"Identification of Pregnancy-related Morbidity and Mortality among Young Women in Rajasthan"

A dissertation submitted in partial fulfillment of the requirements

for the award of

Post-Graduate Diploma in Health and Hospital Management

by

AJAY PATLE

International Institute of Health Management Research

New Delhi -110075

April, 2011

"Identification of Pregnancy-related Morbidity and Mortality among Young Women in Rajasthan"

A dissertation submitted in partial fulfillment of the requirements for the award of

Post Graduate Diploma in Health and Hospital Management

by

AJAY PATLE

Under the guidance of

Dr Sudhir Maknikar
Designation: Project Leader
Organization: Pathfinder International

Dr. P.K. Taneja
Designation: Asso.Professor
IIHMR, New Delhi

International Institute of Health Management Research
New Delhi-110075

April, 2011

Reporting Format

Final Dissertation and Internship Programme

(IIHMR, New Delhi-Batch 2009-11)

Name: AJAY PATLE

Enrolment No.: PG/09/006

Organization selected for Dissertation and Internship

PATHFINDER INTERNATIONAL

Address for Communication: B-5/5, SAFDARJUNG ENCLAVE NEW DELHI

E-mail ID:drajay.patle@gmail.com

Date of Joining: 17/01/2011

Name of Internal Advisor: Dr. Sudhir Maknikar

This is to confirm that I have reported to my internal advisor regarding my dissertation and internship placement. During my internship I will regularly keep in contact with my advisor and keep him/her updated about my progress. I will also carry out a special study (or, dissertation) on a particular areas/department/programme in consultation with the concerned authority of the organization. I will prepare a brief study proposal on the agreed topic and send to my advisor before January 29, 2011 for approval. I understand that the general internship report and the special study report needs to be approved by my advisor before the presentation and subsequent submission of the final report before April 15,2011.

Signature of the student: _____ Date: _____

Signature of the Internal Advisor: _____ Date: _____

(Internal Advisor's Copy)

(PGDHM Office's Copy)

(Student's Copy)

Certificate of Internship Completion

Date: …….

TO WHOM IT MAY CONCERN

This is to certify that Dr. Ajay Patle has successfully completed his 3 months internship in our

Organization from January 10, 2011 to April 10, 2011. During this intern he has worked on Raksha Project under the guidance of me and my team at Pathfinder International.

……. (Any positive/negative comment)

We wish him/her good luck for his/her future assignments

Dr Sudhir Maknikar

Project Leader, Pathfinder International

Certificate of Approval

The following dissertation titled "Identification of Pregnancy-related Morbidity and Mortality among Young Women in Rajasthan" is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of Post- Graduate Diploma in Health and Hospital Management for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

Name	Signature
_____	_____
_____	_____
_____	_____

Certificate from Dissertation Advisory Committee

This is to certify Ajay Patle, a participant of the Post- Graduate Diploma in Health and Hospital Management, has worked under our guidance and supervision. He is submitting this dissertation titled “Identification of Pregnancy-related Morbidity and Mortality among Young Women in Rajasthan "in partial fulfillment of the requirements for the award of the Post- Graduate Diploma in Health and Hospital Management.

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

Dr.Pawan Taneja	Dr Sudhir Maknikar
Asso. Professor	Project Leader
IIHMR	Pathfinder International
New Delhi	New Delhi
April 2011	April 2011

ACKNOWLEDGEMENT

At every stage during my internship, right from the conceptualization of the topic & this project to its completion, I have received constant support, guidance and encouragement from my respected teachers and guides. I would like to thank the young women of study blocks in Rajasthan who generously gave us their time and shared their views and experiences. I am also grateful to the family members of women who died of pregnancy-related causes for reliving and sharing their painful experiences with us. I would like to acknowledge with appreciation the support I received from the departments of Health and Family Welfare and Women and Child Development, Udaipur district for this study. I am grateful to the district officials of these departments for granting permission to conduct the study, sharing their insights about the maternal health situation in the district and allowing me to access various registers maintained by these departments. My thanks also go to the grass-root level workers of these departments who generously supported me in data collection.

I am very much indebted to Dr. Rema Nanda, Country Representative Pathfinder International for giving me the opportunity to work with such a big and renowned organization. The leadership and zeal of Dr. Sudhir Maknikar, Project Leader to train me in this field is really commendable. I extend my gratification to him for rendering his valuable time and guidance at every stage of this project especially in field work. I am also obliged to him for providing me with the facilities to carry forward the study in the community. I am extremely grateful to my mentor Dr. Pawan Kumar Taneja and teachers at IIHMR, New Delhi for taking time to share their vast knowledge with us. It is just because of these great teachers and guides; I am able to stand tall and able to complete this project. My heartfelt thanks to Mr. .Sachin Kothari, Brajesh Kumar and state team Rajasthan for providing support and help me out in this study,

Last but not the least , I am honored to have the privilege to thank my family for their unparalleled love and for providing me all the opportunities and amenities I ultimately desired for.

Ajay Patle

PGDHHM (IIHMR, NEW DELHI)

ABSTRACT

Introduction

According to The World Health Organization (WHO), nearly 1,500 women die each day in pregnancy and childbirth. Despite global commitment through the fifth Millennium Development Goal to reduce the maternal mortality ratio by three-quarters by 2015, the maternal mortality ratio declined by only 5 percent between 1990 and 2005. In India, as per Sample Registration System (SRS) 2004-06 the Maternal Mortality Rate (MMR) is 254 per 1, 00,000 live births.

Early marriage continues to characterize the lives of many women in India. Newly-married adolescent girls face compelling pressures to prove their fertility as soon as possible after marriage, and consequently, pregnancy and childbearing continue to occur in adolescence for considerable proportions of women in India.

Pregnancy and childbearing continue to occur in adolescence for considerable proportions of women in India. The dangers of childbearing for adolescent girls, whose bodies have not physically matured, are widely acknowledged. Yet, little is known about whether morbidity and mortality experiences vary within the subgroup of adolescent girls, whether such experiences differ between adolescent and adult women of similar parity, and whether treatment seeking behaviors and the delays experienced in seeking treatment differ between adolescent and adult mothers. To begin to fill this gap, an exploratory study of the pregnancy-related morbidity and mortality experiences of women who delivered in adolescence age (below 19) and the constraints they faced in seeking appropriate and timely care. The study will conduct in the state of Rajasthan, a state characterised by a high maternal mortality ratio and low age at marriage.

Objective of the Study

The study aimed to explore the pregnancy-related morbidity and mortality experiences of young women who delivered in adolescence years (below 19) including the delays they faced in seeking appropriate care.

Methodology

A cross-sectional study, comprising a survey and in-depth interviews, was conducted in Udaipur district in the state of Rajasthan.

Respondents for the survey included: (a) young women who had experienced a recent delivery that is, during one year preceding the survey, and were aged below 19 years

(b) family members of young women who had died during delivery or within six weeks following delivery due to maternal complications in the one year preceding the survey. Taking into account the percentage of adolescent mothers (15-19 years), it was calculated that roughly 153 women would have experienced a delivery during the one year preceding the survey at ages below 19.

Finding and Result

Findings indicate that adolescent mothers in the study setting commonly experienced pregnancy-related complications; 75% of all women had experienced at least one pregnancy-related complication. Maternal health care seeking was limited among all women, particularly young adolescent mothers. Most women sought care for pregnancy-related complications experienced; however, adolescent mothers were more likely than others to have sought care from unqualified providers. All women experienced delays in recognizing the complication experienced, deciding to seek treatment from an appropriate health facility, reaching the facility and obtaining care at the facility; adolescents were somewhat more likely than others to face delays in deciding to seek treatment and reaching the facility.

Recommendation

Support young people, particularly newly-weds, to postpone the first pregnancy

Promote care during pregnancy, delivery and the postpartum period, particularly among adolescent mothers

Build in-depth awareness of pregnancy-related complications

Empower adolescent and young mothers to make informed decisions related to pregnancy care, and involve influential adults in ensuring pregnancy is safe for young women

Mobilize communities and young women to address delays in reaching health facilities

List of Tables

List of Figures

APPENDIX

Women Questionnaire

List of Abbreviation

NASG	**Non-Pneumatic Anti –Shock Garment**
AMTSL	**Active Management of Third Stage of Labor**
PPH	**Post –Partum Hemorrhage**
M & E	**Monitoring and Evaluation**
FLW	**Field Level Worker**
NIP	**NGO Implementing Partner**
IEC	**Information, Education & Communication**
IPC	**Inter-Personal Communication**
SRS	**Sample Registration System**
DLHS	**District Level Health Survey**
NFHS	**National Family Health Survey**
WHO	**World Health Organization**
MMR	**Maternal Mortality Ratio**
IIPS	**International Institute of Population Science**
ICMR	**Indian Council of Medical Research**
NRC	**National Research Council**
ASHA	**Accredited Social Health Activist**
AWW	**Anganwadi Worker**
IFA	**Iron Folic Acid**
SPSS	**Statistical Package for social Sciences**
PPS	**Probability Proportionate Sampling**
ANC	**Ante-natal Care**
PNC	**Post –natal Care**
JSY	**Janani Suraksha Yojana**

Internship Report

Organization Profile - Pathfinder International

History

Pathfinder International was originally incorporated as The Pathfinder Fund in 1957. The pioneering family planning work, however, began decades earlier in the late 1920s when Pathfinder founder, Dr. Clarence Gamble, supported efforts to introduce contraception to women and couples in the United States and 60 other countries. He also launched the first community-based service model, which is still the foundation of Pathfinder's success today.

Despite the highly sensitive and complex nature of our work, Pathfinder has steadily expanded operations since 1957. Over the decades Pathfinder has taken difficult positions to increase access to high-quality reproductive health services. This has earned Pathfinder wide recognition and respect throughout the world, highlighted by the 1996 United Nations Population Award.

- Pathfinder has brought reproductive health care to tens of millions of people in more than 120 countries in Africa, Asia, the Near East, Latin America, and Europe. Today, our 800-plus employees work alongside more than 300 local partner organizations, helping implement 60 regional and multi-national programs in more than 25 countries.

Mission

Pathfinder International's mission is to ensure that people everywhere have the right and opportunity to live a healthy sexual and reproductive life.

Pathfinder places reproductive health services at the center of all that we do—believing that health care is not only a fundamental human right but is critical for expanding opportunities for women, families, communities, and nations, while paving the way for transformations in environmental stewardship, decreases in population pressures, and innovations in poverty reduction.

In more than 25 countries, Pathfinder provides women, men, and adolescents with a range of quality health services—from contraception and maternal care to HIV prevention and AIDS care and treatment. Pathfinder strives to strengthen access to family planning, ensure availability of safe abortion services, advocate for sound reproductive health policies, and, through all of our work, improve the rights and lives of the people we serve.

PATHFINDER INTERNATIONAL IN INDIA

Pathfinder International has a long history in India, from projects testing contraceptive methods in 1953 to integrating family planning into existing social welfare programs in the early 1970s.Since 1999, Pathfinder has focused on advancing the reproductive health needs of underserved and vulnerable populations, particularly adolescents, whose needs are often neglected because of cultural sensitivities to discuss sexual activity outside of marriage. Pathfinder's work has also expanded to address the growing problems of unsafe abortion and HIV and AIDS.

Pathfinder currently manages five projects across the country, focusing on the following key areas:

- Reproductive Health Among Adolescents and Youth;
- HIV and AIDS; and,
- Maternal and Newborn Health

Through these varied projects in reproductive health and family planning, Pathfinder continues to lead improvements in health services for Indian women and families.

Current Projects in India

PRACHAR - Promoting Change in Reproductive Behavior: A major project working to improve the reproductive health status of adolescents and young couples in Bihar state.

MUKTA - Controlling the Spread of STIs and HIV and AIDS: A project that aims to reduce the spread of STIs and HIV and AIDS among sex workers and other vulnerable populations in Maharashtra.

RAKSHA - Addressing Postpartum Hemorrhage: A major project to reduce the morbidity and mortality associated with postpartum hemorrhage in India and four other countries.

PRAGATI - Community Partnerships for Family Well-Being: A project in Madan Pur Khader focused on increasing awareness about reproductive health among adolescents and young couples within the overall health of families.

PRAGYA - Gender Operations Research Study: This project investigates factors contributing to delaying the age of marriage in areas where Pathfinder conducted training in 05-06

IPPF Safe Abortion Action Fund: A two-year grant from the International Planned Parenthood Federation (IPPF) which supported safe abortion activities in Ghana, India, Mozambique and South Africa.

Access to Safe Abortion: A project that worked in five districts of Bihar to improve women's access to safe abortion and improve community awareness of healthy behaviors surrounding the termination of pregnancy.

Safe Abortion Training, Care, and Services in Karnataka: This project increased access to safe abortion services and post abortion care in the impoverished northern districts of Karnataka

RAKSHA

Addressing Postpartum Hemorrhage in Bihar, Rajasthan, Maharashtra and Tamil Nadu

Pathfinder launched the Continuum of Care project in November 2007. The project aims to reduce morbidity and mortality associated with postpartum hemorrhage in India and Nigeria—both of which rank among countries with the highest maternal mortality in the world. The project's continuum of care model focuses on prevention and care from the community level—where women are most likely to give birth at home or in poorly equipped health centers—to higher level facilities where they can receive care for complications. The continuum of care model incorporates, as needed, active management of the third stage of labor including administration of an appropriate drug (uterotonic); a blood collection drape (which measures blood loss and can signal when a woman is in danger); the non-pneumatic anti-shock garment (NASG, which is placed on a woman to control PPH until she reaches emergency obstetric care); and improved communication and transportation systems to help move women to emergency care. The project also engages in sustained advocacy to lay groundwork for the further expansion of these intervention technologies. The ultimate goal of the project is to prevent postpartum hemorrhage and reduce maternal mortality and morbidity**.** [3]

The components of the ***Raksha Project*** are to:

- Promote routine use of Active Management of Third Stage of Labor (AMTSL) including appropriate uterotonics for prevention of PPH at all levels of care,
- Promote use of the blood drape for early diagnosis of post-partum hemorrhage (PPH),
- Promote use of the non-pneumatic anti-shock garment (NASG), a medical device, to stabilize and resuscitate a woman in shock,
- Impart community education and preparation for emergency referrals for PPH.

Project details

It is important to measure the impact of these interventions over the course of 3 years and to document the success of this program in achieving goals. These evaluations are also necessary for advocacy for scale up and for identifying areas that need a change in strategies to achieve objectives. This requires collection of baseline data as well as ongoing data during the intervention period that we can compare it to the post-intervention data to evaluate results and also study trends over several years before and after the intervention.

Project goal

The ultimate goal of the project is to prevent PPH and reduce morbidity and mortality from PPH. It has been estimated that the widespread adoption of the continuum of care model could prevent 80% of all PPH deaths and 25% of maternal deaths from all causes.

Project objectives

The objectives of this intervention are to:

- Raise awareness of the role of uterotonics, a blood drape, and the NASG as a continuum of care strategy in safe motherhood interventions
- Improve the capacity of health care providers to provide high-quality, appropriate care to women with PPH; and
- Increase awareness among community members and health care providers of the danger signs of PPH;
- Improve the capacity of community members and health care providers to make the decision to seek medical care for PPH;
- Increase ability of community members and health care providers to identify and reach medical personnel or facilities for PPH treatment.
- Pathfinder International believes all women have the right to decide about motherhood, pregnancy and childbirth, and to secure good health for themselves and their newborns.

My job profile

I am working as a programme Officer – Monitoring & Evaluation for the Raksha Project.

- Participate in all activities of monitoring and project performance information systems in the intervention states.
- Assist the Project Leader, Raksha, in the design of monitoring and performance information systems; Ensure that systems are implemented to high quality standards.
- Review and scrutinize monthly performance reports; ensure their quality through independent surveys, and through training of the staff of collaborating agencies.
- Analyze and track performance trends for providing feedback to partner organizations; draft reports and assist with dissemination of results/findings including through preparing reports and technical papers for publication.
- Manage and coordinate activities of subcontractors and partners to create synergy and ensure that project responsibilities are carried out in accordance with donor regulations.
- Develops scopes of work for consultants/agencies to be hired to assist with project monitoring activities

Managerial Task Performed

- Ensure successful partnership with State Program Manager and Country office financial, technical, and operations backstop officers by providing accurate and timely reporting and updates on the Project progress and difficulties.
- Cultivate and strengthen positive, productive relationships with NGO partners, Ministry of Health and other governmental agencies ensuring that Pathfinder International is consistently viewed as an effective implementing partner in meeting and achieving project targets
- Implement M&E activities and participate in evaluations, selected research activities and baseline & end line surveys by providing the necessary program and organizational support.
- Create annual work-plans and budgets for monitoring for approval of Project Leader, Raksha, and ensures that plans are implemented in time and to quality standards
- Assists in orienting and briefing MIES consultants, ensures that their work is planned and scheduled, and coordinates and supervises their work

- Maintain monthly clinical and community level data, Analyze and documenting reports and sharing it with state and district level public and private health management and related stake holders.
- Create monitoring reports with other staff, monitor project progress toward targets and objectives, and submit to CO;
- Ensures the quality of monitoring data by arranging for performance of consistency and validation surveys/checks of programmatic data/reports, and by continuously training partner staff in filling in records, reports and systems correctly
- Conduct the training for FLW & NIPs and do regular monitoring & supportive supervision of NIPs for the Community mobilization activities.
- Create Project achievement documentation for communications such as the quarterly, annual reports, technical & policy brief, newsletter, publications, brochures, and website updates.
- Ensure effective implementation of the other Project as required and any other duties assigned by the Supervisor &Country Representative.

Reflective Learning during Internship

1) Learn the different process involved in Monitoring and Evaluation, like Data Processing, Data analysis, Accurate and Timely flow of data from the field to Head Quarter.
2) Learn the planning process involved in implementing new project or addition of new component in the project.
3) Learn the budgeting part involved in the project, what are the different heads involved in project and how much percentage spend under each head.
4) In field , learn about the problems which we faced in implementing project
5) Learn about development of IEC material, manual, various monitoring guidelines, different reports like Quarterly, monitoring, Project achievement documentation etc.
6) Learn the Advocacy process with NGO partners and government officials.
7) Learn how to conduct training of different stakeholders involved in project.

Dissertation Report

Introduction

According to The World Health Organization (WHO), nearly 1,500 women die each day in pregnancy and during childbirth. Despite global commitment through the fifth Millennium Development Goal to reduce the maternal mortality ratio by three-quarters by 2015, the maternal mortality ratio declined by only 5 percent between 1990 and 2005. In India, as per Sample Registration System (SRS) 2004-06 the Maternal Mortality Rate (MMR) is 254 per 1, 00,000 live births.

Pregnancy and childbearing continue to occur in adolescence for considerable proportions of women in India. The dangers of childbearing for adolescent girls, whose bodies have not physically matured, are widely acknowledged.. The study was conducted in the state of Rajasthan, a state characterized by a high maternal mortality ratio and low age at marriage. Early marriage continues to characterize the lives of many women in India. Newly-married adolescent girls face compelling pressures to prove their fertility as soon as possible after marriage, and consequently, pregnancy and childbearing continue to occur in adolescence for considerable proportions of women in India.

Background of Study Early marriage continues to characterize the lives of many women in India. Newly-married adolescent girls face compelling pressures to prove their fertility as soon as possible after marriage, and consequently, pregnancy and childbearing continue to occur in adolescence for considerable proportions of women in India.

This study will present the findings from an exploratory study of the pregnancy-related morbidity and mortality experiences of women who delivered in adolescence and the constraints they faced in seeking appropriate and timely care, in the state of Rajasthan.

Evidence from the recent National Family Health Survey (2005–06) indicates that early childbearing continues to be common in India. Nationally, for example, one in six girls aged 15–19 have begun childbearing. This proportion is as high as one in five, or even one in four,

in a number of states (IIPS and Macro International, 2007). Findings from community based studies in India also show that adolescent girls are significantly more likely to experience maternal mortality than are older women. Estimates derived from a community-based study in rural Andhra Pradesh, for example, indicate that in the 1980s the maternal mortality ratio among adolescents was almost twice that of women aged 25–39 (1,484 versus 706–736 respectively; Bhatia, 1988). Similarly, a community-based study in rural Maharashtra reports that adolescent girls were 1.6 times more likely than those aged 20–29 years to experience maternal mortality (Ganatra, Coyaji and Rao, 1998).

Rationale of the Study

The dangers of childbearing for adolescent girls, whose bodies have not physically matured, are widely acknowledged. Yet, little is known about whether morbidity and mortality experiences vary within the subgroup of adolescent girls, whether such experiences differ between adolescent and adult women, and whether treatment seeking behaviors and the delays experienced in seeking treatment differ between adolescent and adult mothers. To begin to fill this gap, an exploratory study of the pregnancy-related morbidity and mortality experiences of women who delivered in early adolescence (below 17), late adolescence (17–19 years) and the constraints they faced in seeking appropriate and timely care. The study was conducted in the state of Rajasthan, a state characterized by a high maternal mortality ratio (388/100000 live birth, SRS-2004-06) and low age at marriage. In Rajasthan mean age at marriage for girls is 17.7 (DLHS-3)

Objective of the Study

The study aimed to explore the pregnancy-related morbidity and mortality experiences of young women who delivered in adolescence (below 19) including the delays they faced in seeking appropriate care.

Specific Objectives

To assess the socio-demographic status, maternal health care practices, awareness and experiences of pregnancy-related complications and treatment seeking for pregnancy-related complications among adolescent women in Rajasthan.

Review of Literature

Evidence from the recent National Family Health Survey (2005–06) indicates that early childbearing continues to be common in India. Nationally, for example, one in six girls aged 15–19 have begun childbearing. This proportion is as high as one in five, or even one in four, in a number of states (IIPS and Macro International, 2007). Findings, moreover, show that the median age at first birth for women aged 20–49 years increased only marginally over the last decade, from 19.6 years in 1992–93 to 20 years in 2005–06 (IIPS and Macro International, 2007).

It is widely documented that early childbearing is associated with an array of adverse sexual and reproductive health outcomes. Globally, it is estimated that girls aged 15–19 are twice as likely to die from childbirth than are women in their twenties, while girls younger than age 15 face a risk that is five times higher (UNICEF, 2001). Findings from community based studies in India also show that adolescent girls are significantly more likely to experience maternal mortality than are older women.

Estimates derived from a community-based study in rural Andhra Pradesh, for example, indicate that in the 1980s the maternal mortality ratio among adolescents was almost twice that of women aged 25–39 (1,484 versus 706–736 respectively; Bhatia, 1988). Similarly, a community-based study in rural Maharashtra reports that adolescent girls were 1.6 times more likely than those aged 20–29 years to experience maternal mortality (Ganatra, Coyaji and Rao,

1998). Hospital-based studies in India also reiterate these differences. A national study conducted by the Indian Council of Medical Research (ICMR) of 43,550 women in 10 facilities reports that the maternal mortality ratio among adolescents was 645 per 100,000 live births, compared to 342 per 100,000 among adult women aged 20–34 (Krishna, 1995). Similarly, a facility based study in Mumbai indicates that while the maternal mortality ratio among women aged 20–29 was 138 per 100,000 live births, the ratio among adolescents was considerably higher — 206 per 100,000 live births (Pachauri and Jamshedji, 1983).

Peri-natal and neonatal mortality rates are also found to be significantly higher among adolescent mothers than among mothers in their twenties and thirties (Hirve and Ganatra, 1994; IIPS and Macro International, 2007).

Although it is widely acknowledged that adolescent girls in general face a high risk of maternal morbidity and mortality, evidence remains conflicting as to whether all adolescent girls are at risk or whether adolescent girls at selected ages are more at risk than others (NRC and IOM, 2005).However, several other studies report that the risk of maternal morbidity and mortality is concentrated at selected ages of adolescence: while some report that the risk is concentrated below age 18 (Haldre et al., 2007; Jolly et al., Evidence on the factors that place adolescent girls at greater risk of adverse maternal health outcomes than older women remains sketchy (NRC and IOM, 2005). Some studies suggest that young maternal age and associated physiological immaturity have an independent effect on adolescent girls' risk of experiencing maternal morbidity and mortality, even after controlling for potentially confounding factors (Chen et al., 2007; Haldre et al.,2007), while others note that the high risk of maternal morbidity and mortality experienced by adolescents is primarily a result of the relatively greater socio-economic disadvantages that adolescents face as compared to adult women.

A few other studies note that adolescent girls' greater risk of experiencing adverse maternal health outcomes as compared to older women can be explained by both their young maternal age and their relative social disadvantages (Cooper, Leland and Alexander, 1995; Markowitz et al., 2005).

Methodology

Study setting

This study was conducted in rural settings of Udaipur district in the state of Rajasthan. It is one of the states in India in which age at marriage is low and the maternal mortality ratio is high.

The study district, Udaipur, was purposively selected to represent low-performing districts within the state in terms of development and health indicators. A few key indicators of the study district are presented in Table 1.1.

Five blocks namely, Badgaon, Girwa, Jhadol, Bhinder, Sarada which together account for one third of the population of Udaipur district, were selected for the study. These blocks were selected so as to reflect the heterogeneity within the district in terms of development indicators and the composition of the population. For example, the female literacy rate in the study blocks ranged from 33 percent to 39 percent, and the proportion of the population engaged in non-agricultural occupations ranged from 29 percent to 37 percent. With regard to the caste composition of the population, the proportion of the population belonging to scheduled castes and tribes in these blocks ranged from 14 percent to 52 percent (Office of the Registrar General and Census Commissioner, 2004).

Study design

A cross-sectional study, comprising a survey and in-depth interviews, was conducted during Jan-Apr 2011 in 40 villages randomly selected for the study. Taking into account the percentage of adolescent mothers (15-19 years), it was estimated that roughly 153 women would have experienced a delivery during the one year preceding the survey at ages below 19.

Sample Size Calculation:

$$\mathbf{n} = \frac{\mathbf{t^2 \times p(1-p)}}{\mathbf{m^2}}$$

Description:

n = required sample size

t = confidence level at 95% (standard value of 1.96)

p = proportion of adolescent mothers (5 % in Rajasthan DLHS-3)

m = margin of error at 5% (standard value of 0.05)

To correct for the difference in design, the sample size is multiplied by the design effect (**D**).

n x **D (**The design effect is **2)**

The sample is further increased by 5% to account for contingencies such as non-response or recording error.

n + 5%

With this calculation, the sample size was calculated as 153

Respondents for the survey included

(a) young women who had experienced a recent delivery, that is, during the one year preceding the survey, and were aged below 19 years at the time of the index delivery;

(b) Family members of young women who had died during delivery or within six weeks following delivery due to maternal complications

To identify eligible respondents, lists were prepared of women who had experienced a pregnancy during the reference period in each village from eligible couple registers maintained by auxiliary nurse-midwives and registers maintained by *anganwadi* workers. The field team also obtained information from auxiliary nurse-midwives and *anganwadi* workers about women who had died during delivery or within six weeks following delivery due to maternal complications during the reference period.

A short structured screening questionnaire appropriately modified to elicit data pertaining to women who survived the last pregnancy and who did not survive the last pregnancy, was administered to eligible respondents. The questionnaire drew on a number of existing instruments used to gather data on maternal morbidity and mortality experiences.

Respondents for in-depth interviews were selected from among survey respondents who fell into each of these categories. A quota for in-depth interviews to be conducted in each category was

arbitrarily decided. Among women who delivered in adolescence, we proposed to interview at least 20 women who had not experienced any complications or had experienced non-severe complications, respectively; at least 30 women who had experienced severe complications, and family members of at least 5 women who had died of maternal complications.

A total of 160 women were identified from existing registers and the house-listing exercise, who had experienced their most recent delivery in adolescence (below age 19),

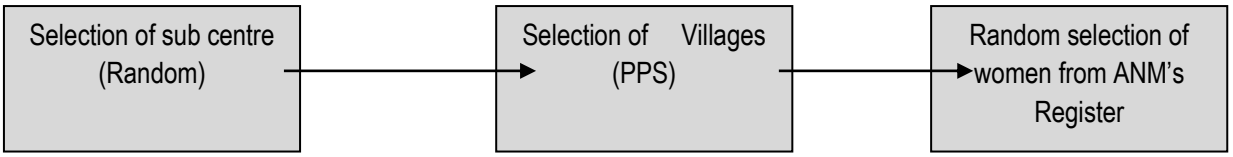
While refusal rates were low (just 2 women refused), the survey data were analyzed using SPSS 16.0.Interviews were tape-recorded with the consent of the participants, transcribed in Hindi and translated into English.

Study participants grouped into four categories,

1) Those who had died of maternal complications,
2) Experienced severe complications,
3) Experienced non-severe complications
4) Experienced no pregnancy-related complications.

Steps for selecting women from rural areas

The sample of women was selected by using a three stage design. At the first stage, 20 sub centers were selected randomly from study area. At the second stage, 40 villages was selected by using PPS (*i.e.* 2 largest villages corresponding to each selected sub centre). The steps can be understood by the following diagram:



Observation & Findings

Table 1.1 Profile of the study district and state

Characteristics	Rajasthan	Udaipur
Population	64,534,000	2,992,592
Overall sex ratio	921	886
Child sex ratio (0–6 years)	909	887
Male literacy (%)	75.7	62.9
Female literacy (%)	43.9	34.9
Current contraceptive use (%)	57.0	58.0
Proportion ever married among 15–19-year-old girls	31.5	42.3
Proportion of married girls aged 15–19 years who were already mothers	39.4	31.3
Mothers who had at least three antenatal check-ups for the last birth (%)	27.7	14.2
Institutional delivery (%)	45.5	45.4
Mothers who received postnatal care for their last birth (%)	38.2	28.1

District population data are from the 2001 Census; state population data are projected figures for the year 2008.

Characteristics of respondents' households

Table 1.2 presents a profile of the households in which the respondents resided. The proportion of Hindus was larger among those who had delivered in adolescence than others; conversely, the proportion of Muslims was larger among those who had delivered in early adolescence and adulthood. Moreover among Hindus, the proportion of other backward castes was larger among those who had delivered in early and late adolescence than others. With regard to household amenities, however, no significant differences were evident.

The socio-demographic characteristics and reproductive experiences of respondents are summarized in Table 1.3.

Table 1.2: Profile of respondents' households

Religion	**Percentage**
Hindu	61.2
Muslim	37
Sikh	1.55
Christian	1.5
Caste/tribe*	
Scheduled castes	23.5
Scheduled tribes	17.5
Other backward castes	48.5
General castes	10.5
Household amenities	
Living in a *pucca* house	56.8
Own toilet	4.9
Gas/electricity for cooking	1
Own water facilities	46.7

Findings reflect substantial differences between women who had experienced a recent delivery in adolescence and those who had a recent delivery at adult ages for a number of indicators. For example, a larger proportion of women who delivered in late adolescence than others had ever enrolled in school. Conversely, A profile of the reproductive experiences of adolescent and adult cohorts of women, presented in Table 1.3, indicates that the mean number of pregnancies ranged from 1.8 among those who delivered in early adolescence, fewer than two live births (1.5 among those who delivered in adolescence)

Table 1.3: Socio-demographic characteristics and reproductive experiences of respondents

Characteristic	**Respondents**
Age	
Mean age	**16.7**
Age at marriage	
Median age at marriage	**12.6**
Educational status	
Ever enrolled in school (%)	**31.6**
Current work status	
Unpaid work in the last 12 months (%)	**71.4**

Paid work in the last 12 months (%)	**17.3**
Reproductive experiences	
Mean number of pregnancies	**1.8**
Mean number of children ever born	**1.2**
Ever experienced pregnancy loss (%)	**19.4**
Ever experienced a miscarriage (%)	**14.8**
Ever experienced an induced abortion (%)	**0.5**
Ever experienced a stillbirth	**5.6**

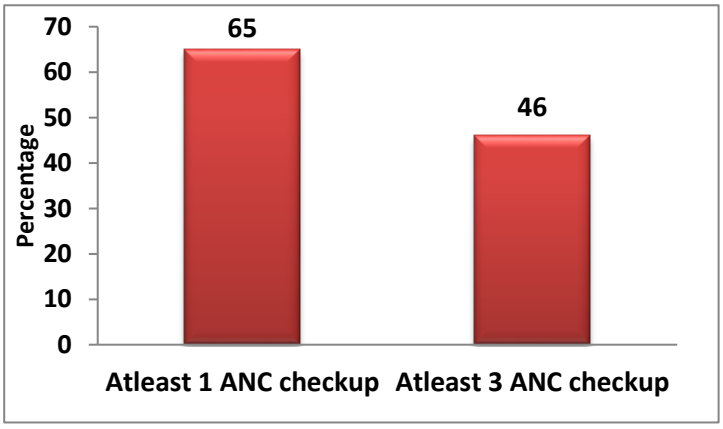
Maternal health care practices

This chapter presents findings on maternal health care seeking practices for the most recent delivery among adolescent and adult cohorts of women in the study.

Antenatal care seeking

Findings, presented in Figure 1.1, show that between three-fifths and over two-thirds of all women had received at least one antenatal check-up for their most recent birth. A much smaller proportion — between two-fifths and one half — had received at least three antenatal check-ups. Although differences were narrow, adult mothers were somewhat less likely than adolescent mothers to have received at least one antenatal check-up.

Figure 1.1 Extent of antenatal care seeking among all women,



Typically respondents had not actively sought antenatal check-ups, but rather had obtained a check-up when they had consulted a provider for a health problem experienced or when an outreach worker had visited them. This pattern was more evident among adolescent mothers than adult mothers. For example, in 12 in-depth interviews probing the experiences of adolescent mothers who died of maternal complications or experienced severe complications, 4 reported that they had received an antenatal check-up when an outreach worker had visited them or when they had consulted a provider for a health problem experienced.

In just a few in-depth interviews (3 out of 12 deaths or severe complication cases among adolescent mothers),

I went for a general check-up to see whether the baby in my womb was all right. I went to Udaipur. The doctor told me that everything was fine; he also asked me to go for a sonography. [Parity 1, younger adolescent woman who reported severe complications, interviewee ID 11]

She [the mother] didn't get any of the pills that are given for increasing blood [iron and folic acid supplements]. They [auxiliary nurse-midwife/ anganwadi *worker] don't give anything here. These people fill their stomach first, what'll they give us? [Mother-in-law of parity 1, older adolescent woman who died, interviewee ID 7]*

She [auxiliary nurse-midwife] gave me pills [iron and folic acid] the first time she came to give me an injection. I was given pills for 6 days.

When she came again to give me an injection, she did not give me any medicine; even the next time when I went to her for the injection, she did not give me the pills. [parity 1, younger adolescent woman who reported severe complications, interviewee ID 38]

Delivery Care

Findings show that in the overall sample, institutional delivery was limited across all; just one-third (33%) of adolescent mothers reported that their most recent delivery had taken place in a health facility.

I wanted the child to be delivered at home as I was afraid of the doctor and the nurse. They press the stomach. I wanted the Dai *[traditional birth attendant] to deliver my child. My husband and mother-in-law also wanted the Dai to deliver my child. I wanted the child to be delivered before the auxiliary nurse-midwife comes because she puts her hand in [the uterus] and takes out the placenta. [Parity 2, older adolescent woman who reported non-severe complications, interviewee ID 63]*

Several women also cited other reasons for opting to deliver at home, including the lack of finances to meet the cost of an institutional delivery and the difficulty in reaching health facilities that are located far away.

We wanted to deliver the child at home because we would have had to borrow money to deliver the child in hospital. We don't have a job or a business which can provide us money to meet the

delivery expenses. [parity 1, older adolescent woman who reported severe complications, interviewee ID 29]

The hospital is far from here; we first have to go to Kot and then to Bansur. As we would have had to go a long distance and then come back, I did not want to deliver my child in hospital. [Parity 3, older adolescent woman who reported no complications, interviewee ID 81]

My family members wanted the child to be delivered at home because they thought that if they needed to take me to hospital, they would have to arrange for a car. If there had been a hospital in the village, they would have taken me there. When it [hospital] is so far away, how can they take me? Also, we don't have so much money. [Parity 2, adult woman who reported non-severe complications, interviewee ID 75]

A sizeable number of women also mentioned other reasons, such as lack of privacy, including concerns about being exposed and the lack of female doctors in the health facility, for preferring not to deliver in a hospital.

Women who preferred to deliver in a health facility cited reasons such as their apprehension about complications arising during a delivery at home, the difficulty in managing complications at home, and the availability of necessary facilities in hospitals to manage complications, and a preference for institutional delivery for the first birth.

I wanted to deliver the child in a hospital because I felt I would not have any problem if I were in hospital. I would get treatment should any problem occur and I would be given glucose and medicine. [Parity 2, older adolescent woman who reported non-severe complications, interviewee ID 44]

Post-partum Care

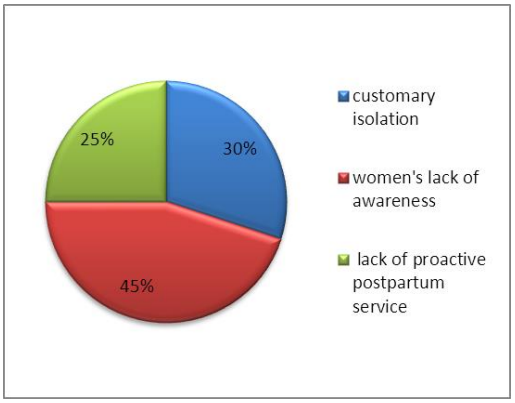
Findings indicate that postpartum care seeking was limited across all women, only 23-25% all women having received a postpartum check-up.

Findings from in-depth interviews reaffirm that postpartum care seeking was limited in the study setting. A typical response from both adolescent and adult mothers to questions related to postpartum care was that neither had a health worker visited them nor had they been to a health facility for a check-up. Moreover, even mothers who had received a home visit from a health worker or had visited a health worker to address a health problem reported that they were neither

advised about how to take care of themselves nor given a check-up. Others reported that the health worker had provided services only to the newborn.

A nurse came home when my child was born. She asked me to sign on a paper, and then she left after giving me money. She did not say anything. I did not go anywhere for a check-up after the delivery. [Parity 1, younger adolescent woman who reported severe complications, interviewee ID 39]

Fig 1.2 The reasons why women did not seek postpartum care



Awareness of pregnancy-related Complications

Adolescent awareness of Complications during pregnancy, delivery and the postpartum period are presented in Table 3.1. We note that the findings reflect respondents' level of awareness at the time of the interview and not at the time of the index pregnancy; indeed, their experiences of complications could well have influenced their level of awareness at the time of the interview. Even so, findings indicate limited awareness among adolescent mothers. Moreover, women who Similar differences were evident with regard to awareness of danger signs during labour and the postpartum period (34% versus 42–49%).

Irrespective of age at last delivery, respondents were most likely to be aware of complications during labour and delivery and least likely to be aware of complications during the postpartum period. For example, among women who delivered in adolescent, 32 percent, 49 percent and 25 percent reported awareness of at least one complication during pregnancy, labour and delivery, and the postpartum period, respectively.

In in-depth interviews similarly, women who reported awareness of complications were far more likely to mention complications during labour and delivery than during pregnancy and the postpartum period.

A woman can have a headache, fever, bleeding, jaundice [during pregnancy]…. It is dangerous if childbirth takes place in "reverse," if the umbilical cord remains inside, or if a woman suffers from excessive bleeding during labour. [parity 1, older adolescent woman who reported severe complications, interviewee ID 28]

I do not have that much knowledge…. There can be risk if the umbilical cord doesn't come out, and if the child's position is reverse. Also, if a woman suffers from tetanus, she can die. [parity 3, adult woman who reported severe complications, interviewee ID 24]

Table 3.1: Awareness of pregnancy-related complications among adolescent women

Awareness of complications during Pregnancy	Adolescent Women (%)
Severe headache, blurred vision or high blood pressure	5.6
Swelling around ankles or puffiness of face	3.6
Fits	1.5
Vaginal bleeding	6.1
High fever	6.6
Foul-smelling vaginal discharge	3.1
Jaundice	4.1
Anaemia	6.1
Aware of at least one complication during pregnancy	18.4
During labour and delivery	
Abnormal foetal presentation	13.8
Prolonged labour (>12 hours)	12.2
Obstructed labour	15.3
Heavy bleeding	4.1
Fits	1
Retained placenta	16.3
Aware of at least one complication during labour and delivery	33.7
During the postpartum period	
High fever	10.2
Heavy bleeding	9.2
Foul-smelling vaginal discharge	1.5
Fits	2.6
Aware of at least one complication during the postpartum period	15.3

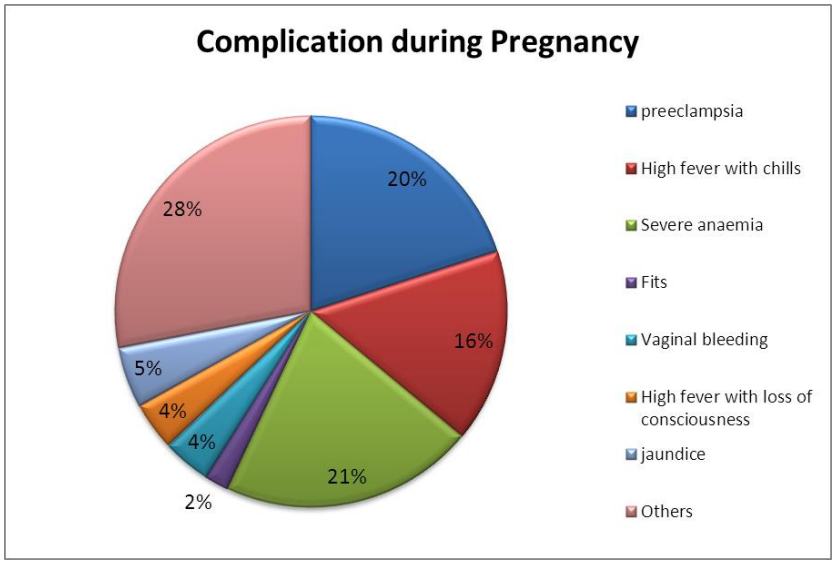
Pregnancy-related morbidity and mortality experiences

Adolescent and adult women's pregnancy-related morbidity and mortality experiences are presented in the following sections. We note that the information presented here is based on women's self-reports, or the reports of family members of women who died of maternal complications, and should be interpreted with caution.

Complications experienced during pregnancy

Table 3.2 presents the experiences of severe and non-severe complications during pregnancy by age at most recent delivery. In this study, severe complications during pregnancy-included symptoms of preeclampsia after 20 weeks of gestation, defined as the experience of both blurred vision and severe headache or high blood pressure, if the woman had got her blood pressure checked; fits; vaginal bleeding after 20 weeks of gestation; high fever with severe chills or loss of consciousness; symptoms of jaundice, defined as the experience of both change in the color of eyes to yellow and change in the colour of urine to dark yellow; and symptoms of severe anaemia defined as the experience of all of the following symptoms — pale eyes, pallid face, pale palms, breathlessness following light work and breathlessness on lying on one's back. Non-severe complications included symptoms of reproductive complications during pregnancy (38–39% versus 30%).

Fig 3.1 The most commonly reported severe complications during pregnancy were



Findings also suggest that somewhat larger proportions of all women (54–55%) experienced at least one non-severe complication during pregnancy.

Table 3.2: Complications experienced during pregnancy by adolescent women

Complications experienced	Adolescent women
Severe complications	
Symptoms of preeclampsia after 20 weeks of gestation	16.3
Fits	2
Vaginal bleeding after 20 weeks of gestation	1.5
High fever with severe chills	14.3
High fever with loss of consciousness	1.5
Symptoms of jaundice	4.6
Symptoms of severe anaemia	13.8
Experienced one or more severe complication	39.3
Non-severe complications Symptoms of reproductive tract infection	13.3
Severe lower abdominal pain	17.9
Symptoms of urinary tract infection	26.5
Excessive vomiting	23.5
Experienced one or more non-severe complications	54.1
Experienced one or more severe or non-severe complications	65.8
Experienced both severe and non-severe complications	27.6

Complications experienced during labour and delivery

Women's reported experiences of severe complications during labour and delivery are summarized in Table 3.3. Severe complications considered included labour that lasted for more than 12 hours, fits during labour and abnormal presentation of the fetus. Findings suggest that irrespective of age at delivery, fewer women reported having experienced complications during labour and delivery than during pregnancy; just 7–11 percent of all women reported experiencing one or more severe complications during labour and delivery. The most commonly reported complication was prolonged labour, reported by 6–8 percent of all women. 4.1 % adolescence women report abnormal presentation of the fetus

Table 3.3 Complications experienced during labour and delivery by adolescent women,

Complications experienced	Adolescent women
Prolonged labour (>12 hours)	7.7
Fits during labour	0.1
Abnormal presentation of the foetus	4.1
Experienced one or more severe complications	11.2

Complications experienced during the postpartum period

Women's reported experiences of both severe and non-severe complications during the postpartum period are presented in Table 3.4. In the study, severe complications included bleeding that required the woman to change the cloth used to contain the blood every hour or more often, symptoms of sepsis defined as the experience of high fever with foul smelling discharge within 72 hours following delivery and fits. Among non-severe complications were included the experience of swelling in the breast, as well as women's experiences of symptoms of postpartum psychological disorders.

Table3.4: Complications experienced during postpartum period by adolescent women

Complications experienced	Adolescent Women
Severe complications	
Heavy bleeding	14.8
Symptoms of sepsis	6.1
Fits	1.5
Experienced one or more	
severe complications	20.9
Non-severe complications	
Swelling in the breast	5.6
Sleeplessness	26.5
Restlessness	31.1
Irritability	30.1
Sadness	25
Depression	21.4
Experienced one or more non-severe complications	46.9
Experienced one or more severe or non-severe complications	57.1
Experienced both severe and	
non-severe complications	10.7

Women who delivered in adolescence and adulthood during the reference period. A total of 5 maternal deaths were identified in the study area. All the 5 women who died in adolescence were first-time mothers. Three had died within 2–3 hours following delivery and 2 had died within 2–3 weeks postpartum. The immediate causes of death, as gleaned from the narratives of family members, were possibly heavy bleeding or eclampsia.

She became unwell 8 or 9 days after the delivery; she had a headache and fever. I brought her some medicine and she rested the whole night after that. The next morning she bathed; immediately after that she suffered a fit. In the evening she again complained of a headache so I took her to Kishangarh [nearby hospital]. The doctor gave her an injection and said that she had paralysis. I brought her home immediately.

At about 8–9 p.m. she stopped speaking, so I took her back to the doctor in Kishangarh. …There she was given medicine and I was told to bring her in the morning. Her fever came down at night. We took her to a doctor in Udaipur the next morning. After examining her and looking at the ultrasound reports, the doctor told me that her vein was ruptured and she would not be able to speak again. She was admitted to the hospital in Udaipur for about 10 days. She had fits for 2 days. From Udaipur; we took her to a hospital in Jaipur. After 2 days they discharged her and said that she would not live. I brought her home and she passed away the next day. [Husband of parity 1, older adolescent woman who died interviewee ID 1]

Summary of morbidity and mortality experiences

Table 3.5 summarizes the morbidity and mortality experiences, excluding symptoms of postpartum psychological disorders, reported by women who delivered in adolescence in the study setting. Findings indicate that less than 1 percent of all women in the study sample had died as a result of maternal complications. Half of all women reported having experienced one or more severe complications during pregnancy, delivery and the postpartum period. Close to three-fifths of all women reported having experienced one or more non-severe complications, and between one-quarter and one-third reported having experienced no complications. Differences by age at delivery were muted for the overall population.

Table 3.5: Morbidity and mortality experiences among adolescent women

Outcome	Percentage
Maternal death	**1**

Experienced one or more severe complications	**53.1**
Experienced one or more non-severe complications	**56.6**
Experienced no complications	**26**

Treatment seeking for pregnancy related complications

75% of women sought treatment for complications experienced during pregnancy, delivery or the postpartum period

Findings suggest that treatment was typically sought for maternal complications; even so, treatment seeking was far from universal. Over 70 percent of all women who experienced complications, irrespective of age at most recent delivery, reported having sought treatment for complications experienced

Among women who had sought treatment for complications, the majority had sought the services of a doctor from a public sector facility (31–32%) or a private sector facility (45%). On equator or more (25–30%) reported having sought treatment from a nurse or auxiliary nurse-midwife, and almost one-fifth (18%) reported that they had sought treatment from an unqualified provider or relied on over-the-counter medications or home remedies.

Table 4.1: Type of provider and facility from whom/where treatment was sought for pregnancy-related complications and treatment cost

Type of provider/facility	Adolescent Women
Type of provider from whom treatment was sought	
Doctor in a public sector facility	**31.8**
Doctor in a private sector facility	**44.5**
Nurse/auxiliary nurse-midwife	**30**
Other trained health provider	
(ASHA, anganwadi worker, trained traditional birth attendant)	**0.5**
Unqualified provider/pharmacist/home remedies	**18.2**
Type of facility from where treatment was sought	
Public sector facility	**36.4**
Sub-center	**3.6**
Primary health center	**8.2**
Community health center	**21.8**
District hospital	**4.5**
Private sector facility	**56.4**
NGO facility	**0**

Medical store	**1.8**
Treatment provided at home	**19.1**
Referred to another facility	**18.2**
Visited more than one facility or provider	**32.7**
Cost of treatment	
Average cost (Rs.)	**1911**
% who had spent more than Rs 1000	**29.1**

Discussion & Conclusion

Pregnancy-related complications were common; however, young adolescents were more at risk. Findings indicate that adolescent mothers in the study setting commonly experienced pregnancy-related complications; indeed, between two-thirds and three-quarters of all women had experienced at least one pregnancy-related complication. Specifically, less than 1 percent of women had died due to pregnancy-related complications; half had experienced one or more severe complications; and almost three-fifths had experienced one or more non-severe complications.

Women were more likely to report experiences of severe complications during pregnancy than during delivery and the postpartum period (38–43% versus 7–11% and 16–21%, respectively, of all women reported so).

The study findings lend considerable support to the observation from studies elsewhere that adolescent mothers, particularly those in the younger age group, are at higher risk than older mothers.

For example, 38–39 percent of younger adolescent mothers compared to 30 percent of late adolescent reported having experienced one or more severe complications during pregnancy; 11 percent of younger adolescent mothers compared to 7–9 percent of older adolescent respectively, reported having experienced such complications during delivery; and 22 percent compared to 13–15 percent reported having experienced complications during the postpartum period. Conversely, younger and older adolescent mothers were less likely than adult mothers to report having experienced no complications.

Findings that adolescent mothers were more likely to have been referred to another health facility for treatment, and that they were more likely to have incurred substantial expenditure on treatment than others, also indirectly suggest that adolescent girls are more likely to be at risk than adult women.

Maternal health care seeking was limited among all women, particularly young adolescent mothers

The study findings underscore that maternal health care seeking was limited among all women in the study setting. Just two-fifths and one-half of women had received three or more antenatal check-ups for the most recent birth, and only one-fourth and one third had their most recent delivery in a health facility. Although one-fifth and one-quarter of all women reported having received a postpartum check-up, no more than one-tenth of mothers had received a check-up as part of routine postpartum care. Findings, moreover, indicate that outreach services tended to be weak, for example, as in the case of delivery of postpartum services.

Younger adolescent mothers were more constrained than older mothers with regard to maternal health care seeking. Findings from this study corroborate those observed in earlier studies that younger adolescent mothers were less likely than older adolescent and to have had the recommended number of antenatal check-ups, had a delivery in a health facility or received a postpartum check-up.

Most women sought care for pregnancy-related complications experienced; however, adolescent mothers were more likely than others to have sought care from unqualified providers

Treatment was commonly sought for pregnancy related complications; irrespective of age at the most recent delivery, over 70 percent of women who had experienced complications had sought treatment.

The majority of all women who had sought treatment for pregnancy-related complications, irrespective of age at the most recent delivery, reported that they had sought treatment from a doctor in a public or private health facility, one quarter or more reported having sought treatment from a nurse or auxiliary nurse-midwife, and almost one-fifth had sought treatment from an unqualified provider or relied on over-the-counter medications or home remedies. Findings, moreover, indicate that the majority of women (53–56%) had sought treatment from a private facility and only over one third (36–40%) had sought treatment from a government health facility. Findings also show that

14–18 percent of all women who had sought treatment were referred to another health facility for treatment.

Adolescent mothers were considerably more likely than older mothers to have sought care from untrained or unqualified providers for complications experienced during pregnancy

All women experienced delays in recognizing the complication experienced, deciding to seek treatment from an appropriate health facility, reaching the facility and obtaining care at the facility; adolescents were somewhat more likely than others to face delays in deciding to seek treatment and reaching the facility

Findings suggest that a considerable proportion of all women who experienced pregnancy-related complications, irrespective of age at delivery experienced the first delay; that is, recognizing the need for treatment. Indeed, few women were aware of danger signs during pregnancy (reported by just 18–32% of all women) and delivery (34–49%), and far fewer were aware of danger signs during the postpartum period (reported by 15–25%). Closely related to women's limited awareness of danger signs were their delayed recognition of complications; just 26–35 percent of all women who had experienced one or more complications had recognized the need to seek treatment promptly. Indeed, three-quarters of younger adolescents and half of older adolescents and adults who had not sought treatment for complications reported that treatment was not necessary or that the complication was not serious enough to warrant treatment. Age differences in recognizing a complication were narrow; even so, older adolescents were more likely than others to recognize the need for seeking treatment promptly.

Large proportions of women also experienced the second delay — deciding to seek treatment from a health facility that could provide appropriate care.

Just 31–32 percent of all women reported that the decision to seek treatment was made promptly; that is, less than six hours after recognizing the need for treatment. Adolescent mothers were somewhat more likely than adult mothers to report delays in deciding to seek treatment from an appropriate health facility.

Women also reported experiencing the third delay; that is, reaching an appropriate health facility for the treatment of complications within an hour of making the decision to seek treatment. Indeed, just 27–34 percent of all women reported reaching an appropriate health facility promptly. Delays in reaching a facility were considerably more likely to be cited by adolescent mothers than adult mothers.

For example 28 percent of mothers who delivered in early adolescence, compared to 34 percent who delivered in late adolescence reported reaching an appropriate health facility promptly.

Delays were experienced for several reasons; for example, many women had initially sought treatment from a facility that was not equipped to handle the complication experienced, several families had not made arrangements in advance for transportation in case an emergency occurred, and many had faced problems in obtaining transportation.

Fewer women reported experiencing a delay in obtaining appropriate care; that is, within an hour of reaching an appropriate health facility, as compared to experiences of the other three delays noted above.

Quality of services received at the health facility varied

Findings indicate that the quality of maternal health services received varied. The majority of women who had sought treatment for pregnancy-related complications reported that the health care provider had treated them well. Even so, some women noted that the provider had not given them any information or advice about the complications experienced but had just dispensed the service. Some women also noted poor treatment by the provider, irrespective of whether the care giver was a physician or a nurse, or the kind of facility in which the provider worked. Women also articulated concerns about the quality of routine maternal health services received. A sizeable number of mothers who reported contact with health care providers noted that they were rarely given advice regarding care during pregnancy, delivery and the postpartum period. Additionally, many cited poor quality of services as a reason for preferring not to deliver in a hospital.

Recommendation

Support young people, particularly newly-weds, to postpone the first pregnancy

Findings that younger adolescent mothers were particularly at risk of pregnancy-related complications underscore the need for programmatic efforts to support young people, in particular, newly-weds, to postpone their first pregnancy, to build awareness among young people of the adverse effects of early pregnancy and to make it acceptable for young couples to adopt contraception prior to the first birth. At the same time, there is a need to change community and family attitudes to favour postponement of pregnancy and not link a young

women's security within the marital family with her ability to bear children. Moreover, health care providers need to be oriented to focus on married young people's special need for delaying the first pregnancy.

Promote care during pregnancy, delivery and the postpartum period, particularly among adolescent mothers

Findings underscore that few women sought maternal health care services, including antenatal check-ups, institutional delivery and postpartum check-ups. The study finding that such financial incentive schemes as the Janani Suraksha Yojana tend to have a positive effect on promoting the utilization of maternal health services, particularly institutional delivery, is encouraging; however, programmes currently under way as part of the National Rural Health Mission would also need to focus on increasing the demand for as well as improving the availability of these services, and must specially target adolescent mothers, particularly younger adolescent mothers.

Build in-depth awareness of pregnancy-related complications

Although the vast majority of women who experienced complications had sought treatment, findings indicate that they had experienced considerable delays in recognizing the need for treatment. Also evident was women's, particularly adolescent mothers', limited awareness of pregnancy related complications in the study setting.

Programmes are needed that build in-depth awareness among women and their family members about danger signs during pregnancy, delivery and the postpartum period, as well as about appropriate facilities where treatment can be sought. Such initiatives must pay special attention to newly married and first-time pregnant adolescent girls.

Empower adolescent and young mothers to make informed decisions related to pregnancy care, and involve influential adults in ensuring pregnancy is safe for young women

Findings indicate that although young women have some say in decisions related to pregnancy-related care, husbands and other influential adults in the family tend to play a key role in such decisions.

Moreover, adolescent mothers and their families were more likely than their adult counterparts to have delayed the decision to seek treatment from a health facility. These findings call for actions

that enable adolescent and young women to correctly assess the potential dangers of delayed treatment seeking, or not seeking care from an appropriate health facility, and to make informed decisions with regard to pregnancy-related care. At the same time, it is important to actively seek the participation of husbands and other influential adults in the family, who have a major say in decisions related to pregnancy care, in ensuring that pregnancy is safe for young women.

Mobilize communities and young women to address delays in reaching health facilities

Findings indicating that women experienced considerable delays in reaching a health facility call for community mobilization activities to develop mechanisms, including ensuring the availability of timely and affordable transport, to ensure that women experiencing severe complications are taken to a health facility promptly. Findings that adolescent mothers were somewhat more likely than adult mothers to experience delays in reaching a health facility, again, call for special efforts that inform newly-married and first-time pregnant young women and their families about delivery preparation in general, and determining transportation options in case of an emergency, in particular.

Improve the quality of maternal health care services

Although the majority of women reported that health care providers had treated them well, a sizeable proportion of women raised concerns about the quality of services received. Actions are needed that enable health care providers to render maternal health services in friendly and non-threatening ways.

Actions are also needed to mobilize communities to undertake social auditing to improve the quality of services provided and to create among women and their family members a sense of entitlement to health care and other services.

Reorient service provision to address the unique needs of younger adolescent mothers

Findings that younger adolescent mothers were more likely than older adolescent and adult mothers to experience serious pregnancy-related complications, less likely to seek routine maternal health services and somewhat more likely to experience delays in seeking treatment for complications experienced, particularly in deciding to seek treatment from an appropriate health facility and reaching that health facility, emphasize the need to sensitize health care providers about the special vulnerability of younger adolescents, and to orient them to the need for developing appropriate strategies to reach this group.

Similarly, the study findings that younger adolescent mothers were less likely than others to have benefited from the Janani Suraksha Yojana call for efforts to orient front-line health workers at the village level, including ASHAs and *anganwadi* workers, to make special efforts to inform younger adolescents about available maternal health services and to encourage them to avail these services. In light of evidence from the National Family Health Survey–3 that the proportion of young women marrying in adolescence, especially before ages 15 and 18, has not changed significantly in the recent past in Rajasthan (IIPS and Macro International, 2007), the need to target younger adolescent mothers cannot be over-emphasized.

In conclusion, findings have highlighted that the majority of adolescent and adult mothers had experienced pregnancy-related complications, the utilization of maternal health services was limited and treatment seeking for pregnancy-related complications was fraught with multiple constraints.

Younger adolescent mothers were particularly at risk both because of their age and physical unpreparedness for pregnancy, as well as because of the socio-cultural factors that inhibit young adolescent mothers from seeking prompt and appropriate care for pregnancy-related complications. While multi-pronged actions are needed that promote timely and appropriate pregnancy-related care among all women, these programmes need to specially target young women, influential adults in their families and health care providers.

References

1. Al-Suleiman, S.A., M.H. Al-Sibai, F.E. Al-Jama et al. 2004. "Maternal mortality: A twenty-year survey at the King Faisal University Hospital, Al-Khobar, Eastern Saudi Arabia," *Journal of Obstetrics and Gynecology*, 24(3): 259–63.
2. Bhatia, J.C. 1988. *A Study of Maternal Mortality in Anantpur District, Andhra Pradesh, India.* Bangalore: Indian Institute of Management.
3. Chen, X., S.W. Wen, N. Fleming et al. 2007. "Teenage pregnancy and adverse birth outcomes: A large population-based retrospective cohort study," *International Journal of Epidemiology*, 36: 368–73.
4. Cooper, L.G., N.L. Leland and G. Alexander. 1995. "Effect of maternal age on birth outcomes among young adolescents," *Social Biology*, 42:22–35.
5. Ganatra, B.R., K.J. Coyaji and V.N. Rao. 1998. "Too far, too little, too late: A community-based case-control study of maternal mortality in rural west Maharashtra, India," *Bulletin of the World Health Organization*, 75 (6): 591–98.
6. Haldre, K., K.Rahu, H.Karro et al. 2007. "Is a poor pregnancy outcome related to young maternal age? A study of teenagers in Estonia during the period of major socio-economic changes (from 1992 to 2002),"
7. *European Journal of Obstetrics, Gynecology and Reproductive Biology*, 131(1): 45–51.
8. International Institute for Population Sciences (IIPS) and Macro International. 2007. *National Family Health Survey (NFHS-3), 2005–06: India, Volume 1*. Mumbai: IIPS.
9. International Institute for Population Sciences (IIPS). 2008a. *District Level Household and Facility Survey (DLHS-3) 2007–08, Fact Sheet: Rajasthan.* Mumbai: IIPS.
10. International Institute for Population Sciences (IIPS) and Macro International. 2008. *National Family Health Survey (NFHS-3), India, 2005–06: Rajasthan.* Mumbai: IIPS.
11. Jolly, M.C., N. Sebire, J. Harris et al. 2000. "Obstetric risks of pregnancy in women less than 18 years old", *Obstetrics and Gynecology*, 96(6): 962–66.
12. Krishna, U.R. 1995. "The status of women and safe motherhood," *Journal of the Indian Medical Association*, 93(2): 34–35.

13. Markovitz, B.P., R. Cook, L.H. Flick et al. 2005. "Socioeconomic factors and adolescent pregnancy outcomes: Distinctions between neonatal and post-neonatal deaths?" *BMC Public Health,* 5:79.
14. National Research Council (NRC) and Institute of Medicine (IOM). 2005. *Growing Up Global: The Changing Transitions to Adulthood in Developing Countries.* Washington, D.C.: National Academies Press
15. Office of the Registrar General and Census Commissioner, India. 2004. *Census of India 2001, India, Primary Census Abstract, Total Population: Table A-5.* New Delhi: Office of the Registrar General and Census Commissioner.
16. Pachauri, S. and A. Jamshedji. 1983. "Risks of teenage pregnancy," *Journal of Obstetrics and Gynecology,* 33 (3): 477–82.
17. Registrar General, India (RGI). 2006. *Maternal Mortality in India: 1997–2003, Trends, Causes and Risk Factors.* New Delhi: Office of the Registrar General.
18. Santhya, K.G. and S.J. Jejeebhoy. 2003. "Sexual and reproductive health needs of married adolescent girls," *Economic and Political Weekly,* 38(41): 4370–77.
19. UNICEF. 2001. *The Progress of Nations 2001.* New York: United Nations Children's Fund.
20. World Health Organization (WHO). 1995. *Verbal Autopsies for Maternal Death.* Geneva: WHO.

APPENDIX

Questionnaire: Woman's Questionnaire

Guidance for filling out this questionnaire:

1. Obtain informed consent prior to interviewing the respondent.
2. Ask the questions in sequence. Use the options listed under each question to record the respondents answer. If the answer is other than the option, record it in the space marked "other". Where instructed probe for more information to clarify responses.
3. You may rephrase the question if the respondent does not understand. In some instances you will read out loud the possible responses to the question and in some instances the list of responses should not be read out loud. It is noted where you should and shouldn't list the response out loud.

Write legibly and briefly, without leaving any important content out.

Informed Consent prior to applying the survey

Namaste, my name is _____ and I am working with_____. We are conducting a survey to understand what needs to be done at the community level to make pregnancy and delivery safer for women.

I would like to ask you some questions about your experience with your past pregnancies. The information we receive from you will be strictly confidential and will be used to develop a program for men and women in the community that will improve their access to safe maternity services. This interview will take approximately 45 minutes of your time.

Do you consent to being asked these questions?: Yes_____ No____

Thank-you for your cooperation and valuable time.

Respondent's identification particulars

1.State:	Code:
2.District:	Code:
3.Sub-district/Block:	Code:
4.Urban……..1/ Rural……2	Code:
5.Name of the village / urban ward	
6.Name of the head of the household	
7.Name of the respondent	
8. Woman's ID: (same number as given in the comprehensive list from which the sample is selected)	
9.Availability of the woman at home during survey visits	1st 2nd 3rd
10. Interview completed	Yes 1
	No 2

Interviewer's identification particulars	
Name:	Date of interview: (DD/MM/YYYY) _____

Q .No.	Questions, answers and codes				Go to
1. BACKGROUND CHARACTERISTICS					
1.1	How old were you at your last birthday? *(assess the age by way of calculations from age at marriage and age of first child)*	☐☐	*(Age in completed years)*		
1.2	What is your religion?	1.Hindu 2.Muslim 3.Sikh 4.Christian 5.Buddhist 6.Jain 7.Others (please specify)	1 2 3 4 5 6 7		
1.3	Do you belong to a scheduled caste, a scheduled tribe, other backward class or none of these?	1.Schedule caste 2.Schedule tribe 3.Other backward class 4.None of these	1 2 3 4		
1.4	Up to what class have you studied? Do you have any -other qualifications? :_____	☐☐ Specify……			
1.5	What is your main occupation? ***(More than one answer is possible)***	*Occupation* a. Domestic work b. Student c. Working on family farm/ business/shop d. Farm laborer e. Construction laborer f. Monthly salaried private/ Govt. g. Others (please specify)	Yes 1 1 1 1 1 1	No 2 2 2 2 2 2	
1.6	What is your monthly income?	Rs. ☐☐☐☐☐☐☐			
1.7	Up to what class has your husband studied? Does he have any other qualifications? :	☐☐ Specify……..			
1.8	What is your husband's main occupation? ***(More than one answer is possible)***	*Occupation* a. Not working b. Student c. Working on family farm/business/shop d. Farm laborer e. Construction laborer f. Monthly salaried private/ Govt. g. Others (please specify)	Yes 1 1 1 1 1 1	No 2 2 2 2 2 2	
1.9	Where does your husband work?	1.Within village/town 2.Outside the village/town village	1 2		→ **Q 1.12**

Q .No.	Questions, answers and codes			Go to
1.10	Does he live at home and go to work or does he live outside the village?	Lives in the village	1	
		Lives outside the village	2	

1.11	If outside the village/town, how frequently does he visit home?	1.Everyday 2.Once in 15 days 3.Once in 30 days 4.More than 30 days 5. Seasonally, once or twice a year 6. For festivals & holidays	1 2 3 4 5 6	
1.12	What is your husband's monthly income?	Rs.		
1.13	Does your family have a BPL card?	1.Yes 2.No 3.Do not know	1 2 3	
2. HOUSEHOLD CHARACTERISTICS (As far as possible fill by observing rather than by asking)				
2.1.	Type of house *(Observe and record as much as possible)*	1.Kuccha 2.Pucca 3.Semi pucca	1 2 3	
2. 2	Availability of *electricity*?	1.Yes 2.No	1 2	
2.3	What is the main *source of water* used by your household?	1.Piped water 2.Hand pump 3.Well in residence /yard/plot 4.Public tap hand pump /well 5.Other water source (please specify)	1 2 3 4 5	
2.4	What kind of *toilet facility* do members of your household usually use?	1.Own flush toilet 2.Public or shared flush toilet 3.Public pit toilet 4.No facility	1 2 3 4	
2.5	What type of *fuel* does your household mainly use for cooking?	1.Electricity 2.Lpg/natural gas 3.Biogas 4.Kerosene oil/lignite charcoal 5.Wood 6.Straw/shrubs/grass agricultural crop waste dung 7.Others (please specify)	1 2 3 4 5 6 7	
2.6	Do you have a *separate room* which is used as a kitchen?	1.Yes 2.No	1 2	

2.7	Does your family own this house or any other house?	1. Yes 2.No				1 2	
2.8	Does this household own any *agricultural land?*	1. Yes 2.No				1 2 →	**Q 2.11**
2.9	How much agricultural land does this household own?					*In acres or in Bigha*	
2.10	Out of this land, how much is irrigated?					*In acres or in Bigha*	
2.11	Does your household own animals?		1.Yes			1	
			2.No			2	

2.12	**Household amenities**	**Yes**	**No**	
a.	Electric Fan	1	2	
b.	Electric Iron	1	2	
c.	TV	1	2	
d.	VCD	1	2	
e	Computer	1	2	
f.	Tape Recorder/ Radio/Transistor	1	2	
g.	Sewing Machine	1	2	
h.	Refrigerator	1	2	
i.	Tube Well	1	2	
j.	Four Wheeler (own use)	1	2	
k.	Four Wheeler/three wheeler (commercial)	1	2	
l.	Bicycle	1	2	
m.	Motorcycle	1	2	
n.	Tractor	1	2	
o.	Thresher	1	2	
p.	Telephone/Mobile	1	2	

2.13 EXPOSURE TO MASS MEDIA: How often did you read/listen/watch in the last 30 days/ one month?

	Medium	Everyday	Sometimes	Never	
a.	News paper	1	2	3	
b.	Television	1	2	3	
c.	Radio	1	2	3	

d.	Books /magazines	1	2	3	

3. INFORMATION ABOUT PAST PREGNANCIES

3.1	**Now, I would like ask some questions about your past pregnancies.** How many children do you have?			*(Write in numbers)*	
3.2	How many times have you been pregnant in your life? *(if # of pregnancies is greater than the # of children go to **Q 3.3** otherwise go to **Q. 3.6**)*			*(Write in numbers)*	
3.3	How many of your pregnancies miscarried?			*(Write in numbers)*	
3.4	How many of your pregnancies did you have terminated (induced abortion/MTP)?			*(Write in numbers)*	
3.5	How many of your pregnancies ended in a still birth?			*(Write in numbers)*	

INFORMATION ABOUT LAST CHILD

3.6	Where did you give birth to your last child? Name of the place _____	1. Govt.MC hospital 2. CHC/RH 3. PHC 4. Sub centre 5. My home 6. Parent's home 7. Other's home 8.Private hospital 9.Others (please specify)	1 2 3 4 5 6 7 8 9	**Q 4.1**
3.7	Who assisted with the delivery of your last child? If a provider note name of the provider:_____ And also note Address:_____	1. Doctor 2.ANM/Nurses/Midwife 3. Other health person 4. Traditional birth attendant 5. Friend /Relative 6. Other 7. No one	1 2 3 4 5 6 7	
3.8	How long did this person stay with you after the delivery?	1.Less than one hour 2.Two hours	1 2	

		3.More than two hours	3	
3.9	What did this person do for you during this time?	a. Periodically checked bleeding b.Looked after baby c.Cleaned up after the delivery d.Others (please specify)	1 2 3 4	
4. HEALTH SEEKING BEHAVIOUR DURING LAST PREGNANCY				
4.1	For your last child did you have any complications **during pregnancy, delivery or after delivery**?	Yes	1	
		No	2 →	**Q 5.1**
4.2	When did these complications develop?			
	a. During pregnancy		1 →	**Q4.3a**
	b. During delivery		2 →	**Q4.3b**
	c. After the baby was born		3 →	**Q4.3c**

4.3 Danger signs	What complications did you have during pregnancy, labor or after delivery? and where did you go for the treatment?												Q 4.4
	a. During pregnancy (if no complications, then no need to fill)				b. At delivery (if no complications, then no need to fill)				c. After delivery (if no complications, then no need to fill)				
	Problem faced		Sought treatment (√)	Place of treatment***	Problem faced		Sought treatment(√)	Place of treatment ***	Problem faced		Sought treatment (√)	Place of treatment ***	
	Yes	No			Yes	No			Yes	No			
a. Excessive vaginal bleeding	1	2			1	2			1	2			
b. Swelling of hands/ legs/face	1	2			1	2			1	2			
c. Severe headache	1	2			1	2			1	2			
d. Blurred vision	1	2			1	2			1	2			
e. Convulsions	1	2			1	2			1	2			
f. High fever	1	2			1	2			1	2			
g. Foul smelling/ discolored vaginal discharge	1	2			1	2			1	2			
h. Breathlessness	1	2			1	2			1	2			
i. Extreme fatigue	1	2			1	2			1	2			
j. Lethargy /drowsiness	1	2			1	2			1	2			
k. Continuous and serious abdominal pain	1	2			1	2			1	2			
l. Prolonged labor > 12 hours					1	2							

m. Placenta not delivered within 30 minutes after baby delivered					1	2							
n. Bag of fluid burst but pains did not develop	1	2			1	2							
o. Baby presented abnormally					1	2							
p. Sore, painful inflamed breasts									1	2			
q. Involuntary discharge of urine/ stool from vagina									1	2			
r. Painful urination									1	2			
s. Pain/ infection in episiotomy/ cesarean scar									1	2			
4.3 A. Please specify the name and location of the facility	Name of the facility …….. Location……				Name of the facility …….. Location……				Name of the facility …….. Location……				
**** 1=Govt./Municipal Hospital; 2= CHC 3=PHC;4=Sub centre;5=Private hospitals;6=Private clinic;7=Chemist/Medical shop;8=Faith healers; 9=AYUSH(Ayurveda, Unani, Sidha, Homeopathy) and 10=Others*													

	If option *'a'* is given in response to Q 4.3, go to Q 4.4, otherwise go to Q.4.5				
4.4	How did you know that you were having excessive vaginal bleeding?		Yes	No	
		a. Self experience	1	2	
		b. Family members told me	1	2	
		c. Doctor told me just by seeing	1	2	
		d.ANM/TBA told me just by seeing	1	2	
		e. Others (please specify)			
4.5	Was any method/device used to measure how much blood was lost?	1.Yes 2.No 3.Do not know		1 2 3	**Q 4.7**
4.6	If yes, what was the method?	1. Visual assessment 2.Clothes/rags 3.Bucket 4.Blood drape 5.Other (please specify)		1 2 3 4 5	
4.7	Who in your family or outside your family knew that you were experiencing this/these complication (s)?		Yes	No	
		a. Husband	1	2	
		b. Mother -in-law	1	2	
		c. Other male relative	1	2	
		d. Other female relative	1	2	
		e. Birth attendant	1	2	
		f. Health provider (please specify)	1	2	
		g.NGO/CBO worker	1	2	
		h. Others (please specify)			
4.8	What decision was taken about getting medical assistance for this/these complication(s)?	1.To see a doctor immediately 2.To see a doctor sometime soon 3.No medical care needed 4.Others (please specify)		1 2 3 4	
4.9	Who took this decision?		Yes	No	
		a. I did	1	2	
		b. Husband	1	2	
		c. Mother -in-law	1	2	
		d. Other male relative	1	2	
		e. Other female relative	1	2	

		f. Birth attendant	1	2	
		g. health provider	1	2	
		h.NGO/CBO worker	1	2	
		i. Others (please specify)			
	Say: I would like to meet your ……. and talk about your experiences. Could you give me his /her name address and tell me when he/she would be at home?				
	Name :				
	Address:				
	Date and time:				
4.10	When were you taken for treatment?	Immediately		1	
		In _____hrs./ days after problem occurred			
4.11	Where did you go for treatment?	**PLEASE record the response to this question in the appropriate place in the table given against Q 4.3**			

4.12	How did you know where to go for treatment?	a. Husband	1	2	
		b. Other relative	1	2	
		c. Friend	1	2	
		d.ANM/LHV/ASHA	1	2	
		e.NGO worker	1	2	
		f. Other	1	2	
4.13	Do you have the phone number of this facility?	1.Yes	1		**Q 4.15**
		2.No →	2		
4.14	Who gave you the phone number?	a. Husband	1	2	
		b. Other relative	1	2	
		c. Friend	1	2	
		d.ANM/LHV/ASHA	1	2	
		e.NGO worker	1	2	
		f. Other (please specify)			
4.15	Could this facility give you complete treatment or did you have to go from this	1.Received complete treatment	1		
		2.Had to go to other facilities →	2		Q4.17
4.16	How many other facilities did you have to go to? (write			(Write in numbers)	

	numbers)					
4.17	Who arranged this transport?	a. Family b. Self c Friends d. The village transport system organized for all women e. Others (please specify)	1 1 1 1	2 2 2 2	
		2.No. of days			
4.18	How long did it take to reach the hospital?	1.No. of Hours			
		2.No. of days			
4.19	How did you raise money for transport?		Yes	No	
		a. Savings b. Borrowing from friends and relatives c.SHG loan d. Money lender e. Mortgaged / sold assets f. Community contributed as charity g. For community arranged emergency fund or equivalent h. Others (please specify)	1 1 1 1 1 1 1	2 2 2 2 2 2 2	

5. HEALTH SEEKING BEHAVIOUR DURING LAST DELIVERY

5.1	For your last child what plans had you made in advance for a safe delivery?	Yes	No	
	a. Decided to deliver in a hospital	1	2	
	b. Decided in advance which hospital to deliver in	1	2	
	c Organized a clean place in the house for the delivery	1	2	
	d. Arranged for a safe delivery kit for the home delivery	1	2	
	e. Arranged for a trained attendant to come and deliver baby at home	1	2	
	f. Arranged that the birth attendant should stay for two hours after the delivery	1	2	
5.2	For your last child what plans had you made in advance for an emergency?	Yes	No	
	a. Decided where I will go in the event of an emergency	1	2	
	b. Arranged for transport	1	2	
	c. Arranged for money for delivery or emergency transport	1	2	
	d. Arranged for a person to escort me to hospital	1	2	
	e. Arranged for blood donors	1	2	
	f. Kept phone numbers of transport, escort, and blood donors, with me at all times	1	2	
	g. Kept contact number of hospital	1	2	
	h. Decided who would make decisions if I was not able to make them	1	2	
5.3	During your last pregnancy, did the ASHA s/ ANMs/ AWW/ or any other persons provide you a list of hospitals with their contact numbers, where you can	a. Received the list of hospitals	1	2	**Q 5.5**
		b. Received the list of contact numbers	1	2	
5.4	If yes, please show me the list	a. Seen the list of hospitals	1	2	

		b. Seen the list of contact numbers	1	2	

KNOWLEDGE AND AWARENESS OF COMPLICATIONS, DANGER SIGNS RELATED TO PREGNANCY, DELIVERY AND POST PARTUM

5.5	I am so glad you had no complication during, pregnancy, delivery and after delivery. Could you tell me what kind of complications could occur for a woman during these stages of her life?

Type of complications:	**During pregnancy**	**At delivery**	**After delivery**	
a. Excessive vaginal bleeding	1	2	3	
b. Swelling of hands/ legs/face	1	2	3	
c. Severe headache	1	2	3	
d. Blurred vision	1	2	3	
e. Convulsion	1	2	3	
f. High fever	1	2	3	
g. Foul smelling/ discolored vaginal discharge	1	2	3	
h. Breathlessness	1	2	3	
i. Extreme fatigue	1	2	3	
j. Lethargy/drowziness	1	2	3	
k. Prolonged labor > 12 hours	1	2	3	
l. Placenta not delivered within 30 minutes	1	2	3	
m. Bag of fluid bursts but pains do not develop	1	2	3	
n. Baby presents abnormally	1	2	3	
o. Continuous and serious abdominal pain	1	2	3	
p. Sore, painful inflamed breasts	1	2	3	
Q .Involuntary discharge of urine/ stool from vagina	1	2	3	
r. Painful urination	1	2	3	
s. Pain/ infection in episiotomy/ cesarean scar	1	2	3	

5.6	In such cases where should a woman be taken for treatment?	Yes	No	Please specify the name and location of the facility	

	a. Medical college hospital	1	2		
	b. District hospital	1	2		
	c. Sub divisional hospital	1	2		
	d.CHC	1	2		
	e.PHC	1	2		
	f. Sub centre	1	2		
	g. Private hospitals	1	2		
	h. Private clinic	1	2		
	i. Village doctors	1	2		
	j. Chemist/Medical shop	1	2		
	k. Faith healers	1	2		
	l. AYUSH (Ayurveda, Unani, Sidha, Homeopathy)	1	2		
	m. Others (please specify)	1	2		
5.7	Where did you get information about the **danger signs during pregnancy, delivery and after delivery?**			Yes	No
	a. Husband			1	2
	b. Mother-in-law			1	2
	c. Doctor			1	2
	d.ANM/LHV/ASHA			1	2
	e. TBA			1	2
	f. Friends			1	2
	g. Female relatives			1	2
	i. Television			1	2
	j. Newspapers			1	2
	k .Others (please specify)				

END THE INTERVIEW

Thank you again!