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First 1000 Days of Opportunity and Vulnerability: Glimpses from Mewat, Haryana, India

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***Abstract*: The first one thousand days from conception to two years of age of the child is a time period of tremendous potential and enormous vulnerability. The present study was conducted to document mother and child health care practices during the first 1000 days from women from a rural area to gain insights into their knowledge about mother and child health and socio-cultural practices associated with pregnancy. A qualitative descriptive study was conducted in Nuh (Mewat) district of Haryana state in India. The data was collected using focus group discussion with around 150 married women from nine villages of Mewat district. Purposive sampling with snow ball technique was used to approach the women respondents in community. Early age marriage, early child bearing, unawareness, illiteracy, son preference, traditional and religious norms and practices of mother and child care, patriarchal family structure and resultant gender dynamics led to various complications throughout their life. Awareness generation through local media and education of girls and women can promote health seeking behavior amongst women in reproductive years for better maternal and child care.**

***Index Terms:* First 1000 days, Mother and Child Health (MCH), Public Health Systems, Gender, Child care, Frontline Health Workers (FLHWs)**

I. INTRODUCTION

The 1,000 days starting from a woman's pregnancy until her child's second birthday offer a unique window of opportunity to shape healthier and more prosperous future. Swaminathan (2016) also emphasized on the occasion of National Nutrition Week during August 2016 that children below 1000 days in age require special attention, since malnutrition at this young age leads to several defects including impaired cognitive ability.

The right nutrition and care during these 1000 days have an enormous effect on a child's ability to grow, learn and flourish as a healthy individual. Since this crucial period starts from conception, it becomes very important to be cautious throughout the period of pregnancy especially of malnutrition prevalent among adolescent girls and young mothers. Nutrition is the major intrauterine environmental factor that alters expression of the fetal genome and may have lifelong consequences (Guoyao et al., 2004).

If this inter-generational cycle of malnutrition is not broken, these under nourished girls give birth to low birth weight infants who may face several physical or mental challenges. Some of these challenges could be impaired growth, poor cognition, low educational performance, low or no productivity, low adult wages etc.

In India, 38.4 per cent of children are suffering from stunting (low height for age), 21 per cent from wasting (low weight for height), 35.7 per cent are underweight (low weight for age) and 18.2 per cent had low birth weight when they were born (NFHS 4, 2015-16). Global Nutrition Report, 2018 showed this very evidently by mapping the stunting prevalence in districts in India through Figure 1.

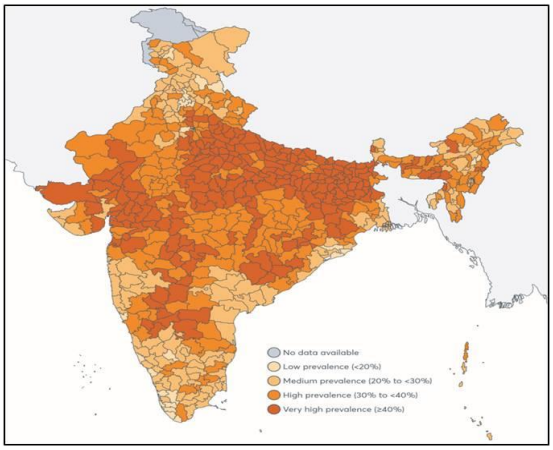

Fig.1. Map of stunting prevalence in Indian districts, 2015–2016
Source: Global Nutrition Report. Menon P., Headey D., Avula R. and Nguyen P.H., 2018

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Also, Briend, A., Khara, T., & Dolan, C. (2015) found that wasting and stunting are associated with increased mortality, especially when both are present in the same child. The tragic reality of first 1000 days in India is that the prevalence of stunting reaches a peak around 18-24 months, after which age corrective interventions do not have an effect (Figure 2).

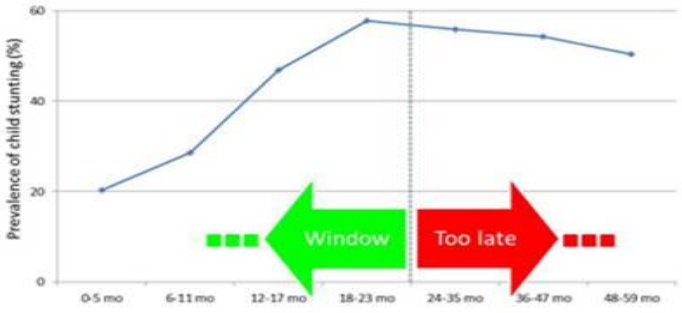

Fig.2. Stunting happens very early in life
Source: First 1,000 days, United Nations in India

All of these problems are actually the manifestation of varied immediate and underlying causes. These causes could be poor adolescent and maternal nutrition, inadequate and inefficient infant and young child feeding (IYCF), limited or inappropriate knowledge about mother and child caring practices, limited access to available health services etc.

In India, there are a number of government health programmes and schemes targeting mother and child health with special focus on first 1000 days. Various interventions are implemented to generate awareness for health seeking behaviour. A number of free health care facilities like antenatal check-ups during pregnancy, distribution of iron and folic acid (IFA) and calcium tablets, immunization etc. are available even in remotest areas. Under some of these schemes, there is provision of incentivizing the good practices to encourage positive health behaviours like full antenatal check-ups (ANCs) and institutional delivery etc. Some of these programmes to name are Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA), Poshan Abhiyan (National Nutrition Mission), Janani Suraksha Yojana, Janani Shishu Suraksha Karyakram, Mission Indradhanush etc. Though, there has been some progress due to availability and utilization of these services but overall picture is still far from the ideal.

Nuh (Mewat), district of Haryana state in India is the newest state carved out of erstwhile Gurgaon district. Being a neglected area for quite a long time with respect to education and development initiatives, despite its proximity to Delhi NCR, its health indicators are very poor. Analysis of available secondary data of health indicators from Census 2011, DLHS 3 & 4 and NFHS 3 & 4 portray a very grim picture of the health care services and their utilization, specially related to mother and child health in the district of Mewat. Jatrana (2005) reported in his study that the overall health outcome in Mewat is very low in comparison to the state's average and other districts of the state.

This study was conducted with the objective of documenting mother and child health care practices during the first 1000 days from women of district Nuh (Mewat), Haryana, India. The study also attempted to identify the major gaps in terms of their knowledge about mother and child health during this period of 1000 days.

II. Material and Methods

The study was initiated after getting clearance from the Institutional Ethics Committee of Lady Irwin College, University of Delhi, New Delhi, India which was held on October 13, 2017, letter no. REGN NO. ECR/212/INDT/DL/2014. The respondents were explained the purpose of the study. Their written consent was obtained for participating in study after reading out the ethical considerations.

It was a qualitative descriptive study. Locale for the study was Nuh (Mewat) which is a district of Haryana state in India. Mewat is predominantly inhabited by Meo Muslims. The data was collected from the period of November, 2017 to June, 2018 using focus group discussion with community women in nine villages- Papra, Sihri, Guhana, Malab, Jahtana, Khedikala, Kaliyavas, Sakras and Bhadas of district Mewat, Haryana.

Thirteen FGDs were conducted with approximately 8-15 women in one FGD and around 150 women in total (Table I).

Table I. Details of thirteen FGDs conducted in nine villages of Mewat, Haryana

FGD	**Village**	**Block**	**Approx. number of community women in FGD**	**Avg. age of women participants**
FGD 01	Papra	Punhana	08	13-45 years
FGD 02	Papra		13	
FGD 03	Sihri		11	
FGD 04	Guhana	Nuh	11	
FGD 05	Guhana		14	
FGD 06	Malab		08	
FGD 07	Jahtana	Punhana	12	
FGD 08	Jahtana		12	

FGD 09	Khedikala	Firozpur Jhirka	15	
FGD 10	Khedikala		15	
FGD 11	Kaliyavas		08	
FGD 12	Sakras		08	
FGD 13	Bhadas	Nagina	15	

Purposive sampling with snow ball technique was used to approach the women respondents in community. The criteria for selecting the respondents for FGDs was that the woman should be married and should be either pregnant or mother of a child in 0-2 years or both.

After completing all the FGDs, some emerging themes were identified from the documented responses and further all the data was categorised under these themes. All the themes were separately taken, analyzed and discussed in detail.

III. RESULTS

Reported responses about the mother and child health care practices during the first 1000 days were categorized and emerging trends were observed. The process also helped in identifying the major gaps in respondents' knowledge related to mother and child health (Table II).

Table II. Emerging themes from FGDs

Emerging themes from FGDs	**Noted responses** **≥67% - Majority** **50% - Half** **33% - One third**
Early age marriage and early child bearing	Majority of girls were found to be married during the age of 13-15 years. Most of them start child bearing in the same age.
Registration of pregnancy and antenatal care (ANC)	Majority was unaware of registration of pregnancy and its benefits. Nearly half of them preferred home delivery over institutional delivery.
Breastfeeding (early initiation and exclusive breastfeeding) and Complementary feeding	Majority said that giving pre-lacteal food (*ghutti)* to the child immediately after birth is a common practice in Mewat. Women were completely ignorant about exclusive breastfeeding and its benefits. Majority of them were unaware of complementary feeding and it was found that there was almost no consideration for food and nutritional requirements of a young child and any established dietary patterns to ensure nutrition. Generally, no separate food items for the child.
Diet and nutrition	Majority of the respondents said that the diet during pregnancy and lactation is generally not a matter of concern in their houses and they are asked to eat whatever is available at home. Almost all women eat only two times a day even during pregnancy.
Immunization and health check-ups of the child (0-2 years)	Majority of them had not got their child/children fully immunized on the pretext of pain due to injection or post-immunization fever. Children are not taken for any kind of check-up until they are sick.

A. Early age marriage and early child bearing

First 1000 days of opportunity and vulnerability start from conception. When young girls who are biologically not mature enough to conceive and carry a child get married and start child bearing, both mother and child could be at high risk of any kind of complication. According to WHO Global health estimates 2015, adolescent mothers in the age group of 10 to 19 years face higher risks of eclampsia, puerperal endometritis and systemic infections than women aged 20 to 24 years, and babies of adolescent mothers face higher risks of low birth weight, preterm delivery and severe neonatal conditions.

Though the legal age of marriage for girls is 18 years in India but the last Census report, 2011 reveals that child marriage is still rampant with almost one in every three married woman having been wed while she was still under the age of 18 years. Similar trend was reported in these villages under study. Girls were found to be married off in the age group of 13-15 years and some of them even become mother of 2-3 children by the time they are 18 years of age. Though they were aware about legal age of marriage but said that due to poverty, they are married off early. If there are more girls in a family, then to save expenses of marriage, two daughters are married off together irrespective of their age with adverse consequences not only on their health but on their progeny. Also, it was reported that rapid repeat pregnancy was a common practice to ensure a son or desired number of sons.

B. Registration of pregnancy and antenatal care (ANC)

Antenatal care is the systemic supervision of women during pregnancy to monitor the progress of foetal growth and to ascertain well-being of the mother and the foetus. Baqui et al., (2008) demonstrated a 34% reduction in neonatal mortality in the Sylhet district of Bangladesh, associated with pregnancy surveillance and registration that allowed antenatal and day 1, 3 and 7 neonatal home visits by trained community health workers.

The period of pregnancy when mother and child both need adequate nutrition and proper care are generally ignored. While the human brain continues to develop and change throughout life, the most rapid period of brain growth is in the last trimester of pregnancy and the first two years of life (Cusick, S. & Georgieff, M., (n.d.). But, lack of knowledge and resultant ignorance during this time can cause undesirable damage to mother and lifetime challenges for the child.

It was reported that women were not aware of registration of pregnancy, when should it be done, how many ANCs should they go for, what would be done in these ANCs and what benefits and services they can get by registration of pregnancy. Though ASHAs of these villages said that they do make home visits in the third month of pregnancy for registration but women do not show much interest and do not come for ANCs even after repeated reminders. Every pregnant woman should ideally make at least four visits for ANC, including the first visit/registration. But sadly, Mewat has only 2.3 per cent women who had full antenatal care with only 37.7 per cent institutional births (NFHS 4, 2015-16).

It was also found that most of the women did not have much say in any decision related to health care they receive. Even if they wished to deliver at a health facility but their family members like husband and mother-in-law were not in favour of that, they can't do anything about it and are forced to deliver at home. It is supported by a study conducted in Mali to look at the influence of intra-familial power on maternal health care. It was found that mothers-in-law who adhere to and believe in the efficacy of traditional practices of child birth and post-natal care may see institutional care as unnecessary or even detrimental, such that they discourage their daughters-in-law from seeking care from trained providers (White et al., 2013). A few of them shared that having cordial relationship with their husband and in-laws could help them to evince their wish to deliver at a health facility rather than at home. Allendorf (2010) also found in his study that married women who have good relationships with their husband and in-laws are more likely to obtain better maternal health care than those with poor relationship. Some of them based on their previous experiences of delivering at hospital/health facility were disappointed with the behaviour of hospital/health facility staff and their services due to which they preferred home delivery over institutional delivery.

C. Breastfeeding (early initiation and exclusive breastfeeding)

Breastfeeding doesn't only play a crucial role in reducing infant and child mortality but also have proven lifelong benefits for individuals. Anderson, Johnstone and Remley (1999) concluded from their meta-analysis of twenty research studies that children who are breastfed have higher IQs than children who are not. Mortensen, E.L., Michaelsen, K.F., Sanders, S.A. & Reinisch, J.M. (2003) also found a significant positive association between duration of breastfeeding and intelligence in their longitudinal study.

Breastfeeding within first hour of life is recognized as one of the most important actions for infant survival, growth and development. Smith et al., (2017) reported in their study that as compared to infants who are breastfed ≤1 hour after birth, infants who are breastfed 2–23 hours after birth had a 33% greater risk of neonatal mortality. But in India, only 41.6 per cent infants are breastfed within one hour of life that further goes down for Mewat to be only 30.7 per cent (NFHS 4, 2015-16). The present research also found out that majority of women were not aware about colostrum or its benefits except a few who said that it is good for their child's health. It was reported that instead of breastmilk, giving honey *ghutti* or sugar syrup or a few drops of tea as *ghutti* to the child immediately after birth is a common practice in Mewat as it is believed that it would clear the food pipe of the child. It was also found that in their previous home deliveries, they were asked to squeeze out the initial yellow milk and throw it on ashes *(raakh)* on the pretext of ensuring continuous flow of milk.

According to WHO, "Exclusive breastfeeding" is defined as no other food or drink, not even water, except breast milk for 6 months of life, but allows the infant to receive ORS, drops and syrups (vitamins, minerals and medicines). It was found from the villages under study that except a few, most women didn't know about exclusive breastfeeding for first six months. Though, they breastfeed their children up-till the age of two or three years but give water to them if weather is hot. This kind of ignorance and indifference about such important issues is alarming and contributes to high infant morbidity and mortality.

D. Diet and nutrition

The first 1,000 days are characterized by rapid rates of neuronal proliferation (cell numbers), growth and differentiation (complexity), myelination, and synaptogenesis (connectivity). Thus, this time period harbors the greatest opportunity to provide optimal nutrition to ensure normal development and also the time of greatest brain vulnerability to any nutrient deficit (Cusick & Georgieff, n.d.).

To ensure better pregnancy outcomes, it is important that mother's increased nutritional demands are met along with sufficient weight gain which should be around 9-11 kgs with an average of 2kgs/month after the first trimester. Children of malnourished women are more vulnerable for cognitive impairments, short stature, lower resistance to infections and a greater risk of disease throughout their lives (see Figure 3).

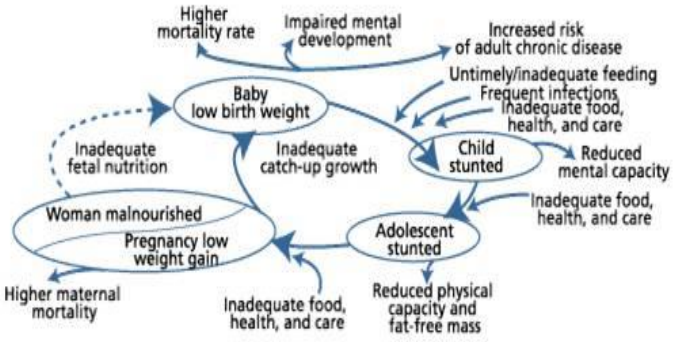

Fig.3. Poor Nutrition throughout the Life Cycle
Source: Ransom, E.I., & Elder, L.K. (2013)

It was reported by women during the focused group discussions that their diet during pregnancy depends on financial conditions of the family at that time. If they can afford nutritious diet including fruits, milk and milk products etc., they get to eat them otherwise not. This is supported by Moni Nag (1994) in her study where she quoted based on a number of diet surveys among women in Indian communities and hospitals that there is almost universally no increase of intake among low income group women during pregnancy. It was also found that their diet during pregnancy is generally not a matter of concern in their houses and they are asked to eat whatever is available at home. Moni Nag (1994) also reported the same in her study that in household food distribution, pregnant women hardly get any special consideration. The gloomy picture of their poor health status was reported by NFHS-4, 2015-16 which reported that in Mewat 78.6 percent pregnant women in the age group of 15-49 years were anaemic.

E. Immunization and health check-up of the child (0-2 years)

Despite the Universal Immunization Programme of Government of India that provides vaccination to prevent seven vaccine preventable diseases (i.e. Diphtheria, Pertusis, Tetanus, Polio, Measles, severe form of Childhood Tuberculosis and Hepatitis B), the coverage for fully immunized children in India is only 62 per cent (NFHS-4, 2015-16). For the state of Haryana, it is 62.2 per cent but for district Mewat, it is significantly low i.e. 13.1 per cent in total and it further goes down to only 11 per cent for rural areas which is alarming.

Awareness about benefits of immunization was negligible among women who were present for various focused group discussions. There were very few of them who had got their children fully immunized. It was also reported that ANM comes to their community for children's immunization and mothers are informed by ASHA to bring their children along with immunization card to aanganwadi centre. But, women do not bring their children for immunization even after repeated reminders making them prone to various serious infections. Majority of them were of the view that their children are doing well even without immunization, and there is no need for it. Also, they did not want their children to bear pain of injection or get fever as side effect of any vaccine.

IV. DISCUSSION

Considering the importance of first 1000 days, it is very evident that poor nutrition and care that starts from in-utero amplifies the risks to the individual's health and increases the likelihood of damage to future generations. Looking at the results from the study, this vicious cycle starts when illiterate malnourished adolescent girls or young women are married off and start child bearing. Census 2011 showed an interesting relationship between educational level and underage marriages reporting that share of underage marriages gets smaller with higher level of education which was 38.1 per cent for illiterate, 30.9 per cent for primary, 15.3 per cent for secondary and 5.2 per cent for graduate or above. This clearly shows that education can actually change this disconsolate picture of early age marriage and early child bearing, saving girls and women from related burdens decreasing the possibility of resultant child morbidity and mortality.

As per NFHS 4, 2015-16 mothers who received financial assistance under Janani Suraksha Yojana (JSY) for institution delivery were only 7 per cent in district Mewat that was further as low as only 4 per cent for rural areas. This shows that when it comes to prevalent socio-cultural norms, even financial incentives might not encourage or promote desired practices. Mewat needs more concerted efforts to influence and persuade families to change for better health outcomes of mother and children and overcome the age old conservative approach to child birth and mother and young child nutrition. The community engaging communication efforts have to work to make people understand the importance of right nutrition and care during first 1000 days and regular monitoring of pregnancy through antenatal check-ups has to be reinforced.

It was found out from the women that having cordial relationship with their husband and in-laws could help them to evince their wish to deliver at a health facility rather than at home. Hence, the interventions for mother and child health should also focus on husband and other family members especially mother-in-laws who could then be more aware and prepared for ensuring good health of the expectant mother and child to be born. Darcy White et al., (2013) also concluded in their study that interventions focusing on women or couples may be insufficient to advance women's reproductive health in patriarchal societies such as Mali and suggested that future research and programmatic efforts need to address gender norms and consider the influence of other family members, such as mother-in-law.

From the findings it is evident that how early marriage as a norm in the communities can result in early age pregnancies making young mothers and their children vulnerable. Also, prevalent socio-cultural practices during pregnancy and child care and patriarchal structure deprive women from accessing health services during the time when they need them the most. Their busy routine even during pregnancy leave them overworked with no concern for taking nutritious diet or proper rest making them feel child birth just as any other task. It not only results in poor maternal nutrition but also put the life of the child at stake leaving the child with poor health forever. Further, norm of home delivery, no birth spacing, son preference, delay in initiating breastfeeding and incomplete immunization of the children further exacerbates poor mother and child health conditions.

V. Conclusion

Women and their family members were not aware of importance of proper care and nutrition during first 1000 days and what it can result into if not ensured when it is needed. Thus it is very important that mother and child health related key messages, provisions and benefits of government health schemes should be repeatedly shared and discussed not only with women but also with their family members especially husband and mother-in-law. In such a patriarchal environment, girls' education can play a very pre-emptive role in developing positive self-esteem and build their confidence to be able to exercise their agency to express their choice what they need and want. Hence there should be consistent efforts for girls' education which can really work as a catalyst for a healthy and prosperous society. It was also observed that these communities do not have much media penetration through which awareness on various issues could have reached them easily. Hence local media of communication like drama, folk songs, community radio etc should be used for awareness about first 1000 days of window of opportunity and vulnerability.

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