARO-WHO). There are not enough facilities for prenatal care and 65% of deliveries are still conducted at home, often without skilled personnel (UNICEF, 2006). The evidence suggests that use of antenatal care has benefited the women in preventing the maternal deaths and perinatal complications (Irma L.1996, Marilyn, M. 1996; WHO,

2003) by promoting institutional delivery (Sugathan K.S, 2001, N. P. Das, 2001). The women who receive antenatal care have normal birth weight (Yusuf, C.2007). The women who receive antenatal care tend initiate breast feeding early (Baker P, 2006).

### *3.2 Literature review:*

The three factors influences behaviour of women seeking care during pregnancy; socio-demographic, cultural factors and accessibility to services. Among the socio-demographic factors maternal characteristics like age, parity and household responsibilities affect the women in seeking care. Women with high parity and greater responsibilities use services less and frequently. In case of high parity is due to more experience with previous child births. Education of women increases the use of maternal services and this is held responsible for more number of visits to health provider in higher socio-economic groups than lower socio-economic groups (Celik and Hotchkiss, 2000; Addai, 2000; Addai, 1998; Leslie and Gupta, 1989).

The other factors influence in seeking the women for pregnancy care is cultural aspect and women decision making. The need to seek care depends on the cultural perception of the illness in most of the African communities (Leslie and Gupta, 1989). In the African communities husband will take decision in the matters of reproductive health care including maternal care (WHO, 1998). The other house hold responsibilities have greater bearing on women, make her does not have time to spare for seeking care from health provider (World bank, 1994).

Accessibility of the services is also responsible to utilize services available. Bad roads, lack of transportation and other reasons like rainy season blockage of roads tend to make avoid the use of service if it is not a labour pain (World bank, 1994). Costs like transportation costs, drugs, lodging her and her family members etc. are more burdens to seek care in hospital than formal fee charged by the health provider (Gertler, van der Gaag, 1998).

### *3.3 Objectives:*

#### *3.3.1 Overall Objective:*

To describe the factors affecting the utilization of Antenatal care services in the state of Madhya Pradesh and recommend appropriate measures to improve the utilization.

#### *3.3.2 Specific Objectives:*

- To identify the factors related to Socio-demographic influencing the utilization of antenatal care
- To identify the geographic accessibility preventing the use of the antenatal services
- To assess the health care provider factors influencing utilization of antenatal services
- To recommend appropriate measures to improve the utilization of antenatal services.

### *3.4 Methodology:*

#### *3.4.1 Review of literature.*

- National Family Health Survey-II
- DLHS-RCH
- Reports of Ministry of health, State and National
- Publications; (electronic databases; MEDLINE, EMBASE, CAB Direct and POPLINE etc.)
- Survey Reports
- Organizations known to be active in the field

Subject headings or text words; Antenatal care, combined with those related to access variables and population characteristics; utilization, health service access, equity, inequality, determinants, socioeconomics, income; detailed search strategies are available from the authors on request.

#### NFHS (National Family Health Survey):

National Family Health Survey is a national level survey conducted three times; first survey in 1992-93, second survey in 1998-99 and the third survey was in 2005-06. The surveys are conducted on representative sample chosen for each state. After completion the survey reports were prepared for each state and a national report. The reports provide essential data for the Min. of health to aid in programme and policy implementations. The data is collected on fertility, utilization and quality of health and family planning services, maternal and child health, reproductive health, infant and child mortality, the practice of family planning, nutrition, anaemia. The data is collected from 88,562 Households and from 89,777 women in age group 15-49 years in National Family Health Survey-I, 1992-93. The data is collected from 90,000 women in age group 13-49 years in National Family Health Survey-II, 1998-99. The data is collected from 2, 30,000 women in age group 13-49 years in National Family Health Survey-II, 2005-06.



DLHS (District Level Household Survey):

DLHS is national survey conducted to evaluate the Reproductive Child Health (RCH) programme launched in 1996-97. The survey is conducted in two phases first in 1998-99 in 504 districts and second in 2002-04 in 593 districts. Data collection on coverage of antenatal care and utilization of government health facilities are one of the objectives of the survey. District Level Household Survey is collected data from 6, 20,107 households and 5, 07,622 women in age 15-44 years interviewed. The response rate of women in Madhya Pradesh is 80-85 percent.

#### *3.4.2 Limitations of the study.*

The findings for this thesis are taken from the NFHS-II (National Family Health Survey) conducted survey during 1998-99. There are few surveys conducted one in 2002-03 by the RCH-DLHS (Reproductive Child Health – District Level Health Survey) and other in 2004-2005 by NFHS-III (National Family Health Survey). The reports of the last two surveys are not available for the state Madhya Pradesh (reports not available on web site). The some of findings of these studies are available through journal articles has been updated and included in the thesis.

The second reason for choosing the data is when we compare the utilization of antenatal services from 1998-1999 to 2004-2005, despite the efforts by the government of India during the past 10 years there is no improvement antenatal care services coverage (Kranti, S. Vora. 2008). The antenatal coverage lower in vulnerable groups (Govt.of M.P, 2006). According the NFHS data there is no change in antenatal care utilization from 1992-93 to 1998-99 in both rural and urban areas (NFHS-III, 2005-06),Annexure-II.

#### *3.4.3 Conceptual framework*

The conceptual framework for this analysis using the health seeking behaviour model; The Five 'A's Model, Availability, Accessibility, Affordability, Acceptability/ Accommodation.

The use of HSB is to know the knowledge, Practice of the illnesses. The practice and knowledge of illness is useful to understand the human behaviour. The another use is to give specific recommendation through studying the each component of HSB model like; providing the quality health care, to adopt to strategies in the community prospective to control diseases. The each component covers the certain issues as outlined below:

"*Affordability* is determined by how the provider's charges relate to the client's ability and willingness to pay for services" (Leon Wyszewianski 2002). Prices of services, insurance or deposit requirements vs income, ability to pay, distinction between direct costs, indirect costs and opportunity costs;

"*Availability* measures the extent to which the provider has the requisite resources, such as personnel and technology, to meet the needs of the client" (Leon Wyszewianski 2002). Volume/type of services vs volume/type of needs; essential resources needed.

"*Accessibility* refers to geographic accessibility, which is determined by how easily the client can physically reach the provider's location" (Leon Wyszewianski 2002). Location of supply and location of users distance, cost, and travel time, transportation resources, communication aspects.

"*Accommodation* reflects the extent to which the provider's operation is organized in ways that meet the constraints and preferences of the client" (Leon Wyszewianski 2002). Of greatest concern are hours of operation, how telephone communications are handled, and the client's ability to receive care without prior appointments. And finally, relates to social and cultural distance, characteristics of health provider, gender aspects, and bureaucracy, organizational issues (convenience of opening hours, appointment systems, and telephone services).

"*Acceptability* captures the extent to which the client is comfortable with the more immutable characteristics of the provider, and vice versa". These characteristics include the age, sex, social class, and ethnicity of the provider (and of the client), as well as the diagnosis and type of coverage of the client" (Leon Wyszewianski 2002).

This model has been chosen due to two reasons: (Sauerborn et al.1996; Hausmann-Muela et al., 1998,)

- i) It was easy to identify the potential barriers to seeking treatment
- ii) The model has been widely used for to know the distance; include social, geographical and economic reasons which are widely prevalent in the region of central India.
- iii) Knowledge can be useful to incorporate into health service delivery strategies suitable to local settings (Sara MacKian, 2003).
- iv) The understanding of the local health seeking behaviour helps to improve the health promotion strategies under various circumstances (Sara MacKian, 2003).

#### *3.4.4 Health Seeking Behaviour model:*

It is a tool for quick assessment of an issue or problems of health care of people. It is useful to study the health systems and community participation in particular issues. Health Seeking Behaviours and the local knowledge are considered in designing the health care programmes and interventions suitable to the different local settings (Price, 2001; Runganga, 2001). Some studies of health seeking behaviour suggested improving the integration of private sectors providing public health care. The social cultural factors are important in the outcome of the disease control.

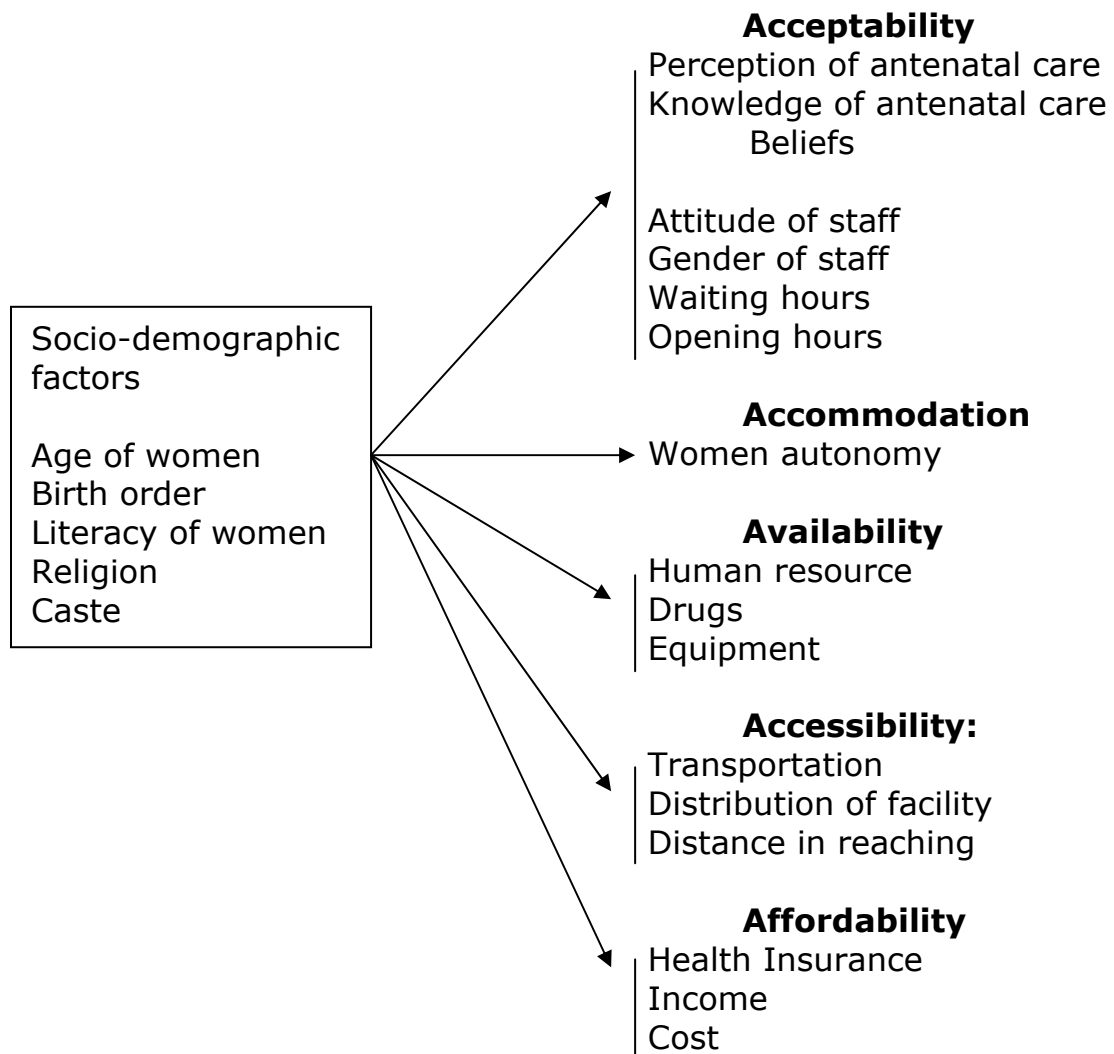
We identify the systems performance by studying the people's health care seeking. They are useful in understanding the perception of illness (Sara MacKian, 2003). Health seeking behaviour model has two categories: utilization of health system by people and the people response to illness i.e the process of illness response. The first category related to socio-economic variables, age, sex, social status of women, type of illness, access to service (Tipping 1995).The second category deals with psychology of health seeking deals with factors that enable or prevent using medical care and treatment.

Table: 3.1 Research table HSB Components, Variables, issues and sources of data

<b>Specific Objective</b>	<b>HSB Component (5 'A's)</b>	<b>Variables/issues</b>	<b>Source of Literature</b>
To know the factors related to Socio-demographic influencing the utilization of antenatal care	Affordability  Accommodation  Acceptability	Health Insurance Income Cost  Women autonomy  Perception of ANC Knowledge of ANC Beliefs	NFHS-II
To know the geographic inaccessibility preventing the use of the antenatal services	Accessibility	Transportation Distribution of facility Distance to reach	NFHS-II
To know the health care provider factors influencing utilization of antenatal services	Availability  Acceptability	Human resource  Attitude of staff Gender of staff Waiting hours Opening hours	MOHFW

The women health Seeking Behaviour complex involves multiple factor which depends on the need to seek care, its urgency that she feels, social forces, provider factors like the practices, location of the services (Rahman, S.A, 2000).

**Figure-3.1: Socio-demographic factors and HSB.**



## Chapter 4

### *Determinants of Utilization of Antenatal Care Services*

#### 4.1. Socio-demographic factors:

Age of women

Birth order

Literacy of women

Religion

Caste

Table-4.1: Antenatal check-ups by socio-demographic factors: (N=2837)

characteristic	At home by health worker	Outside home			No antenatal check-up
		Doctor	Other professional	Traditional birth attendant	
<b>Mothers age</b>					
<20	12.1	33.5	14.8	0.1	38.7
20-34	9.3	38.1	13.9	0.3	38.1
35-49	7.9	34.2	13.7	0.0	44.2
<b>Birth order</b>					
1	9.9	47.5	13.6	0.2	28.3
2-3	10.6	37.1	15.6	0.3	36.0
4-5	9.6	30.6	12.4	0.2	47.0
6+	9.1	24.6	13.9	0.0	51.9
<b>Residence</b>					
Urban	3.6	64.8	13.4	0.2	17.9
Rural	11.7	28.9	14.4	0.2	44.2
<b>Region</b>					
Chattisgarh	6.2	39.0	12.3	0.0	41.9
Vindhya	9.8	21.9	19.5	0.0	48.8
Central	12.7	44.4	11.2	0.5	29.9
Malwa Plateau	13.3	44.5	12.3	0.7	29.2
South Central	6.9	36.7	16.0	0.3	39.6
South western	12.7	40.8	16.4	0.0	29.4
Northern	11.4	31.5	11.9	0.0	44.7

(Source NFHS-II, 1998-99, Madhya Pradesh)

*Age of women:* Influence of age on the seeking the antenatal care has not shown much variation. The mothers of older age received less tetanus toxoid immunizations than women of age 35 or below. The women of older age consumed the received Iron & Folic acid supply more than younger women (NFHS-II, 1998-99).

The more number of women in age thirties have frequent visits for antenatal care than older and younger women (Bhattia & Cleland 1995, MaCaw-Binns et.al 1995, Miles-Doan & Brewster 1998, Matthews et.al 2001). The women in age thirties made frequent visits to know the foetus condition than women of older group who are not concerned, because they are not experienced any problems (Mathole et.al. 2004). However, Women's age is not important factor (Celik & Hotch-kiss 2000, Nisar & White 2003, Overbosch et.al. 2004, Kabir et.al. 2005).

*Birth Order:* There is gradual decrease in seeking the care with increasing birth order of women. 71 percent of the women of 1<sup>st</sup> birth order received care than women of 2 or higher birth order which is 53 percent. The percent of mothers of one birth order received more tetanus toxoid doses than the women of higher birth order. The first order has been 65 percent, 4<sup>th</sup> and 5<sup>th</sup> birth order 49 percent and it is 37 percent in 6<sup>th</sup> or higher birth order. The percent of women received Iron & Folic acid supplementation is very low in the groups of women with birth order of six or more (NFHS-II, 1998-99).

The Higher the birth order the tendency of the women to seek care very less or late (Magadi et.al, 2000, Navaneetham & Dharmalingam 2002).

Table-4.1: Contd; Antenatal check-ups by socio-demographic factors (N= 2837)

characteristic	At home by health worker	Outside home			No antenatal check-up
		Doctor	Other professional	Traditional birth attendant	
<b>Mother's education</b>					
Illiterate	11.1	26.3	13.7	0.3	48.0
Literate < middle school	10.2	46.4	16.8	0.0	26.3
Middle school	7.1	65.5	15.9	0.0	11.5
High school and above	1.7	83.1	11.1	0.0	4.1
<b>Religion</b>					
Hindu	10.3	34.4	14.4	0.2	40.2
Muslim	4.6	64.5	14.2	0.0	16.7
<b>Caste/Tribe</b>					
Sheduled caste	10.2	32.5	18.4	0.6	37.5
Sheduled tribe	12.0	19.9	11.2	0.5	55.7
Other backward class	9.3	39.8	14.8	0.0	35.8
Other	8.4	57.5	12.7	0.0	21.2
<b>Standard of living</b>					
Low	9.2	26.8	12.7	0.2	50.6
Medium	11.4	35.2	15.0	0.2	37.8
High	7.6	65.5	14.9	0.3	11.5
<b>Total</b>	<b>10.0</b>	<b>36.7</b>	<b>14.2</b>	<b>0.2</b>	<b>38.5</b>

(Source: NFHS-II, 1998-99; Madhya Pradesh)

*Literacy of women:* The Vindhya region has less number of visits for antenatal care than the other regions of state like Malwa plateau, south western and central region. The female literacy is very low 21.7 percent compared other regions where the female literacy at range of 29 - 44 percent (Mohua, G.2008). There is similar increase in seeking for the antenatal care of mothers with education and education plus type of provider like doctor. The influence of the high school education for seeking the antenatal care 83 percent from the doctor than illiterate women which is 26 percent. The home visits by the health worker are very less to the mothers who completed high school is 2 percent compared to mother who illiterate is 11 percent. There is more difference in receiving two or more doses of tetanus injection between illiterate women and women having

school education middle or higher. The illiterate women receive two or more doses of tetanus injections is 46 percent, and women of higher or middle school education is 85-89 percent. The education of the women has positively associated with supply and consuming the recommend supply (NFHS-II, 1998-99).

The education of women motivate to more visits for antenatal care (Bashour, H. 2008, Nielsen et. al. 2001, Erci 2003). It makes the women to start the consultations very early (Miles Doan & Brewster 1998, Trinh LTT. 2005, La Veist TA, 1995). Female literacy is an important factor for antenatal care utilization (Mumtaz & Salway 2005, N. P. Das, 2001). A study in Uganda the women who completed post primary education visited antenatal clinics more times than women who had not completed post primary education (Mpungu S Kiwuwa, 2008). The increase in husband's literacy is shown to increase the utilization of antenatal care. The husband education is an important predictor for utilization of antenatal care (Navaneetham & Dharmalingam 2002). The husband education is more important predictor than women's education in a study in Philippines (Miles Doan & Brewster 1998).

*Religion, caste:* Majority of women belong to Hindu as well as Muslim received Antenatal care 59 percent, 83 percent respectively. The preference to visit the doctor for antenatal care is more in Muslims than Hindus. The Hindu women received the care more by home visits than Muslim women. There is a decreasing trend in receiving antenatal care from the upper caste group to Schedule tribe, Schedule caste and other backward class. In RCH-DLHS study during 2002-04 the percentage SC & ST received full antenatal care is 8.2 compared to other caste which is 14.1. The births in Muslim received tetanus toxoid injections higher than Hindu. The percent received for births two or more tetanus injection is 77 percent in Muslim and is 53 percent for Hindu. The caste also showed variation in receiving tetanus toxoid injections. The least received the two or more doses of tetanus in schedule tribe is 34 percent. The schedule caste, other backward and other group women received 56.1 percent, 60.9 percent and 70.1 percent respectively. In RCH-DLHS study during 2002-04 the percent received tetanus toxoid injection in SC & ST is 92.8 and in other caste it is 96. Of the women received the Iron & Folic acid supply for three months; Hindu consumed more the received supply than Muslim women. The Schedule caste women received less the recommended supply and schedule tribe women consumed the all the received supply (NFHS-II, 1998-99). In RCH-DLHS study during 2002-2004 the percent received Iron and folic acid tablets for ST & SC is 74.1 and for other caste group it is 73.3.

The women of Scheduled caste and Scheduled tribe have low utilization of antenatal care in India (Navaneetham & Dharmalingam 2002, Pallikadavath et.al. 2004). Muslims more frequently seek antenatal care than other religions in India (Bhattia & Cleland 1995, Pallikadavath et.al.

2004). There is significant difference in uptake of antenatal care utilization by religion (Mekonnen & Mekonnen, 2003). But it is not a significant factor in India (Navaneetham & Dharmalingam 2002) and in Ghana (Overbosch et.al. 2004).

**Table-4.2: Number of tetanus toxoid injections & Iron and Folic acid supply by Socio-demographic characteristics: (N=1388)**

(Source; NFHS-II, 1998-99; Madhya Pradesh)

Characteristic	Number of tetanus toxoid injections				Iron and Folic acid supply		
	None	One	Two or more	Don't know	Received Iron & Folic acid supply	Received Iron & Folic acid Supply for 3 months	Consumed All the Supply
<b>Mother's age at birth</b>							
<20	30.3	15.7	53.6	0.4	48.2	75.3	69.0
20-30	29.1	13.6	56.4	0.9	50.0	80.0	78.0
34-49	39.7	19.6	40.0	0.6	36.7	69.2	76.1
<b>Birth order</b>							
1	22.7	12.3	64.5	0.6	56.2	80.9	75.1
2-3	26.8	14.6	58.1	0.6	51.1	77.8	75.6
4-5	33.3	16.8	48.9	1.0	46.5	77.5	76.4
6+	47.6	13.9	37.1	1.4	32.3	75.0	74.4
<b>Residence</b>							
Urban	12.9	12.4	73.7	1.0	66.1	76.2	74.3
Rural	34.5	15.0	49.8	0.7	44.2	79.3	76.0
<b>Region</b>							
Chattisgarh	28.3	12.6	58.2	0.9	54.9	79.7	75.9
Vindhya	48.2	14.5	37.1	0.2	32.7	84.6	78.6
Central	20.4	16.3	60.5	2.8	55.3	71.0	65.0
Malwa Plateau	19.1	14.0	66.8	0.0	54.6	79.3	76.2
South Central	27.4	18.6	53.2	0.8	49.6	81.9	81.4
South western	32.2	15.6	51.3	0.9	54.7	82.0	76.5
Northern	31.1	11.6	56.7	0.6	41.3	67.4	73.8



**Table-4.2: Contd; Number of tetanus toxoid injections & Iron and Folic acid supply  
By Socio-demographic characteristics: (N=1388)**

Characteristic	Number of tetanus toxoid injections				Iron and folic acid supply		
	None	One	Two or more	Don't know	Received Iron & Folic acid supply	Received Iron & Folic acid Supply for 3 months	Consumed All the Supply
<b>Mother's education</b>							
Illiterate	38.2	15.5	45.5	0.8	40.2	75.4	73.9
Literate < middle school	18.1	15.0	66.3	0.7	58.9	80.1	76.0
Middle school	6.0	9.4	84.6	0.0	75.1	81.9	76.2
High school and above	1.8	7.6	89.2	1.4	82.7	85.9	81.2
<b>Religion</b>							
Hindu	31.4	14.8	53.1	0.8	47.5	78.5	75.9
Muslim	10.3	11.6	77.3	0.9	66.4	80.0	70.0
<b>Caste/Tribe</b>							
Sheduled caste	29.9	13.3	56.1	0.7	49.0	71.7	74.9
Sheduled tribe	47.8	17.5	33.8	1.0	35.7	78.0	81.1
Other backward class	25.8	12.9	60.9	0.4	51.7	81.0	73.3
Other	13.7	14.8	70.1	1.5	61.2	78.5	75.9
<b>Standard of living</b>							
Low	41.0	16.4	41.7	0.9	37.3	70.6	73.1
Medium	28.5	14.8	56.0	0.6	50.4	79.6	76.6
High	6.9	8.5	83.7	0.9	72.7	84.8	76.0
<b>Total</b>	<b>29.9</b>	<b>14.4</b>	<b>55.0</b>	<b>0.8</b>	<b>48.9</b>	<b>78.4</b>	<b>75.5</b>

(Source; NFHS-II, 1998-99; Madhya Pradesh)

#### 4.2 Acceptability:

Perception of antenatal care

Knowledge of antenatal care

Beliefs

The reasons cited by the women not received antenatal care, the main reason for mentioned by the women belong to both rural as well as urban is; not required. The percent is 68.1 in urban, 54.5 percent in rural areas. 4 percent of rural women have no information about the service available and 2.3 percent have no time to go for antenatal chek-up (NFSHS-II, 1998-99).

The women when suffered with complication in previous birth or delivery like to use antenatal care (WHO, 1996).

**Table-4.3: Reasons for not seeking ANC: Rural/Urban, Total**

<b>Reasons for not seeking ANC</b>	Urbna	Rural	Total
Not necessary	68.1	54.5	55.9
Not customary	3.8	2.7	2.8
Costs too much	13.6	16.7	16.4
Too far/No transport	0.0	6.5	5.8
Poor quality of service	1.3	0.7	0.8
No time to go	4.6	2.1	2.3
Family did not allow	3.5	7.6	7.2
Lack of knowledge	5.0	3.9	4.0
No health worker visited	0.0	4.6	4.1
Other	0.0	0.8	0.7
<b>Number of births</b>	<b>110</b>	<b>983</b>	<b>1093</b>

(Source; NFHS-II, 1998-99; Madhya Pradesh)

In Nigeria one culture called 'Hausa' there is belief 'God's Will' influences women for not seeking the antenatal care (Adamu & Salihu 2002). Pregnancy believed to be a natural process in India (Griffith & Stephenson, 2001). Antenatal care was not necessary unless have any problem or have complication in the previous pregnancy (Chowdhury et.al. 2003). In India the reason late attendance to antenatal visit is lack of previous obstetric complications (Matthews *et.al.* 2001).

Women with exposure to mass media increased the utilization of antenatal care (Navaneetham & Dharmalingam 2002). Exposure television, watching it every week increased the utilization of antenatal care (Pallikadavath et.al. 2004, Sharma 2004). In zimbabwe the two beliefs for not attending the antenatal care are one is the witchcraft and the second is fear of testing for HIV and labelling (Mathole et.al. 2004). Some attend late for antenatal care because, they dont know early that they are pregnant (Mayer & Harrison 2003).

Attitude of staff  
Gender of staff  
Waiting hours  
Opening hours

Poor relationships of patients with health providers, indifferent attitude of staff were main reasons for negatively associated for utilization of antenatal care (Mathole et. Al. 2004). Opening time was one the factor for utilization of antenatal services in Bangladesh (Chowdhury et.al. 2003).Long waiting hours discourages the use of antenatal care (Chowdhury et.al. 2003, Mathole et.al.).Quality of antenatal care has positive association with increase in utilization (Manju Rani, 2008).

#### 4.3 Accommodation:

##### Women autonomy

7.6 percent of rural women and 3.5 urban women family not allowed seeking care (NFHS-II, 1998-99).

The autonomy of women to take own decisions is positively associated utilization of antenatal care (Pallikadavath et.al. 2004). Women with high autonomy face less barriers from family than women with low autonomy. The women with high autonomy consult more expensive care (Jagdish C. B.1995). In Nigeria husband refuse for the utilization of antenatal care (Adamu & Salihu 2002). In Nepal male headed households, women less likely use antenatal care (Matsumura & Gubhaju 2001). In Pakistan, travelling with a person accompany for antenatal visit increased the utilization (Mumtaz & Salway 2005). In rural Bangladesh Older women discourage their daughter-in-laws to visiting for the antenatal care (Chowdhury et.al. 2003). Women without the support of family members and friends are less likely to attend the antenatal care (McCaw-Binns et.al. 1995). Males take decision to seek health care for women in India (Rani M, 2003). Women have to seek permission from the head of house hold or men for visiting health facility in Pakistan (Fatimi Z, 2002).

#### 4.4 Availability:

##### Human resource

##### Drugs

##### Equipment

Health worker not visited in case of 4 percent of rural women. The antenatal care received from doctor is 37 percent, form the auxiliary paramedical personnel is 14 percent and to home visit by the health workers is 10 percent. The utilization of antenatal care at doorstep by ANM (Auxillary Nurse Midwife) is less than 1/5<sup>th</sup> of pregnant women in RCH-DLHS Survey 2002-04. The Hindu women received the care more by home visits by health worker than Muslim women (NFHS-II, 1998-99). Lack of qualified medical doctor in Primary Health Center (PHC) for 18 months is reported in Madhya Pradesh (Sachin K. J, 2007).

Infrastructure is inadequate like drug supply, equipment and human resources (Indira Murali, 1999).

The utilization of antenatal care associated with availability of health worker. A health worker who lives in a village there is more women likely to use the antenatal care services (Magadi et.al. 2000, Nielsen et.al. 2001).

4.5 Accessibility:  
 Transportation  
 Distribution of facility  
 Distance in reaching

The common complaints are excessive fatigue 50.7 percent, anaemia 38.4 percent, (8.1 percent is more in urban women), blurred vision 37.7 percent (6.4 percent high in the rural women), night blindness in rural women 22.1 percent more than the urban women which is 10.7 percent. The main reason not receiving antenatal care is lack of transport for the rural woman (6.5 percent).

**Table-4.4: Number and timing of Antenatal check-ups: Rural/Urban, Total**

<b>Number of antenatal check-ups</b>	Urban	Rural	Total
0	17.9	44.2	38.5
1	12.4	15.5	14.8
2	18.4	18.0	18.1
3	15.6	12.8	13.4
4 +	35.6	9.0	14.7
Don't know/missing	0.0	0.6	0.4
Mean Number of antenatal check-ups	2.7	1.7	1.9
<b>Stage of pregnancy At time of first Antenatal check-up</b>			
No antenatal checkup	17.9	44.2	38.5
1 <sup>st</sup> trimester	45.8	20.7	26.1
2 <sup>st</sup> trimester	26.0	23.0	23.6
3 <sup>st</sup> trimester	10.2	11.7	11.4
Don't know/missing	0.0	0.4	0.3
Median month of pregnancy	3.3	4.5	4.1
<b>Number of births</b>	<b>613</b>	<b>2224</b>	<b>2837</b>

(Source: NFHS-II, 1998-99; Madhya Pradesh)

The mean number of antenatal check-ups is 1.9. There is considerable difference between rural and urban areas. The births that received three antenatal check-ups in urban areas are 51 percent and the births that received three antenatal-check-ups in rural areas are 22 percent. There is difference in the mean number of antenatal-ups between urban and rural areas, the mean is 2.7 for urban and 1.7 for rural. The distance, travelling difficulties and low level of education in women may responsible for low mean number of antenatal check-ups in rural areas. There is deference in receiving the first antenatal visit during the first and second trimester in comparison with urban areas. The first antenatal check-up received during the first trimester is 26 percent (32.5 percent RCH-DLHS, 2002-04) and during the second trimester it is 24 percent. The more urban women received the first antenatal check-up during the first semester. The urban

women received first antenatal check-up is 46 percent during first trimester and 21 percent in rural women during the first trimester. The first antenatal check-up received as late as during the third trimester. The mean month at time of only one antenatal check-up is higher in rural women than urban counterpart. The mean month is 4.1 altogether, and it is 4.5 in rural women, 3.3 in urban women (NFHS-II, 1998-99).

The common provider is doctor in urban areas than in the rural areas for the antenatal care. The tetanus injections received are more in urban women than rural women. The women of urban area and Muslim have received more than rural area and women belong to Hindu. The percent received Iron & Folic supplementation in urban area is 66, more than 44 percent in rural and for Muslim it is 66 percent more than 48 percent in Hindu women (NFHS-II, 1998-99).

**Table-4.5: Components of antenatal care received: Rural/Urban, Total**

<b>Antenatal measurements/tests</b>	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
Weight measured	53.6	22.1	31.3
Height measured	20.0	8.8	12.1
Blood pressure checked	59.1	27.7	36.8
Blood tested	63.1	33.1	41.8
Urine tested	60.3	27.7	37.2
Abdomen examined	72.5	47.2	54.2
Internal examination	40.5	14.5	22.1
X- ray	6.5	2.0	3.3
Sonography or Ultrasound	19.3	5.1	9.3
Amniocentesis	4.3	0.6	1.7
<b>Antenatal advice</b>			
Diet	63.3	44.0	49.6
Danger signs of pregnancy	30.9	16.0	20.3
Delivery care	38.4	20.4	25.6
New born care	35.2	20.0	24.4
Family planning	26.7	18.8	21.1
<b>Number of births</b>	<b>503</b>	<b>1228</b>	<b>1731</b>

(Source: NFHS-II, 1998-99; Madhya Pradesh)

The frequency of tests done in antenatal visits in urban areas is 1.5 times more than rural areas. This is evident in case of the tests abdominal examination and sonogram or ultrasound. The 73 percent had abdominal examination in urban areas and 47 percent of rural had abdominal examination test done. This difference is more in case of high tech tests i.e. ultrasound, amniocentesis; which is 19 percent of urban women and 5 percent in rural women for ultrasound, and 4 percent of urban women and 1 percent in rural women for amniocentesis. The dietary advice received during antenatal check-up is more in urban than rural women (NFHS-II, 1998-99).

Accessibility of health care is important factor in developing countries (Timyan, J.1993). In rural areas of developing countries even though accessible to health facility people face problems of lack of medical supplies and poor patient management (Sundari,T.K. 1992).

More of urban women utilized antenatal services than rural women (Paredes et.al. 2005, Sharma 2004, Obermeyer & Potter 1991). In Ethiopia urban women used antenatal services more likely from professional (Mekonnen & Mekonnen, 2003). In India, urban women in state of Karnataka are 45 percent less likely to use antenatal care than the women in rural areas (Navaneetham & Dharmalingam 2002). In Turkey, the difference in utilization of antenatal services between urban and rural women is not a significant when holding other variables constant (Celik & Hotchkiss 2000), and also no difference between urban and slums in Pakistan (Alam et.al 2005). The women living in developed region of state likely to use antenatal services. The association between development and utilization was positive and also significant (Celik & Hotchkiss 2000).

The barriers to utilization to antenatal care are distance, physical access (Griffith & Stephenson 2001, Chowdhury et.al. 2003, Myer & Harrison 2003, Mathole et.al. 2004). The poor road conditions unsuitable for travel by vehicles and big river crossing are barriers to reach health facility (Mathole et.al. 2004, Mumtaz & Salway 2005). Place of residence is one of the factor for late entry into the antenatal care (McDonald TP, 1998, Perloff JD,1999, Trinh LTT. 2005).

The more the distance to nearest health centre is less likely to use antenatal care (Magadi et.al. 2000). It is also leads lower uptake of antenatal care (Nielsen et.al. 2001). In developing countries the distance becomes strong barrier with the existing difficulties of transportation like poor roads and costs of transport (Islam A, 2002, Noorali R, 1999, Bhuiya A,1995).

#### 4.6 Affordability: Health Insurance Income

Costs mentioned as reason for seeking care is 16.7 percent of rural women, 13.6 percent women in urban areas. The standard of living higher, the more in seeking the antenatal care and more form the type of provider doctor. The percent of antenatal care received for women higher standard of living is 88, while it is 49 percent in case of women low standard of living. The similar figure for seeking the care from the type provider doctor is 66 percent for women of higher standard of living and 27 percent for women of low level of standard of living. The births of women in higher standard of living received more than births of women in low standard of living. The women received tetanus injection in higher standard of living is double (83.7 percent) than women of low standard of living (42 percent). The standard of living of the women has positively associated with supply and consuming the recommend supply of Iron & Folic acid tablets.

Health insurance has encouraged utilization of antenatal care and significant (Celik & Hotchkiss 2000, Ciceklioglu et.al. 2005, Gazmararian JA, 1999). Cost is the main barrier for seeking health care in Pakistan (Fatimi Z, 2002).

The transportation charges for travel and laboratory fees are preventing factors to utilize antenatal care (Adamu & Salihu 2002, Overbosch et.al.2004). A number of studies also mentioned the similar reasons (Griffith & Stephenson 2001, Myer & Harrison 2003, Mathole et.al. 2004, Mumtaz & Salway 2005).

The women living in high standard, is more likely and early to utilize antenatal care than the women of low standard of living (Magadi et.al. 2000, Sharma 2004). The women of High income have strong demand for quality of services provided from health facilities (Cleland, J. G.1988, Caldwell, J. C. 1986). The standard of living is positively associated with utilization of antenatal care (Miles-Doan & Brewster 1998, McCaw-Binns et.al. 1995, Celik & Hotchkiss 2000, Matthews *et.al.* 2001, Overbosch et.al. 2004, Gleit et. Al. 2003, Navaneetham & Dharmalingam 2002, Obermeyer & Potter 1991, Pallikadavath et.al. 2004).

Employed women like civil servants, white collar workers utilized antenatal care more than housewife's who are unemployed (Miles-Doan & Brewster 1998, Kabir et.al. 2005). The use of antenatal care in health facilities is more in non-working women than working women (Pallikadavath et.al. 2004). The proportion of women seeking antenatal care at home was higher non-working women than working women (Pallikadavath et.al. 2004). Women of Paid employment seek antenatal care early (Navaneetham & Dharmalingam 2002, Magadi et.al. 2000, Ivanov LL.2000). Women of labourers and unemployed husband not seek adequate antenatal care (Ciceklioglu et.al. 2005).

## Chapter 5

### *Discussion and Conclusion*

The literacy of women is found to be important factor in utilizing the antenatal care. The education of the women makes her to understand the importance the care, increases the decision making power (Matsumura & Gubhaju 2001), and autonomy (Raghupathy 1996). All these together increase the confidence in decision making on own health (WHO & UNICEF 2003). The costs of the care including transportation charges are important determinants to seek care from a health facility at long distance. These financial costs are reinforced with local customs when women want to travel to health facility with accompany outside the house hold (WHO 1998). Women with higher standard of living will get better information on benefits utilization of antenatal care because they better access exposed to mass media (WHO & UNICEF 2003).

The distance to health facility and the time taken to reaching the facility are important determinants in seeking the antenatal care. The time and costs involved together makes women to use the care from health facility less (Bedics 1994). There is difference in location of health facility between rural and urban areas. The human resource constraints (WHO 2006) and difficulties transportation for pregnant women to travel poor road conditions (Priya Saxena 2006) in rural areas tends defer to seek care than women in urban areas.

The age of the women influence on use of antenatal care is decreases; this is due to confounding effect of higher parity. The perception of complications in the next is pregnancy deceases, because of its low occurrence so, feel little need to seek care than 1<sup>st</sup> pregnancy.

The acceptability of the provider services depends on the satisfaction of the service and this is a major factor in utilization of health service in general (Aldana et.al 2001). The patient satisfaction is one of the components in quality of maternal health care given more emphasis in developed countries (Teijlengen et.al. 2003). The lack of quality in maternal care decreases to seek care which evident in kenya due to lack quality like; shortage of drugs, essential medicines, poor quality of food and cleanliness (Mwaniki et.al 2002). Negative attitudes and poor relation of health workers with women are major barriers for low uptake of antenatal services (Mathole et.al. 2002). The neglect in quality control of care (Haddad & Fournier 1995) looked after (Peabody et.al. 2006).

The religion, caste have important role in utilization of antenatal care. Muslim women tend to use less likely due to privacy (Mishra 2004). The antenatal care which involves exposure arms, legs is embarrassing for Muslim women (Holland & Hogg 2001). But the Muslims have more utilization of antenatal care (Bhattia & Cleland 1995, Pallikadavath et.al.



2004). Some belief in cultures that modern health care is only for curative services, so not uses the antenatal care (Magadi et.al. 2000).

Lack of women autonomy is another barrier for no utilization or low utilization of antenatal care in several Asian studies and in African studies. Social relations tend to give information, ideas and providers about antenatal care (Bloom S.S. et.al. 2001). In some developing countries men have control in cash regulation of house so have little access to pay for health care service, makes to low utilization of care (Holland & Hogg 2001). The lack male involvement in seeking antenatal care and during child birth some traditional cultures makes to low utilization of care (Mullick et.al. 2005).

The health seeking for antenatal care is influenced by education of the women, Place of residence (Urban/Rural), transportation difficulties in rural areas, perception of problems during pregnancy in multi-para and high birth order women. The socio-demographic factors are standard of living, income, caste and religion.

## Chapter 6

### Recommendations:

#### *Socioeconomic inequities:*

- Maternal health is given more importance in policy and programme goal taking into consideration the various social conditions.
- Considering the Information Education and Communication (IEC) activities specific to the local areas.
- Strengthening the Government health facilities infrastructure.

#### *Implementation and evaluation of interventions:*

- Whether the ongoing are efficient and that benefiting the poor like such as voucher schemes e.g 'Janani Suraksha Yojana' , 'National Maternity Benefit Scheme' (NMBS), (Sachin K. J, 2007).
- Whether the use services of antenatal care are reduced in subsequent pregnancies due to perception of need.
- The quality and cost of care provided by the different providers.
- Mapping the remote areas and inaccessible areas.

#### *Strengthen antenatal care as recommended by WHO:*

- Increasing and improving access to skilled attendance care.
- Training and supervision of all skilled health workers in all the components of antenatal care.
- More involvement of nurses and midwives in treating the complication of pregnancy.
- Extending of provision of Iron & Folic acid tablets into communities to reduce the dependence on health facility.
- More involvement of Non Governmental Organizations (NGO's).

#### *Strengthening of ongoing female education:*

- 'Taraakshar' (Hindi word) is literacy programme using the flip chart method to teach illiterate rural women in age from 8 to 50 years. (<http://www.devalt.org/Taraaksharwriteup.htm>)
- 'Sarva Shiksha Abhiyan' (Hindi word) Madhya Pradesh (<http://www.ssa.mp.gov.in/educationalprofile.htm>)
- Increased school enrolment for girls.

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<b>INDICATORS</b>	<b>M.P.</b>	<b>India</b>
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Area (In sq. km)	3,08,245 (9.38% of India's total area)	32,87,263
Population (Census 2001)	6,03,85,118 (5.88% of India's population)	1,027,015,247
Population below poverty line (%)	37.43	26.10
Population growth rate (1991-2001)	24.34	21.34
Population density	196	324
Literacy Rate · Male Literacy · Female Literacy	64.11 76.80 50.28	65.38 75.85 54.16
Sex ratio (Females per 1000 Males)	920	933
Urban population	26.67%	27.78%
Scheduled Castes	74, 78,000 (15.4%)	16, 65, 76,000 (16.20%)
Scheduled Tribes	96, 82,000 (19.94%)	8,31,88,235 (8.10%)
Maternal Mortality Ratio (SRS 1998)	498	407
Infant mortality rate (SRS 2004)	79/1000	64/1000 (SRS 2004)
Crude Birth rate (SRS 2007)	29.1	23.5
Crude Death Rate (SRS 2007)	8.9	7.5
Total Fertility Rate (NFHS-II)	3.3	2.9

**Annexure-I: SOCIO-DEMOGRAPHIC PROFILE**

Annexure-II: Maternal care indicators for births during the three years preceding the

Survey by residence, NFHS-3, NFHS-2, and NFHS-1, India.

Indicator	NFHS-III 1992-93	NFHS-II 1998-99	NFHS-I 2005-06
Urban			
Percentage who received antenatal care	90.8	86.5	83.0
Percentage who had at least three antenatal care visits	73.8	70.1	66.8
Percentage who received antenatal care within the first trimester of pregnancy	63.0	55.8	40.9
Rural			
Percentage who received antenatal care	72.2	59.9	59.2
Percentage who had at least three antenatal care visits	42.8	36.9	37.3
Percentage who received antenatal care within the first trimester of pregnancy	36.1	26.7	20.2
Total			
Percentage who received antenatal care	76.9	65.8	64.6
Percentage who had at least three antenatal care visits	50.7	44.2	43.9
Percentage who received antenatal care within the first trimester of pregnancy	43.0	33.1	24.9