



Family Health Bureau

Interim Analysis of Maternal Deaths - 2020

Annual Report

Maternal & Child Morbidity and Mortality
Surveillance Unit

Report No: MCMMSU/Publications/2021/Dec/01



Outcome of Maternal Death Surveillance and Response – 2020 (*Interim Analysis*)

Maternal mortality has assumed as a pivotal index of human and social development. It reflects women's overall status, access to health care, and the responsiveness of a country's health care system to their needs.

The objective of a Maternal Death Surveillance and Response (MDSR) system is to improve maternal health and to end preventable maternal deaths. Sri Lanka's MDSR mechanism was introduced in 1981, which was followed by the issue of gazette regulation on mandatory notification of probable maternal deaths. A process of structured review of maternal deaths in collaboration with the professional colleges was started in 1995. In the year 2000, a national maternal death database was introduced by the Family Health Bureau (FHB). Numerous quality dimensions were added to the MDSR process since 2009. At present the country has a well-structured MDSR recognized as a role model at global level.

Process of MDSR

The present process of MDSR mechanism covers the entire country with data originating from both community and facility levels. When a probable maternal death is known, field and hospital health staff notify, conduct post-mortems, review the index death at field and hospital levels and send a detailed report to Family Health Bureau (FHB). At FHB, the Maternal & Child Morbidity and Mortality Surveillance Unit maintains a database and comprehensive case scenarios are developed. These cases are then desk reviewed by an expert panel comprised of different specialties related to maternal care service provision. A national team of experts from related specialties visit each and every district in the following year to conduct National Maternal Mortality Reviews (NMMR) at district level with the participation of all concerned stakeholders. Each maternal death is reviewed based on 3 delays – (deficiencies in seeking healthcare, reaching and treating), and lessons learnt are translated into practice, programs and policies at district and national levels.

Definition of a Maternal Death

Sri Lanka adopts the WHO definition on maternal deaths: The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (WHO).

Family Health Bureau was notified of 164 probable maternal deaths during the year 2020. Maternal & Child Morbidity & Mortality Surveillance Unit collated comprehensive information from family, field, hospital and medico-legal sectors to compile case scenarios for analysis. Due to the restrictions posed by the prevailing Covid19 pandemic situation, the usual maternal death review procedures involving central desk reviews and national maternal mortality reviews at district level could not be conducted. Concurrence was obtained from the Ministry of Health to conduct an interim analysis of maternal deaths for the year 2020 considering the demand for timely mortality metrics. A panel of two Consultant Community Physicians trained and experienced in MDSR and a Consultant

Obstetrician and Gynaecologist conducted a document review of all reported deaths. All deaths of women while pregnant or within 42 days of termination of pregnancy were separated. A valid cause of death, based on the WHO ICD-MM classification was worked out for each death. The cases were then categorized as “Clearly maternal”, Clearly non-maternal” and “Probable maternal” deaths based on the available data. A detailed analysis was done on probable maternal deaths to classify them as maternal or non-maternal.

Maternal Mortality Metrics

Maternal Mortality Ratio (MMR) is the most widely used measure of maternal deaths. MMR assesses obstetric risk (i.e., the risk of dying once a woman is pregnant). It is calculated as the number of maternal deaths per 100,000 live births.

Sri Lanka reported an MMR of 1694 per 100,000 live births in the year 1947 and gradually reduced the same over the last few decades to achieve the best MMR in the South Asian Region.

In the year 2020, out of reported maternal deaths, 91 deaths were categorized as maternal deaths giving a *provisional* national Maternal Mortality Ratio (MMR) of 30.2 per 100,000 live births (Figure 1). Live births reported by the Registrar General’s Department for the year 2020 was taken as the denominator (301,706). It is notable that although the number of maternal deaths was reduced by 2 compared to the year 2019, the MMR for the year 2020 was increased by 1 point due to the substantial reduction of live births (17,304) in the denominator (2018 – 319,010).

Maternal Deaths = 91
Live Births = 301,706
MMR (Provisional) = 30.2 (per 100,000 live births)

Figure 1: Calculation of MMR 2020

A graph depicting the number confirmed maternal deaths from 2001 – 2020 is included in Figure 2. It is noteworthy the substantial reduction of annual number of maternal deaths (n=37, 29%) between the years 2018 & 2020.

Figure 3 shows the trend of MMR from 2001 – 2020. The reduction of the country’s Maternal Mortality Ratio (MMR) over the years is impressive. However, a slight increase of MMR is visible in 2020.

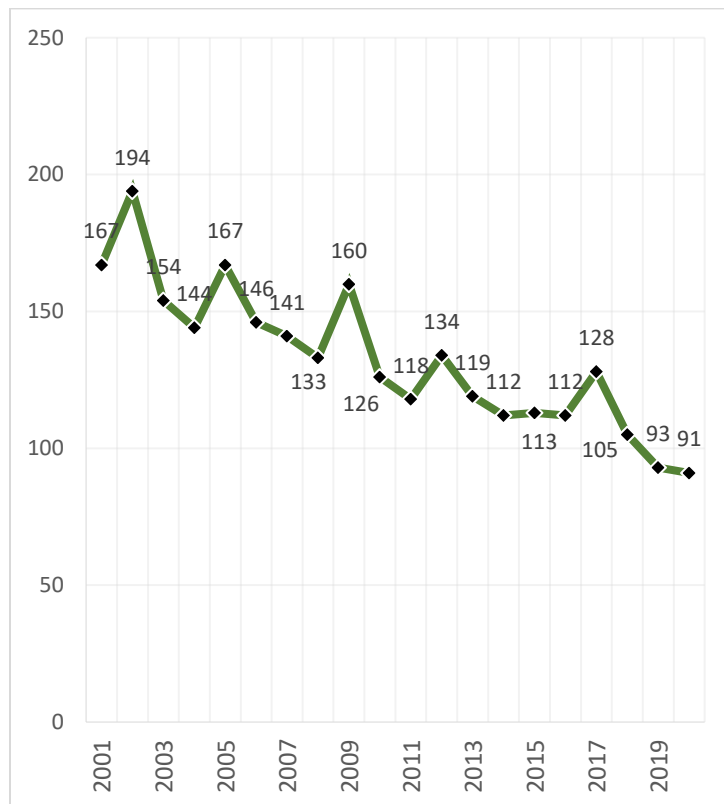


Figure 2: Number of Maternal Deaths (2001 – 2020)

Source: Maternal & Child Morbidity & Mortality Surveillance Unit - Family Health Bureau

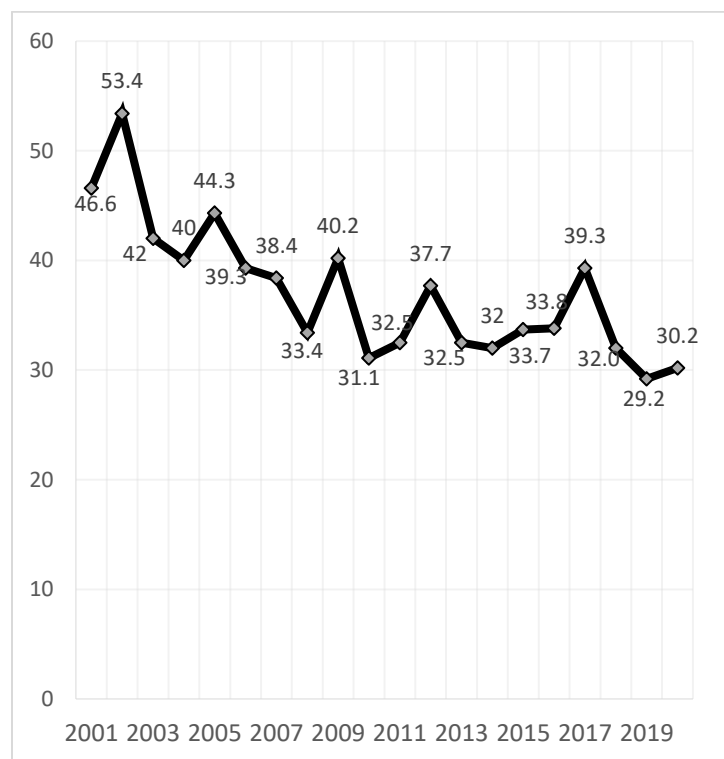


Figure 3: Maternal Mortality Ratio from 1995-2020

Source: Maternal & Child Morbidity & Mortality Surveillance Unit - Family Health Bureau

Figure 4 shows number of deaths and MMR of each district based on the live births reported by Registrar General's Department. A wide district disparity is evident with 14 districts reporting their district MMRs above the national value. Quite peculiar to the pattern, the highest MMR was reported from Matara district (60.7 per 100,000 live births). Other leading districts are NuwaraEliya, Trincomalee, Mannar and Batticaloa. The highest number of maternal deaths was reported from Gampaha (10) district.

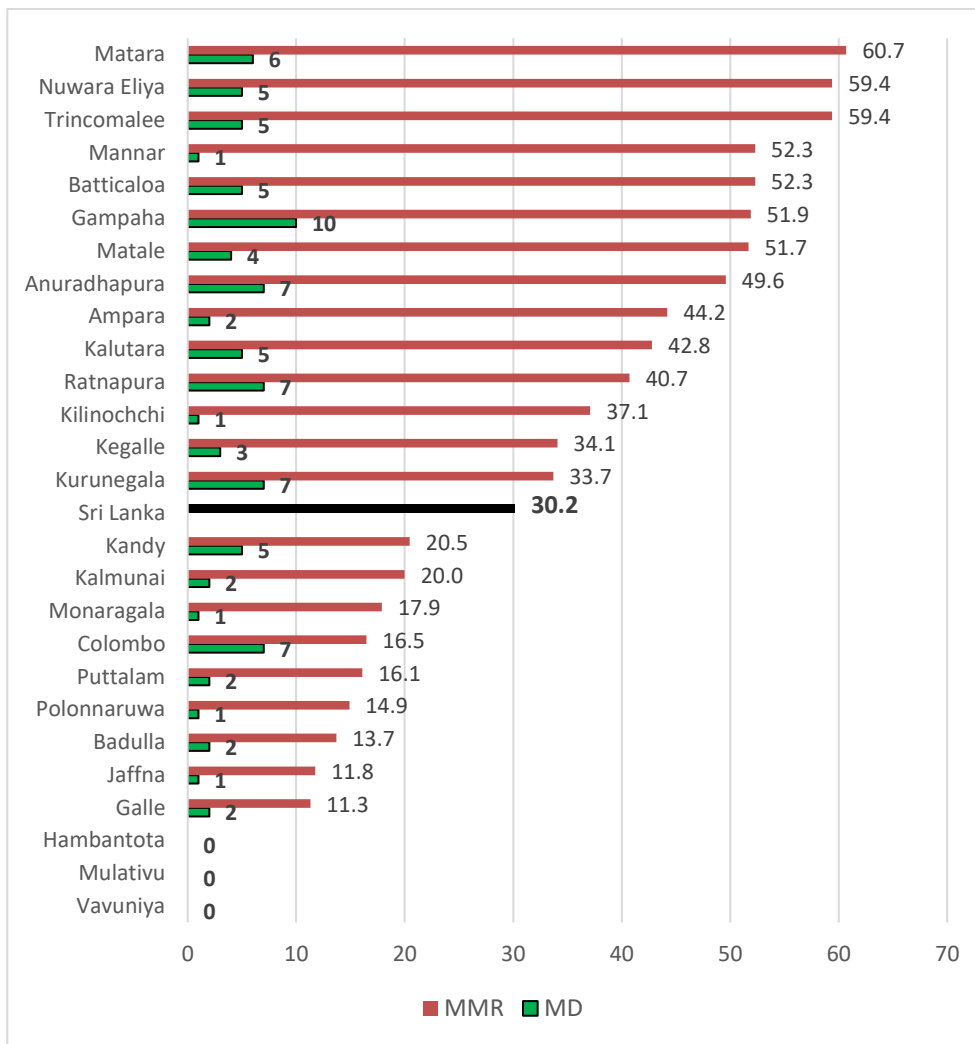


Figure 4: Maternal Deaths and MMR by District - 2020

Source: Maternal & Child Morbidity & Mortality Surveillance Unit - Family Health Bureau

Dead women were from rural (n=70, 77%), urban (n=19, 21%) and estate (n=2, 2%) sectors. Ethnic composition included; Sinhala (n=60, 66%), Tamil (n=21, 23%) and Muslim (n=10, 11%) women. Majority were married (n=87, 96%) with 3 (3%) unmarried and 1 (1%) woman who stayed living together. There were three (3) teenage maternal deaths. Majority (n=67, 74%) were in the 20 – 35 year age group. It is highly significant that 21 (23%) women were above 35 years of age.

Maternal deaths are categorized into two groups, direct and indirect. Direct obstetric deaths result from obstetric complications of the pregnant state (pregnancy, labor, and puerperium), from interventions, omissions, incorrect treatment, or from a chain of events

resulting from any of the above. Indirect obstetric deaths result from previous existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy.

A majority (n=51, 56%) of the deaths were direct maternal deaths while 39 (43%) deaths were categorized as indirect and in one death the category could not be determined.

The causes of maternal deaths reported in 2020 are indicated in figure 5. The leading causes were obstetric haemorrhage (n=14, 15%), heart disease (n=12, 13%), hypertensive disorders (n=8, 9%) and respiratory disease (n=8, 9%). Hypertensive disorders assumed a leading cause after a long duration of time and other three causes were rotating over the past few years as the leading causes of maternal deaths in the country.

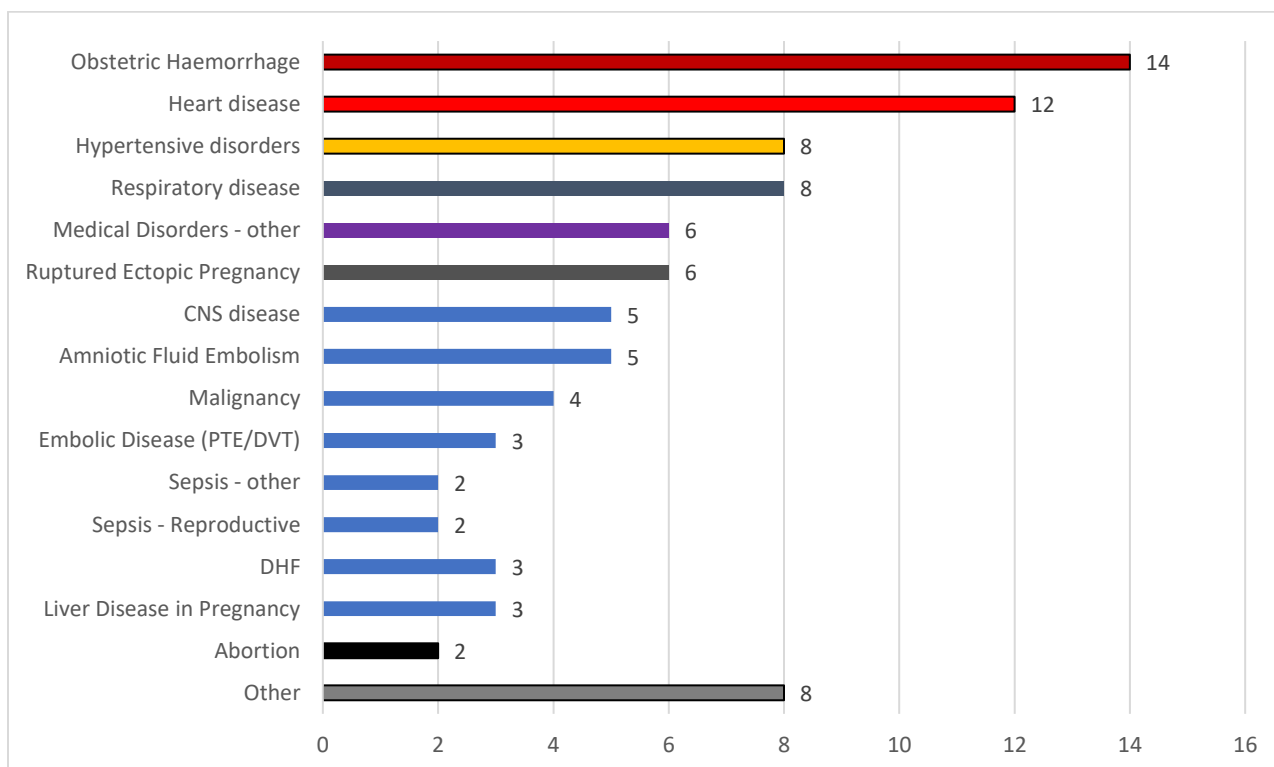


Figure 5: Causes of maternal deaths - 2019

A detailed analysis of the maternal deaths will be compiled after all the desk reviews are completed with the participation of experts from relevant professional colleges.

Final maternal mortality statistics and other information will be issued in due course.

Acknowledgements:

Sri Lanka College of Obstetricians & Gynecologists, Sri Lanka College of Anesthesiologists & Intensivists, College of Forensic Pathologists of Sri Lanka, Reviewers from other professional colleges, CCPs / MOMCH, RDHS / Hospital Administrators, MOOH / MO PH, DDG (PHS II), Director – MCH, DD – FHB, FHB staff – Accountant, Office staff, Drivers, MCMMS Unit team members

Maternal & Child Morbidity & Mortality Surveillance Unit – Family Health Bureau