Proceedings of the International Conference on Intelligent Computing and Communication for Smart World (I2C2SW-2018)
14-15 December 2018

Are Pregnancy Welfare Schemes Effective? A Case Study on India

Ramalatha Marimuthu
Department of ECE
Kumaraguru College of Technology
Coimbatore, India
ramalatha.m.it@kct.ac.in

G. Kesavkrishna
Department of ECE
Kumaraguru College of Technology
Coimbatore, India
kesavkrishna.16ec@kct.ac.in

R. Sathya Narayanan
Department of ECE
Kumaraguru College of Technology
Coimbatore, *India*
sathya.16ec@kct.ac.i

***Abstract*—It is a well established fact that to be born into poverty is an everlasting detriment to the mental as well as physical growth. Governments and researchers are trying to work in tandem to identify the ways to overcome the outcomes of the pregnancy in poverty – Governments all over the world are announcing new schemes to support the pregnant women who are below the poverty line and there has been many NGOs and Foundations supporting this work. At the same time research to find out the effectiveness of these schemes in terms of decline in maternal as well as child mortality rate, post delivery health for the mother and the baby is not comprehensive. This paper provides a structured approach to identify the factors impacting the effectiveness of these schemes by comparing some of the schemes in India and corroborating the facts with data.**

Keywords—complications in pregnancy and childbirth, poverty and pregnancy, still births, antenatal care, intrapartum care.

I. INTRODUCTION

Pregnancy is a mystery that has not been fully unraveled yet. Still the research is going on to identify the reasons for prenatal, labour and postnatal complications, child and mother mortality during and after child birth and health care of mother and newborn during the first few years. Malnutrition, anaemia, blood pressure, diabetes, preterm labour, still births are some of the most common terms we hear when conducting studies of pregnancy history of women. These are extensively researched on and many studies have given authoritative conclusions regarding the causes and effects but still we have seen only the tip of the iceberg.

In India, more than 60% of the rural population is below the poverty line meaning the women in these households are forced to work on daily wages to earn their daily food ration. At this juncture, pregnancy is an additional burden for these women due to various factors leading to complications before, during and after pregnancy. A lot of biological, environmental, socio economic, even political factors play an important role on the overall maternal and child health. Some of the factors like poverty have already been identified by the governments and they have started taking proactive steps by introducing Maternity Benefit Programs. poverty leads to malnutrition in the case of both mother and the child, lack of access to medical attention and illiteracy leading to lack of awareness on best practices, continuous monitoring and timely medical intervention are also important when determining a mother and child' s health.

Maternity Benefit programs have been considered an important tool for nurturing the next generation for centuries. According to the World Health organisation a minimum standard is required to be set in the legislation of the countries for Maternity protection. Providing maternity leave to the mothers as well as fathers has been the top priority of the countries all over the world and each country has its own policy on the number of days or weeks and the amount of pay entitled to the parents during the leave. But AnjelVahratian [1] has shown that even in leading economies like USA, the purpose of the legislation is unfulfilled. For example, though legally, the parents are entitled to 60 business days of unpaid leave, from the 2000 U.S. Department of Labor survey results, he has concluded that 78 percent of the people of the participants needed leave but they could not afford the leave for the obvious economic reasons. Moreover eighty percent of women, who take leave after child birth, have taken 12 weeks or less for the same reasons.

Abram Wagner [2] et al., have studied the risk factors like underweight, high or low blood pressure and anemia associated with pregnancy. The study was conducted with the strength of 279 pregnant women in rural West Bengal, India and anemia and low BP were found to be prevalent. Similarly they have also studied 368 children between the ages of 12 to 24 months and suggested that regular interventions during pregnancy may lead to reduction of developmental delays.

European countries like Finland, Denmark, Sweden and Belgium top the list on providing maternity leave for the mothers and fathers [3]. One of the Nordic countries Estuania provides, in addition to the fully paid leave of nearly five months to the mother and one month to the father, new parents get a fully paid one year shared leave and 70% paid two more shared leave years. Recently India amended its Maternity Benefits Act to provide 26 weeks of maternity leave to the working mothers. All these facts show how much importance the Governments are placing on nurturing the younger generation.

In developing countries like Africa and most parts of Asia, the maternal deaths and the still births are increasing in spite of the Governments intervention programs and the Maternity Benefit Schemes. For example, in Africa, the countries have implemented national and community health insurance schemes and provided subsidies[4]. But most women prefer private facilities to government facilities because of distrust in the quality of government health facilities. This can be expensive but medical insurance or aid schemes do not cover pregnancy. And these schemes are available only to selected

industries or professionals with university degrees. For women below poverty line and for women who are illiterate, this will not help[5].

In countries like India in addition to the maternal leave benefits, various government schemes provide financial support to pregnant women who are unemployed and who have no proper access to healthcare. Rural women of India are the intended beneficiaries of this program.

This varying degree of benefit to the pregnant women in different countries by the governments depends on various socioeconomic and cultural factors like the economy of the country, social status of women, societal perception on pregnancy and its outcomes and the strength of family bonding. Sometimes political factors like change of government, war and natural calamities also play a role in the policy and decision making of the governments. This paper takes India as a case study and analyses the benefits of some of the state and central schemes to provide a comprehensive set of factors governing the success of the schemes.

II.RELATED WORK

The early child health consequences of poverty and pregnancy are multiple, and often set a newborn child on a life-long course of disparities in health outcomes. Included are greatly increased risks for preterm birth, intrauterine growth restriction, and neonatal or infant death. Poverty has consistently been found to be a powerful determinant of delayed cognitive development and poor school performance. Behaviour problems among young children and adolescents are strongly associated with maternal poverty. Sound evidence in support of policies and programs to reduce these disparities among the poor, including the roleof health practitioners, is difficult to find. This is partly because many interventions and programs targeting the poor are not properly evaluated or critically appraised[6].

In Indian rural areas, it is common to find women pregnant when she is below 18 and delivering without any care of medical experts. Early marriage, lack of education, pressure from the parents and relatives are crucial reasons for this situation. The Governments are appointing Community Health Workers (CHW) and creating Primary Health Centers (PHC) to provide education and care for these women. Even then the uptake of these facilities by the young women in the rural areas is limited due to lack of awareness. The community intervention program of the Government of India can increase the awareness of these women and urge them to utilize the facilities[7]. 11% national economic productivity of developing countries like Africa is lost to under nutrition which is the direct result of lack of maternal healthcare during pregnancy. Most of the health care centers lack basic facilities and skilled human resources in rural areas. usually the rural women are skeptic about the effectiveness of the centers[8].

To improve the effectiveness of the intervention programmes, it has been suggested that community health workers are to be given necessary tools like mobile phones, bicycles and delivery kits[9]. Harnessing the power of private sector along with the governmental schemes and a strong leadership in the government can implement the schemes cost effectively.

Another problem encountered is the adolescent pregnancy where the father of the child was or was not married to the girl. Most of them are usually unplanned and studies show that the rural girls are the most affected in such scenarios. Most of them not earning to keep themselves survive, the situation becomes worse when the parents do not want to support the girl and child due to poverty and cultural reasons[10].

One more situation is when the mother of the child is not living with the father of the child. In such cases, the mothers received intermittent and irregular support from the father. The women being not able to support themselves, they are not able to meet even the cost of food, accommodation and transportation which makes it highly improbable for them to meet the additional needs. This is in addition to the anxiety one feels with the expectation of the arrival of a new baby[11], [12].

Several studies have proved that the socio economic reasons such as the poverty are on the top causes for majority of early pregnancy complications in developing countries. Qualitative research is made and comparative study is made to understand how proportionally the poverty, education and social reasons increases the complications in pregnancies[12].

Another theory is that the benefit schemes by the government may have adverse effects like triggering unethical and sometimes immoral planned pregnancy. For example, Child Grant Schemes in Africa which are supposed to alleviate poverty in children may have been a reason for the increased teenage pregnancy. Though the outcomes may be perceived, there may have been a grain of truth in the basic reason for the investigation done on the subject by M.N.Lambani in the small principality of Thulamela[13].

Nutrition plays an important role in the development of both the mother and the child but in countries like Africa the educated working women get maternal benefits like other countries but the uneducated women do not get any type of incentives provided by their employers. This places intervention programs or government plans for poor and uneducated women on the top of the needs list to build a healthy life[14]. But sometimes, the legislation that support the women during pregnancies and their reproductive privacy becomes obsolete when new policies are introduced later through the same government. This usually affects and becomes meaningless for poor women, the target to whom the original policies were intended. Thus before normalizing the policies that affect the poor women great care should be taken to protect the original intention of the law[15].

III. BENEFIT SCHEMES IN INDIA

Given the above background on why poverty and pregnancy complications are closely related, the governments

are trying to assess the level of poverty in the rural areas and introducing many health care facilities to address the problem of inaccessibility of such care for the rural women. But the presence of these health care services alone cannot guarantee that the women actually use these services.

TABLE I. MATERNITY BENEFIT SCHEMES IN INDIA

S. No	Name of the scheme	State/ National	Year of launch	Details	Implementation instrument
1.	National Maternity Benefit Scheme (NMBS)	National	1995	payment of Rs. 500 per pregnancy to women belonging to poor households upto first two live births	Ministry of Women and child development of government of India
2.	Janani Suraksha Yojana	National	2005	Modified from NMBS - payment of Rs. 500 per pregnancy to women belonging to poor households upto first two live births	Government health facilities.
3.	Dr Muthulakshmi Reddy Maternity Benefit Scheme	State	1987	Rs 12000 (now enhanced to Rs18000) for pregnant women aged 19 years or more on conditional release and restricted for first two deliveries	Government of Tamil nadu
4.	Bhagya Lakshmi Scheme	State	2006	Aims to promote the birth of girl children in below poverty line(BPL) families by providing financial assistance to the girl child	Ministry Of Women and Child Development, Karnataka
5.	PrasoothiAraike Yojana	State		Rs.2000 and other benefits to the pregnant women below poverty SC and ST families	Ministry Of Women and Child Development, Karnataka
6.	Janani Shishu Suraksha Karyakaram (JSSK)	National	June 2011	Free, cashless delivery with all medical and logistic care, during and after pregnancy and child care for sick children for the first month including transportation, diagnosing and treatment.	All the States and UTs have initiated implementation of the scheme.
7.	Pradhan Mantri Matru Vandana Yojana (PMMVY)	National	2010	Promises Rs 6,000 to pregnant and lactating mothers for the birth of their first child	Ministry of Women and Child Development.
8.	National Rural Health Mission (NRHM)	National	2005	For the general health of the rural population providing accessible, affordable and quality health care	Ministry of Health and Family Welfare
9	Intervention Programs – ASHA SAHELI	National	2000	It offers rural women, a complete assistance in learning modern FP(Family planning) techniques and practicing proper reproductive or sexual health care.	Ministry of health and family welfare

In India there are many central government policies and schemes which address pregnancy healthcare in terms of antenatal care, intrapartum care and postnatal care. But there is a vast difference between the intention and the execution of such schemes in developing countries resulting in further increase in mortality rates as well as birth defects. Table I. gives the name of the scheme and the type of the benefit [16]-[24].

The schemes mentioned in the above table are selected to give a comprehensive view on the approach of the central as well as state governments towards enhancing the maternal health. The National Rural Health Mission is not specific to the maternal health but it is for providing affordable and quality health care to the rural population. The focus was on empowering the rural population on a wide range of health determinants such as water, education, sanitation, nutrition, social and gender equlaity.Reproductive, maternal, newborn child as well as adolescent healthcare are part of the agenda of the Mission. In 2017, the mission was revamped for the goals of reduction in infant and maternal mortality.

The National Maternity Benefit Scheme has been evaluated by the Planning Commission of India for effectiveness of the policy and the observations are as follows:

a. While the 80% of the beneficiaries are below poverty line, most of them were in the upper income slab below poverty line.

b. The amount given is insufficient.

Janani Suraksha Yojana, which is a modified version of NMBS launched with a modification with the idea of reducing maternal and neonatal mortality by promoting institutional delivery among the poor and rural women. It is based on the premise that if every pregnant woman in India is examined by a obstetrician-gynecologist (OBGY) and appropriately investigated at least once during the pregnancy and then appropriately followed up, the process can result in reduction in the number of maternal and neonatal deaths in our country.

An incentive of Rs.500 is given to poor women along with the check ups as was in NMBS but while under NMBS the incentive was uniform for all states, JSY introduced an evaluation based incentive. According to that the well responding states called high performing states and the rest are low performing states. Eight states namely Uttar Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Rajasthan, Odisha and the states of Assam & Jammu & Kashmir were classified as Low Performing States.

Janani Shishu Suraksha Karyakaram (JSSK) scheme was launched in with the same motive of encouraging institutional deliveries with the poor women in 2011 providing free health care and free food and transport for the women who opt for institutional deliveries for the mother and an additional feature is the free treatment, medicines as well as the transportation and other facilities required for the first 30 days for the sick newborn child.

Apart from these national schemes, the states are also launching their own schemes to take care of their rural population. For example Tamilnadu has launched Dr.Muthulakshmi Reddy Maternity Benefit Scheme, Karnataka has launched PrasoothiAriyakeYojan, Kerala has launched Kerala Maternity Benefit Programme which are lal incentive schemes for the pregnant and lactating mothers. This shows that the Governments are now progressing from launching free healthcare schemes to incentive schemes to popularise the healthcare schemes among the rural women.

Why is it necessary to introduce incentive schemes on top of the free healthcare programmes? The reasons are many but the most important is that the uptake of these schemes is not high among the rural poor population to whom this was intended. Though other reasons may be that there is a necessity to ensure proper nutrition for the mother and the unborn child and a supplement of financial aid can help the employed women when the earning stops, it is also observed that the success of the schemes have not been 100% in terms of utilization. According to various studies, the women who receive cash incentives are more likely to utilize the institutional health care facilities for delivery [25]-[26].

IV. Results

The studies were scrutinized for pattern with respect to the major factors such as poverty and literacy to form the basis for the SWOT analysis. The states of India were analysed for social factors such as poverty and literacy and the following charts show the prevalence of both statewise. According to these charts four states such as Chattisgarh, Madhya Pradesh, West Bengal and Jammu and Kashmir were selected to represent medium and low poverty ranges as well as high and medium female literacy ranges. The chart below shows the range for statewise poverty and literacy[27]-[28].

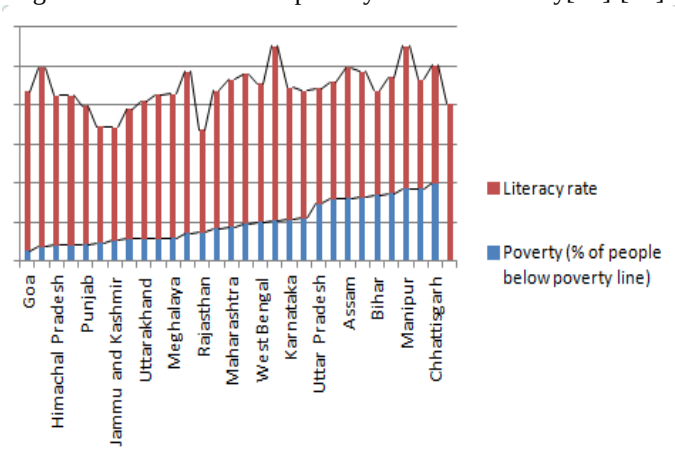

Fig. 1. Rate of Poverty and Literacy in various states

TABLE II.EFFECT OF SOCIAL FACTORS

Scheme	Factor	Madhya Pradesh	Chattisgarh	Jammu and Kashmir	West Bengal
Janani Suraksha Yojana	Literacy	60%	60.6 %	71.16%	58.01%
	Poverty	31%	39.9 %	19.98%	10.35%
	Awareness on JSY/ Institutional delivery	26%	39%	78.8%	95%

Based on these studies a SWOT analysis was performed on National level and State Level schemes and the findings are as below:

TABLE III. SWOT ANALYSIS

Sl. no	Type of scheme	Strengths	Weaknesses	Opportunities	Threats
1.	Introduction of health centres near rural areas, to provide free health care and other benefits	• Accessibility for the rural women • Small community to serve	•Slow development of infrastructure •Lack of trained personnel, medicines	• One to one bonding possible due to the size • Post natal care can be itemized and ensured	• Lack of empathy for the pregnant women from the healthcare workers • No overseeing the quality of

		• Convincing the families about institutional delivery • Helping people below poverty line	and infrastructure • Nonavailability of emergency care	• Identifying emergencies and follow ups	service • Possible abuse and carelessness reversing the benefits
2.	Incentive schemes – State or National	• Reduce the anxiety of loss of income due to pregnancy • Convincing rural women's families • Providing nutrition to the women and the baby	• Lack of bank accounts for rural and poor women • Lack of awareness on the additional benefits because of focus on the money benefit	• Reducing malnutrition • Reducing anxiety and stress due to unemployment	• Possibility of corruption • Possibility of misuse
3.	Intervention programs like ASHA, SAHELI	• Convincing rural women's families • Continuity in the work	• Expensive • Possibility of manual errors • Dependency on human efficiency	• Possibility to identify complications • Personal care so opportunity to convince the families	• Lack of training the workers may lead to public hatred on the scheme • Misuse due to human intervention

V. CONCLUSION

On the basis of the above discussions and the factors identified earlier, it is clear that socio economic and cultural factors are at play in reducing the complications in pregnancy. The factors may be from human intervention, lack of opportunities on the basis of social status, lack of economic freedom, to mention a few. Women in poor households are usually the ones who fit all the factors mentioned here and the paper describes the Government intervention programs. But the success of these programs as per the analysis is less than 50% if the women live in poverty and are illiterate while it increases when the women are educated or have economic freedom. Increasing the literacy rate of the women will be an option to increase the effectiveness of the schemes. Another finding is that the women have to be empathized and treated well which is not true in many of the centers. The personnel has to be given stringent training on human interactions and on creating trust, which is very important in treating women in pregnancy. This will ensure the physical as well as the mental health of the mother and the child to be born.

REFERENCES

[1] AnjelVahratian, Timothy R.B. Johnson Birth., "Maternity Leave Benefits inthe United States: Today's Economic ClimateUnderlines Deficiencies", Author manuscript; available in PMC 2014 Dec 11.

[2] Abram L. Wagner et all, "Using community health workers to refer pregnant women and young children to health care facilities in rural West Bengal, India: A prospective cohort study" © 2018 Wagner et al, June 21, 2018

[3] Chris Weller, "These 10 countries have the best parental leave policies in the world", Business Insider and World Economic Forum Publication, August 2016

[4] https://www.un.org/africarenewal/magazine/special-edition-women-2012/investing-health-africa%E2%80%99s-mothers

[5] Medical Aid for Pregnant Women (Pregnancy and Childbirth), https://www.vitacare.co.za/joining-a-medical-aid-after-falling-pregnant/

[6] Poverty during pregnancy: Its effects on child health outcomes: https:// www.ncbi.nlm.nih.gov/ pmc/articles/ PMC2528810/

[7] PankhuriSharma et al., Journal of Women's Health Care 2018, 7:3 DOI: 10.4172/2167-0420.1000432

[8] Report on HBGD ki – Africa, Nairobi Convening, 2016

[9] Maternal Health: Investing in the Lifeline of Healthy Societies & Economies, Africa Progress Panel Policy Brief, September 2010

[10] Clara L. Johnson , "Adolescent Pregnancy and Poverty: Implications for Social Policy", University of Georgia, The Journal of Sociology & Social Welfare, Vol. 1 : Iss. 1 , Article 17., October 1973

[11] Mogens Nygaard Christoffersen and M. AzharHussain, "Teenage pregnancies: Consequences of poverty, ethnic background, and social conditions - A longitudinal study of motherhood and induced abortion among 14 to 19 year old women born in 1981", The Working Paper Series of The Danish National Centre for Social Research

[12] "I get hungry all the time": experiences of poverty and pregnancy in an urban healthcare setting in South Africa, National Library of MedicineNational Institutes of Health

[13] M.N. Lambani,"Poverty the Cause of Teenage Pregnancy in Thulamela Municipality", Journal of Socialogy and Social Anthropology, Volume 6, Issue 2, 2015

[14] Dilip Chandrasekhar, AswathiShaji, ArdraMariet Jose, Asifa Abdul Kareem, Levin Thomas, J Young Pharm, "Effectiveness of Pharmacist Intervention (SAHELI) on Family Planning, Maternal Care and Child Care among Rural Women", 2018; 10(1): 86-90

[15] Michele GoodwinUniversity of California, Irvine School of Law, Erwin Chemerinsky University of California, Berkeley - School of Law, "Pregnancy, Poverty and the State" Yale Law Journal, Vol. 127, 2018,.

[16] https://govinfo.me/national-maternity-benefit-scheme/

[17] http://vikaspedia.in/health/nrhm/national-health-programmes-1/janani-suraksha-yojana

[18] http://nhm.gov.in/nrhm-components/rmnch-a/maternal-health/jananisuraksha-yojana/background.html

[19] http://kpmbphc.blogspot.com/2012/01/new-dr-muthulakshmi-reddy-maternity.html

[20] https://www.oneindia.com/2006/11/14/bhagyalakshmi-scheme-formally-launched-in-karnataka-1163511312.html

[21] https://govinfo.me/prasooti-araike-scheme-pregnant-women

[22] http://nhm.gov.in/janani-shishu-suraksha-karyakram.html

[23] http://www.ilo.org/dyn/travail/docs/681/National%20Maternity%20Benefit%20Scheme%20-%20india.gov.in.pdf

[24] https://www.researchgate.net/publication/323262660_Effectiveness_of_Pharmacist_Intervention_SAHELI_on_Family_Planning_Maternal_Care_and_Child_Care_Among_Rural_Women

[25] Dipta K Mukhopadhyay, Sujishnu Mukhopadhyay, Sarmila Mallik, Susmita Nayak, Asit Kumar iswas, Akhil Bandhu Biswas, "A study on utilization of Janani Suraksha Yojana and its association with institutional delivery in the state of West Bengal, India", Indian Journal of Public Health, Volume 60, Issue 2,June 2016

[26] Neha Priya1 ,Samreen Khan1 , Zulfia Khan," Determinants of Utilization of Janani Suraksha Yojana among Mothers in Selected Communities of Aligarh: A Population-based Cross-sectional Study", International Journal of Scientific Study, Vol 4, Issue 1, April 2016

[27] Utilization of maternal health care services with special emphasis on Janani Suraksha Yojana in a slum of Kolkata, West Bengal, International Journal of Medicine and Public Health,2015,5,3,225-227.DOI:10.4103/2230-8598.161533, July 2015

[28] Harpreet Kaur, "A study of utilization of Janani Suraksha Yojana (JSY) scheme , among beneficiaries in a rural area of Punjab",Feb 25,2015

[29] K Rajarajan, "Proportion of beneficiaries and factors affecting Janani Suraksha Yojana direct cash transfer scheme in Puducherry", India, jfmps,2016