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Conceptual Paper

Safety Practices for Maternal Health

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Introduction

Safe motherhood encompasses a series of initiatives, practices, protocols, and service delivery guidelines designed to ensure that women receive high-quality gynecological, family planning, prenatal, delivery and postpartum care to achieve optimal health for the mother, fetus, and infant; during pregnancy, childbirth and postpartum.

Importance of safety practices

Safe motherhood decreases maternal and infant mortality and morbidity. Most maternal and infant deaths can be prevented through safe motherhood practices. Millions of women worldwide are affected by maternal mortality and morbidity from preventable causes. Much of the future health challenges of women emerge from and around their pregnancy times and morbidities have the potential to permanently scar the health of the woman. Safety in maternal health is important as we have to remember that we are committed to reach to the target of less than 70 Maternal Mortality Ratio by the year 2030 which is just eight years down the lane. To be able to prevent maternal deaths we will have to ensure that no pregnant woman reaches near or near to a death situation ever. For this safety is important.

The safety commitment

We have a target to reach of less than 70 maternal mortality by 2030 but we also are committed to achieve the goal of a healthy future society by controlling intrauterine and intrapartum influences which can create a crippled society and population affected by noncommunicable diseases. The health for a lifetime can be influenced by intrauterine influences resulting from fetoplacental development. Altered nutrient supply can alter gene expressions leading to developmental programming linked to key systems such as the immune system the antioxidant defences, inflammatory responses and the quality of stem cells.

Non communicable diseases (NCDs) are on the rise in India with the recent statistics mentioning that 58 lakh Indians die due to NCDs. Diseases like cancer, diabetes and cardiovascular diseases are leading cause of death globally killing 70 percent of the population. In India 61% deaths are from NCDs and cancer diabetes and heart diseases account for 55% premature mortality in the age group of 30-69 years with 23 % at risk of premature NCSDs related deaths. Maternal health and nutrition during pregnancy has been identified as the most important influencing factors. Foetal growth restriction and premature births are the potential risks for developing NCDs in adulthood. Practising nutritional assessment and guidance during pregnancy and lactation can go a long way in curbing the NCDSs menace. The question is "Why are Indian women malnourished ?" The Swasth India survey mentions that less than 50% women consumed wholesome diet regularly with 47% consuming green leafy vegtables daily, 46% consume fruits once a week 45 % consume pulses while 30% consume meat daily.

The recent Global Concept of the Power of the first 1000 days of life replete with right nutrition is based on the understanding of nutrition as the pivotal intervention of delivering heathy babies, nurturing healthy chidren and creating helthier adults catapulting a healthy future society. The right nutrition practices in the 100 days between a woman's pregnancy and her child's second birthday is a sound foundation for the infants ability to grow, learn and thrive.

Human rights issue

Women are specifically entitled to receive the special protection and care they need during pregnancy, childbirth and the postpartum period. Child bearing is a contribution to the society and the humanity at large and therefore no woman should be harmed or die while giving birth to the future humanity. Pregnancy state should not be the cause of discrimination in employment or at work place and should not deprive the woman of delivering her duties to the fullest capacity. It is the right of the foetus and the newborn to be brought into this world without morbidity or deformity and all measures should be undertaken to ensure that a healthy baby is born to a healthy mother.

Responsibility of the health care provider and the facility

With increasing numbers of deliveries now occurring in the facilities the responsibility of ensuring safety is mounting. The triad of safety, productivity and quality has now received colossal importance as the births and maternity care are taking care in facilities. Designing an implementing safety processes has become important. Of course limitations continue to exist due to deficiency of resources and lack of accessibility. Additionally despite awareness, education and guidance the pregnant woman may seek access to care late or be noncompliant.

What is safety?

The Oxford dictionary defines safety as the state of being safe; not being dangerous or in danger. The prevention and control of harm caused by accidents; the respect of the physical, material, and psychological integrity of individuals is called safety. Safety as a concept includes all measures and practices taken to preserve the life, health, and bodily integrity of individuals. In the context of maternal health safety is assessed through a series of metrics that track the rate of near misses, comorbidities, and deaths. To improve these metrics, employers and safety officials must also conduct investigations following any incident to ensure that all safety protocols and measures are being followed or to implement new ones if needed. Safety is many times perceived to be an impediment to operations. But research shows that safety practices result in a more productive output. Safety improves quality and productivity. It would be apt to quote Paul Meyer *"Productivity is never an accident. It is always the result of a commitment to excellence, intelligent planning, and focussed effort".*

Core tools for safety practices

Several core tools that have been demonstrated to improve the quality and safety of care:

- Triggers
- Bundles
- Protocols
- Checklists

These care tools are evidence based and can facilitate measurable improvements in quality of care. These aid timely diagnosis and treatment to prevent or limit the severity of morbidity. Importantly these are customizable for local implementation. Safety is a culture to be nourished. The potential to facilitate interdisciplinary, patient-centred care and to contribute to a culture of safety is vital. It is important to note, however, that the implementation of many of these tools in obstetrics is still in its early stages. Thus, recommendations for implementation are often based on data from other specialties, expert opinion, or clinical consensus, although the body of direct evidence in obstetrics supporting utilization continues to grow.

What are these Safe Practices for Maternal health?

Following are the gross areas where we can consider safety, quality and productivity to ensure maternal and new-born safety.

- Pre-pregnancy counselling and optimization: Modification of disorders to ensure safe pregnancy
- Prenatal care assessment, evaluation and guidance: Anaemia, HDPs, diabetes, preterm deliveries
- Intrapartum care and safe delivery: PPH prevention, newborn care, establishment of lactation
- Family planning and nutrition.

Pre-pregnancy counselling and optimization

Very few women or couples are sensitized to the awareness of seeking care for preconceptional care. Many may seek advice either for abnormal uterine bleeding, genitourinary infections, inability to conceive or unwanted conception. Rarely they come for birth control advice or adult immunization. As astute clinicians we must use this opportunity to educate them and guide them to optimize health before conception.

Women in India rampantly abuse tobacco and nicotine is responsible for preterm births, growth restriction, hypertension, placental abruption and nutritional deficiencies. Many adverse pregnancy outcomes can be avoided or temporised if preconceptional health of the woman is appropriately optimised. Birth defects are common in India with an annual prevalence of 6%-7% and annual reporting of approximately 1.7 million birth defects. Common birth defects in India as per the March of Dimes report are congenital heart disease (8-10 per 1000 live births),congenital deafness (5.6-10 per 1000 live births), neural tube defects (4-11.4 per 1000 live births). Reviewing family and genetic history of the couple with respect to presence of genetic disorders, birth defects, etc.; and genetic counselling to educate them on potential options for pre-pregnancy and early pregnancy screening of the new-born can go a long way in curbing these numbers.

Management of chronic medical conditions such as diabetes; counselling about adverse effects of tobacco, alcohol consumption and drugs and assessment of immunization status of women of reproductive age can pave a healthy road towards protection against birth defects and its consequences. Many women are chronically hypertensive and pregnancy only brings them to the opportunity of receiving any kind of medical care. The recently published CHAP study has proved that treating chronic hypertension in women can help reduce the occurrence of severe disease and its consequences. Interesting facts such as hyperglycaemia (HBA1C> 6) and Hypertension (BP > 140/90 mm of Hg) can predispose the pregnancy to possibility of congenital defects in the foetus and perinatal complications. Many women hide the fact that they are consuming anti-epileptic medications which need to be modified before conception to avoid NTDs.

Antenatal checklists

It's a good practice to devise specific antenatal checklists which is applied at the very first visit of the patient. This helps to identify risk factors and accordingly approach the issue to achieve safety and avoid perinatal complications.

Forbidden medications and Contraindications to pregnancy

Safety also comes through identifying situations which can pose potential threat to the life of the mother. Cancer medications such as cyclophosphamide methotrexate; antihypertensives such as ACE inhibitors, diuretics and statins, retinol etc: need to be modified. Certain conditions are contraindications to pregnancy: Severe lupus flare within previous 6 months, severe restrictive lung disease (FVC< 1L), Heart failure, chronic renal failure with creatinine more than 29 mg/dl, stroke within the preceding 6 months, previous severe preeclampsia despite treatment with aspirin and heparin, severe pulmonary hypertension, severe heart diseases.

Antenatal care needs to be a focused care based on prominent issues, to quickly bring about improvisation the larger contributors needs to be curbed. Anaemia, preeclampsia, preterm births, placental abnormalities and post-partum haemorrhage are the conditions which need to be focussed upon to reduce the quantum and take measures to prevent them.

The recent NHFS 5 data revealed that 60 % of pregnant women continue to be affected with anaemia and close surveillance and zero tolerance for it should be the practice. Women with haemoglobin of 10g/dl are at risk of suddenly getting exsanguinated as only the haemoglobin is done which is just the tip of the iceberg test to identify the oxygen carrying capacity. Much IDA and hemoglobinopathies exist below the surface and its important to investigate and approach to ensure safe maternity.

The Gestosis score (Figure 1) and vaccination chart (Figure 2) are examples to help increase the awareness and close surveillance of these pregnant women.

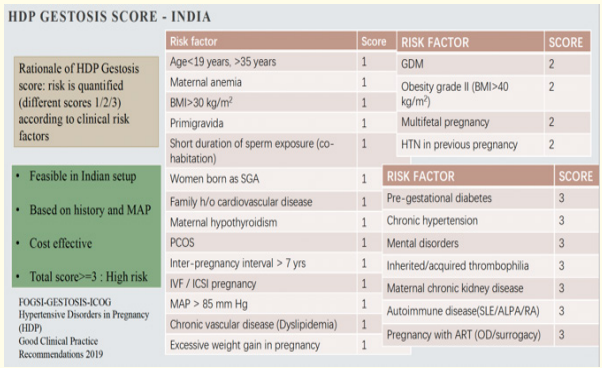

Figure 1: Gestosis Score for Hypertensive Disorders of Pregnancy.

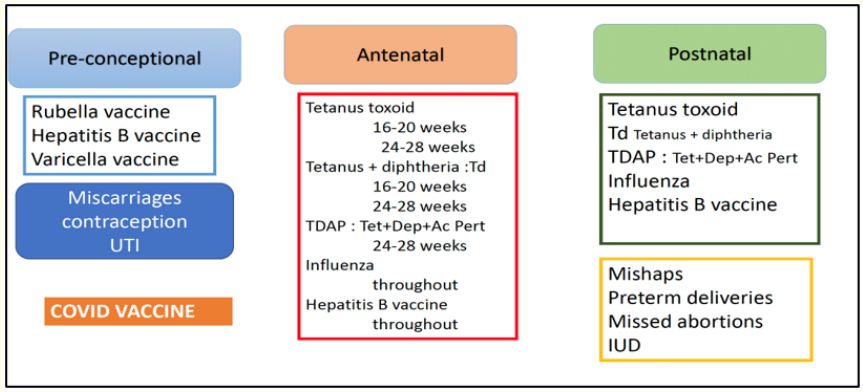

Figure 2: Vaccination schedules and opportune clinical situations.

The most life threatening complications emerging in the current obstetric scenario are the placental abnormalities and severe pre-eclampsia especially the one associated with HELLP as the coagulopathy contributes to complications which are beyond the capacity of many birthing facilities to manage. Therefore risk assessment, early detection and timely intervention and referral can increase maternal safety. A strong clinical suspicion and appropriate imaging can help detect and guide the morbidly adherent placenta.

Tools to increase safety in maternal health

There are three checklists available for us to use, adapt and implement.

- The World Health Organisation (WHO): the Safe Childbirth Checklist to support the delivery of essential birth practices for the prevention of maternal and new-born deaths
- The ACOG Safe Motherhood Initiative and Maternal Safety Bundles focused on the four leading causes of maternal death: Maternal sepsis, obstetric haemorrhage, venous thromboembolism, severe hypertension in pregnancy.
- Recently the WHO has proposed the PPH care bundles for prevention and stepwise action and are validated and useful. The Federation of Obstetrics and Gynaecologists of India (FOGSI) has placed several checklists and protocols on its official website www.fogsi.org which can help the clinician offer safe maternity services to the mothers.

Escalation of care and the Early warning signs

Maternal health assessment should be done objectively by checking the vitals, systemic conditions and certain specific signs and symptoms. Such early warning signs if captured can definitely help early identification and quick response to the event. This also guides the health team to escalate the care in the appropriate direction with temporization and stabilization.

Safety for the HCP providing maternal health services

Safety for the HCP can be brought about understanding the limitations and the privileges that his or her qualification and the level in the facility defines. Working as a team and observation of the protocols structured by the facility has to be followed. Commitment to work, prompt response and active participation in patient care is mandatory. Taking appropriate opinions in times of need and understanding the long-term implications of irrational acts have to be understood. Active participation in creation of standard operating procedures, audits, debriefing sessions and regular feedbacks is essential. Proper documentation and record keeping is essential. Regular skills enhancement, updating of the newer research and adaptation to the newer advances is important to help improvise safety in maternity health. Patient information, education, guidance to report in emergency situations is to be diligently practised through proper communication. Communication withing the fraternity also is important. Proactive promotion of safety practises such as mentioned above can help bring about a better human race and save mothers to nurture their off springs.

Conclusion

Finally safety is a process and not a program and it must be integrated as a value in the work culture for any improvements to have permanence, not just presented as a new priority or procedure that has to be followed.