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Utilization of Maternal Health Care Services in Tamil Nadu

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ABSTRACT: The utilization of health care services depends upon the socio-economic status of the population, the severity of disease, the availability, accessibility, and affordability of health care services. The primary, secondary, and tertiary health care delivery systems are being revamped and fine-tuned in such a way that health care is delivered efficaciously to the people at the bottom of the economic pyramid. Three rounds of District Level Household and Facility Surveys (DLHS) have been undertaken by the Ministry of Health and Family Welfare, Government of India in the past (Round-I in 1998-99, Round-II in 2002-04, and Round-III in 2007-08) with the main objective to provide reproductive and child health-related database at the district level in India. The Ministry of Health and Family Welfare, Government of India, later initiated the process of conducting DLHS-4 during 2011-2012 and designated the International Institute for Population Sciences (IIPS) as the nodal agency to carry out the survey. The present study was undertaken based on DLHS-3 and DLHS-4 surveys of Namakkal district for comparative purposes with secondary data. *The literacy* status of mothers was significantly associated with the level of services availed by them. On many crucial aspects of health care services, there has been a manifold increase from DLHS-3 to DLHS-4. At the same time, it is essential to focus more intensively on other areas. Thus, there is a need and scope for more focused information, education, and communication efforts towards antenatal and postnatal services provided to mothers, especially in rural areas in the Namakkal district.

Keywords*:* maternal health care services, tamil nadu

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INTRODUCTION

Health is a significant contributor to human capital formation and the health status of the population is an important indicator of human resource development. Investment in health has direct returns in terms of longevity and improvement in the physical and mental development of individuals. Hence, health planning becomes an integral part of socio-economic planning and provision of health care facilities is related to preventive, curative and primitive services. The utilization of health care services depends upon the socio economics status of the population, severity of disease, the availability, accessibility and affordability of health care services. The primary, secondary and tertiary health care delivery systems are being revamped and fine-tuned in such a way that health care is delivered efficaciously to the people covering marginalized sections of the society.

Considerable achievements have been made in Tamil Nadu in health indicators like life expectancy at birth, Infant Mortality Rate (IMR) and Maternal Mortality Rate (MMR). However, women with low educational level, those residing in rural areas, and those with low socioeconomic status were less likely to use maternal services. Some studies have also highlighted lack of knowledge as an important barrier to utilization of care and have pointed out the knowledge improves utilization rates. Literacy status of females was an important factor influencing maternal mortality. Ironically about 45.5 percent maternal deaths were in the illiterate group. Poverty was the major socio-economic factor causing maternal deaths. Also 89 percent deaths were in the below poverty line group (Elango, 2004).

The Millennium Development Goal (MDG) aims at reducing the maternal mortality ratio by three quarters during 1990-2015. Though India has achieved some progress, this needs to be speeded up for a sustainable faster development (Dreze, 2015). In order to achieve this goal, all women need access to high quality of Antenatal Care (ANC). However, ANC services are available in developing countries including but utilization of these existing services is poor. India continues to lag behind in checking maternal morality and child mortality to expected levels. As per the census 2011 reports, 89 million children in the age group 0-3 were malnourished, with half of the country's households lacking a latrine, remains a major concerns as well (Venkat, 2015). The utilization of reproductive health service is in turn depends upon availability and accessibility of these services and socio-demographic, communication factors and quality of care provided to the women (Irma 1992, WHO and UNICEF 2003 and Pavalavalli, 1994). In the present exercise the DLHS-3 and DLHS-4 surveys in Namakkal district are examined with an objective to study the utilization of healthcare services. This paper has five sections; the first being introduction; the second section outlines methodology; third section is devoted to analysis, concluding are given in fourth section and finally based on the analysis a few suggestion is given in section five.

Methodology

Three rounds of District Level Household and Facility Surveys (DLHS) have been undertaken by the Ministry of Health and Family Welfare, Government of India in the past (Round-I in 1998-99, Round-II in 2002-04, and

Round-III in 2007-08). In view of the completion of six years of National Rural Health Mission (NRHM) (2005-12), there was a felt need to focus on the achievements and improvements so far. The Ministry of Health and Family Welfare, Government of India, therefore initiated the process of conducting DLHS-4 during 2012-2013 and designated the International Institute for Population Sciences (IIPS) as the nodal agency to carry out the survey. Bilingual questionnaires in the vernacular language and English pertaining to Household, Clinical, Anthropometric and Bio-Chemical tests (CAB) and Ever Married Women (age 15-49) were used and canvassed using Computer Assisted Personal Interview (CAPI).

The village and health facility questionnaires were canvassed by using paper and pen in DLHS-4. In the household questionnaire, information on all members of the household and socio-economic characteristics of the household was collected. The ever-married women questionnaire contained information on women's characteristics, maternal care, immunization and childcare, contraception and fertility preferences, reproductive health including knowledge about HIV/AIDS. For the first time, a population-linked facility survey has been conducted in DLHS- 4. At the district level, all Community Health Centres (CHCs) and the District Hospitals and Sub Divisional Hospitals were covered. Further, all Sub-Health Centres and Primary Health Centres (PHCs) which were expected to serve the population of the selected Public Sector Undertakings (PSUs) were also covered. Fieldwork in Namakkal was conducted from October to November 2013, from 1602 households and 1275 ever married women and 76 Health Facilities.

Analysis and discussion

Access to health services leads to improved intake of maternal healthcare facilities. The quality of care has an independent and significant effect on the use of ANC indicating special emphasize should be laid for providing good quality care in order to improve the health of the pregnant women. Maternal medical complications were not significantly different between the teenage and older mothers assuming the socioeconomic status of both teenage and older mothers. Table 1 outlines the socio economic features of the selected households.

Table 1. Socio Economic Background of the Sample Household

Indicators	DLHS-3 (2007-08) N=1000	DLHS-4 (2012-13) N=1602
Having electricity	91.9	98.8
Drinking water	99.8	98.1
Having Toilet facility	39.6	51.9
Use clean fuel for cooking	40.3	68.3

Source: DLHS-3 & 4.

The above table shows that about 98.8 percent and 91.9 percent of the respondents have electricity respectively in DLHS-4 and in DLHS-3. It can be understood that drinking water source decreased in Namakkal district from 99.8

percent (DLHS-3) to 98.1 percent (DLHS-4)[1]. Nirmal Gram Puraskar scheme is not successful in Namakkal district as only 52 percent of the household have worst in their homes. Like that use of clean fuel for cooking in Namakkal district is estimated to 68.3 percent during DLHS-4survey. From the above it is clear that though more important are there in a few areas, others issues need more attention.

ANC is the 'care before birth' to promote the well-being of mother and fetus and is essential to reduce maternal morbidity and mortality, Low Birth Weight (LBW) and perinatal mortality. The utility of ANC visit in delivery of a healthy baby is of utmost importance. Laborious work should not be undertaken by pregnant mothers. The methods of birth spacing must be stressed during the antenatal advice given to mothers, especially for the age group of 20-30 years (IGMC-DPSM, 1998). ANC serves as the initial point of contact of expectant mothers to maternal health care providers before delivery. The following table reveals that ANC during DLHS-3 and DLHS-4.

The table 2 shows that 98.2 percent of respondents received ANC in DLHS-3. Because of the Government of Tamil Nadu introduced Dr.Muthulakshmi Reddy Maternity Benefit Scheme in September 2006. This is one of the innovative health care intervention incentive schemes in Tamil Nadu. Many empirical studies have found out that many pregnant women benefitted from this. Under the scheme, cash assistance of `6000/- is given to pregnant women falling below poverty line (`3000/- before delivery and (`3000/- after delivery). This intervention is meant to help women cover costs of nutritious food and also compensate for wage loss so that they get adequate rest.

Table 2. Antenatal Care Services in Namakkal District

Indicators	DLHS-3 (2007-08)	DLHS-4 (2012-13)
ANC received	98.2	96.4
ANC Check-up in first trimester	75.7	58.1
3 and more ANC visits	96.7	81.0
At least one TT doses	97.8	93.5
BP checkup	97.6	89.9
Hb Tested	97.0	90.7
Abdomen examined	95.1	45.0
Consumed 100/more IFA tablets	63.6	51.6
Full ANC checked	59.4	50.4

Source: DLHS-3 & 4.

The VHN who examines the beneficiary during pregnancy would be sufficient to avail the benefit; also the pregnant women took ANC in government institution. In 2012 the Government of Tamil Nadu raised incentive amount to `12000/- up to two deliveries for Below Poverty Line (BPL) women. Of this, first

[1] It is a common feature now that ground water table is fast depleting and households get erratic supply of drinking water in Namakkal district.

`4000/- paid during the seventh month after completing ANC, `4000/- immediately after delivery in a government health facility and the final installment of `4000/- in the fifth-month after the child receives the immunization as per the national schedule. In DLHS-4, only 96.4 percent of the respondents received ANC it depended Education, age, number of living children, transportation and health insurance are other factors that were found to influence the use of ANC.

It is noted that 75.7 percent of respondent subjected to ANC check-up in first trimester during DLHS-3. It decreased 17 percent (58.14 percent) in DLHS-4. 96.7 percent of respondents 3/more ANC visits in DLHS-3, it decreased 15 percent (81.0 percent) in DLHS-4. 97.8 percent of the pregnant women received at least one TT doses in DLHS-3. It is decreased 4 percent in DLHS-4 (93.5 percent). During DLHS-4 8 percent decreased in Blood Pressure (BP) taken, 7 percent decreased in Hemoglobin (Hb) tested, 10 percent decreased in Abdomen examined and 12 percent decreased consumed 100/more IFA tables. It can understand that only 50 percent of the pregnant women full checked ANC and other are not. Antenatal women are hesitant to avail Iron and Folic Acid (IFA) tablets as the tablets are bitter in taste and also feel sleepy/drowsiness. When they consume tablets, vomit immediately and become dull. After that women cannot go for their routine work. Educated women are aware of the utilities of the IFA and hence consume the tablets regularly unlike less educated counterparts (Rajendran and Ramachandran, 2013). In 2011 census revealed that the female literacy in Namakkal district was 66.6 percent and male was 82.6 percent. Low literacy rate is one of the reasons for low level of full ANC received. Not only this and also in BP taken, Hb tested, Abdomen examined and consumed 100/more IFA tables.

The improvements in ANC coverage are effective means for increasing professional assistance at delivery, and especially for increasing institutional delivery. Around 95 percent of the respondents had their deliveries in the Government and Private institution. It is increased 99.6 percent in DLHS-4. Because of the cash incentive raised from `6000 to `12000/-. 47.6 percent of the respondent's delivery in government hospital. It is increased 10 percent in DLHS-4. Because of caesarean delivery increased from 8.0 percent (DLHS-3) to 11.7 percent (DLHS-4) in Namakkal district.

Table 3. Particulars on Institutional Deliveries during DLHS-3 and DLHS-4

Indicators	DLHS-3 (2007-08)	DLHS-4 (2012-13)
Institutional delivery	94.8	99.6
Delivery at GH	47.6	58.1
Delivery at Private hospital	47.2	41.5
Delivery by Caesarean in GH	8.0	11.7
Delivery by Caesarean in Private	22.3	20.2
Delivery at home	5.5	0.0
Delivery attended by health personal	96.2	99.6

Mothers who received post-natal care within 48 hours of institutional delivery	88.3	77.4
Mothers who received post-natal care within two weeks of institutional delivery	90.8	81.1
Out of pocket expenditure per Institutional delivery in Public health facility (Rs. In 000's)	NA	1.6

Source: DLHS-3 & 4.

The NRHM strengthens 30 beds hospital at PHC levels and also it leads to increased caesarean in Governmental Hospital (GH) and it reduced 2 percent in private hospital from 22.3 percent (DLHS-3) to 20.2 percent (DLHS-4). Home delivery was zero because of maternity welfare scheme. When the pregnant women go to the GH, it leads to increase the delivery attended by healthcare personnel. It helped to save the mother and child life. Mother who received postnatal care within 48 hours of institutional delivery was decreased from 88.3 percent (DLHS-3) to 77.4 percent (DLHS-4). Mother who received postnatal care within two weeks of institutional delivery decreased from 90.8 percent (DLHS-3) to 81.1 percent (DLHS-4). Mostly the delivered women would not like to stay in the hospital because they do not realize health risk of the postnatal. There were no data for out of pocket expenditure per institutional delivery in DLHS -3 and it is ` 1600 in DLHS-4.

Disease burden is the impact of a health problem as measured by mortality and morbidity. High cost of medicines and longer duration of treatment leads to financial burden to low income groups. Improving the general health and nutrition of the girls' child, increasing the age of marriage and subsequent childbearing along with timely and quality ANC reduces the incidence of anaemia, Pregnancy Induced Hypertension (PIH), Intra-Uterine Growth Retardation (IUGR), foetal loss and LBW babies (Saxena et al., 2010). Here the table 4 offers complication pertaining to pregnancy and deliveries during two surveys.

Table 4. Complications for Pregnant Women during Two Reference Period

Indicators	DLHS-3 (2007-08)	DLHS-4 (2012-13)
Pregnancy related complication	67.1	47.8
Delivery related complication	43.3	4.0
Any post –delivery related complication	19.6	7.3

Source: DLHS-3 & 4.

It can be understand that pregnancy related complication in Namakkal district was 67.1 percent in DLHS-3 and decreased 20 percent level (47.8 percent) in DLHS-4. When the pregnant women conduct their health checkup in the government hospital it leads to substantially reduce the delivery complication from 43.3 (DLHS-3) percent to 4.0 percent (DLHS-4) and post delivery

complication from 19.6 percent (DLHS-3) to 7.3 percent (DLHS-4). Perhaps the contribution of Village Health Nurse (VHN) on health education to pregnant women in Namakkal is very important for reducing complication from pregnancy and delivery. It is a known fact that the VHNs do have direct contact with pregnant women and offer valuable and useful ANC.

Immunization is one of the most cost-effective public health interventions and largely responsible for reduction of under 5 mortality rate. Nonetheless, vaccine preventable diseases are still responsible for deaths. The vaccination of children against six[2] serious but preventable diseases has been the cornerstone of the child health care system. Health Immunization Programme is being implemented on a priority basis. Effective implementation of this measure has drastically reduced the outbreak of these diseases in the State. Under Universal Immunization Programme, it has been proposed to cover all infants and pregnant women in the State. As against the target, the achievement of administering vaccines fell short in all the years. Hence this needs to be addressed on war footing. The following table 5 illustrates particulars of child immunization during two DLHS surveys (three and four).

Table 5. Details of Child Immunization (age 12-23 months) in the Study Area

Indicators	DLHS-3 (2007-08)	DLHS-4 (2012-13)
Received full vaccination*	81.0	65.6
Received BCG vaccine	95.2	91.9
Received 3 doses of DPT vaccine	85.2	80.3
Received 3 doses of polio vaccine	91.6	87.1
Received measles vaccine	95.2	80.3

Source: DLHS-3 & 4.

Note: * means BCG, 3-injection of DPT, 3 doses of Polio (excluding polio zero) and Measles

Around 81percent of the child received full vaccination during DLHS-3 survey. It is reduced to 65.6 percent in DLHS-4. This is being followed by BCG vaccine decreased at 4 percent (from 95.2 percent DLHS-3 to 91.9 percent DLHS-4); received 3 doses of DPT vaccine decreased at 5 percent (from 85.2 percent DLHS-3 to 80.3 percent DLHS-4); received 3 doses of polio vaccine decreased at 4 percent (from 91.6 percent DLHS-3 to 87.1 percent DLHS-4) and received measles vaccine decreased at 15 percent (from 95.2 percent DLHS-3 to 80.3 percent DLHS-4). This can be related as because the pregnant women have lack of education on heath education, vaccination and distance of hospital are some of the reasons for this low vaccination in DLHS-4.

Lack of awareness regarding vaccination, inadequate delivery points, geographical diversity and some hard to reach populations are some of the reasons for the shortfall. To make the immunization cent percent successful, focus should be on increasing demand for vaccination by using effective

[2] Diphtheria, Pertusis, Tetanus, Measles, Poliomyelitis and Tuberculosis

Information Education and Communication (IEC) and bringing immunization closer to the communities. Complete immunization should be made mandatory to get admission in schools by appropriate legislation. In immunization, the State had achieved two distinctions - polio free status since 2004 and elimination of neonatal tetanus since 2006. Nonetheless, within the state, the performance varies among various regions. The sample (Namakkal) district is moderately developed and hence the healthcare delivery is expected to be satisfactory.

Table 6. Distribution of Health Facilities in Namakkal District

Indicators	DLHS-3 (2007-08)	DLHS-4 (2012-13)
No of Sub Centers	32	33
No. of PHCs	14	37
No of CHC (including Black PHC)	15	15
No of District Hospital	01	01

Source: DLHS-3 & 4.

The above table reveals that the number of sub centers increased from 32 (DLHS-3) to 33 (DLHS-4). Because of NRHM strengthening rural hospital by PHCs for every 5000 populations in Namakkal district made possible this. This is being following by number of PHCs which should increase from 14 (DLHS-3) to 37 (DLHS-4). It is constant in number of CHC and number of district hospitals.

CONCLUDING OBSERVATIONS

Utilization of healthcare has been increased as the standard of living increased. In the same way utilization was more for household having television and radio. Lack of information was the main reason for non immunization in almost two thirds of the children. Low awareness among the clients is one of the major reasons of low utilization of services. Around 99 percent of the respondents have electricity in DLHS-4 and it was 92 percent in DLHS-3. Surprisingly drinking water source decreased in Namakkal district from 99.8 percent (DLHS-3) to 98.1 percent (DLHS-4). Totally 52 percent of respondents used toiled. Like that use of clean fuel for cooking in Namakkal district was increased 28 percent (from 40.3 percent DLHS-3 to 68.3 percent DLHS-4).

About 97 percent of respondents' had 3 and more ANC visits; 97.8 percent of the pregnant women received at least one TT doses. During DLHS-4 8 percent decreased in Bp taken, 7 percent decreased in Hb tested, 10 percent decreased in Abdomen examined and 12 percent decreased consuming 100/more IFA tables. Home delivery was zero in Namakkal district. Mother who received post natal care within 48 hours of institutional delivery was decreased from 88.3 percent (DLHS-3) to 77.4 percent (DLHS-4). Mother who received post-natal care within two weeks of institutional delivery was decreased from 90.8 percent (DLHS-3) to 81.1 percent (DLHS-4).

Pregnancy complication in Namakkal district was 67.1 percent in DLHS-3. Around 81 percent of the child received full vaccination in DLHS-3. BCG vaccine decreased at 4 percent (from 95.2 percent DLHS-3 to 91.9 percent DLHS-4), received 3 doses of DPT vaccine decreased at 5 percent (from 85.2 percent DLHS-3 to 80.3 percent DLHS-4), received 3 doses of polio vaccine decreased at 4 percent (from 91.6 percent DLHS-3 to 87.1 percent DLHS-4), received measles vaccine decreased at 15 percent (from 95.2 percent DLHS-3 to 80.3 percent DLHS-4). Literacy status of mothers was significantly associated with the level of services availed by them. Thus there is a need and scope of more focused information, education and communication efforts towards antenatal and postnatal services provided to mothers especially in rural areas in Namakkal district.

SUGGESTIONS

Proper counselling to the targeted women on pregnant complications such as anemia by improving the consumption of iron and folic acid tables and better self-care for a safe delivery is the order of the day. In reproductive and child health program and subsequently the intergraded management of neonatal and childhood illnesses, IEC have specific role to play for bringing desirable changes in health practices of people. The state should release the cash incentive on time. Moreover, 50 percent of the incentive may be given as cash and remaining may be provided as goods like dry fruits, nutrition supplements etc., which are liked by pregnant women. Attractive bill boards should be placed on vantage points like PHCs to educate and motivate the pregnant women to avail the facilities in the Government Hospitals.

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