|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||
International Journal of Medical and Biomedical Studies
Available Online at www.ijmbs.info
NLM (National Library of Medicine ID: 101738825)
Index Copernicus Value 2019: 79.34
Original Research Article
Volume 5, Issue 4; April: 2021; Page No. 118-120

ANALYSIS OF MATERNAL MORTALITY: A RETROSPECTIVE STUDY AT TERTIARY CARE CENTRE

Hetal Prajapati[1], Rajni Parikh[2]

[1] *Junior Resident, GMC Bhavnagar, Gujarat, India, 364001.*
[2]*Professor and Head GMC Bhavnagar, Gujarat, India, 364001.*

Article Info: Received 23 February 2021; Accepted 23 April 2021
DOI: https://doi.org/10.32553/ijmbs.v5i4.1876
Corresponding author: Hetal Prajapati
Conflict of interest: No conflict of interest.

Abstract

Background: Mother is the pillar of the family and maternal deaths during pregnancy and delivery are great loss to baby, family, society and country too.

Objective: This study was design to evaluate the mortality rate in our hospital, to assess the epidemiological aspects and cause of maternal mortality, types of delay and to suggest recommendations for improvement.

Method: was obtained from Sir T hospital record in form of maternal death review form which was filled by Gynec department after every maternal mortality in Sir T Hospital.

From Year 2011 to 2020, data were collected and reviewed and exclude those deliveries in which accidental, incidental and non-obstetrics causes were found.

Result and conclusion: On basis of this study thus we know the common cause of maternal mortality and with what it may associated, so we can overcome it and reduced the mortality.

Keyword: Maternal mortality, Anaemia, Postpartum haemorrhage, Eclampsia.

Introduction:

A maternal death is defined as death of any woman while pregnant or within 42 completed days of termination of pregnancy irrespective of duration or site of pregnancy from any cause related to or aggravated by pregnancy but not from accidental or incidental causes.

From 2000 to 2017, the global maternal mortality ratio declined by 38% from 342 death to 211 death per lakh live birth, according UN inter agency estimates.

At every five minute, there is one maternal death in India.

Anaemia is the most important indirect cause of maternal mortality.

Within India, there is marked variation in MMR and healthcare access between regions and socioeconomical factors.

Understanding the distribution related to cause specific mortality and access to obstetric service indicators (routine skilled birth attendance and emergency obstetric care) is essential to improve maternal health.

Aim & Objective

✓ To analyse the causes of maternal death at tertiary care centre.
✓ To assess the epidemiological aspects of maternal mortality.
✓ To assess the causes of maternal mortality.
✓ To suggest the ways to reduce the MMR.

Material and Method

- **STUDY DESIGN** - Prospective study
- **STUDY SITE** - Gopnath maternity home, Sir. T general hospital, Bhavnagar
- **SAMPLE SIZE** -175 cases
- **STUDY POPULATION** - All maternal mortality from 2011 to 2020 in sir t hospital
- **INCLUSION CRITERIA** - All maternal death from 2011 to 2020 in sir t hospital
- **EXCLUSIONAL CRITERIA** - Exclude those death in which accidental, incidental, non-obstetric causes were found.
- Present study was conducted at Department of obstetrics and Gynaecology in sir t hospital, Bhavnagar.
- Data was obtained from Sir T hospital record in form of maternal death review form which was filled by Gynec department after every maternal mortality in Sir T Hospital.

Result

➢ From Year 2011 to 2020, data were collected and reviewed and exclude those delivery in which accidental, incidental and non-obstetrics causes were found.

Table 1:

Year	Delivery	Mortality (n=175)	MMR
2011	2195	06	2.74
2012	3005	12	3.92
2013	3379	17	5.00
2014	3986	20	5.01
2015	4132	17	4.10
2016	4454	15	3.36
2017	5203	22	3.65
2018	5372	29	2.79
2019	6043	18	2.10
2020	4419	20	4.52

As no. of death increased year wise, delivery rate also increased and MMR reduced year wise.
Kerala MMR (2015-2017) was 42.
Gujarat MMR (2015-2017) was 87.
In year 2020, due to covid epidemic delivery data reduced from 6043 to 4419 (from last year) because of normal patients delivered in nearby PHC and CHC and those patient was high risk referred to SIR T Hospital. So, Maternal mortality relatively higher.

Table 2: Age wise mortality ratio

years	<20 years	21-30 yeas	31-40 years	>40 years
2011	01	04	01	01
2012	02	10	01	00
2013	01	12	00	01
2014	01	17	01	00
2015	03	08	02	02
2016	00	11	00	00
2017	02	12	05	01
2018	02	10	03	00
2019	03	10	02	01
2020	01	15	03	02
TOTAL	16	110	18	08

Majority of maternal death occur in young age group (21-30years) having young children in their family. So, it is important to take all measure to prevent maternal mortality.

Table 3: Parity wise mortality ratio

PARITY	CASE
PRIMI	60(35%)
MULTI(>=2)	95(55%)
GRAND PARA(>=3)	15(08%)

It has been observed from above table 55% maternal death occur in multipara.35%maternal death occur with primi para and 8% death observed with more than three parity.
Death in grand multipara decrease due to increase awareness regarding institutional delivery.so such grand multipara are refer to tertiary care leading to less complications.

Table 4: AREA WISE DISTRIBUTION

Area	Death
Rural	115(65%)
Urban	60(35%)
TOTAL	175

As presented in this table, 65% death occur in rural area.
It may be due to poor infrastructure of health facility in rural area, lack of awareness, illiterate women living in unhygienic condition, etc.

Table 5: According to Mode of delivery

YEAR	Vaginal	LSCS	Abortion	D&E	Laparotomy	Undelivered
2011	05	01	01	00	00	04
2012	09	02	00	01	00	04
2013	11	04	03	00	00	04
2014	12	07	00	01	01	04
2015	10	04	00	01	00	04
2016	08	04	02	00	00	07
2017	14	10	03	00	01	07
2018	14	12	03	00	00	01
2019	09	07	00	01	00	01
2020	12	13	03	01	00	04
Total	104	52	15	05	02	40

Most of death observed after vaginal delivery, because of more blood loss as deliveries conducted by traditional untrained dais and delay in women seeking help and unavailability of blood products in rural area.
On other hand LSCS performed under skilled personal (anaesthetics, surgeon) so early detection and management of high risk factors.

Table 6: When did death occur?

YEAR	Antenatal	Intrapartum	Postnatal
2011	04	00	06
2012	04	01	13
2013	04	00	12
2014	04	00	20
2015	04	00	11
2016	07	00	11
2017	07	01	19
2018	01	00	15
2019	01	00	13
2020	04	02	20
TOTAL	**45(17%)**	**04(1.5%)**	**136(80%)**

It was observed that about 80%women died in postnatal period, 17% in antenatal and 1.5% in intrapartum period.

Obstetric cause

As presented in this table main cause of deaths were observed as postpartum haemorrhage (29%) as direct cause and Anaemia (33%) as indirect cause of death.

Table 7:

OBSTRETIC CAUSE	CASE
eclampsia	13(10%)
anaemia	**42(33%)**
APH	03(2%)
PPH	**37(29%)**
Abruptio placenta	05(4%)
HELLP syndrome	05(4%)
PIH	17(13%)
amniotic fluid embolism	04(3%)
ruptured uterus	01(0.8%)
gestational DM	02(1.6%)
DIC	09(7%)

Table 8: factor contributing to maternal mortality

FACTOR	CASE	%
Delay in woman seeking help	70	40%
Transportation problems	11	06%
Lack of awareness	44	25%
Lack of facility(Blood, Drug, Instrument)	19	10%
Lack of human resources	06	3%
Not known	25	14%

Among all factors 40% death due to delay in seeking help. It may be due to poor health facility in rural area. 25% death occur because of patient lack of awareness about her condition. Due to lack of blood availability and drugs 10% women died.

Discussion

This study shows MMR decreased year wise from 2011-2020

Most common cause of mortality in last 10 year (2011-2020) is post-partum haemorrhage (29%) f/by PIH including Eclampsia (23%) as direct cause and anaemia (33%) as indirect cause.
Majority of death (62%) occur in younger age group (21-30 yr.) and 55 % deaths occur in multipara.
As presented study 65% death occurred in rural and 35 % death in urban area.
Most of death occurred after vaginal delivery in post-partum period, PPH main cause for that.
Among all factors 40% death due to delay in seeking help was the commonest reason while 25% death occur due lack of awareness

Conclusion

- **We can reduce maternal death by :-**
- Early detection and treatment of anaemia in adolescents and antenatal period.
- As PPH is leading cause of maternal mortality, initial and basic life saving measures be taught to all health care workers at FRU, PHC and CHC. So patient reaches the tertiary care in better condition. Immediate shifting patient in 108 to higher referral facility for control bleeding, early transfusion of blood products.
- Measures to avail blood at peripheral hospitals.
- Early detection of pregnancy induced hypertension and management with antihypertensive drugs to prevent maternal mortality due to eclampsia, DIC, HELLP Syndrome etc.
- As root level health worker's education regarding the diagnosis of high risk factors and refer to higher centre, to distribute iron and calcium supplementation to pregnant women.
- We need to educate whole society and pregnant women regarding proper nutritional diet, hygienic living, to take minimum 3-4 antenatal visits, institutional delivery.
- Proper birth spacing via contraceptive methods.

References

1. Rosenfield A, Maine D. Maternal mortality-A neglected tragedy. *Lancet* 1985; 326:83–5. 10.1016/S0140-6736(85)90188-6.
2. World Health Organization MDG 5: Improve maternal health Geneva, 2015.
3. Alkema L, Chou D, Hogan D, et al. Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by maternal mortality estimation Inter-Agency group. *Lancet* 2016; 387:462–74. 10.1016/S0140-6736(15)00838-7
4. Registrar General of India Sample registration system Special Bulletin on maternal mortality in India 2014-16 sample registration system. *SRS Bulletin* 2018; 91:16–18.
5. The World Bank Group *Kerala: indicators at a glance: the World Bank group*, 2017.
6. World Health Organization *Trends in maternal mortality: 1990 to 2015*. Geneva: World Health Organization, 2018.
7. World Health Organization *Reduction of maternal mortality: a joint WHO/UNFPA/UNICEF World Bank statement*.