

Maternal Mortality in Kashmir

Sobia Jan¹ Muzamil Jan² Nahid Vaida³ Shazia Bashir⁴

Abstract—Lifetime risk of maternal deaths describes the cumulative loss of human life due to maternal death over the female life course. The present study is conducted to study the number of maternity deaths in Kashmir since March 2009 to March 2018, to compare the maternal deaths in rural and urban Kashmir and to analyze the maternal deaths in district hospitals and referrals of Kashmir region. The majority of deaths have been occurred after referrals in hospitals like LD, JLNM, SKIMS, and SMHS etc. The majority of maternal deaths occurred in Baramulla district that is followed by Kupwara, Anantnag, Pulwama Bandipora, Budgam, Shopian, Srinagar, Kulgam, Ganderbal district since March 2009-March 2018. The majority of deaths occurred in rural Kashmir followed by urban area are since March 2009- March 2018. Majority of deaths occurred in year 2009 in Budgam, followed by Srinagar, while as no death occurred in Kulgam.

Index terms—Mortality, Obstetric deaths, Postpartum bleeding, Obstructed labor, Hypertensive pregnancies, Unsafe abortions, Obstetrics hemorrhage.

Introduction

Maternal mortality or motherly death is defined as “the death of women while expectant or surrounded by 42 days of termination of pregnancy, irrespective of the period and place of the pregnancy, from any cause related to or provoked by the pregnancy or its management but not from unintended or incidental causes (WHO 2016).

According to the International Classification of Diseases (ICD-10) maternal deaths should be divided into two groups. Direct obstetrics deaths are those resulting from obstetric complications of the pregnant state (pregnancy, labor and puerperium) from interventions, omissions, incorrect.

treatment. Indirect obstetric deaths are that resultant from earlier existing disease or disease developed during pregnancy (WHO 1992). There are three different measures of maternal mortality in prevalent use. Maternal mortality rate, maternal mortality ratio and lifetime risk of maternal death. Maternal mortality ratio is the number of maternal deaths during a given time period per 100000 women of reproductive age during same period of time (WHO 2004). Maternal mortality rate is the number of maternal deaths in a population divided by the number of women of reproductive age, usually expressed per 1000 women (MME info 2013). Life span risk of maternal deaths describes the collective loss of human life due to maternal death over the female life course (bulletin of WHO 2009). This is equivalent to the “about one woman every two minutes and for every woman who dies, 20 or 30 encounter complications with serious or long lasting consequences. Most of these deaths and injuries are preventable (UNPFA 2017). According to the study published in the lancet which covered the period from 1990 to 2013, the most common causes for maternal mortality are postpartum bleeding (15%), complications from unsafe abortions (15%), and

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- Research Scholar, Extension and Communication, Institute of Home Science, University of Kashmir, sobiajan796@gmail.com
 - Sr. Assistant Professor, Extension and Communication, Institute of Home Science, University of Kashmir, muzamiljan.ss@gmail.com
 - Director, Institute of Home Science, University of Kashmir
 - Research Scholar, Extension and Communication, Institute of Home Science, University of Kashmir.

hypertensive disorder of pregnancy (10%), postpartum infections (8%) and obstructed labour (6%) (GBD 2013). The major complications that account for nearly 75% of all maternal deaths are. Infections (usually after childbirth), high blood pressure during pregnancy (pre-eclampsia and eclampsia) and complications after delivery (lancet health 2014). Maternal mortality is inappropriately high about 830 women die from pregnancy and child birth related complications around the world every day. Almost all of these deaths occurred in low-resource settings and most could have been prevented (Alkena, Moller, et.al 2016).

Related literature

Maternal mortality is determined by combination of genetic socio-economic cultural and contextual (including health system) factors and their multifaceted interactions (WHO 2005). Social and cultural factors unavoidably interact with biology to impact health (Armenakis and kiefer,2007). Socio-economic factors like level of edification and source of earnings, strongly influences uptake of maternal and child health information (Silali and owino 2016). The women living in countryside segments of the residents are in general more disadvantaged in terms of physical access to satisfactory services as well as other factors such as education, women status in society and income levels which all are predictors of motherly mortality (J.S. Kibirige ,1997). Some socio-cultural factors which not only prevent women from getting out of their homes to utilize maternal health conveniences, even in emergencies but also disallow them from eating certain foods (Korejo, et .al ,1995) Most rural communities in Eritrea use traditional medicinal herbs

and other local ingredients to treat both diseases and ordinary sickness (Habtom, 2017). Eclampsia still remains

the major cause of maternal mortality in India due to unofficial pregnancies and deliveries (Sarker,at.al 2005). Obstetrics hemorrhages causes 127,000 deaths annually worldwide and is the principal cause of maternal mortality (WHO 2008). The majority of maternal deaths (61%) occur in the postpartum period and more than half of these take place within a day of delivery (Abdella 2010). The threat of dying from postpartum haemorrhage depends not only on the amount of rate of blood loss but also the health position of women. A major reason why many patients die from hemorrhage is because once hemorrhage starts death can occur in around two hours compared to ten hours for eclampsia and 72 hours for hindered labour (Rao 2001). The contribution of causative factors like sepsis, ante partum hemorrhage (APH), multiple pregnancies, hypertensive disorder and ruptured uterus were noticeably changeable from previous reports in which abortion and sepsis were the prime causes of death of mothers (Abdella 2010, central statistical agency 2012). The use of expert attendant during delivery is an important predictor of maternal mortality (shen, Williamson 1999). A number of measures include high availability of skillful birth attendants located within the communities, high accessibility birthing facilities together with established referral links between services and providers were successful in dropping maternal mortality (koblinksky, M.A 2003).

Rationale of the study

Deaths of women caused during child birth have become more alarming in Kashmir valley. According to UNICEF, figures illustrated indicate the poor women have been left

behind by state's economic boom, entrusted to lift thousands of people out of poverty. The mortality rate in Kashmir would not improve unless the availability,

accessibility and awareness of Kashmir people improve. Much mortality on both mothers and children occur during home births. Home births are wide spread especially in rural areas where roads are tough and people are more conservative. So, in order to reduce the mortality rates in Kashmir the scenario demands to study about the "Maternal mortality in Kashmir."

Objectives:

- To study the number of maternity deaths in Kashmir since March 2009 to March 2018.
- To compare the maternal deaths in rural and urban Kashmir
- To analyze the maternal deaths in district hospitals and referrals.

Materials and Methods

The present study is conducted in Kashmir region. The study is based on whole population of maternal mortality cases since march 2009 to march 2018 for 10 years. For the present study secondary sources of data are used. All Private and Public hospital in every district of Kashmir were reached out for the purpose. The main source of information was all 'Chief Medical Officers' in all districts of Kashmir. In addition, the only Maternity Hospital in Kashmir namely, "Lal Ded Hospital" and Jawaharlal Nehru Memorial Hospital in Kashmir have been important sources of information. Moreover, the information was obtained from "Sheri Kashmir Institute of Medical Sciences" through RTI.

Result and Discussion:

According to the table.no.1 the majority of maternal deaths occurred in Baramulla district that is 20 percent (f=74) followed by kupwara that is 16.7 percent (f=62) Anantnag 13.5 percent (f=50) Pulwama 13.2 percent (f=49) Bandipora 13.2 percent (f=41) Budgam 9.4 percent (f=35) Shopian 5.6 percent (f=21) Srinagar 5.4 percent (f=20) Kulgam 2.7 (f=10) and only 2.1 percent (f=8) deaths has been seen in Ganderbal district since March 2009-March 2018.

Table no.2 depicts maternal mortality in rural and urban Kashmir. The majority of deaths occurred in rural Kashmir that is 64.86 percent (f=240) The deaths which occurred in urban area are 35.13 percent (f=130) since March 2009-March 2018.

Table no. 3 shows maternal mortality in district hospitals and after referring from district hospitals to LD, SKIMS. The majority of deaths have been occurred after referrals that is 60.81 percent (f=225) in hospitals like LD, JLN, SKIMS, SMHS etc. The deaths that occurred in all district hospitals of Kashmir 39.18 percent (f=145).

Table no. 4 revealed that the deaths that occurred in year 2009 are 33.3 percent (f=4) in Budgam, 25 percent (f=3) in Srinagar, 16.6 percent (f=2) in Baramulla and 8.3 percent (f=1) in each district Pulwama, Ganderbal, and Anantnag. While as no death occurred in kupwara, Shopian, Kulgam and Bandipora in 2009. The deaths occurred in 2010 are 26.6 percent (f=4) in kupwara, 20 percent (f=3) in Bandipora and Anantnag and only 6.6 percent (f=1) in Baramulla, Budgam, Shopian and Ganderbal. In rest of the districts no death

occurred in 2010. In the year 2011 more deaths i.e. 20 percent (f=5) occurred in Kupwara and 16 percent (f=4) deaths in each district Srinagar, Budgam, Baramulla. While as 12 percent (f=3) deaths occurred in Anantnag, 8 percent

(f=2) in Pulwama, Bandipora and only 4 percent (f=1) in Ganderbal. In year 2012 most of the deaths i.e. 22.5 percent (f=9) occurred in Anantnag and Pulwama and the rest of the deaths i.e. 17.5 percent (f=7) in Budgam, 12.5 percent (f=5) in Kupwara, 10 percent (f=4) in Baramulla, 5 percent (f=2) in each district Srinagar and Kulgam, 2.5 percent (f=1) in each district Shopian and Ganderbal while as no deaths occurred in Bandipora. In the year 2013 26.82 percent (f=11) deaths occurred in Anantnag and 21.95 percent (f=9) in Baramulla, 12.19 percent (f=5) in Kupwara and Bandipora, 9.75 percent (f=4) in Budgam, 7.31 percent (f=3) in Shopian 4.87 percent (f=2) in each district Srinagar and Pulwama while as no death occurred in Kulgam and Ganderbal in the year 2013. In the year 2014 21.05 percent (f=12) in Baramulla, 19.29 percent (f=11) in Bandipora, 14.03 percent (f=8) in each district Pulwama, Kupwara, Anantnag, 7.01 percent (f=4) in Budgam and 3.50 percent (f=2) deaths in each district Srinagar and Ganderbal while as only 1.75 percent (f=1) death in Kulgam and 1.75 percent (f=1) in Shopian. In the year 2015, 19.04 percent (f=12) deaths in Baramulla, 15.87 percent (f=10) in Bandipora, 12.69 percent (f=8) in each district Anantnag and Shopian, 11.11 percent (f=7) deaths in Pulwama, (f=6) in Kulgam, 6.34 percent (f=4) deaths in each district Srinagar, Budgam and Kupwara while as no death occurred in Ganderbal in 2015.

In the year 2016 the more deaths i.e. 34.28 percent (f=24) occurred in Kupwara, 28.57 percent (f=20) in Baramulla, 10 percent (f=7) Pulwama, 7.14 percent (f=5) in each district

Shopian and Bandipora, 4 percent (f=3) in each district Anantnag and Budgam, 2.85 percent (f=2) in Srinagar and 1.42 percent (f=1) in Kulgam while as no death occurred in Ganderbal.

In the year 2017 more deaths i.e. 25.53 percent (f=12) occurred in Pulwama, 21.27 percent (f=10) in Baramulla, 14.89 percent (f=7) in Kupwara, 10.63 percent (f=5) in Bandipora, 8.51 percent (f=4) in each district Anantnag and Budgam, 4.25 percent (f=2) in each district Shopian and Ganderbal and 2.12 percent (f=1) death in Srinagar while as no death occurred in Kulgam.

Summary and conclusion:

Maternal mortality is determined by mixture of biological socio-economic cultural and contextual (including health system) factors and their complex interactions. Lifetime risk of maternal deaths describes the cumulative loss of human life due to maternal death over the female life course.

Levels of maternal mortality vary greatly across the regions, due to variation in underlying access to emergency obstetric care, antenatal care, anaemia rates among women, education levels of women, and other factors. The majority of deaths have been occurred after referrals in hospitals like LD, JLN, SKIMS, and SMHS etc. The majority of maternal deaths occurred in Baramulla district that is followed by Kupwara, Anantnag, Pulwama, Bandipora, Budgam, Shopian, Srinagar, Kulgam, Ganderbal district since March 2009-March 2018. The women living in rural segments of the population are in general more disadvantaged in terms of physical access to adequate services as well as other factors such as education, women status in society and income levels which all are predictors of maternal

mortality. The majority of deaths occurred in rural Kashmir followed by urban area are since March 2009-March 2018. Majority of deaths occurred in year 2009 in Budgam, followed by Srinagar, while as no death occurred in Kulgam. It is concluded that Deaths of women caused during child birth have become more alarming in Kashmir

valley. The mortality rate in Kashmir would not improve unless the availability, accessibility and awareness of Kashmir people improve.

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Table 1: Maternal Mortality in all Districts of Kashmir

(March 2009- March 2018)

S.NO	NAME OF DISTRICTS	TOTAL Number of DEATHS	%age of Deaths
01	ANANTNAG	50	14%
02	SRINAGAR	20	5%
03	BARAMULLA	74	20%
04	BUDGAM	35	9%
05	KUPWARA	62	17%
06	KULGAM	10	3%
07	PULWAMA	49	13%
08	SHOPIAN	21	6%
09	BANDIPORA	41	11%
10	GANDERBAL	08	2%
	TOTAL	370	100%

Source: Office of CMO's in all districts of Kashmir

LD Hospital Srinagar

SKIMS Srinagar

JLNM Hospital Srinagar

Table 2 : Maternal Mortality in Rural and Urban Kashmir

(March 2009- March 2018)

S.NO	NAME OF DISTRICTS	RURAL	Percentage	URBAN	Percentage
01	ANANTNAG	30	13%	20	15%
02	SRINAGAR	14	6%	06	5%
03	BARAMULLA	43	18%	31	24%
04	BUDGAM	21	8%	14	10%
05	KUPWARA	47	20%	15	12%
06	KULGAM	05	2%	05	4%
07	PULWAMA	33	14%	16	12%
08	SHOPIAN	16	7%	05	4%
09	BANDIPORA	28	11%	13	10%
10	GANDERBAL	03	1%	05	4%
	TOTAL	240	100%	130	100%

Source: Office of CMO's in all districts of Kashmir

LD Hospital Srinagar

SKIMS Srinagar

JLNM Hospital Srinagar

Table 3: Maternal Mortality in District Hospitals and Referrals of Kashmir

(March 2009- March 2018)

S.NO	NAME OF DISTRICTS	DEATHS IN DISTRICT HOSPITALS	%age	NO.OF DEATHS AFTER REFERRALS	%age	TOTAL
01	ANANTNAG	10	7%	40	18%	50
02	SRINAGAR	03	2%	17	7%	20
03	BARAMULLA	30	21%	44	19%	74
04	BUDGAM	10	7%	25	11%	35
05	KUPWARA	26	18%	36	16%	62
06	KULGAM	02	1%	08	3%	10
07	PULWAMA	28	19%	21	9%	49
08	SHOPIAN	13	9%	08	3%	21
09	BANDIPORA	23	16%	18	8%	41
10	GANDERBAL	NIL	NIL	08	3%	08
	TOTAL	145	100%	225	100%	370

Source: Office of CMO's in all districts of Kashmir

LD Hospital Srinagar

SKIMS Srinagar

JLNM Hospital Srinagar

Table 4:

Years	Ang	Sgr	Bla	Budg	Kup	Kul	Pul	Sho	Band	Gand
2009	01	03	02	04	-	-	01	-	-	01
2010	03	-	01	01	04	-	01	01	03	01
2011	03	04	04	04	05	-	02	-	02	01
2012	09	02	04	07	05	02	09	01	-	01
2013	11	02	09	04	05	-	02	03	05	-
2014	08	02	12	04	08	01	08	01	11	02
2015	08	04	12	04	04	06	07	08	10	-
2016	03	02	20	03	24	01	07	05	05	-
2017	04	01	10	04	07	-	12	02	05	02
Total	50	20	74	35	62	10	49	21	41	08

Source: Office of CMO's in all districts of Kashmir
 LD Hospital Srinagar
 SKIMS Srinagar
 JLN Hospital Srinagar

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