MAPEDIR Analysis report

Introduction to MAPEDIR:

Medical records typically capture the immediate, biological causes of maternal deaths, but personal, familial, socio-cultural and environmental factors contributing to these deaths are left out. This crucial gap is being bridged by a verbal autopsy tool called Maternal and Perinatal Death Inquiry & Response (MAPEDIR).

"Maternal and Peri-natal Death Inquiry and Response" (MAPEDIR) means to thoroughly examine and respond to the social, biological and medical events that led to a maternal or perinatal death. Death inquiries are conducted using a "verbal autopsy" tool in the families which had experienced a casualty in past. Health facilities where many deaths occur review the care provided to the woman and children in order to identify medical practices that need to be improved to prevent additional deaths.

The roots of MAPEDIR lie with UNICEF, out of its decision to support maternal death inquiry as one component of a strategy to reduce maternal mortality within the context of the ongoing second phase of the Reproductive and Child Health Programme (RCH II).In RCH II, the emphasis is on increasing the demand for quality health care and for greater community participation in the planning of public health interventions

It was piloted in Purulia, one of the poorest districts in West Bengal, in June 2005, it is currently being implemented in 15 districts in 5 Indian states with high maternal mortality. These are West Bengal (Purulia), Rajasthan (Dholpur, Tonk, Udaipur); Jharkhand (Ranchi); Madhya Pradesh (Guna, Shivpuri); Orissa(8 Navjyoti districts – Nuapada, Nabarangpur, Koraput, Malkangiri, Rayagada, Gajapati, Kandhamai, Keonjar).

Maternal death is defined as the death of a woman:

- While pregnant or within 42 days of termination of pregnancy irrespective of the duration on site of pregnancy from any cause related to site of pregnancy or its management but not from accidental or incidental causes

Maternal Mortality ratio (MMR) is the number of maternal death per 100000 Live Births. In India, the MMR is estimated at the national and state levels by the sample Registration system (SRS)

Need

Maternal death inquiries are conducted for the deaths that occur in a community over several months, in order to identify common factors that can be acted upon to prevent further deaths, assess the impact of preventive actions and undertake additional interventions.

Facility based – MAPEDIR:

The process of facility based MAPEDIR at the health facility starts at the time , the maternal death takes place at the facility .Further following process is used to fill the performa developed for the assessment of the maternal death which includes:

1. Investigate the deaths (with verbal autopsy interviews)

i. Biological Causes
ii. Social causes (care seeking delays and reasons for the delays)

2. Analyze and interpret the data

i. Qualitative analysis indicator levels
    a. e.g.: the percent of maternal deaths that did not seek any formal care.
ii. Qualitative analysis- the complete story of individual maternal deaths.
    a. Interpret understand what are the most important causes and possible solutions.

MAPEDIR is conducted to identify the common preventable causes of maternal death including

- Post partum Hemorrhage
- Eclampsia
- Sepsis
- Anemia
- Obstetric delays due to lack of decision making at house hold level, delay in transportation, delay in receiving health care at the facility.

MAPEDIR plans for the state:

- Block meeting to sensitize Panchayat Secretaries.
- VHC and SHG meeting to sensitize the Community regarding causes of maternal deaths, birth preparedness and the need for maternal death inquiries.
- Identify and interview every family with a suspected maternal death.
- Analyze and share the information with the community and health officials.
- Help the community takes effective action and advocate for improved services.
- Train state Level trainers.
- Trainers train 3-4 health level workers at each block (interviewer, recorder, Supervisor)
- A community death notifier.
- Health facility inquiries.

Maternal death audit (MDA)

To determine causes of maternal mortality, appropriate interventions were designed. The process is known as maternal death audit.

Process of MDA:

Step 1: Examine case records and interview staff

Step 2: Interview the household of the deceased person

Step 3: Use this information to reconstruct the circumstances leading to the death

Step 4: Assign a Cause of Death

The analysis of MDA depicts

- Poor distribution of first referral units (FRUs)
- Unnecessary referrals
- Poor quality of care
- Delay in accessing emergency transport
- Obstetric first aid not provided before referral

Facility based MAPEDIR: Tool

Structured questionnaire to unearth information was developed by UNICEF for recording personal, social and medical information related to maternal death to captures data so as to reconstruct the sequence of events and pinpoint the exact cause of a maternal death**. (Annexure A)**

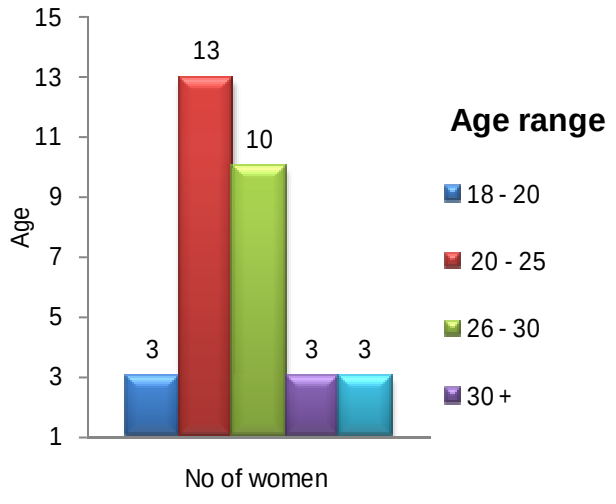
Role of SIHFW:

The maternal and infant death reports are to be sent from district hospitals / CHCs/ PHCs for analysis of the same. Despite repeated reminders to all District hospitals / CHC /PHCs, only district hospital Alwar is furnishing the required information since 2008 and till date only 32 maternal death cases have been reported at SIHFW. The detailed analysis was done and findings are summarized as follows.

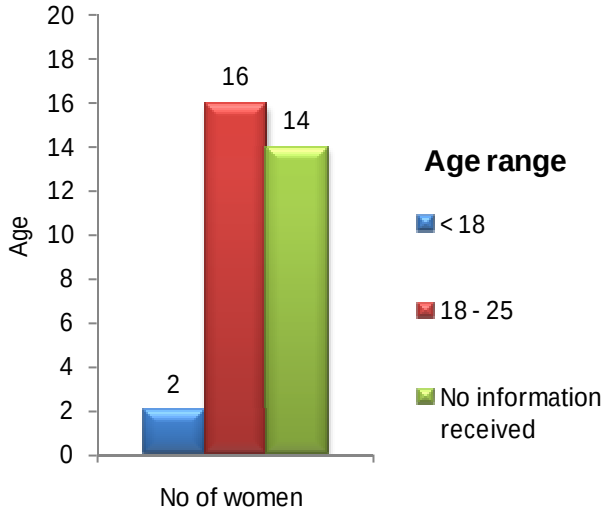
Major findings:

On analysis of the maternal death reports received from District hospital Alwar following inferences can be detailed out:

Out of the 32 reported maternal deaths, maximum women, who died belonged to the age category of 20-25 years. This may be attributed to illiteracy while 4 out of the reported cases were ≥ 20 years of age at the time of first pregnancy.

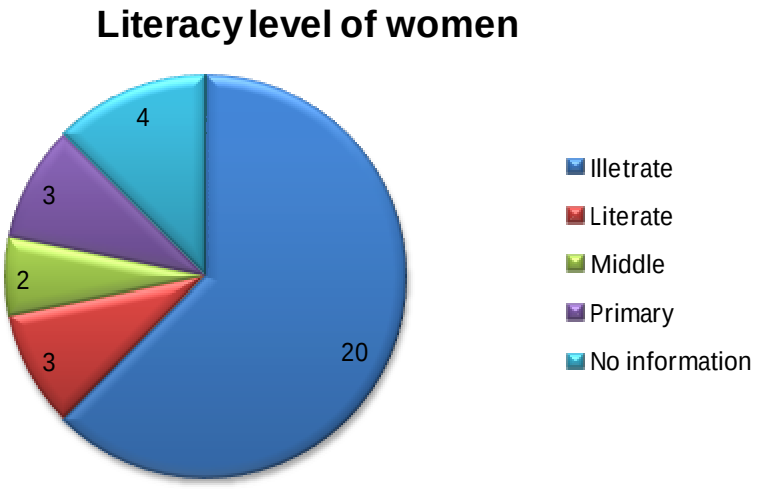


Age of women at the time of death

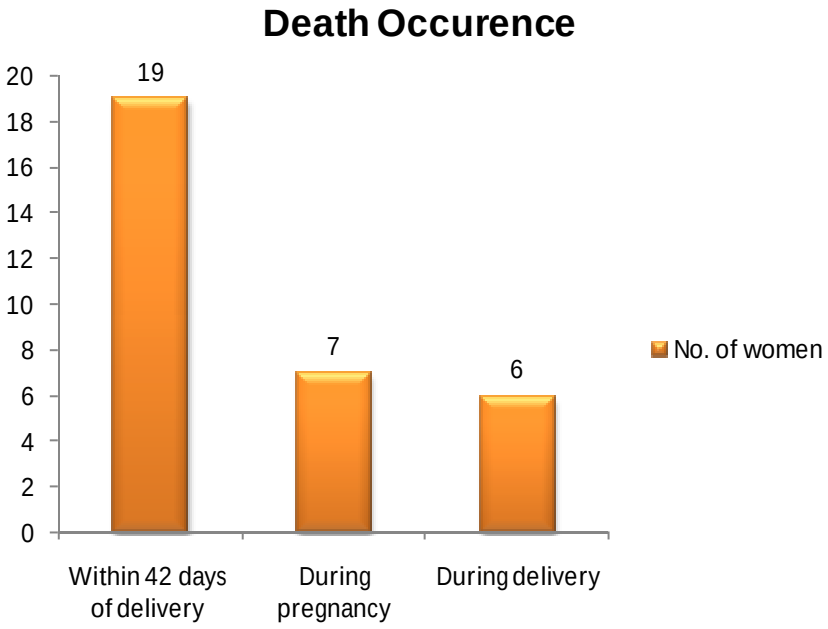


Age of women at the time of marriage

Maximum women who died were illiterate.

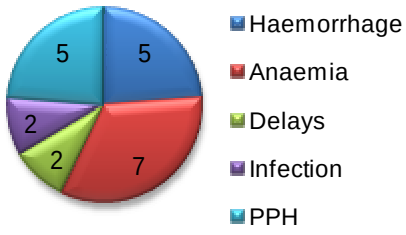


Analysis based on time of death, it was found that the maximum cases died within 42 days of delivery while second common occurrence was during pregnancy mainly due to anemia and delay in transport and communication

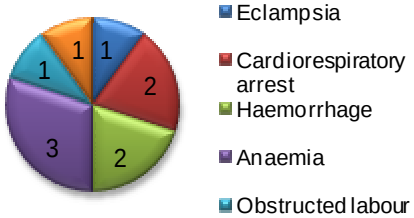


Causes of death in relation to time of death:

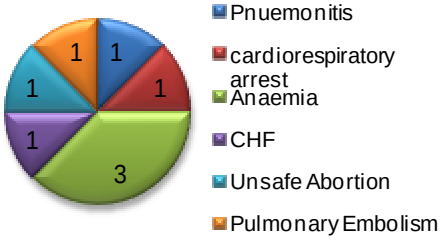
Post delivery within 42 days of delivery



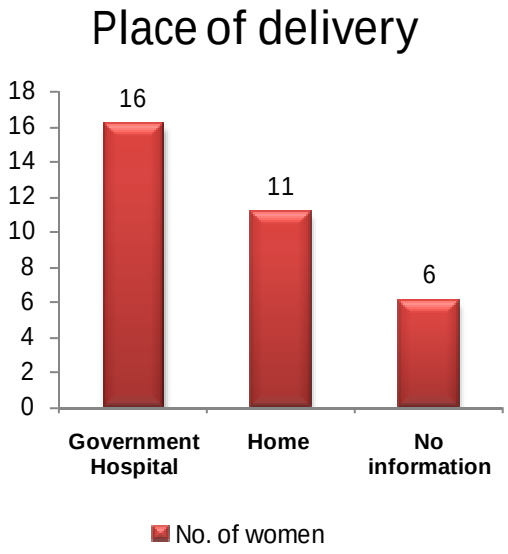
During Delivery

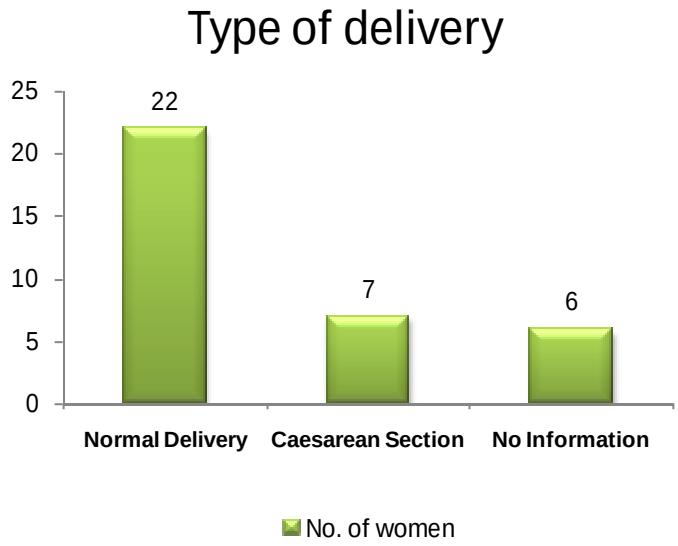


During pregnancy



As for the place of delivery; maximum reported deaths were delivered in government hospital and majority of cases delivered normally.





Conclusion:

On the basis of the analysis of the 32 reported maternal deaths at district hospital Alwar , it can be said that the majority of the deaths had preventable causes (aneamia, hemorrhage, infection) which could have been avoided with timley ante natal checkups of the pregnant lady, timely referral and preparedeness at facility and family levels.

Among the preventable causes of matrenal death , anemia was found to the one of the major threat to maternal health during pregnancy as well as pre and post delivery. While the major factors supporting the causes are found to be illetracy , early marraiges and delays.

A significant relation was found between the time of death , time of first pregnancy and the time of marriage.

Recommendations:

- Strengthening the FRU's with insfrastructure, trained manpower and drug availability.
- Timley referral services
- Sensitizing the community regarding maternal and perinatal health issues, need for birth preparedness and complication readiness
- Prevention of the 3 delays
- Maximum registration of the cases should be achieved through help of the service providers and complete follow ups should be done timley.
- ASHA and other frontline workers should be trained to identidy the danger signs during and post pregnancy and timely referral .
- The maternal deaths should be timley and appropraitely recorded and the same information should be sent to the state on monthly basis to bring to light the causes of death and mobilize health resources to prevent maternal deaths.

Maternal Deaths

Registration No. Date and time of Admission

Name of Hospital: Date & time of death

Name of Village:

1. Details of women who lived during pregnancy or within 42 days of termination of pregnancy:
   a. Name :.....
   b. Caste :.....
   c. Father's/Husband's Name :.....
   d. Address :.....
   .....
   e. Education (please √ any one)-
   Illiterate ☐ Literate ☐ Primary ☐ Middle ☐ Secondary ☐ Above Sec. ☐
   f. Economic Status : BPL ☐ Non-BPL ☐
   g. Age at the time of death :
   h. Age at marriage :
   i. Age at first delivery :
   j. No. of Pregnancies :
   k. No. of Children :

	Alive	Still Birth	Abortion	Total
Sex :	Male			
	Female			

2. Date of last Delivery : .....
3. Types of last Delivery : Normal Caesarean Any Other (please specify)
4. Place of last Delivery : Home Pvt. Hospital Govt. Hospital
5. Death Occurred : (Please √ any one)
   a. During pregnancy ☐
   b. During delivery ☐
   c. Post delivery with in 42 days ☐
6. Reason for the deaths: (please √ any one) (to be filled by ANM)
   a. Haemorrhage (bleeding) ☐

b. Hypertensive disorders (eclampsia) ☐
c. Infection (Sepsis) ☐
d. Obstructed labor ☐
e. Unsafe abortion ☐
f. Anaemia ☐
g. Delay in:
   - Decision-making at community level ☐
   - Accessibility, transport and communication ☐
   - Accessibility of appropriate care, quality of care ☐

   Any other (please specify): .....

7. Cause of death
   a. .....
   b. .....
   c. .....
8. Whether the death occurred: (please √ any one)
   a. At home ☐
   b. At hospital: Private ☐ Government ☐

   Note:- 1. Patient declared brought dead
   2. Patient was brought in a precarious/very poor/poor condition
9. Whether the woman received any medical treatment by the referring agency?

   Yes ☐ if yes, then please specify place: .....

   No ☐ person: .....

   Cause of referral .....
10. Diagnosis .....

    .....