Preconception Diagnosis, Awareness, Advocacy for Safe Pregnancy, Safe Birth

Chhabra S*
Director, Department of Obstetrics Gynaecology, Mahatma Gandhi Institute of Medical Sciences, India

*Corresponding author: Chhabra S, Director, Department of Obstetrics Gynaecology, Mahatma Gandhi Institute of Medical Sciences, India. Tel: 917152284341; E-mail: schhabra@mgims.ac.in

Received date: July 10, 2016; Accepted date: September 28, 2016; Published date: September 30, 2016

Keywords: Preconception Care, Safe Womanhood, Safe Childhood

Introduction

Girls and women are drivers of change and need to be at the center of the sustainable development goals [2]. Their wellbeing needs to be at the heart of implementation strategies. With investment in girls and women, everybody wins.

But women continue to die at the prime of their age. High maternal and neonatal mortality, morbidity rates continue due to several underlying, environmental, socio-cultural, economic, and family factors which play critical role in the causal pathways and they need to be addressed to achieve long term sustainable change. Leading causes of maternal morbidity / mortality continue to be prolonged labour, obstructed labor, hypertensive disorders, haemorrhage, septic abortion, postpartum sepsis, severe anaemia. Neonatal mortality continues to be due to perinatal sepsis, birth asphyxia, low birth weight, prematurity, diarrhoea, pneumonia, etc. While lack of awareness, resources, unsafe home deliveries and many other reasons play crucial role in maternal, neonatal morbidity, mortality, many pre-existing disorders also contribute substantially to maternal / neonatal mortality. Pre-existing disorders continue to remain unidentified and unmanaged, as desired services are either not available or not accessible or there is lack of awareness or lack of resources for use of services. Some women do not like to go to health facilities for prenatal care or for birth, due to beliefs, disbeliefs, cultural and personal problems.

In view of all these issues, the concept of preconception care has emerged in recent years. Preconception care is a potentially vital modality not only for improving adolescent girls’ and women’s chances of remaining healthy during pregnancy, labour, have healthy newborns, but also supporting their future health.

Preconception care means providing care before pregnancy is established. Although antenatal care sets in the maternal, neonatal, and child health (MNCH) continuum WHO 2010, the most critical time of embryonic development, which often occurs before a woman even knows that she is pregnant, is lost [3]. The evidence increasingly points that care before pregnancy, leads to better outcome for the mother and the new-born and improves woman’s health [4]. The specific aim of preconception care is to improve pregnancy outcomes for the mother and the new-born, by optimizing health before pregnancy occurs.

Present article is with the objective of sharing the available information about, evidence of the possibilities of improving women's and babies health through preconception care.

Methodology – Available literature about preconception care (studies, reviews, commentaries), was searched through various search engines available at this place like google, google scholar, bing, and sites like bmj, pubmed, uptodate, Slim 21-Web OPAC, etc. Whatever was available was used without personal bias. There was no criteria,

Abstract

Concept of preconception care, ‘care before pregnancy’, has emerged in recent years, as a potentially vital tool, not only for improving adolescent girls’ and women’s health during pregnancy, birth, but also future health.

Objective: Study was done to collect information, about preconception care for better pregnancy outcome, future health of women.

Methodology: Information was collected by simple review of whatever literature is available to us in this rural area, about preconception, interconception, periconception care.

Evidence, possibilities: Health of woman at the time of conception is important, both for her and baby’s health. Preconception care helps in reduction of pregnancies that are too early, too close, unplanned. In situations like, extremes of reproductive age, in cases with pre-existing disorders, preconception care offers a lot. Low prepregnancy Body Mass Index (BMI) is associated with adverse birth outcomes, but BMI at which risk increases is not well defined. Women who are overweight before pregnancy are also at greater risk of developing hypertensive disorders during pregnancy. Women with anaemia before conception or other deficiencies can also be helped. Generating awareness about possible dangers during pregnancy, preventive possibilities, need of behavioural change towards lifestyle, seeking timely care so as to make positive difference in reducing low birth weight, stillbirths, preterm births, prevent maternal, perinatal morbidity, mortality and have healthy babies and mothers. Actually with preconception advocacy, care, planned supervised system, all women can be helped. Those mothers or babies who need special care, can find their way to referral well in time. Preconception care closes the gap in continuum of care, accelerates improvements in maternal, newborn, child health and reproductive planning.

Keywords: Preconception Care, Safe Womanhood, Safe Childhood

J Preg Child Health, an open access journal
ISSN:2376-127X
other than relevant to title, but outcome, positive or negative has been added in case of studies.

**Status of Preconception Care**

Preconception care has been defined as “any intervention provided to women / couples of childbearing age, regardless of pregnancy status or desire, before pregnancy, to improve pregnancy outcome, health of women, new-borns and children” [5] or “a set of interventions that aim to identify and modify biomedical, behavioural, and social risks to a woman’s health or pregnancy outcome through prevention and management” [6]. Preconception care is rather a new concept and is hence currently fragmented. Monitoring the health status before conception is not familiar to people with a desire for children, particularly not to those who would benefit most from it [7]. Preconception care, a recent phenomenon, closes the gap in the continuum of care to accelerate improvements in maternal, new-born and child health, promoting reproductive planning, nutritional risks and interventions, preventing and treating infections, screening and managing chronic diseases, and promoting psychological health.

Three overlapping terms are being used. Preconception care is any preventive, promotive or curative health-care, social interventions provided to women of childbearing age in the period before pregnancy (proximal or distal – within 2 years), to improve health-related outcomes for women, new-borns and adolescents. Periconception care is ‘provision of these interventions in the period extending from 3 months before to 3 months after conception occurs’. Interconception care is ‘provision of these interventions between two pregnancies’ [8]. It is possible to do advocacy about possible effects of existing disorders and preventive actions like disadvantages of caffeine, smoking, alcohol, drugs and other environmental chemical/radiation exposure, in addition to delivery strategies and packages for care, advancing from ‘important to do and can be done’ to ‘is being done and is making a difference’.

**Evidence**

An estimated 10 million girls younger than 18 years are married each year [9] and pregnancy in a very young woman is considered to be a very high risk event, because teenage girls are physically and psychologically immature for reproduction. Elderly women also have many risks for themselves and their babies. Low prepregnancy body mass index (BMI) is associated with adverse birth outcome, but the BMI at which risk increases is not well defined [10]. Being severely underweight is also associated with smaller infant head circumference and lower ponderal index. Ronnenberg reported that more than half of the women in a study were underweight before pregnancy. Although being moderately underweight was not associated with increased risk of adverse pregnancy outcome, being severely underweight was an important risk factor for reduced fetal growth. Other extreme is obesity. Globally it is estimated that 35% of adult women are overweight. Women who are overweight (BMI ≥ 25 kg/m²) or obese (BMI>30 kg/m²) before pregnancy, are at greater risk of developing hypertensive disorders during pregnancy [11]. In many regions, women gain little weight during pregnancy, but because of prepregnancy deficits, Indian women end pregnancy weighing less than African women do at the beginning. Deficits in maternal nutrition could help explain the puzzle of, why Indian children are much smaller than their relative wealth predicts’ [12].

Kalavani reported that anaemia contributed directly / indirectly to 40% maternal deaths in India [13]. All women of reproductive age are at risk of iron deficiency. It is estimated that 30% of women globally are anaemic, with at least half of these cases due to iron deficiency. Maternal under nutrition and iron-deficiency anaemia increase the risk of maternal death, accounting for at least 20% of maternal mortality [14]. Iron and calcium deficiencies contribute substantially to maternal deaths. Maternal iron deficiency is associated with babies with LBW. The global prevalence of LBW is 15.5 percent, which amounts to about 20 million LBW infants born each year, 96.5 percent of them in developing countries. Half of all LBW babies are born in South-Central Asia (UNCFWHO 2004). Folic acid insufficiency before conception and during the first trimester is associated with a higher prevalence of neural tube defects, independent of other risk factors. Hodgset reported that supplementation with folic acid (FA) significantly reduced the risk of small gestational age (SGA) at birth, but only if commenced preconceptionally. Adequate folic acid supplementation before pregnancy and during early pregnancy can reduce the risk of a neural tube defect-affected pregnancy (Prevention of neural tube defects 1991). Maternal iodine deficiency results in altered maternal and fetal thyroid hormone synthesis, proportional to the degree and duration of iodine deprivation. Iodine deficiency in the pregnant woman has potential to impact the intellectual development of the child [15,16].

A systematic review [17] established that there are currently three levels of evidence within the area of preconception care. For some preconception interventions, such as folic acid supplementation to prevent neural tube defects, the evidence base is strong [19] In other areas, such as intervals between pregnancies, the data showed significant risk in terms of excess maternal deaths, higher rates of prematurity and stillbirths, with short inter-pregnancy intervals, however, strategies to optimize birth spacing and increase contraceptive uptake are lacking [20,21]. Dean reported that violence against girls and women; unsafe abortions; alcohol and tobacco use and harmful environmental exposures require further substantiation of magnitude of pre-pregnancy risk, and proof that prevention and management as part of preconception care will have greater impact than prenatal care alone. Medical disorders like cardiovascular disorders, malaria, and hepatitis are also responsible for many deaths [22]. Agrawal reported that maternal mortality was on rise in US due to pre-existing disorders. Every 10 minutes, one woman nearly died during pregnancy or birth. Every year more than 50,000 women experienced a life-threatening complication around the time of birth. Estimated 40% of maternal deaths could have been avoided if women had access to quality care. One reason was more women entering pregnancy with chronic conditions, heightening risk of life-threatening complications. Chronic conditions like obesity, high blood pressure and diabetes were found to be on rise in US and leading cause of maternal deaths was cardiovascular disease. Families may not seek care or follow medical advice further aggravating the situation [23-27].

**Possibilities**

By preconception care reduction in pregnancies, too early, too close, unplanned pregnancies and abortions may be possible. Nutritional status of women at the time of conception and during pregnancy are important both for the health of the mother and for ensuring fetal growth and development. Because many women do not access nutrition-promoting services until 5th or 6th month of pregnancy, it is important that women enter pregnancy in a state of optimum nutrition.
Interventions, if stretched too far and neglecting existing maternal, child health, and nutrition and young age at first pregnancy. Education and awareness about nutritional anaemia and congenital malformations can increase receptiveness to uptake of iron and folic acid supplementation before pregnancy. However, targeting and reaching a sufficient number of those in need may be a challenge. Adolescent girls, their families, and communities seeking prevention of unwanted pregnancy can be helped. Adolescent preventive care may promote some aspects of preconception health but topics related specifically to pregnancy outcomes may be missed [29-30]. Preconception care helps in generating awareness about possible dangers of pregnancy, the need of behavioral change towards lifestyle.

Activities need to be aimed at prevention of LBW, maternal, neonatal morbidity and mortality and promoting women's health. Women with chronic medical disorders, underweight and overweight need to be made aware of problems during pregnancy and outcome. Prevention and treatment of folic acid deficiency, prevention and management of anemia, prevention and management of diabetes, prevention of unsafe abortion, delaying pregnancies among adolescents, prevention of substance abuse (e.g. alcohol, tobacco) and other such issues need to be part of preconception care. Women and couples who have had poor previous outcomes, those in difficult social situations like poor people, poor immigrants can be helped. But this must be done without stigmatizing them.

Local people, village health workers, nurse midwives, can be the backbone of such services, especially in low resource settings. With preconception, advocacy, care and a planned supervised system, all women can be guided to have essential care pre-pregnancy, during pregnancy, birth and post birth. Those mothers and babies, who need special care, will find their way to referral well in time. The health, economic and social benefits of preconception care need to be communicated effectively.

Risks of preconception care include blaming women (stigmatization, undermining their autonomy), forgetting men's health, intruding on the privacy of women, diluting effects of certain interventions, if stretched too far and neglecting existing maternal, neonatal and child health interventions that work, medicalizing issues that are better dealt with by experts or stakeholders in other domains (e.g. sociocultural, religious) [29].

Impact

Preconception care offers a window of opportunity to introduce a positive agenda for better outcomes for the baby, woman's health, strengthening families and community health. It offers a wedge or a space for other interventions, promotes intersectoral collaboration within the health sector and between the health sector and other sectors, educating adolescents /women about sexuality, sexual and reproductive health and contraceptive use. Singh reported that preconception care has the potential to positively impact 208 million pregnancies worldwide each year. Ideally preconception care should lead to improved maternal nutrition, such as tackling obesity and related issues, under nutrition and micronutrient deficiencies in addition to awareness and effect of pre-existing health and disorders, on pregnancy outcome and future health [30,31].

References

1. 2015A New Sustainable Development Agenda.
2. Tatun B (2015) Girls and women at the heart of the discussion throughout UNGA and CGI.
15. (2012)Meeting to develop a global consensus on preconception care to reduce maternal and childhood morbidity and mortality WHO.
Pregnancy and Postpartum Guidelines of the American Thyroid Association for the diagnosis and management of thyroid disease during pregnancy and postpartum. Thyroid 21: 1081-1125.


