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Leading Article

Maternal suicides, the tip of an iceberg

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Introduction

Pregnancy and childbirth are generally considered life events with a positive impact on a mother's mental health. Mother's mental health status has a significant impact on the developing child. However, sometimes, the physiological and sociocultural factors associated with pregnancy and childbirth predispose the mothers to have adverse psychological consequences, leading to suicide, thus affecting the mother, baby, and family adversely.

Perinatal mental health disorders refer to the mental health disorders that arise in the period of pregnancy and the first twelve months following childbirth[1]. Psychiatric disorders are more common in the first and third trimesters of pregnancy than in the second. Unwanted pregnancies are associated with anxiety and depression in the first trimester, whereas fears about the delivery or fetus are common during the third trimester. Psychiatric disorders in pregnancy are more common in women with a previous history of psychiatric and medical conditions. Depression is the most common psychiatric disorder associated with pregnancy. Pregnant women may also suffer from anxiety disorders, such as panic disorder, obsessive-compulsive disorder and eating disorders. It is rare for women to experience new-onset psychoses during pregnancy[1].

One of the most dreaded events for those who are involved in providing maternal mental health care is maternal suicide. Suicide during the perinatal period represents a heart-breaking tragedy that is often difficult to comprehend. Apart from the loss of life itself, the repercussions on both the family and the wider community are profound and enduring.

Generally, suicide in women is not as common as among males, with an annual rate of about five to ten deaths per 100,000 population, and rarer in the perinatal period due to the protective factor of pregnancy and baby, with a rate of one to five deaths per 100,000 live births in high-income settings[2]. However, suicide stands as a significant contributor to maternal mortality, constituting approximately 20% of maternal deaths[3]. This varies according to the region studied, with 5–20% in high-income countries and 1–5% in low and middle-income countries[2].

In Sri Lanka, it is observed that the rate of maternal suicide has increased from 0.8 per 100,000 live births in 2002 to 12.1 per 100,000 live births in 2010[4]. Such high figures cause significant concern as they highlight the need to recognize and address factors contributing to maternal suicide. A study conducted in a rural district of Sri Lanka revealed that 17.8% of recorded maternal deaths were due to suicide, and 79% of the women who had killed themselves were less than 30 years old[5]. In considering suicide as a cause of maternal mortality, it is also important to understand the prevalence of suicidal ideation and suicide attempts (sometimes together labelled as suicidal behavior) and self-harm, as these are major risk factors for suicide[6].

A study conducted in Anuradhapura district in 2019, 'suicidal ideation and intentional self-harm in pregnancy as a neglected agenda in maternal health; an experience from rural Sri Lanka', it was found that out of the study population, 0.8% answered "yesquite a lot" to suicidal ideation (SI) question whereas 2.3% answered "yes sometimes", and 2.7% answered, "hardly ever"[5]. The study also revealed that 0.8% of women reported having a history of intentional self-harm during their current pregnancy. It has been estimated that around 500 pregnant women each year have SI, and around 130 pregnant women have intentional self-harm annually in the district[5].

Global statistics report a prevalence of suicidal ideation in the perinatal period ranges from 2 to 5% among women seeking obstetrical care[7,8,9,10,11]. The reported rates are higher among special groups of women: 10% among women veterans between the third trimester and six weeks postpartum[12], 5 to 14% among perinatal women with depression or in mental health treatment[13,14], 8% among perinatal women living with HIV[15], and 9% among those screening positive for postpartum depression among mothers of babies admitted to a neonatal intensive care unit[16]. These statistics indicate that women with special needs must be monitored more carefully for suicidal behaviour during pregnancy and childbirth.

Maternal Mortality Ratio (MMR), suicide rate, and maternal suicide rate

The annual number of female deaths from any cause related to or aggravated by pregnancy or its management during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, expressed per 100,000 live births, for a specified period is a 'maternal death'[17]. This excludes accidental or incidental causes[18]. The maternal mortality ratio is defined as the number of maternal deaths during a given period per 100,000 live births during the same period[17]. The MMR indicates the risk of maternal death relative to the number of live births. MMR is a crucial indicator of the health status of a population, particularly regarding maternal health and the quality of healthcare systems in a country.

The MMR in Sri Lanka has dramatically decreased because of exceptional maternal and childcare services in Sri Lanka and is currently 30.2 per 100,000 live births[19] (Figure 1). Initiatives taken over the past years in Sri Lanka to promote safe pregnancy and puerperium have led to a fall in maternal mortality rate from 500 per 100,000 live births in the 1950s to 30 per 100,000 in 2015[19]. This decrease is due to the reduction of untreated medical conditions and complications of pregnancy contributing to maternal mortality from more widely acknowledged causes like sepsis and haemorrhage, which the improved perinatal care services of the country have successfully addressed. However, maternal suicide rates have increased from the year 2002 to 2010[20]. This rise in maternal suicide in Sri Lanka is in marked contrast to the reduction in rates of maternal mortality due to other causes. Thus, the identification of associated factors and possible methods of prevention of maternal deaths due to suicide and addressing major drawbacks in the context of prevention of maternal suicide is becoming an increasingly crucial topic for open discussion[20].

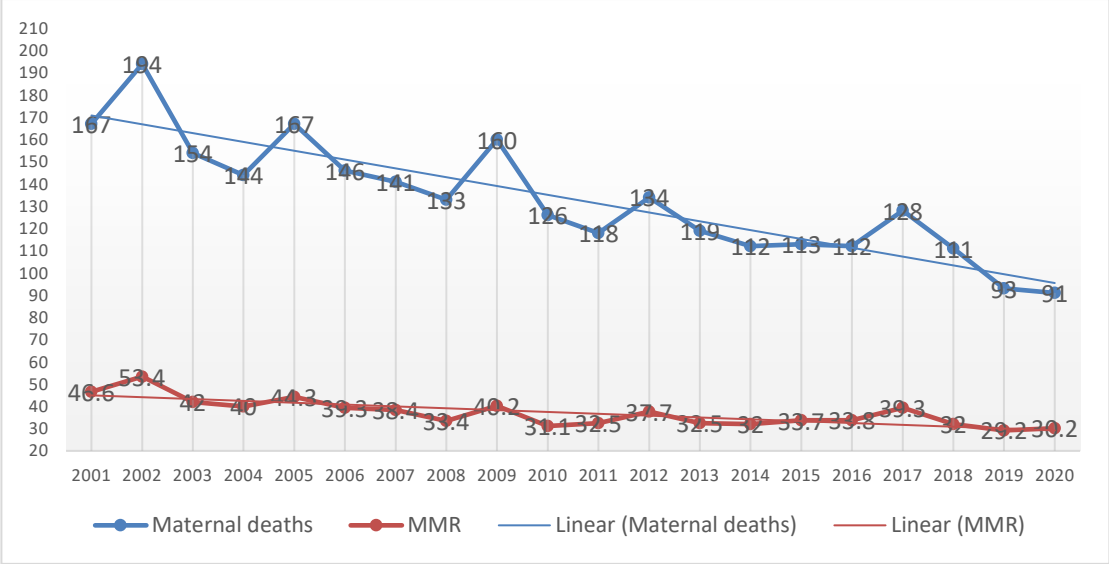

Figure 1: The number of maternal deaths in Sri Lanka from 2001 – 2020
(Source: The annual report of the Family Health Bureau, 2020)

The number of deaths from suicide and intentional self-harm per 100,000 people is defined as the suicide rate of a country, and the current suicide rate in Sri Lanka is 15 per 100,000 population[21]. Following the peak of the suicide rate in Sri Lanka, the second highest in the world, in 1996, the Presidential Task Force for suicide prevention was established, which gave recommendations to reduce means of suicide like banning certain pesticides. Several other activities were initiated at the peak of suicide, including mental health educational programs for the detection and treatment of mental disorders to health staff, the development of counselling services and the decriminalization of suicidal behaviour coupled with increasing availability of trained counsellors[22]. These measures were responsible for bringing down the suicide rate of the nation from 47 per 100,000 in 1996 to 15 per 100,000, which is compatible with many other countries in the world. The figure remains stable even following the pandemic[21]. The suicide rate and its correlation with the banning of certain lethal pesticides is illustrated in Figure 2.

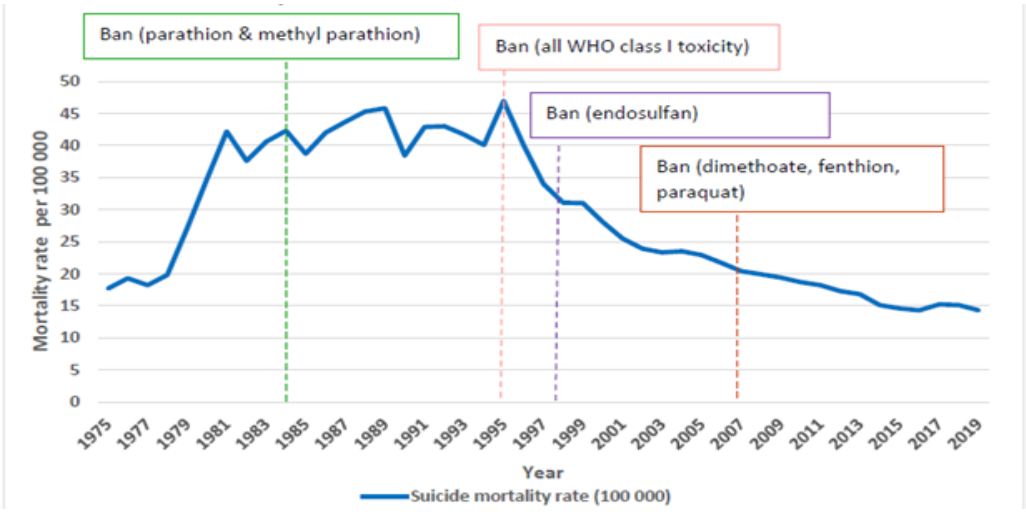

Figure 2: Mortality rate due to suicide in Sri Lanka (1975 – 2019)
(Source: World Mental Health Report 2022)

As illustrated, Sri Lanka was successful in reducing the overall suicide rate of the country. Similarly, the current maternal mortality ratio of 30.2 in 2020, compatible with high-income countries, is also a significant achievement for a country that faces numerous challenges.

However, despite the reduction of both the above vital indices, there is a rise in the maternal suicide rate, as illustrated in Figure 3, indicating that a coordinated and streamlined approach is a necessary priority of the time to bring down the number of maternal suicides[19].

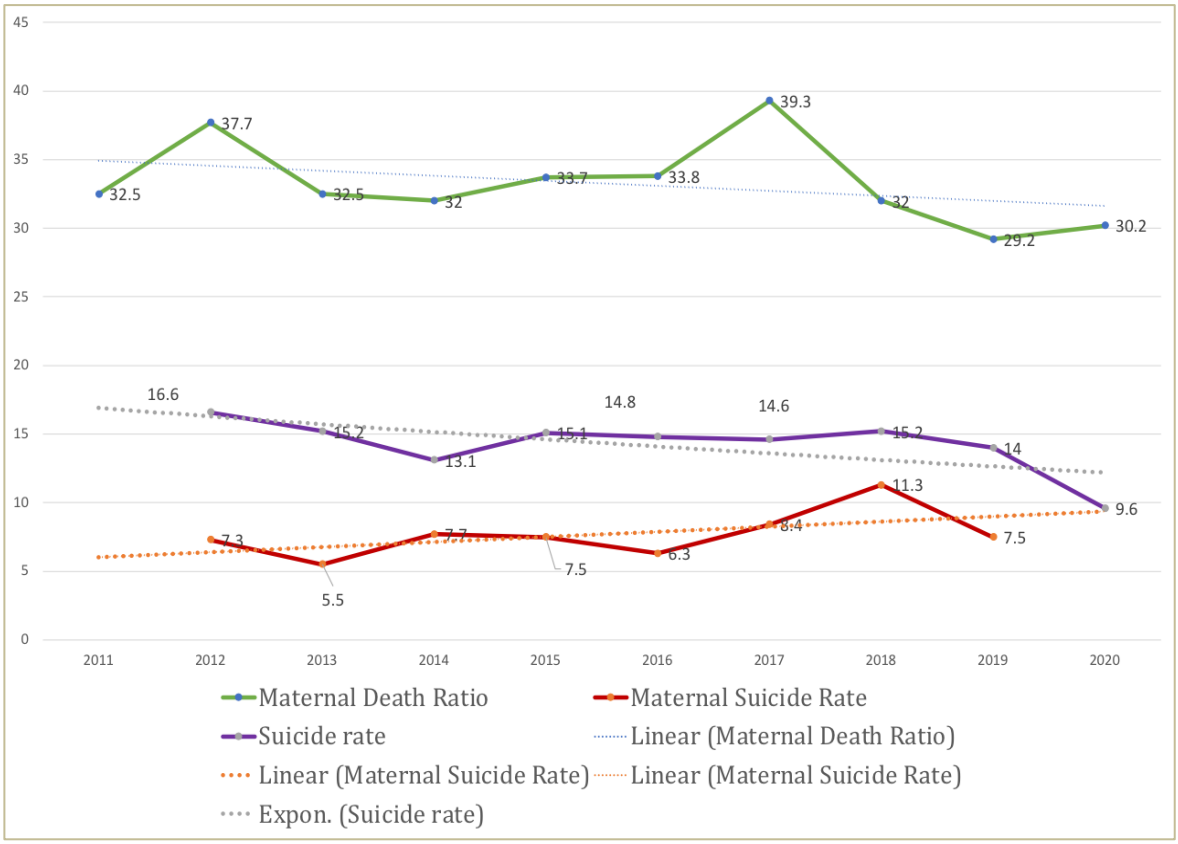

Figure 3: Comparison of maternal death ratio, maternal suicide ratio and suicide

Source: Counting and reviewing maternal suicides in resource-limited settings: Lessons from Sri Lanka, Jayaratne K, Karunasena C, Rajapakse TN, Ranatunga RJKDRL

The number of maternal deaths and maternal suicides is shown in Figure 4, and it also illustrates that Sri Lanka has not been able to reduce maternal suicide rates despite other achievements in preventive health.

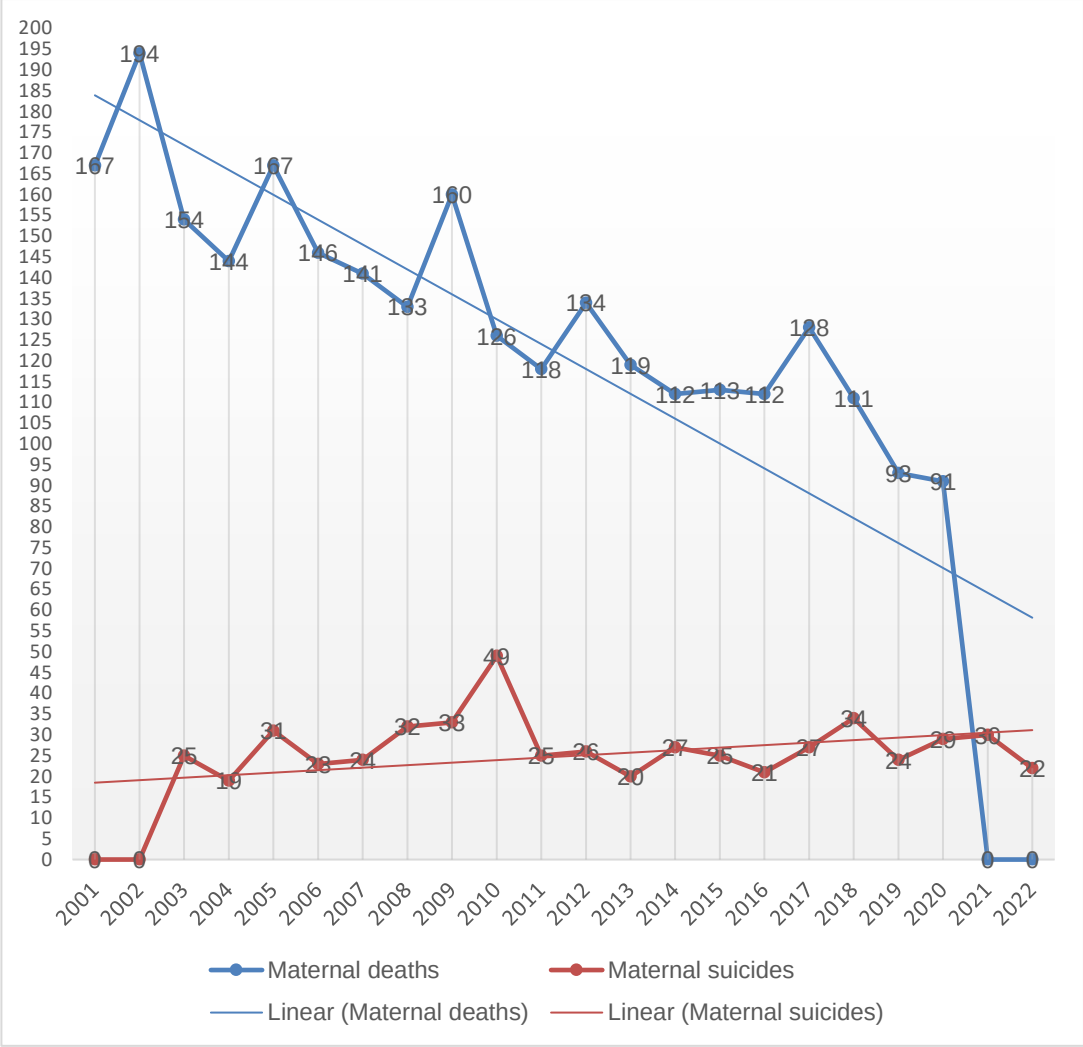

Figure 4: Maternal deaths and maternal suicides
Source Family Health Bureau 2024

The status of maternal suicide in Sri Lanka

Statistics on maternal suicides were not analyzed prior to 2001. Jayaratne et al. reviewed data on maternal suicides in Sri Lanka from 2002 to 2017. The number and rate of maternal suicides increased from 0.8 per 100,000 live births in 2002 to peak at 12.1 in 2010 and showed a slight decline to 8.4 in 2017[19]. Following analysis of data collected from psychological autopsies carried out on maternal suicides. The team observed that 56.2% married and 9.2% unmarried women killed themselves during the perinatal period. Out of the women who committed suicide, 42.33% of women committed suicide during pregnancy and 31.4 % after delivery. The common methods used were self-poisoning (36.8%) and hanging (31.6%). Out of maternal suicides studied, 73.7% were temporarily associated with interpersonal conflicts. Underlying depression was likely in 36.8%, and there was a family history of suicide in 15.8%[19] of women. On analyzing data from 22 maternal suicides out of 29 in 2020 at the National Maternal Desk Review, 54.5% were due to hanging, while 22.7% were due to burns. 27.3% had a recorded mental illness in the past. 81.8% had recent stressors closer to the attempt, and 72.2% had relationship issues (Unpublished data from the Maternal Desk Review 2020).

Factors affecting maternal suicides

Limited data from Sri Lanka indicate a significant number of mothers who committed suicides had interpersonal stressors like intimate partner violence before the incident. Self-poisoning, hanging and burning had been used as methods, and a significant proportion had underlying depression[19]. History of mental illness and family history of suicides were also associated with maternal suicides to some extent.

In the global context, demographics, history of suicide or deliberate self-harm, intimate partner violence, sexual abuse or assault, co-morbid psychiatric disorders and psychoactive substance use are the most commonly associated factors with maternal suicides. These are similar to the factors associated with the general population and apply to the Sri Lanka setting, too[23,24]. Globally, younger age, being unmarried, and marital issues are considered risk factors for maternal suicide[3]. Jayaratne et al. further observed that complex social situations, interpersonal conflicts and impulsivity have contributed to maternal suicides in Sri Lanka. Out of the psychiatric co-morbidities, depression was a critical associated factor in Sri Lanka[19].

Postpartum psychosis and postpartum depression are two well-known contributors to maternal morbidity and mortality in 2008[25]. The distinctive features of these mental disorders and underlying contributory factors need to be recognized by caregivers to avert major catastrophes. Postpartum psychosis is the most severe form of postpartum mental disorder, typically in the first two weeks after delivery[26,27]. Puerperal hormonal shifts[1], obstetric complications[28], sleep deprivation[29] and increased environmental stress are recognized contributing factors to the onset of illness.

Preventing maternal suicides

Globally, strategies that are recommended for the specific prevention of maternal suicides are screening for mental health issues and substance abuse and specifically for suicidal ideation, treatment of psychiatric conditions, and improving access to care and integrated mental health treatment approaches[3].

Barriers to reducing maternal suicides in Sri Lanka are several. Some of these factors include the deficiency of research on the prevalence of maternal suicide and associated risk factors, lack of reporting leading to non-identification of cases (cases may be reported as accidents), lack of awareness and knowledge about psychiatric disorders in the perinatal period, poor merger between mental health services and maternal health services, lack of supervised screening programs for identification of vulnerable or high-risk mothers, and lack of identification of barriers to seek treatment[20].

Considering the paucity of data from Sri Lanka, it is safer to follow global trends in prevention. However, given the higher number of interpersonal conflicts and higher numbers of married women completing suicide, it is important to address these issues by care providers of maternal health. This highlights the need for training maternal health care providers in communication and counseling skills to achieve a more empathetic understanding of the psyche of mothers to prevent the tragedy of maternal suicides. Psychosocial factors leading to maternal suicides need more in-depth collaborative research to plan appropriate interventions in local context. With the clinical experience of the authors, it can be suggested that family health workers, medical officers of health, general practitioners, obstetricians, and pediatricians need to be sensitized on the detection of mental health issues of mothers and children to refer them to appropriate agencies for further care. These agencies

include mental health teams, agencies that provide legal aid, social workers, organizations that facilitate the financial empowerment of women and counseling services.

Careful and thorough assessment of pregnant and postpartum mothers' risk factors and psychological well-being should be a part of the overall care provided by healthcare professionals involved in maternal care. Members of the multidisciplinary team who may have more information about the individual and their family should be adequately trained to gather relevant and sensitive information to assist in identifying personal, psychosocial and familial risk factors and actively contribute to the management process[30].

Insufficient mental health literacy among healthcare professionals who are involved in maternal care is a major drawback in the prevention of maternal suicides. Including psychiatry in the medical curriculum is a major positive step. Primary health care providers and obstetrics teams should have a sound awareness of risk factors, common presentations and symptomatology of maternal psychiatric disorders to recognize when to refer for further management. Timely identification and adequate management of these disorders require a coordinated approach among maternal caregiver teams[31]. Thus, in-service mental health training of medical officers of health and their teams who are involved in maternal and child health programs is vital in improving maternal well-being and prevention of suicides.

Other factors, such as social stigma and varied cultural beliefs of the women and families, may also contribute to the underutilization of available mental health care facilities. Non-availability of well-developed community mental health care teams adds to the difficulty in reaching those mothers in need who may be reluctant to seek help[20]. Programs aimed at reducing stigma in accessing mental health care should be delivered by primary health care teams, obstetric teams and general practitioners. Further, print and social media can be used to reduce the overall stigma of reaching out for mental health issues.

On a positive note, recognizing the importance of screening, Sri Lanka has taken steps to screen all mothers at four weeks postpartum using a validated tool, the widely accepted Edinburgh postpartum depression scale (EDPS)[32]. The women who are found to be positive by screening with EDPS are advised to seek mental health assessment or referred to mental health services. The administration of EDPS has strengths and weaknesses. Strengths include the ability to detect women with postpartum issues by a self-administered questionnaire.

A weakness is high false negativity and positivity rates, which may result in overburdening of mental health services. The use of validated EPDS alone is insufficient; timely detection and adequate management of these disorders require a coordinated approach with various primary and secondary care services[33].

The strong maternal and child health (MCH) services in Sri Lanka is a blessing, as women have easy access to the services at first contact point. The proximity and the frequent visits by the public health midwife in the immediate postpartum period strengthen the screening process. Information is provided to the pregnant woman and the partner at the booking session and follow-up visits at antenatal clinics and hospitals. Public health midwives play a significant role in disseminating information at the grassroots level in the community as they meet the whole family during their field visits, thus a good resource to utilize to provide information on improving maternal mental health.

Another landmark initiative in Sri Lanka which contributes to planning preventive strategies for maternal suicide is collection of data using psychological autopsy tool for maternal suicides (PAMS). This national program was initiated by the Family Health Bureau (FHB) in collaboration with the Sri Lanka College of Psychiatrists in 2015. Comprehensive, in-depth information is gathered using the PAMS on each maternal suicide case. Information gathering is done in a structured format, and is conducted by a team consist of a psychiatrist, a medical officer of health (MOH), a family health worker and a social worker. This tool yields a wealth of medical and psychosocial information on possible causative factors before suicide that will assist in planning preventive strategies. Recognizing the importance of implementing a proper screening method, FHB is currently validating a tool to initiate the national psychosocial risk factor program in the Sri Lankan preventive care system. The inclusion of maternal suicides in national statistics as a cause of maternal mortality is an important step forward in depicting the present state of the country correctly.

Mental health care facilities for post-partum mothers were scarce in the past. Recently, several specialized mother-baby units have been established in the country to provide services to mothers with mental illnesses, such as the National Institute of Mental Health, Angoda and De Soysa Maternity Hospital. Further, several psychiatry units are providing specialized care to lactating mothers with dedicated mother-baby beds within the ward. Thus, this important care need has been recognized in some hospitals; however, it is not available island wide, which need to be improved.

General preventive strategies employed for suicide prevention can be strengthened by increasing awareness of mental health literacy among the health professionals, including public health midwives, medical officers of health, and public health sisters and obstetric teams. Royal College of Obstetricians and Gynecologists recommends that all maternity staff should have basic training in the identification of current and past history of mental health problems in pregnancy and the postpartum period and when to refer to mental health and primary care services[31].

To bridge the knowledge gap in this area, education and training on mental and social health issues contributing to perinatal morbidity and mortality need to be included in basic training curricula, continuing professional development programs and in-service training of health care workers involved in maternal and child health, mainly preventive health, and obstetric teams. Currently, the mental health directorate of the Ministry of Health conducts these activities nationally. The national mental health helpline 1926 provides telephone service to the population in Sri Lanka. It can also be used in the promotion of the psycho-social well-being of mothers during the perinatal period, contributing to the screening, detection, and referral of mothers with mental health issues and mental health services. The Family Health Bureau (FHB) of the Ministry of Health, an important pivotal government organization, can mobilize resources for a coordinated mental health promotion program to prevent maternal suicides.

Apart from the state sector involvement, several other non-governmental agencies like ‘Sri Lanka Sumithrayo’ and ‘Shanthi Margam’, two befriending services, helplines such as CCC line and ‘Suwaseriya’ ambulance service are involved in the care of people harboring suicidal ideas and interventions. They can be utilized to reduce maternal suicides in the country by training the staff to manage cases effectively.

Conclusion

In the quest to reduce maternal deaths and organize national-level interventions, the collection of national data on maternal suicides is a vital requirement. In this regard, the inclusion of maternal suicides in national health statistics should be the first step, making it mandatory to report maternal suicides at all levels. Secondly, at-risk factors for maternal suicides need to be identified through the collection of data gathered using psychological autopsy tool of all completed maternal suicides need to prioritized to plan preventive interventions. Thirdly, from the current available knowledge, coordinated programs need to be initiated in collaboration with the mental health directorate, preventive services and family health bureau of the Ministry of Health; Ministry of Social Services, Ministry of Women, Child Affairs and Social Empowerment, non-governmental agencies and professional colleges like Sri Lanka College of Psychiatrists, Sri Lanka College of Obstetricians, Sri Lanka College of Pediatricians and College of Community Physicians of Sri Lanka. This is a mammoth task that needs prioritization at the policy level. A thorough evaluation of maternal mental health, identification of risk factors, referral to appropriate agencies, including mental health teams, mobilizing help, and providing continuity of care to identified mothers are essential facets of program delivery. Finally, the importance of maternal mental health needs to be promoted through mass media as well as by targeted educational programs directed towards young adults and parents.

Maternal suicides remain a significant issue in Sri Lanka and have multiple and complex causative factors due to universal as well as specific medical, socio-cultural, and economic factors. Interventions unique to maternal suicides, as well as general suicide prevention strategies, should be employed vigorously in a coordinated manner for favorable outcomes.

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