

The Risky Journey! – Can we help more?

(An overview of maternal mortality in Sri Lanka)

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“Disasters occur due to multitude of undetected errors and not due to a single oversight!”

Introduction

The pinnacle of womanhood is the achievement of motherhood. However in the process, she is exposed to a multiple of unknown or unexpected risks along with her baby during pregnancy and childbirth. At its extreme, it could be life threatening complications culminating in a possible maternal death! However fortunately, the current advancements in medicine have enabled monitoring and intervening in cases of pregnancy related complications thus reducing the risk of maternal mortality.

In this context, Sri Lanka has achieved a commendable success with a low maternal mortality ratio (MMR), not only regionally, but even when compared with other developed countries in the world. Nevertheless, for nearly 2 decades the MMR in Sri Lanka has remained stagnant above the mark of 30 maternal deaths per 100,000 live births. Henceforth, this presentation is an attempt to analyze the situation and find a possible way out in view to further lowering of the MMR in Sri Lanka.

Historical perspective

A maternal death is always a devastating event not only to the family members and could involve the care giving team and possibly a whole nation. The Taj Mahal in India came into being because of a maternal death. The Victorian era of the British empire was heralded following a maternal death. In Sri Lanka, our last Queen from the Kingdom of Sengkadagala (Queen Kusumasana Devi/ Dona Catharina) died in childbirth.

Since ancient times caregivers during childbirth has been held in high esteem. Egyptian, Greek and Roman texts since 1900 BC mention about Birth Assistants. The modern day Obstetrics has evolved as a highly specialized subject from ancient midwifery practice. In the 2nd century BC, Physician Soranus has famously described the ideal characteristics of a “good” midwife! It has been known that there have been several grades of midwives at different skill levels and the best were called into serve the royalty.

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It is believed that King Pandukabhaya built a “House of Delivery” in Anuradhapura in the 4th century BC (Mahawansa). King Buddhadasa (340-368 AD) is said to have treated a woman affected by “Mulhagabba” (premature parturition?). King Upathissa (368-410 AD), son of King Buddhadasa, perhaps founded the 1st maternity home in the country, the “Pasavantinam Sala” (Chulawansa). However, exact maternal mortality statistics in ancient Sri Lanka has not been documented. No specific records with regard to births and deaths have been found from the Portuguese and Dutch periods (1505-1796) though the services would have been available for their own use. Nevertheless during the British period, western medicine and maternity care services expanded throughout the country.

The field of Obstetrics gained rapid advancements during the 19th century with the advent of pain relief in labour (patronized by Queen Victoria herself) and antiseptics. During the 1st half of 20th century, the discovery of antibiotics, blood transfusion, advances in surgical techniques and rapid advances in transportation contributed to a drastic reduction of MMR in Sri Lanka (then known as Ceylon). Local philanthropists such as Sir Charles Henry De Soysa contributed immensely for the cause of maternity care during the British period. The establishment of De Soysa Lying in Home in 1879 became the 1st maternity care hospital in Asia and along with the opening of the Castle Street Hospital for Women on 04th December 1950 introduced the era of modern obstetrics to the country. The services were further expanded in subsequent years. An academic body known as the Ceylon Obstetrics and Gynaecological Association was established in 1953 and was later upgraded in 1967 as the Ceylon College of Obstetricians and Gynaecologists and then subsequently named as the Sri Lanka College of Obstetricians and Gynaecologists (SLCOG) from 1972. In addition, the establishment of a government arm to provide maternal and child health (MCH) services was first established in 1926 with the introduction of Health Unit System with a Medical Officer of Health as the in-charge. In 1965, government accepted family planning as a national policy which was integrated to a separate new division created in 1968 under the Ministry of Health and was designated as Maternal and Child Health Bureau. This was later renamed as Family Health Bureau (FHB) and was brought under Director (MCH) since 1986. Both the

SLCOG and the FHB are at present performing a yeoman service for the enhancement of maternal and child health in Sri Lanka.

Review of literature

It is worth noting that the main thrust of reducing global and country wise MMR has been formulated and successfully implemented through the strengthening of primary field level MCH services. ***Sri Lanka in this context has achieved remarkable results utilizing its excellent preventive health care services coupled with the utilization of services of well trained and highly motivated Public Health Midwives (PHM).***

World Health Organization (WHO) human reproduction programme

*According to global estimates the major causes of maternal deaths include haemorrhagic 24%, indirect causes 20%, sepsis 15%, unsafe abortion 13%, eclampsia 12%, obstructed labour 8%, other direct causes 8% (Source: WHO 1999).

* From 2000-2020 MMR reduced by 34% worldwide.

* 800 women died from preventable causes related to pregnancy and childbirth in 2020 accounting to maternal death occurring almost every 2 minutes.

* 95% of all maternal deaths in 2020 occurred in low and lower middle-income countries.

WHO Sustainable Development Goals (SDG) Initiative

– SDG 3 aim at average global MMR < 70/100,000 live births by 2030.

– Supplementary National Target: By 2030, no country should have an MMR >140, a number twice than the global target.

1) Recommendations from worldwide public health point of view – Strategies to reduce maternal mortality worldwide

J Liljestrand. *Curr Opin Obstet Gynecol*. 2000 Dec

1. Skilled attendants at birth with improvement and quality

2. Improve access to care of obstetric emergencies
3. Post abortion care
4. Better reproductive health services for adolescents
5. Improved family planning care
6. New developments in Malaria prevention, nutrition, violence, HIV/AIDS
7. Also promoted using a Human rights approach

2) Recommendations from individual country point of views – Maternal mortality in India: current status and strategies for reduction

A. Prakash, S. Swain, A. Seth. *Indian pediatr.* 1991 Dec; 28 (12): 1395-400

(MMR in Northern Europe 4/100,000 vs India 421/100,000)

1. To place high priority to MCH services and integrated vertical programmes (E.g. Family planning).
2. Give attention to care during labour and delivery (most critical period for complications).
3. To provide community based delivery huts close to home and maternity waiting rooms in hospitals for high risk mothers.
4. Improve quality of MCH care at rural community level at local clinics.
5. Improve quality of primary health care services (emergency care and proper referral).
6. MCH and family planning services to be included in post-partum programme.
7. Examine feasibility of National Blood Transfusion Service Network.
8. Include transportation.
9. Educate young girls on Health and Sex.
10. Informal education of masses on MCH.
11. Focused O and G training primarily on practical skills in management of labour and delivery.

12. Research reproductive behavior.
 13. Assure every woman the right to safe motherhood.
- Note the emphasis on recommendations to strengthen interventions mainly at primary health care level

Recommendations for reducing maternal mortality and morbidity – USA

National Academy of Sciences, USA 2003

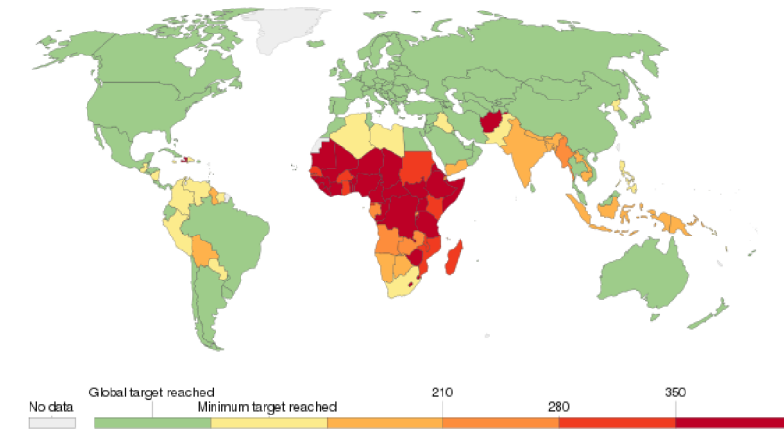
1. Every delivery (including home deliveries) should be assisted by a skilled birth attendant trained to proficiency in safe delivery, recognition and initial management of prolonged labour, infection and hemorrhage, and be prepared to stabilize and swiftly refer to a facility with essential obstetric care (EOC).
 2. EOC centers should be accessible to address complications such as administration of antibiotics, oxytocics, anticonvulsants, manual removal of placenta, removal of retained products of conception, assisted vaginal delivery. Also should be able to handle blood transfusion and emergency surgery coupled with strong referral systems, communications and transport.
 3. Postpartum care – Prevention and timely recognition and treatment of infection, postpartum hemorrhage and complications of hypertensive disease of pregnancy.
 4. Strategies recommended for incorporation into pre conceptional and antenatal care –
 - A) Greater access to family planning services and counseling on risks for adverse birth outcomes.
 - B) Early detection and timely management of hypertensive disease in pregnancy.
 - C) Intermittent preventive and early treatment of Malaria, especially for primi para.
- Note the importance attached on preventive health care aspect

The Sri Lankan Scenario in comparison to worldwide MMR

Maternal mortality ratio, 2017

Maternal mortality ratio is the number of women who die from pregnancy-related causes while pregnant or within 42 days of pregnancy termination per 100,000 live births. SDG Target 3.1 is to reduce global maternal deaths to less than 70 per 100,000 live births and all countries less than 140 per 100,000 live births.

Our World
in Data



Source: World Health Organization (via World Bank)

Sri Lanka has achieved a remarkable success story in reducing MMR during the 20th century due to many factors including Malaria epidemic control and especially improvements in preventive healthcare systems and training of midwives.

Figure 1. MMR demographical data.

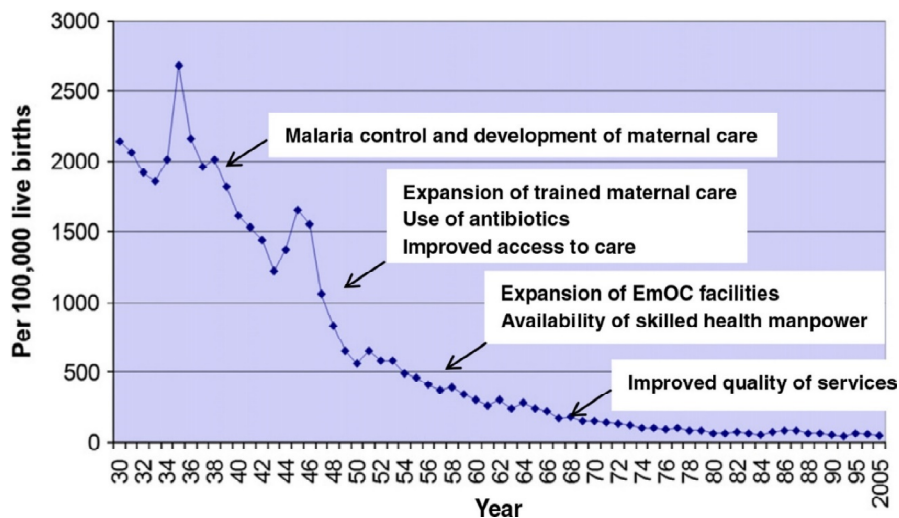


Figure 2. Main factors which contributed to reduction of MMR in Sri Lanka.

Maternal Deaths = 89
Live Births = 301,706
MMR (Provisional) = 29.5 (per 100,000 live births)

Calculation of MMR 2020

Therefore the remarkable success story of low MMR in Sri Lanka especially in a low resource setting could be attributed to the strong preventive MCH care coupled with a well-trained and motivated field healthcare staff.

Maternal mortality and trained assistance

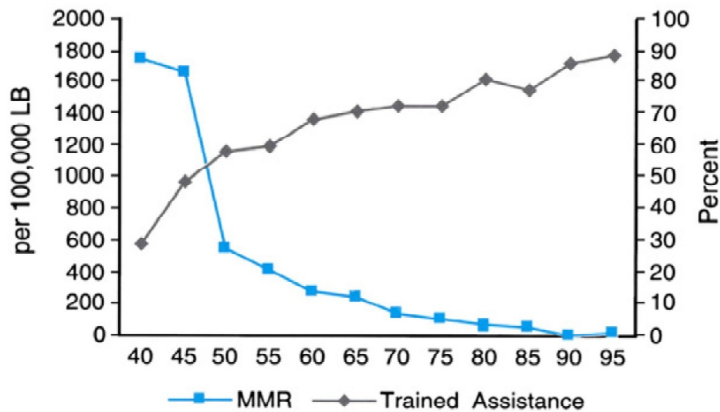


Figure 3. **Reduction of MMR with Trained Assistance**
(Source: Analysis of maternal deaths 2020 (Final report),
Family Health Bureau, Ministry of Health, Sri Lanka).

Maternal mortality ratio from 1995-2020

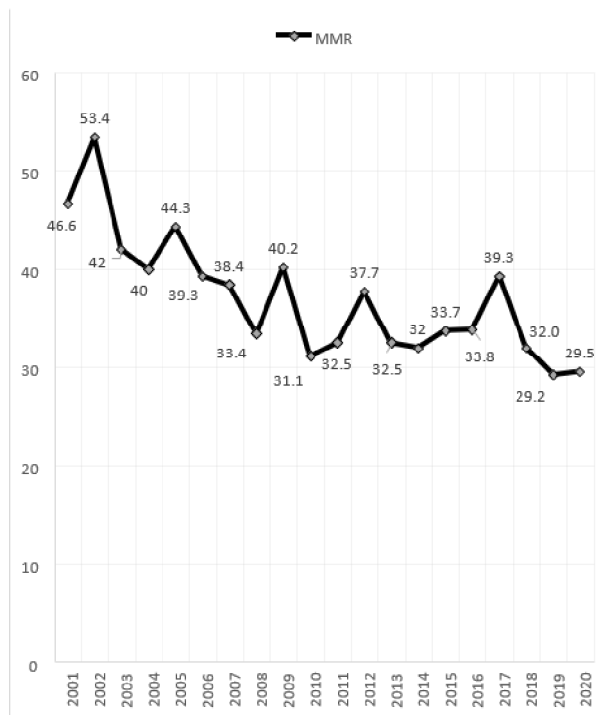


Figure 4. **Static MMR over the decades**
(Source: Maternal and Child Morbidity and Mortality,
Surveillance Unit, Family Health Bureau).

FHB recommendations for improvement of MMR (2020)

- 1) To make pregnant women and their relatives knowledgeable on the availability of emergency obstetric care at all hospitals despite restrictions due to any situation.
- 2) All pregnant women and their relatives should be educated on the danger features during the pregnancy and post-partum periods and the need for attending to hospital irrespective of the epidemic or curfew situation.
- 3) To streamline the availability of specialist care without restrictions and with due precautions to all pregnant and post-partum mothers at specialized hospitals (Government and Private Sectors).
- 4) To recirculate guidelines / circulars on the need for physical presence of each category of health staff in managing maternal cases and to emphasize the strict adherence to the same.
- 5) To list logistic issues at hospital level in caring for pregnant and post-partum women and facilitate provision of them in a priority order.
- 6) To streamline the RED Book strategy in providing targeted care for the vulnerable women at risk of dying.
- 7) To upgrade mental health literacy in the general public with a special focus on pregnancy and post-partum period.

Number of maternal deaths (2001-2020)

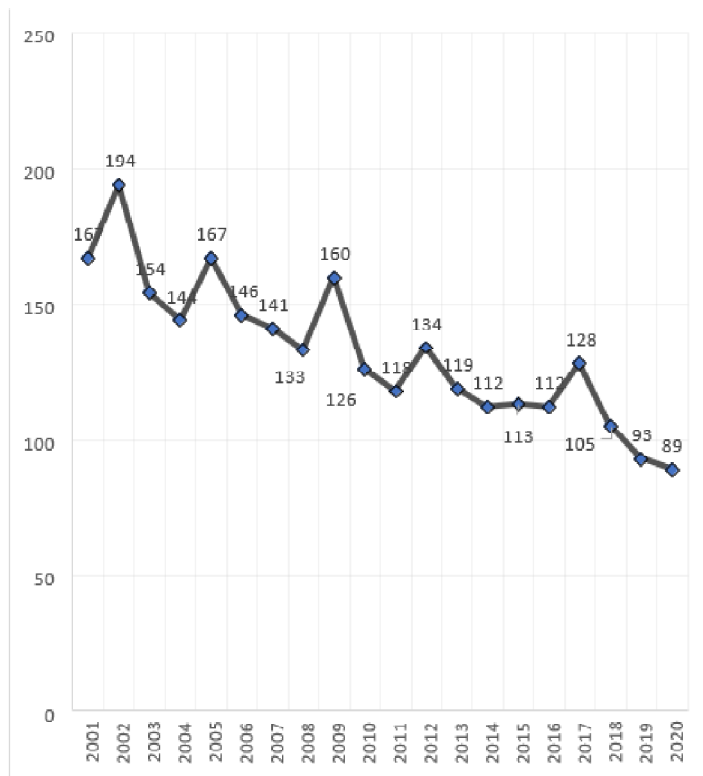


Figure 5. Reduction in numbers has had no effect on MMR due to corresponding reduction in total live births!
(Source: Maternal and Child Morbidity and Mortality Surveillance Unit, Family Health Bureau).

Analysis and discussion

Disasters in any field occurs due to undetected multiple errors and not due to a single oversight (Swiss Cheese Model). A classic example is the multitude of reasons which resulted with the sinking of RMS Titanic in 1912 with over 1500 souls losing their lives. The same pattern emerges with the results when air crash investigations are held and there is no difference when disaster inquiries are conducted in the medical field.

This same phenomenon repeats when facts emerge in maternal death inquiries – The disaster has occurred due to a culmination of a series of events and not due to a particular single mishap.

Theoretically, a single detected red flag sign or a corrective action at a single point has the potential to prevent a maternal death! However, in practice and in real time scenario the circumstances could be much different or difficult as against a retrospective analysis or criticism!

But still, there will always lessons to be learnt.....

Preventability of maternal deaths – 2020

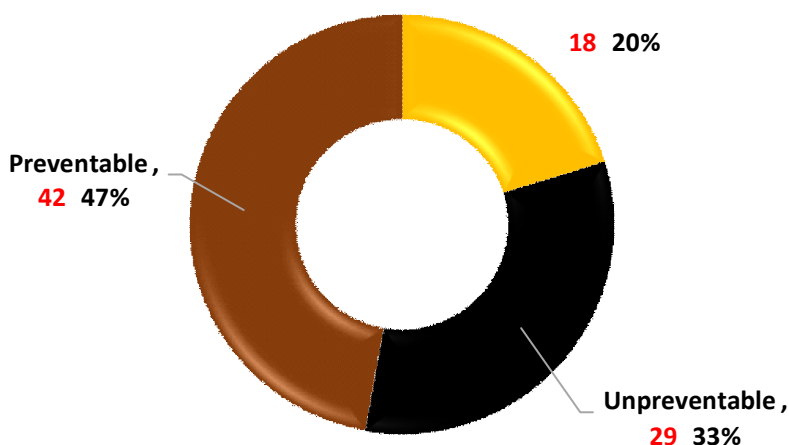


Figure 6.

(Source: Maternal and Child Morbidity and Mortality Surveillance Unit, Family Health Bureau).

Audit

Below are majority of cases during my early part of career which resulted in maternal deaths. The summarizing emphasizes mainly the circumstantial situations which lead to the maternal death.

1) Patient from Sooriyawewa in her first pregnancy with twins at POA 31 weeks, emergency transfer to DGH Hambantota with severe pneumonia. First of twin-IUD, second of twin-severe bradycardia. Delivered by emergency cesarean section and good recovery in NICU. Patient followed up post op at ICU and died of respiratory failure. Diagnosis – Swine flu (H1N1).

Preventable factors: *No early referral to specialized care, patient delay in seeking medical help.*

2) 28 years G3P2C1, POA 37 weeks, P1- twins with PIH resulted in preterm labour with one intra uterine death and one neonatal death. P2- normal vaginal delivery. Present pregnancy – Obese, PIH. History of reduced foetal movements. Induction of labour done and successful NVD. Patient had a retained placenta and manual removal done. Severe postpartum hemorrhage > 1.5 L with cardiac arrest. Resuscitated with Adrenaline and transferred to ICU (no overseeing Consultant Anaesthetist available). Developed cardiac asystole in ICU, resuscitated with Adrenaline and defibrillated with Consultant Physician as team leader. Patient was administered with inotropes (Dopamine + Dobutamine). Persistent bleeding PV not settling with Ergometrine/ Syntocinon/ IV Tranexemic acid. Developed DIC. Proceeded with emergency obstetric hysterectomy. Severe adhesions along with placenta percreta and thin uterine fundus with rupture. Shared care with Consultant Surgeon. Damage to sigmoid colon during procedure – bowel repair and temporary colostomy done, abdominal packs inserted. Post op monitoring in ICU – cardiac arrest with failure to resuscitate.

System deficiencies: *One man station for all major specialties. No consultant anesthetist or radiologist, no hematologist or transfusion medicine specialist available. No house officers available (Base Hospital type B).*

3) Patient on post LSCS day 6 at DGH Hambanthota got admitted to BH Tangalle with severe respiratory

distress and un-recordable haemodynamic parameters. Previously treated by GP with salbutamol. ECG – showing tachycardia with ventricular ectopics. CXR – cardiomegaly and right lung consolidation? Pulmonary embolism? Peripartum Cardiomyopathy.

System deficiencies: *No ventilators available at station. No consultant cardiologist available. Nearest cardiology unit DGH Matara, but no ventilators available. Patient transferred to DGH Hambantota ICU but no cardiologist available. Patient died 3 days later at ICU, Hambanthota.*

4) 35 years G1P0, POA 28 weeks, admitted with sudden onset left flank pain with abdominal distension. On examination – tender left flank, haemodynamically unstable, ultrasound scan – free fluid +, Hb = 5.5 g/dl.

Emergency laparotomy performed. Uterus intact. Severe bleeding from upper left hypochondrium. Consultant surgeon called in. Diagnosis: Ruptured spleen. Repair done by surgical team and taken over and monitored in ICU. Patient died in ICU due to hemodynamic instability.

Post mortem revealed bruising in left flank and bystanders gave history of assault by husband which the woman did not disclose.

System and process deficiencies: *Non-disclosure of assault by patient, delay in admission to hospital till severely haemodynamically compromised. No consultant radiologist available for proper imaging.*

5) 33 years G3P2, two normal vaginal deliveries, uneventful pregnancy, spontaneous onset of labour at term and augmented due to slow progression. Sudden onset of severe dyspnea in labour room? Pulmonary embolism? DVT. Low dose aspirin and enoxaparin given promptly and baby delivered by emergency LSCS. Patient monitored in ICU. Cardiology unit DGH Matara notified. Patient not stable for transfer. Were advised continued stabilization up to 6 hours prior to transfer. Patient suffered cardiac arrest and failure to resuscitate.

System deficiencies: *No consultant anesthetist available at station and no cardiology backup at station.*

6) BH Dambulla one man VOG station during the incident, G1P0, POA 37 weeks, admitted at 8.45 P.M

(last meal 7 P.M). No previous follow up at BH Dambulla, admitted with imminent eclampsia – BP 170/110, Urine albumin – 2+, GDM – on Insulin. BP controlled with nifedipine and hydralazine. Commenced on magnesium sulphate. Emergency caesarean section done. No ICU facilities available at BH Dambulla. Nearest station BH Matale – no ICU beds. SICU Kandy – one bed will be available only next day morning. Patient was forced to monitor in post-natal ward. Developed very low urine output. SHO has increased fluids from 80 ml/hour to 100 ml/hour plus IV furosemide 20mg on 2 occasions (consultant not informed). 6.45 A.M next day consultant informed with regard to cardiac arrest with failure to resuscitate.

System and process deficiencies: *No ICU facilities available at station or at nearby hospitals. Deficiencies in communication with consultant. (Exposed to working with new team upon reporting after annual transfer).*

7) 28 years, G2p1, POA26 weeks, 2nd trimester miscarriage delivered at local hospital without consultant cover and transferred to BH Dambulla at midnight. On examination – obese. Patient stable on admission and antibiotics commenced. When patient was moved for ultrasound scan developed severe dyspnoea on mild exertion. Only thereafter patient revealed with regard to cardiac disease and bystanders made it a point to show the available diagnosis card with past history of AR grade 3, AS + , tight MS, severely thickened valves, good LV function. Had been on follow up at cardiology unit, Kandy. In ward patient at cardiology unit one month ago and had defaulted follow up at thereafter. Exclusive documented instructions to attend tertiary care hospital in case of emergency had been defaulted. 2nd trimester miscarriage delivered at DH Galewela, and transferred to BH Dambulla, a station without cardiology services.

Deficiencies identified: *Default follow up by patient at cardiology unit, Kandy. Wrong transfer destination from local hospital though nearest station. No cardiologist available at BH Dambulla. Inadequate communication.*

8) 30 year old lady, POA 33 weeks, post cesarean section day 20 (Indication: PIH, diabetes in pregnancy) delivered at a nearby consultant station and had been under shared care of physician. Patient had been following up at the medical clinic at original station. Failure to admit despite BP 160/110, urine albumin: 3+. Admitted to local hospital with severe dyspnea and

CBS: 450mg/dl. Immediate call and transfer to BH Dambulla to save travel time as road repairs along the route to original station. CBS on admission: 530mg/dl, Hb=5.8 g/dl. Cardiac arrest on admission and medical teams summoned immediately. Resuscitated successfully and transferred to ICU and managed with inotropes + diabetic ketoacidosis regimen. CXR revealed massive bilateral consolidation.

2nd cardiac arrest in ICU resuscitated successfully. Patient developed 3rd cardiac arrest and failed resuscitation.

System and process deficiencies: *Delayed hospital management to post op patient with multiple medical problems. Poor control of diabetes mellitus and hypertension. Transport difficulties due to road repairs. Extreme instability at the time of admission despite having been treated by 2 consultants at a nearby station*

Lessons learned from audit and reflective practice

- 1) In emergencies, analyze a wide range of probabilities.
- 2) Always document important clinical findings and strictly advise patient to present the records in an emergency.
- 3) Notify area MOH + PHM with regard to probable serious complications as backup for follow up.
- 4) Inappropriate cases – should not rule out foul play or criminal acts.
- 5) Leave margin for incorrect history or information given by patient or by bystanders.
- 6) When dealing with a new team always emphasize the expected protocols of management and communication with consultant.
- 7) Expect the unexpected.
- 8) Never neglect basic principles.
- 9) In dealing with emergencies be aware of time factor.
- 10) Do not lose situational awareness.
- 11) Provide clear leadership rather than indecisiveness so that other team members would join in the correct path.

- 12) Call for help early and get all available hands involved. Good team work with correct leadership would avert a majority of potential disasters.

“Near miss” events (saved by practicing simple basics!)

1) BH Kuliyaipitiya – Asymptomatic patient with uncomplicated antenatal history awaiting delivery exhibits unexplained tachycardia. Detected by house officer and notified. Suspicious ECG and immediate transfer to TH Kurunegala as no cardiologist available at station. Diagnosis – peripartum cardiomyopathy. Immediate delivery and successful post op recovery under cardiology team.

2) Patient transferred to gynaecology ward at POA 26 weeks diagnosed as “Bronchial Asthma”. Treated by GP for same with salbutamol. Audible ejection systolic murmur upon examination and patient transferred to ICU under medical care. Immediate transfer to cardiology unit TH Kurunegala as no cardiology back up at station. Patient diagnosed with tight mitral stenosis and urgent transfer to TH Kandy for TPMC. Patient recovered completely.

3) 33 years primi para, uneventful delivery at 38 weeks following spontaneous onset of labour. As noted by labour room staff, the patient was gradually developing haemodynamic instability and was progressing to life threatening haemodynamic collapse. No bleeding PV. Ultrasound scan revealed free fluid in abdomen. Emergency laparotomy revealed an unusual clinical finding of avulsed pedunculated fundal fibroid during labour with uterine cavity opening into peritoneal cavity with bleeding. Successful repair done.



Figure 7. Detached pedunculated fibroid with damage to uterine fundus.



Figure 8. Omentum entangled with pedunculated fibroid which has caused traction with uterine contractions resulting evulsion.

4) 37 years, past 2 sections underwent elective caesarean section at 38 weeks. Antenatal ultrasound scan was suspicious of adherent placenta and patient referred to consultant radiologist. Radiology report came back as no evidence of adherent placenta. Anyhow on suspicion of previous findings, patient was prepared for abdominal hysterectomy with adequate blood for transfusion available. Patient was counseled appropriately. Patient developed severe PPH during caesarean section and a placenta percreta was observed. Emergency total abdominal hysterectomy was done with adequate backup as already previously planned. Patient had an uneventful recovery without any major concerns.

5) A 35 year old woman with past 2 caesarian sections from Habarana, well outside catchment area of TH Kuliyaipitiya gets admitted on a weekend with a complaint of abdominal pain and distention! Denies knowledge being pregnant! On examination followed by ultra sound scan an advanced pregnancy is noted. Patient says unable to remember her LMP and happened to be in Kuliyaipitiya to engage in a ritual to chase off evil spirits. The scan reveals an approximate POA of 33 weeks and a foetus weighing over 2 Kg. Referred to psychiatry and suspects malingering. Dribbling is noted and steroids commenced. Patient goes in to spontaneous labour. Emergency caesarian section done to deliver the baby as previous 2 sections and short interval. Patient continues to have “dribbling” post op along with a rising WBC count and a fever!!! Upon closer vaginal examination a cervical tear at 6 o’clock is noted with slough. On closer scrutiny, the tear extends deep into the uterine cavity and then through the posterior wall communicating with bladder.



Figure 9. Cystogramme depicting vesico-vaginal fistula along with urinary catheter (AP view).

An ultrasound scan followed by a cystogramme reveals a vesico – vaginal fistula most probably due to criminal interference but somehow missed the baby in utero! Medico legal teams notified and urgent transfer on IV antibiotics to Genito – Urinary Surgical Unit at TH Kurunegala done for stabilization and repair of fistula. Timely aversion of impending septic shock after circumstantial examination findings of a criminal interference of an advanced pregnancy which the woman had concealed!

The learning curve

** With clear leadership and situational awareness, along with adequately trained team members, many disasters could be successfully managed irrespective of it being in a hospital clinical setting or in another field.*

** There would be the inevitable fact finding inquiries and at times unfair arm chair criticism after the event retrospectively, but the correct decision making in real time whilst being under pressure will be the real test!*



Figure 10. Cystogramme depicting vesico-vaginal fistula along with urinary catheter (Lateral view).

Further observations

As previously stressed, the success story of low MMR in Sri Lanka is mainly attributed to the excellent primary level healthcare system backed up by well-trained field midwives and preventive health care medical officers. Nevertheless, the MMR in Sri Lanka has remained stagnant for the past few years. This is in spite of the recent advancements in upgrading of hospitals, road transport, increase in specialized cadre along with availability of new sub specialties, opening up of new hospitals with consultant cover and improvement of surgical facilities and emergency obstetric care in many hospitals.

If so, the big question is what is causing the stagnation of improvement of MMR in Sri Lanka despite all the above?

It has been noted by the author, along with many colleagues agreeing with, that there is a marked noticeable deterioration of quality of work at the primary healthcare level at PHM areas and at local clinics over the past few years!

Few points in this regard are highlighted below.

- 1) Significant errors in filling of pregnancy records were noted on a frequent basis.
- 2) It has been also noted that many field PHMs are reluctant to follow the management protocols of VOG stations and provide wrong information to their subjects according to their own limited knowledge or practice!
- 3) Only a few field PHMs encourage patients to seek consultant advice without delay in cases of unexpected development unless the complications are obvious!
- 4) Appointments for local clinic follow up visits are not given according to patient requirements!
- 5) Enthusiasm for consultant led knowledge update programmes appear to have diminished unlike in the past decades!
- 6) Deterioration of obtaining a proper history and gathering of data and statistics in relevant PHM areas are also noted. (E.g. Late registration of pregnancy, failure to detect and document risk factors!
- 7) At times, the knowledge exhibited by some field PHMs is significantly outdated or lacking.

**** However, many of these deficiencies were not observed with Midwives attached to consultant led stations as per the author's personnel experience.***

It has also been noted and confirmed by relevant MO/ MCH that many PHM areas without the services of field midwives are due to cadre problems and some midwives are overworked with having to serve more than one PHM area. Due to these reasons, the morale and the quality of service appear to have diminished. Furthermore, it appears the competency level of newly recruited midwives are not in par with their predecessors thus resulting in deterioration of standards including many documentation errors, inadequate history taking, and inadequate referrals or motivation of patients to seek help beyond the field clinic level until it is too late.

This could be due to a difference in attitude displayed by the newly recruited PHMs in comparison with their senior colleague who have already left service on retirement!

It is highly recommended that the facts mentioned above are studied in greater detail and with audit programmes in order to validate the inferences arrived by the author.

Thus it appear that the very foundation of primary care services which was the corner stone of the Sri Lankan success story to have somewhat cracked over the past few years which could be the contributing factor of our stagnant MMR statistics.

Therefore, it is suggested that the field level training and motivation of the midwifery cadre to be made more rigorous. If streamlined properly, a majority of preventable maternal deaths could be avoided thus further reducing Sri Lankan MMR to low or below 20/100,000 mark.

Conclusion

Sri Lankan MMR figures stand out when compared to statistics in the region as well in the developed countries. However, for further improvement of figures it appears that the authorities need to monitor, audit and take appropriate actions and a fresh initiative to upgrade the quality of MCH care at primary level.

“Let's strive to bring down the Maternal Mortality Ratio of Sri Lanka to a single digit before the end of next decade, by 2040!”

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