Analysis of Maternal Death Occurred in Kutch District Gujarat

By

Bhanwar Prajapati

Dissertation submitted in partial fulfillment of the requirements of the degree

MBA Hospital and Health Management

Academic year, 2017-2019

The IIHMR University, Jaipur

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INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

TO WHOMSOEVER MAY CONCERN

This is to certify that **Mr. Bhanwar Prajapati** student of MBA Health and Hospital Management from The IIHMR University, Jaipur has undergone internship training at **National health Mission, Gujarat** from 4th **Feb 2019 to 9th May 2019.**

The Candidate has successfully carried out the study on **Analysis of Maternal death occurred in Kutch district, Gujarat** assigned to him during internship training and his approach to the study has been sincere, scientific and analytical.

The Internship is in fulfillment of the course requirements.

I wish him all success in all his future endeavors.

Dr Col. Ashok Kaushik
Proctor and Dean
The IIHMR University, Jaipur

17 May 2019

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DISTRICTHEALTHSOCIETY

DISTRICT PROGRAMME MANAGEMENT UNIT

HEALTH BRANCH - DISTRICT PANCHAYAT KUTCH

Date-10/05/2019

CERTIFICATE

This is to Certify that **Mr BHANWAR PRAJAPATI** Studying in MBA_HM 22th Batch, Health Stream, In Recognition of Having Successfully Completed His Dissertation in the Department of National Health Mission, Gujarat Has Successfully Completed His Project on **ANALYSIS OF MATERNAL DEALTH OCCURRED IN KUTCH DISTRICT GUJARAT**

From :04/02/2019 to 10/05/2019 In Partial Fulfilment of The Requirement for the Award of "MBA IN HOSPITAL & HEALTH MANAGEMENT", is a Record of the candidate`s Own Work Under My Guidance. He comes across as a committed, Sincere & diligent person who has a strong drive and zeal for learning.

We wish him all the best for future endeavours.

CDHO
District Panchayat Kutch
Chief District Health Officer
District Panchayat,
Kachchh-Bhuj

Date-10/05/2018

Place- Bhuj (Kutch)

CERTIFICATE BY SCHOLAR

This is to certify that all ethical issues have been considered while collecting data for my dissertation titled **Analysis of Maternal Death occurred in Kutch district, Gujarat** and submitted by **Mr. Bhanwar Prajapati, Enrolment No 0550** under the supervision of **Dr. Tanjul Saxena** for award of MBA in Hospital and Health of the University carried out during the period from 04/02/2019 to 08/05/2019 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Signature of student

17/5/2019.

ACKNOWLEDGEMENT

Behind every success there is certainly an unseen power of Almighty **GOD**. But success is attained with association of professors, teachers, family members, friends & colleagues. It is my privilege to acknowledge people who have supported me throughout the summer internship period & helped me to reach this acme of investigation. The present line of accomplishment is not a formality but an honest word of appreciation that has exactly been felt during my training.

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I am also thankful to **Family members or relatives of the deceased mother** for helping me by giving their time and feedback along with my **family members** and **friends** for encouraging me to pursue this study and support me every step along the way.

Last but not the least; study was successfully completed because of the grace of **Almighty God.**

Mr. BHANWAR PRAJAPATI

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BACKGROUND OF THE STUDY

Data on cause-specific mortality, skilled birth attendance, and emergency obstetric care access are essential to plan maternity services. We present the distribution of India's 2001–2003 maternal mortality by cause and uptake of emergency obstetric care, in poorer and richer states.

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

In this study, we report on the maternal deaths in India's Sample Registration System (SRS). The SRS, with verbal autopsy, was used to estimate the national and regional distribution of maternal death and uptake of obstetric service indicators among women who died while pregnant or postpartum.

Maternal Death Review (MDR) as a technique has been spelt out plainly in the RCH – II National Program Implementation Plan report. It is a significant methodology to improve the nature of obstetric consideration and decrease maternal mortality and dreariness. The significance of MDR lies in the way that it gives definite data on different components at office, locale, network, territorial and national dimension that are should have been routed to lessen maternal passings. Examination of these passings can distinguish the postpones that add to maternal passings at different dimensions and the data used to receive measures to fill the holes in administration.

The '3-Dealys Model' recommends that the pregnancy related mortality is wonderfully due to delays in-

(1) Deciding to look for suitable restorative assistance for an obstetric crisis

(2) Reaching a suitable obstetric office

(3) Receiving sufficient consideration when an office is come to.

MATERNAL HEALTH SCHEMES IN GUJARAT

1. JANANI SURAKHA YOJANA (JSY) : Point: To decrease the general mortality proportion and new born child death rate and to increment institutional conveyances. The Janani Suraksha Yojana has distinguished ASHA, the Accredited Social Health Activist as a viable connection between the Government wellbeing foundations and the poor pregnant ladies.

The Yojana has distinguished ASHA, the licensed social wellbeing extremist as a viable connection between the Government and the poor pregnant ladies in l0 low performing states, to be specific the 8 EAG states and Assam and J&K and the rest of the NE States. In

Significant Features of JSY: Tracking Each Pregnancy: Each recipient enrolled under this Yojana ought to have a JSY card alongside a MCH card. ASHA/AWW/some other recognized connection specialist under the general supervision of the ANM and the MO, PHC ought to obligatorily set up a miniaturized scale birth plan. This will adequately help in observing Antenatal Check-up, and the post-conveyance care.

- **Eligibility for Cash Assistance:** BPL Certification – This is required in all HPS states. In any case, where BPL cards have not yet been issued or have not been refreshed, States/UTs would figure a straightforward foundation for accreditation of poor and penniless status of the hopeful mother's family by enabling the gram Pradhan or ward part.

- **Scale of Cash Assistance for Institutional Delivery:**

Targets:

1) To Promote Institutional Deliveries.

2) To lessen generally speaking Maternal Mortality proportion and Infant Mortality Rate.

Target Beneficiaries:

1) Pregnant Woman of all divisions of the general public.

2) Irrespective of Birth request.

3) In Rural and Urban territories.

4) Role of ASHA.

Elements influencing Implementation of Program:

- Initially the advantage is up to 02 Births just, however at this point has been expelled.

- This conspire execution is basically relying upon exercises of ASHA But some of them have been discovered extremely idle amid field visit.

- In the Tribal Population, Women don't know about Benefits and they don't have account in Bank.

JSY is a sheltered parenthood mediation under the National Rural Health Mission (NRHM). Its primary point is to diminish maternal and neo-natal mortality by advancing institutional conveyance among the poor pregnant ladies. There is a striking increment in Institutional conveyances among the BPL, ST and SC populace under this plan. Advantages under the plan are money help with conveyance and post-conveyance care upto 2 live births.

Budgetary arrangement incorporates the accompanying:

a) Home conveyance Rs 500/ -

b) Institutional Delivery in Rural Area Rs 700/

c) Institutional conveyance in Urban Area Rs 600/ -

d) For cesarean conveyance Rs. 1500.

Objective(s):

The targets of structure MamtaGhar is

To build the usage of the emergency clinic by ladies for conveyance and care.

To empower more prominent access to medicinal consideration to poor ladies in danger from

pregnancy and labor living in remote territories.

To advance early and selective bosom sustaining.

To advance 48 hours of Post-Partum Stay in the establishments.

To build level of ladies conveyed an infant with prepared suppliers.

Strategy:

Pregnant ladies are urged to go to the MamtaGhar 7 - 10 days

before the normal date of conveyance.

Amid their stay in MamtaGhar, they get normal check ups by a

Gifted Birth Attendant (SBA). They are admitted to the conveyance room if

any inconvenience happens amid their remain.

Ladies are permitted to have one individual (spouse, mother or another

relative) to go with them amid their stay in MamtaGhar.

2 dinners in multi day and one going with individual are given to each and

2. MAMTA SAKHI (BIRTH COMPANION SCHEME)

Under this plan a female relative permit to be along the edge of pregnant lady at the season of conveyance in government organizations. The nearness of birth buddy amid labor implied that a lady was never taken off alone amid this seriously unpleasant and unnerving a great time.

1 MATERNAL DEATH REVIEW (MDR)

A maternal demise survey gives an uncommon chance to gathering of wellbeing staff and network individuals to gain from a lamentable and frequently preventable occasion. Maternal passing survey ought to be led as learning exercise that does exclude finger point or discipline. The reason for maternal demise audit is to improve the nature of safe parenthood programing to anticipate future maternal and neonatal horribleness and mortality.

2 MAMTA ABHIYAN

Effort preventive and promotive administrations for ANC and PNC are structured under MAMTA Abhiyan. MAMTA Abhiyan has four parts including MAMTA Divas (Health and Nutrition Day), MAMTA Mulakat (PNC Home visit), MAMTA Sandarbh (Referral administrations) and MAMTA Nondh.

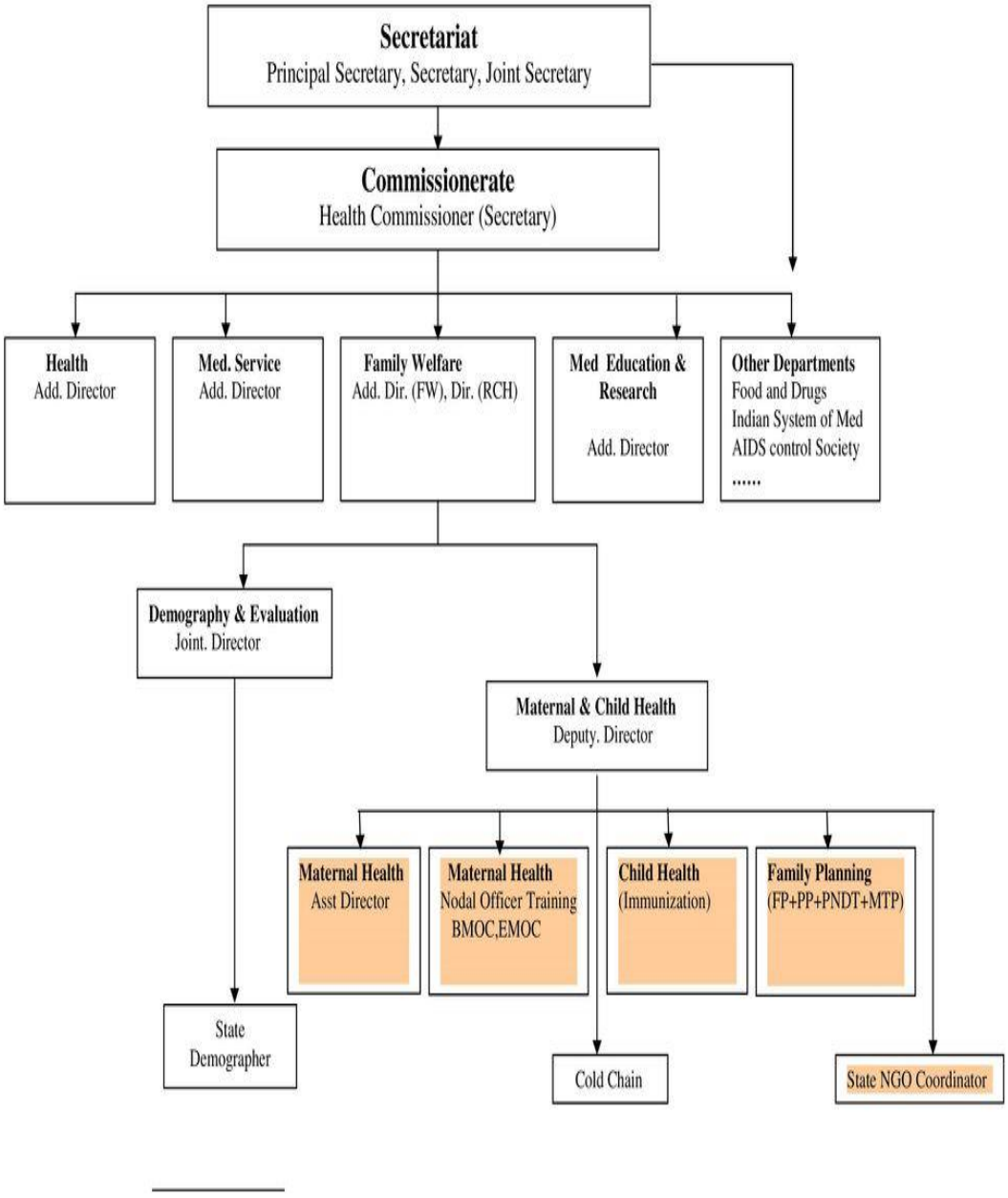
3 MAMTA CARD (MOTHER and CHILD PROTECTION CARD)

In the Gujarat, Mother and Child Protection card is known as Mamta Card. The Mamta Card has been created as a device for families to learn, comprehend and pursue positive practices for accomplishing great wellbeing of pregnant ladies, youthful moms and kids.

4 COMPREHENSIVE ABORTION CARE

After International Conference on Population Development (ICPD) in 1994 the need to improving regenerative strength of ladies to upgrade the general human welfare and advancement has excited. With its pledge to regenerative wellbeing, Government of India (GOI) has propelled the Reproductive and Child Health Program since October 1997.Among the different parts of conceptive wellbeing, premature birth however legitimized in India has stayed ignored up until this point.

Department of Health & Family Welfare: Govt. of Gujarat



1. INTRODUCTION

WHO characterizes maternal wellbeing as 'to the soundness of ladies amid pregnancy, labor and the baby blues period Although, parenthood is frequently a positive and satisfying background, for a similar time for a large portion of the ladies it is related with anguish, sick wellbeing and even passing. Under MGD 5, nations resolved to decrease maternal mortality by seventy five percent between1990 to 2015. Be that as it may, maternal passings worldwide have dropped just by 45% (UN, 2015). Among the two nations on the planet where 33% of the complete demise are watched, India positions first with 50,000 passing pursued by Nigeria with 40,000 out of 2013 individually (WHO, 2014). Additionally, the nation had likewise neglected to accomplish its duty to achieve 109 MMR by 2015 with the miss the mark regarding 31 points (Sample enrollment System, Registrar General of India, 2014). The significant reasons for maternal passing in the nation are because of discharge, sepsis, hypertensive issue, hindered work, and premature birth and other condition incorporates iron deficiency. Different factors, for example, low proficiency, absence of birth separating, early age at marriage and youngster bearing, high equality, social confusions, financial reliance of ladies, neediness, absence of data, remove and deficient administrations additionally impacts maternal mortality (Panda, R.M and Neogi, S, 20141, WHO, 2014). Subsequently, it is critical to recognize the area explicit explanations behind maternal passing so as to counteract and decrease maternal demise.

Maternal Mortality Ratio (MMR) in India has appeared obvious decay from 398/100,000 live births in the year 1997-98 to 301/100,000 live births in the year 2001-03 to 212 out of 2007-2009 to 178/100,000 live births in the period 2010-2012 to 174 out of 2014-2015. Gujarat is in better set the extent that the maternal wellbeing markers are worried in contrast with the national maternal wellbeing pointers. According to the SRS 2007-09, the maternal death rate for Gujarat is 148/100,000 live births to 112/100,000 live births in the year 2011-2013. The State government has started the 'Janani Surakha Yojana (JSY), MamtaDoli, Mamta Abhiyan, Mamta Card (Mother and Child Protection Card)' conspire went for safe conveyance, sustenance and diet and antenatal registration and institutional conveyance for ladies in BPL family. To accomplish the MDG

Objective of 109 for each 100,000 live births, there is a need to offer driving force to execution of the techniques and mediations for maternal wellbeing.

Maternal Death Review (MDR) as a technique has been spelt out unmistakably in the RCH-II National Program Implementation Plan record. It is a significant technique to improve the nature of obstetric consideration and diminish maternal mortality and horribleness. The significance of MDR lies in the way that it gives nitty gritty data on different variables at office, area, network, territorial and national dimension that are should have been routed to decrease maternal passings. Examination of these passings can distinguish the defers that add to maternal passings at different dimensions and the data used to embrace measures to fill the holes in administration. MDR has been directed as a built up mediation throughout the previous couple of years by certain states like Tamil Nadu, Kerala and West Bengal. In Gujarat this procedure has been pursued since 2007. Maternal mortality alludes to the "demise of a lady while pregnant or inside 42 days of end of pregnancy, independent of the site and term of pregnancy, from any reason identified with or disturbed by the pregnancy or its administration however not by inadvertent or accidental reason" (WHO 1994). It is utilized as an intermediary pointer to evaluate the nation's maternal and conceptive wellbeing status. Maternal mortality can have a genuine wellbeing impacts and mental expenses for the relatives particularly kids. Late examinations have indicated huge decrease in the occurrences of maternal passings in the created world, yet the assessments from the creating nations are still profoundly baffling. As per the WHO, UNICEF, UNFPA and the World Bank, of the absolute evaluated maternal passings that happened universally, creating nations represented 99% of them (WHO, 2016). In the previous decade, India has had the option to diminish maternal mortality from 206 to 181 maternal passings for every

100000 live births, yet with 17 % (50000 maternal passings) of every single maternal demise happening in India, despite everything it is the most astounding patron of maternal passings on the planet pursued by Nigeria (14%, 40000). Actually, India and Nigeria together record for two third of the worldwide maternal passings (WHO, 2014). Regardless of seeing an astounding financial development and a blast in the wellbeing area, India couldn't permeate down this advancement to the regenerative wellbeing

markers. Baby blues drain, hypertensive issue and sepsis are the most well-known reasons for maternal passings in India pursued by confusions of conveyance and impeded work (Say, 2014; Montgomery, 2014), and it is being underlined that 80 % of these passings can be forestalled or evaded through institutional conveyances or by giving quality social insurance to the ladies (CRR,

2008; WHO, 2010; Hogan, 2010). Be that as it may, the present high rates of institutional conveyances (table 1) with simultaneous high maternal death rates in the nation demonstrate that the maternal mortality can't be tended to just through clinic based methodology and there is an earnest need to look past it. In this audit, maternal wellbeing circumstance and maternal mortality issue has been looked as a social marvel.

1.1 RATIONALE

Around 529,000 ladies kick the bucket from pregnancy-related causes yearly and practically all (99%) of these maternal passings happen in creating countries. One of the United Nations' Millennium Development Goals is to diminish the maternal death rate by 75% by 2015. Reasons for maternal mortality incorporate baby blues drain, eclampsia, impeded work, and sepsis and so on. Many creating countries have need sufficient social insurance and family arranging, and pregnant ladies have negligible access to gifted work and crisis care. Essential crisis obstetric mediations, for example, anti-infection agents, oxytocin's anticonvulsants, manual evacuation of placenta, and instrumented vaginal conveyance, are indispensable to improve the opportunity of survival.

2.0 REVIEW OF LITERATURE

A review investigation of maternal passings was done from January 1986 to December 2005 at the Department of Obstetrics and Gynecology, R. G. Kar Medical College and Hospital, Kolkata, India. Records were separated into four 5-yearly periods: 1986-1990;

1991-1995; 1996-2000; and 2001-2005, for examination of the patterns. The underlying interim from 1986 to 1990 was picked as the reference period.(Bhattacharyya et al. 2008; Jain et al,)The contemplate found that roundabout causes were in charge of 18% (all out number of maternal passings in study = 1223) and 51% (complete number of maternal passings in study = 192) of passings, separately.

An across the nation test study in India saw that 23.4% passings happened amid bet partum period, 21% passings were because of roundabout causes, and 59.1% passings happened in wellbeing offices in 2003 (Indian committee of Medical Research, 2003).

Auxiliary information examination of the Chiranjeevi plot in Gujarat by Mavlankar et al. (2009) uncovered that in excess of 800 obstetricians have joined the plan and in excess of 269000 poor ladies have conveyed in private offices in 2 years. It found that level of institutional conveyances among poor ladies expanded from 27% to 48% between April 2007 and September 2008. Also, there are less detailed maternal and new-conceived passings among the recipients contrasted and the quantity of passings expected without the plan.

Anwariet et.al contemplated obstetric patients admitted to ICU at Armed Forces Hospital, Riyadh, and Kingdom of Saudi Arabia from 1997 to 2002. The examination found that the two most basic signs for conceding obstetric patients to ICU were drain and Hypertension. They inferred that obtrusive hemodynamic checking and ventilator support were the two primary mediations. Improving nature of consideration when admission to ICU may decrease maternal grimness.

Cecatti et al. (2002-2007) contemplated 673 ladies conceded in ICU with extreme maternal bleakness and could recognize 194 instances of MNM and the 18 maternal passings by WHO criteria. They reasoned that with the WHO criteria for MNM they had the option to recognize practically all instances of death and organ disappointment. Between October 2002 and September 2007, 673 ladies with SMM were conceded, and among them 18 kicked the bucket. The distinguishing proof of in any event one of the

WHO criteria in ladies who did not bite the dust characterized the case as a close miss. Organ disappointment was assessed through the most extreme SOFA score over 2 for every single one of the six parts of the score, being viewed as the best quality level for the determination of maternal close miss. The amassed score (Total Maximum SOFA score) was determined utilizing the most exceedingly awful aftereffect of the greatest SOFA score.

Perch et al revealed MMR as 187/100,000 LB and MNM as 50/1,000 LB, with a moderately low mortality list (MI) of 3.6 %. Office based cross-sectional examination in metropolitan La Paz, Bolivia. MMR was 187/100,000 live births and SMR was 50/1000 live births, with a generally low mortality list of 3.6%. Extreme discharge and serious hypertensive issue were the fundamental driver of close miss, with 26% of extreme hemorrhages happening in early pregnancy. Sepsis was the most widely recognized reason for death. Most of close miss cases (74%) was in basic condition at emergency clinic confirmation and contrasted from those satisfying the criteria after affirmation as to demonstrative classes and socio-statistic factors.

THE CONCEPTUAL FRAMEWORK -- THE THREE PHASES OF DELAY

Three deferrals:

1. Deferral in the choice to look for consideration (Seeking care);

2. Postpone landing in a wellbeing office (Reaching care); and

3. Postponement in acquiring the sufficient treatment (Receiving care)

1. Postponement in choice to look for consideration (Seeking care):

- Delay #1 is perceiving an issue and choosing to look for medicinal consideration.

- If the network or a family knows about a working referral framework, and what it may cost them, in the event that anything, the choice to look for consideration may happen quicker.

- It is the postponement in looking for medicinal services by the spouse, relatives or the patient herself.

- It for the most part happens when one neglects to perceive the peril signs and side effects

This postponement basically happens due to:

- Lack of the information on the results

- Financial limitations.

- Women not in a situation to decide

- Lack of support among relatives to the wellbeing office

- Fear from abuse, or the therapeutic technique

- Fear of getting perceived for some extreme sickness on going to wellbeing office

- More trust on home cures than looking for social insurance administrations

- More need on family unit works or different works than claim wellbeing.

- Poor guidelines of consideration in wellbeing offices

- High out of pocket consumption in wellbeing offices

2. Postponement in the landing of wellbeing office (Reaching care)

- Delay #2 happens achieving an office. This postponement is dominatingly dictated by physical and monetary openness to wellbeing administrations: their land dissemination and area, separation and street conditions, the accessibility of transportation and its expense.

- It is the postponement in coming to the wellbeing office once the choice to look for consideration is taken.

- Delay in choice to look for wellbeing administrations as of now signifies this deferral.

This deferral for the most part happens due to:

- Very indirectly/remotely found heath offices

- Lack of methods for transportation

- Lack of crisis methods for transport (emergency vehicle)

- Emergency transport postponements and refusals

- Wait for another person to go with ladies in the voyage

- Financial issue making rescue vehicle excessively expensive and depending on open transportation.

3. Postponement in getting the treatment in the office (Receiving care)

- Delay #3 happens once she has touched base at a social insurance office, if staff aren't accessible, or gear is broken, or blood should be given.

- It alludes to the postponement in starting proper treatment once the patient spans to the wellbeing office.

This postponement principally happens due to:

- Lack of crisis readiness in offices.

- Lack of hardware, supplies, drugs.

- Lack of sufficiently prepared staff/s.

- Poor mentalities of staff (segregation dependent on shading, doctrine, riches, and so forth.).

- Complex lawful customs to be pursued before beginning treatment.

- Weak referral framework without appropriate reports.

- Lack of responsibility amid referrals.

Results of Three deferrals:

- Delay in looking for consideration further builds the difficulties of the patient and makes dangerous circumstance.

- Delay in achieving the wellbeing office will leave wellbeing specialists with restricted extension to take activities

- Delay in getting social insurance would demotivate the consideration searcher. In addition, it can later influence the wellbeing looking for conduct of an individual.

 'Three deferrals' is legitimately connected with the maternal bleakness and mortality.

Potential Interventions to Prevent or Mitigate Three postponements:

With a solid correspondence framework set up as a key bit of the general referral framework, it is conceivable to call the getting office to alarm them that somebody is being alluded and triage is prepared and pausing. All the more explicitly, each postponement can be tended to in following ways:

I) Delay in choice to look for consideration:

 Raise learning and attention to risk signs and where and when to look for consideration amid pregnancy, baby blues and neonat**al consideration.**

 Facilitate salary age and referral through neighborhood wellbeing laborers

 Improved correspondence with the network individuals and nearby pioneers.

 Provision for money related motivators for looking for consideration.

 Counselling the pregnant ladies and relative for looking for medicinal services routinely and occasionally amid pregnancy and baby blues period.

 Empower ladies and increment basic leadership intensity of mother.

ii) Delay in the landing of wellbeing office

- Mobilize/give transportation offices to the pregnant ladies.

- Make wellbeing administrations available in each part.

- Bring fitting consideration closer to network.

- Proper assembly of the network wellbeing laborers.

- Funds to take care of or limit costs.

- Conduct outreach camps.

- Provision of versatile ambulances.

- Provision of remain by neighbourhood vehicles for taking the ladies to wellbeing office at whatever point required in counsel with the nearby individuals and pioneers

iii) Delay in acquiring treatment in the office

- Provision of satisfactory gear and supplies.

- Improve staff accessibility.

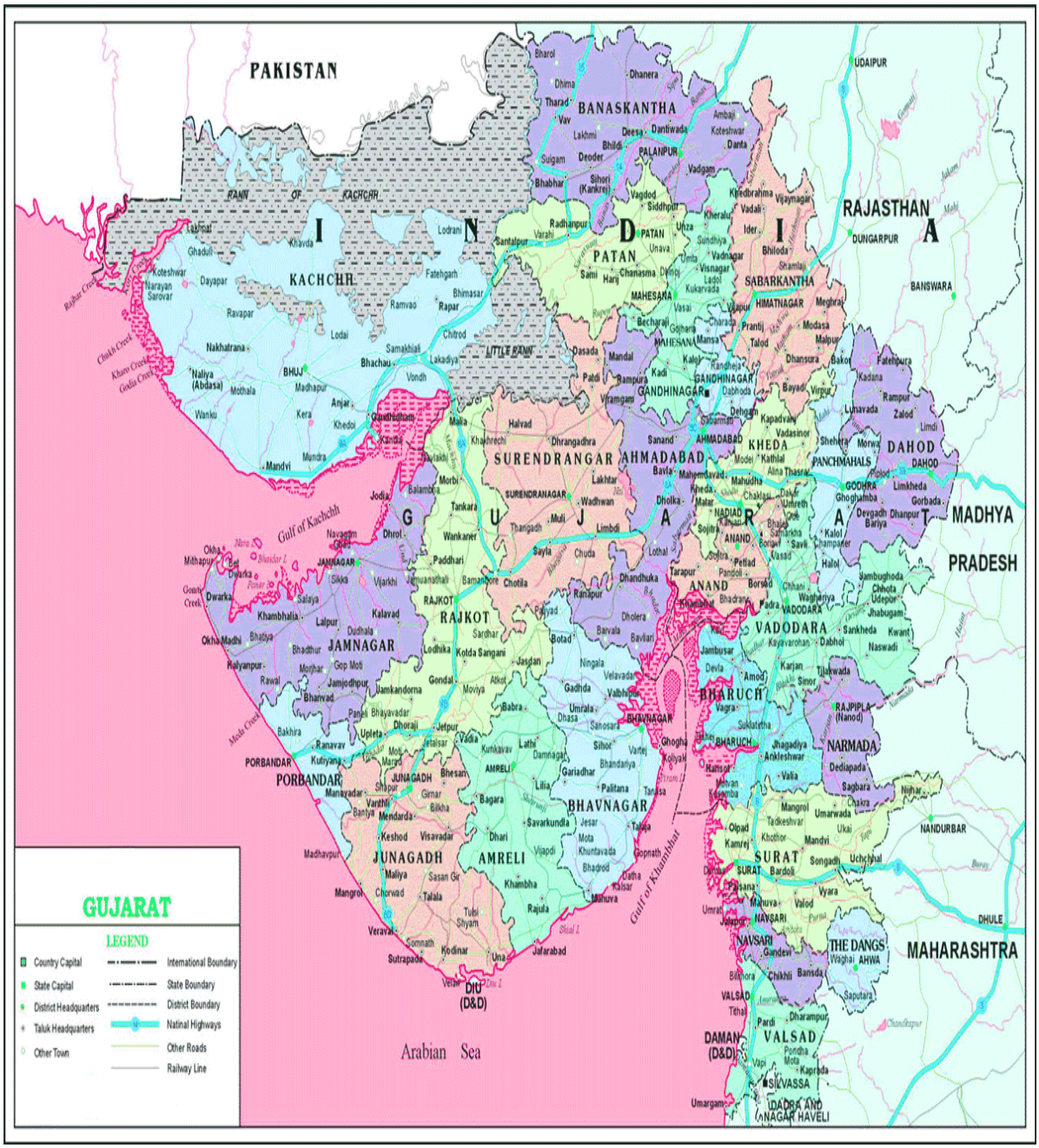
- Ensure the accessibility of medications.

- Improving staff limit through trainings and workshops.

- Regular observing and strong supervision from the higher specialists.

- Strengthen the referral framework.

Gujarat state profile


PAKISTAN
RANN OF KACHCHH
KACHCHH
BANASKANTHA
PATAN
MAHESANA
SABARKANTHA
GANDHINAGAR
AHMADABAD
KHEDA
SURENDRANAGAR
LITTLE RANN
RAJASTHAN
UDAIPUR
DUNGARPUR
BANSWARA
DAHOD
PANCHMAHALS
MADHYA PRADESH
GUJARAT
ANAND
VADODARA
BHARUCH
NARMADA
RAJKOT
JAMNAGAR
PORBANDAR
JUNAGADH
AMRELI
BHAVNAGAR
SURAT
NANDURBAR
DHULE
THE DANGS
MAHARASHTRA
VALSAD
DAMAN (D&D)
DIU (D&D)
DADRA AND NAGAR HAVELI
Gulf of Kachchh
Gulf of Khambhat
Arabian Sea
LEGEND
Country Capital
State Capital
District Headquarters
Taluk Headquarters
Other Town
International Boundary
State Boundary
District Boundary
Natinal Highways
Other Roads
Railway Line

STATE PROFILE

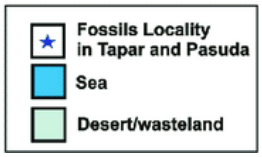
Gujarat has a populace of 6.03 crore (2011 Census), which is around 4.99% percent of the all-out populace of the nation. About 42.6%of the State's populace lives in urban territories, contrasted with 37.4 in 2001.The populace thickness of the state is 308 when contrasted with the national normal of. Around 2, 23,722 (Census 2011) of Gujarat's populace is assessed to be BPL, while 4,074,447 percent and 89, 17,174 (15 percent, 2011) are delegated SC and ST individually. Financial pointers are superior to anything the India normal 79.31 percent and 70.73 percent of its aggregate and female populace individually are proficient, the comparing figures for India being 74.04 percent and 65.46 percent separately. The territory of Gujarat is portrayed via ocean waterfront, inborn, desert and topographically threatening landscape having inadequate and dissipated populace at the outskirts. Networks

The state of Gujarat is characterized by sea-coastal, tribal, desert areas and geographically hostile terrain having sparse and scattered population at the periphery. Communities living in the remote and hard to reach areas especially BPL population, tribal population and women, are generally unable to access reliable and cost-effective health care services. The state has 12 districts having population of 89, 96,744 accommodate approximately 70 percent of tribal population (Census 2001). Almost 18% (89, 96,744) of the total population of the state live in Tribal districts of the state. The coastline of the state runs about 1600 Km. More than 4,487,752 persons live in 36 coastal blocks of the state.

Administration has divided the state into 26 districts, sub-divided it into 225 Blocks, having 18618 villages and 242 towns. District Tapti is nearly recently created and the health system continues to administer district Tapti from Surat. NHM Gujarat has a large three-tier health infrastructure comprising 23 district hospitals, 273 Community Health Centre (CHCs), 1073 Primary Health Centre (PHCs) and 7274 Sub-Centers (SCs). As per RHS 2006, 907 doctors at PHC’s, 84 specialists at CHCs, 616 male and 862 female health (LHV) assistants are positioned in these facilities in addition to 2773 male and 6508 female health workers at sub-centers.

The Department of Health and Family Welfare, Government of Gujarat is committed to promote the right of every woman, man and child to enjoy a life of health and equal opportunity and making efforts for all round development in this direction to attain SDGs. The department has taken steps to bring about outcomes as envisioned in the Sustainable Development goals, RCH II / NRHM programmed, the State Population Policy 2002 (SPP 2002), the National Health Policy 2002 and Vision 2010, Gujarat. It aims at minimizing the regional variations in the areas of

Map of Kutch



General healthcare infrastructure

No. of District Hospitals: 1

No. of Sub-District hospitals: 2

No. of CHCs: 17

No. of PHCs: 67

No. of SCs: 442

No. of tertiary referral centres: 3

No. of tertiary referral centres run by NGO: 0

No. of tertiary referral centres run by Government: 3

No. of Health Institutes: 02

RESEARCH QUESTION

What are the factors affecting the maternal mortality using 3 delays model along with other factors as a framework?

OBJECTIVES

To describe the type of delay commonly contributing to the burden of maternal deaths in Kutch District.

To study the causes of deaths and recommend some other possible interventions to decrease and prevent maternal deaths.

METHODOLOGY

Design and location of study: A community based (Review of verbal autopsy/Maternal Death Forms) cross sectional study was adopted. Where it was conducted in Kutch district under the Department of Maternal Health, NRHM Gujarat from 4th Feb to 9th May 2019

Sample Size: The population was no. of maternal death occurred in last one year which was 53 in this a total number of 50 sample were covered for the study (maternal death which was occurred during the period of 1st April 2018 to 31st March 2019) out of which 03 cases were excluded at the time of reviewing and analysing of the study. Family members or relatives of the deceased mother who were not present at the time of interview and migrated from Kutch district were not included in the study, also cases with incomplete records were not taken in the study.

Tools and Techniques: one-year data was occurred and I have collected last one year Maternal Death Review Verbal Autopsy From of Kutch District. I have done simplified data entry of maternal death review forms in Microsoft Excel for Analysing purpose, I relive more upon pivot table function of Excel. It is based on the secondary data obtained by Gujarat heath department through verbal Autopsy form review of maternal death forms along with family members or relatives of the deceased mother were interviewed and records were cross checked. The review included details of mother's socio demographic and compete medical, obstetric and family history

ANALYSIS

All the data was checked and analysed by using Microsoft EXCEL software to draw the inferences.

STATISTICAL TREATMENT

The returned questionnaire is checked for completeness and correctness and data is entered in Microsoft excel for further analytical treatment and graphical representations

ETHICAL CONSIDERATIONS

- Confidentiality of subjects is taken care of.
- No names are mentioned in the study.
- Responsible Mentoring
- Social Responsibility
- Legality

OBSEVATION AND RESULTS

Table 2: Socio demographic profile of the study subjects (N-50) particulars	**Numbers**	**Percent**
Age (in years) of women at the time of marriage		
18-25	46	92
<18	4	8
Age (in years) of husband at the time of marriage		
16-20	5	10
21-25	39	78
>25	6	12
Age (in years) of women at time of death		
20-24	20	40
25-34	24	48
35-44	6	12
Caste		
SC/ST	8	16
OBC	35	70
Others	7	14
Religion		

□ Hindu	24	48
□ Muslim	26	52
Total	**50**	**100**

Table 2 show that 10% of women were in the age category of 16-20 years at the time of marriage, while 78% of men were in the age category of 21-25 years at the time of marriage in the study area. Study also reveals that 48% of pregnant women were died in the age category of 25-34 years and it was more in SC/ST caste (16%) than that of OBC (70%) and others (14%). Out of total maternal deaths 48% were Hindus and 52% were Muslims.

Table 3: Socio-economic status of the study subjects (n=50)

Particulars	**Number**	**Percentage**
Education Mother		
Illiterate	29	58
Primary Education	6	12
Upto 8th standard	11	22
Upto 10th standard	4	8
Graduate	0	0
Education Father		
Illiterate	15	30
Primary Education	13	26
Upto 8th standard	12	24
Upto 10th standard	8	16
Graduate	2	4
Occupation Mother		
House-wife	40	80
Non-agri/daily wages	6	12
Agriculture	4	8
Occupation Father		
Non-agri/daily wages	36	72
Agriculture	8	16

Govt. employee	4	8
Others	2	4

Socio-economic status of subjects is shown in Table 3. It shows that 58% of women were illiterate and only 12% of women were completed their primary education while only 26% of men were illiterate and 4% of men were completed their graduation. Table shows that majority of women were involved in house hold works (80%)

Figure 1: -

N=50, PLACE OF MATERNAL DEATH

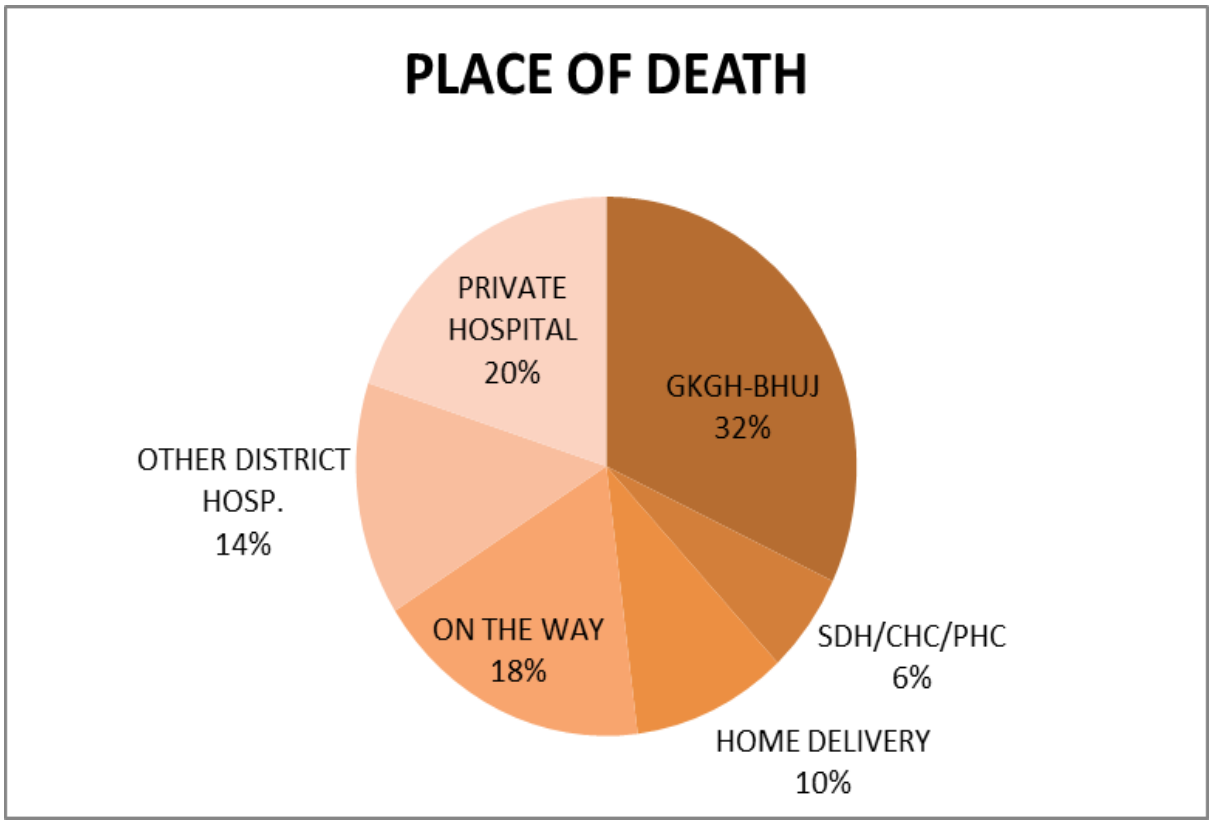


Figure 1

Analysis is carried out to know about the place of maternal death at Kutch district, Gujarat. It is observed that more than sixteen (32 percent) maternal deaths are occurred at district hospital whereas more than three (6 percent) mothers are died at private facility. 10 case (twenty percent) were died while they were5 case (ten percent) on the way to next health facility, where nine (eighteen percent) death on the way to home and seven (fourteen percent) death at others district hospital.

Figure 2 – Cause of Death of subjects

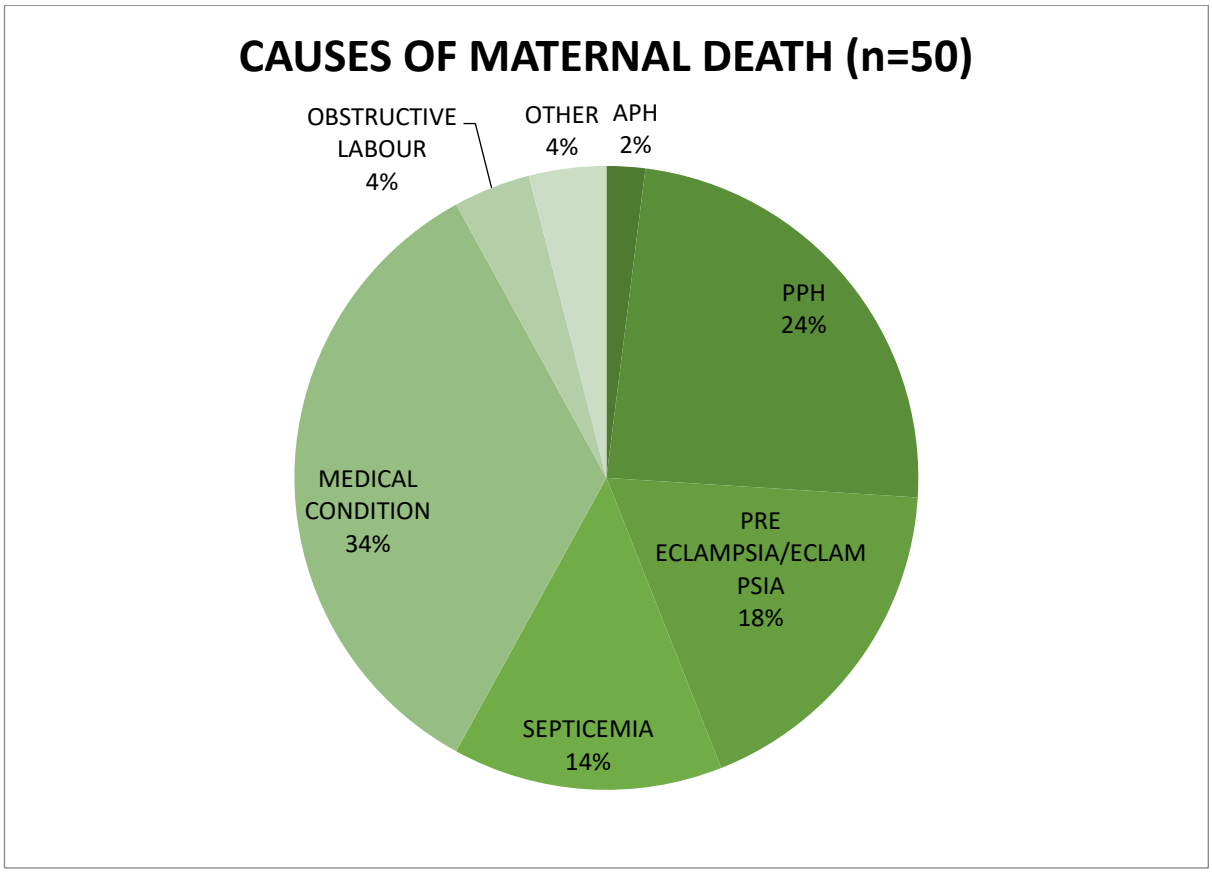


Figure 2 shows that the leading causes of maternal death in the study area medical condition

Contributes the thirty four percent which are the highest among all the causes, maternal death due to medical condition whereas death due to PPH are twenty-four, eighteen percent death due to Pre-eclampsia.

Table 4: - Received full Antenatal Care (4 ANC visit)

Antenatal check up	Numbers	Percent
Yes	27	54
No	23	46
Total	50	100.0

Table 4 shows that receiving full antenatal care was only 54% in the study area.

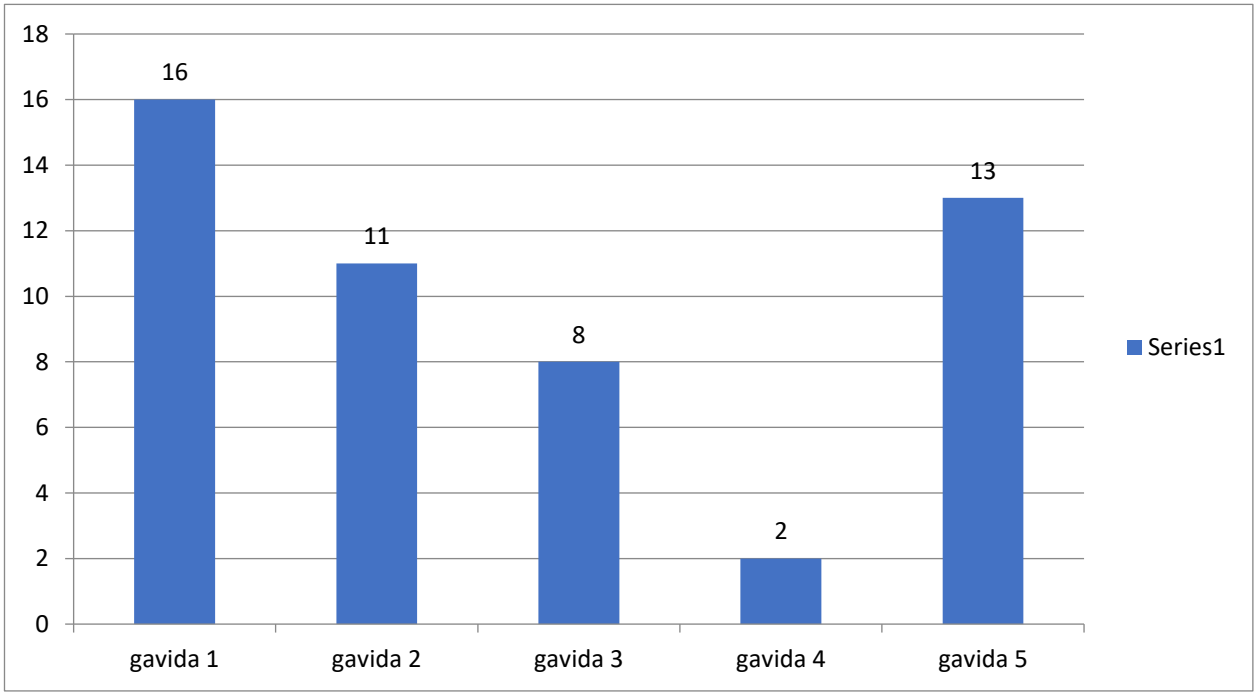
Table 5: - Distance of Health facility from patient's house

Distance in Kms	Numbers	Percent
≤ 1	03	06
2-5	13	26
6-10	07	14
11-20	11	22
>20	16	32
Total	**50**	**100.0**

Table 5 shows that the average distances to the reach the nearest health facility for maternal services (/PHCs/CHCs/DH) were lies between 24km (1210km) from the house of patient. As much as approximately more than sixteen of the patients had to come at health facility by travelling more than twenty km distance.

Table 6: - number of gravida

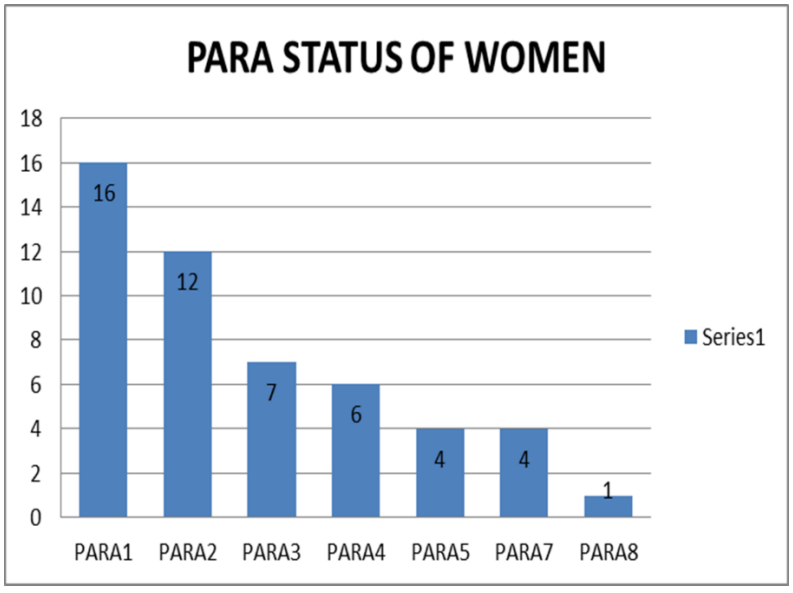
GRAVIDA 1	**16(32%)**
GRAVIDA 2	**11(22%)**
GRAVIDA 3	**8(16%)**
GRAVIDA 4	**2(4%)**
GRAVIDA 5	**13(26%)**



shows that maximum maternal death reported in gravida 1 which was thirty-two percent, less reported was four percent in gravida 4

Table 7 -NUMBER OF PARA (PREVIOUS LIVE BIRTH)

PARA 1	16
PARA 2	**12**
PARA3	**07**
PARA4	**06**
PARA5	**04**
PARA7	**04**
PARA8	**01**



Maximum maternal death reported in para 1 and para 2 which was fifty six percent, and less Death were in para eight, two percent.

Table 8. 3 DELAY cause maternal death in KUTCH Gujarat

N=50

DELAY IN DECISION MAKING	30
LONG DISTANCE(MAX 80 MIN 20)	**8**
DELAY IN FACILITY(>2 VISIT)	**12**

Figure 4.

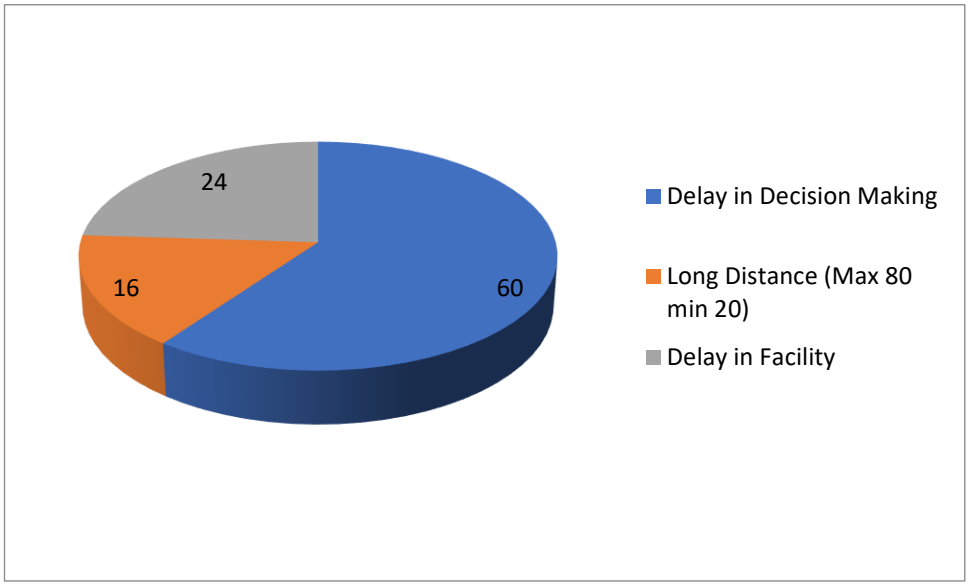


Figure 4 Three DELAY which leads to maternal death in Kutch district, Gujarat Delay in decision making contributed sixty percent in maternal death whereas delay in facility causes sixteen percent and delay in transportation causes twenty-four percent in maternal death (N=50)

Figure 5- Reasons for Delay in Seeking Care

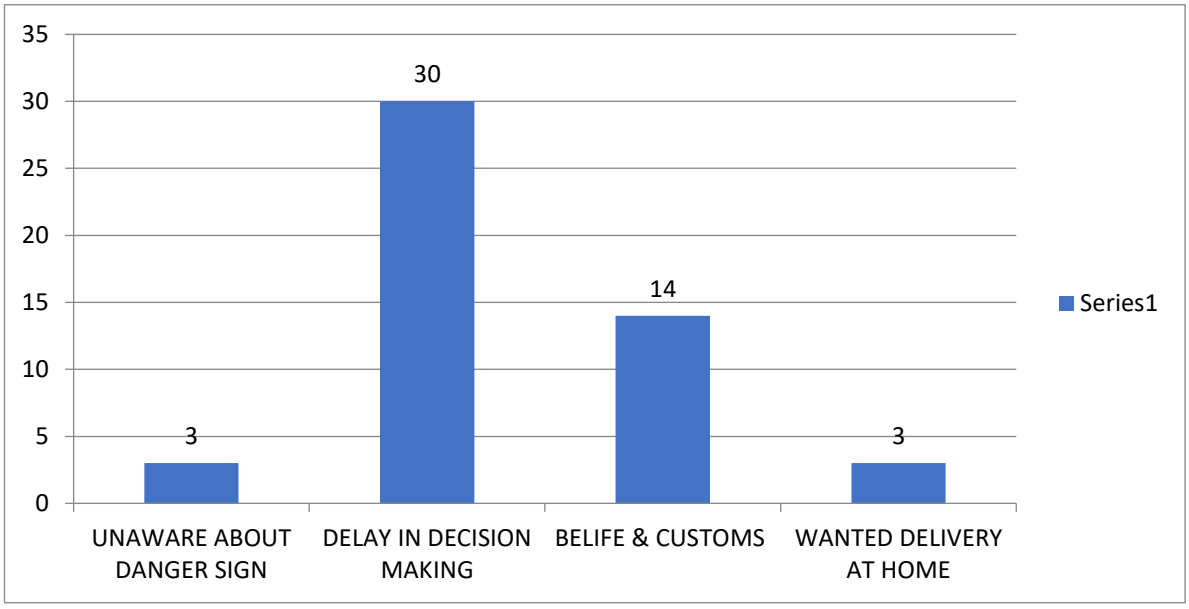
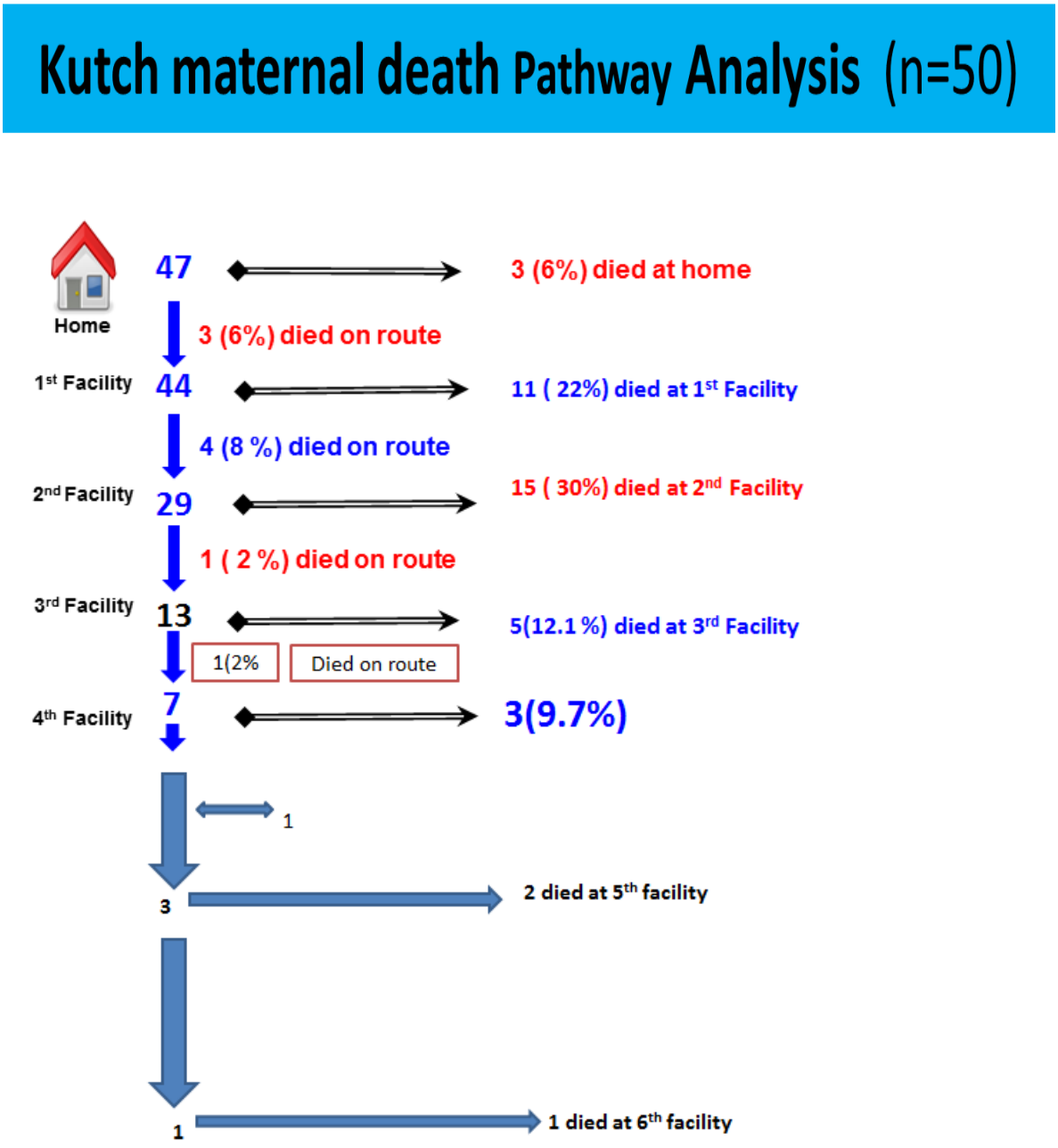


Figure 5 in this study out of all 3 maternal death due to unaware about the danger sign, 30 death due to delay in decision making, 14 maternal death due to belief and customs because of the Muslim community and 3 death occurred due to wanted delivery at home.

Findings



Conclusion

The '3-Dealys Model' recommends that the pregnancy related mortality is wonderfully due to delays in choosing, coming to and getting sufficient consideration.

Private/individual and Ambulance (108) vehicles were significant method of transportation at the season of crisis. Normal separations to the scope the closest wellbeing office (/PHCs/CHCs/DH) for maternal administrations were lies between 11-24 kms from the place of patient. Not exactly 50% of the ANMs were visiting their correspondence town once in seven days. Fulfilment levels for the neatness of ward, tidiness of washroom and the conduct of the staff and convenient consideration gave in the wellbeing offices were extremely poor. This is upheld by the finding that low quality of maternal administrations at wellbeing offices was found as the primary explanation behind not going to wellbeing office for conveyance.

Primary driver in charge of first deferral were ignorance of peril signs identified with pregnancy, time taken in basic leadership for looking for maternal administrations, convictions and traditions at the season of pregnancy. Postponement in assembling assets for treatment and deferral in getting transportation were found as the fundamental driver in charge of second postponement. Third deferral was for the most part because of absence of blood, hardware's and absence of blood storeroom.

Recommendation

Under National Health Mission, the accompanying intercessions are being executed to diminish newborn child death rate and maternal mortality proportion in the Country:

1. Promotion of institutional conveyances through JananiSurakshaYojana.

2. Operationalization of sub-focuses, Primary Health Centers, Community Health Centers and District Hospitals for giving 24x7 fundamental and far reaching obstetric consideration administrations.

3. Name Based Web Enabled Tracking of Pregnant Women to guarantee antenatal, and postnatal consideration.

4. Mother and Child Protection Card in a joint effort with the Ministry of Women and Child Development to screen administration conveyance for moms and kids.

5. Antenatal, and postnatal consideration including Iron and Folic Acid supplementation to pregnant and lactating ladies for counteractive action and treatment of sickliness.

6. Engagement of more than 8.9 lakhs Accredited Social Health Activists (ASHAs) to create request and encourage getting to of medicinal services benefits by the network.

7. Village Health and Nutrition Days in provincial territories as an effort movement, for arrangement of maternal and youngster wellbeing administrations.

8. Adolescent Reproductive Sexual Health Program (ARSH) – Especially for young people to have better access to family arranging, counteractive action of explicitly transmitted Infections, Provision of guiding and friend instruction.

9. Health and sustenance training to advance dietary enhancement, consideration of iron and folate rich nourishment just as sustenance things that advance iron assimilation.

15. The executives of Malnutrition: Nutritional Rehabilitation Centers (NRCs) have been built up for the executives of serious intense unhealthiness in youngsters.

16. India New-conceived Action Plan (INAP) has been propelled to lessen neonatal mortality and stillbirths.

17. More up to date intercessions to diminish new-conceived mortality-Vitamin K infusion during childbirth, Antenatal corticosteroids for preterm work, kangaroo mother care and infusion gentamicin for conceivable genuine bacillary disease.

18. Heightened Diarrhea Control Fortnight was seen in August 2014 concentrating on ORS and Zinc appropriation for the executives of the runs and sustaining rehearses.

19. Incorporated Action Plan for Pneumonia and Diarrhea (IAPPD) propelled in four states with most astounding newborn child mortality (UP, MP, Bihar and Rajasthan).

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