Increased Utilization of Primary Health Care Centers for Birthing Care in Tamil Nadu, India: A Visible Impact of Policies, Initiatives, and Innovations

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ABSTRACT

Background: Tamil Nadu has been showing an increasing trend in institutional deliveries since early 1990's and has now achieved near 100%. Among the institutional deliveries, a change was observed since 2006, wherein primary health centers (PHCs) showed a four-fold increase in deliveries, while other public and private health facilities showed a decline, despite equal access to all categories of health facilities. What led to this increased utilization of PHCs for birthing care? Material and Methods: Policies, documents, and published reports of the Government of Tamil Nadu (GoTN) were reviewed and interviews were conducted with the various stakeholders involved in providing birthing care in the PHCs. This study analyzes the impact of the policies and supply side initiatives and innovations which led to increase utilization of the PHCs for birthing care. Results: Scaling up of 24 × 7 services in all PHCs, upgrading PHCs with good infrastructure, human resources, and women friendly services have helped to boost the image of the PHCs. Pro-women policies like maternity benefit schemes, birth companionship, providing food, and compulsory stay for 48 h following delivery have attracted women towards PHC. Innovative strategies like maternity picnics and use of expected date of delivery (EDD) chart for follow-up have made women choose PHCs, while periodic reviews and support to staff has improved service delivery. Conclusion: Women centered policies, efficient managerial systems, quality care, and innovative marketing of services have together contributed to increased utilization of PHCs for birthing. Other states could explore the possibility of replicating this model to make optimal use the PHC facilities.

Keywords: Birthing care, innovative strategies, primary health centers, women friendly services

Introduction

Tamil Nadu, a socially and economically progressive state located in south India fairs well in terms of maternal health indicators compared to other states and its maternal mortality ratio (MMR) now stands at 90.1 Promotional strategies of institutional deliveries has been its key strategy to reduce MMR. Today the state has a high percentage of institutional deliveries bringing its domiciliary deliveries to near zero.2 The public health facilities in Tamil Nadu provides birthing care through the primary health centers (PHCs) and health sub centers (HSC) at primary level, district and subdistrict hospitals at secondary level, and teaching institutions and its attached hospitals at the tertiary level. Women have direct access to all levels of care and services are provided free of cost. The private facilities provide birthing care through small nursing homes to corporate hospitals, nongovernmental organization (NG-O) run hospitals and private medical college hospitals. Prior to 2006, around 43% of the deliveries were conducted in the private institutions, 42% in the secondary and tertiary level public hospitals, 6-7% each in the PHCs and HSCs and 4% were domiciliary deliveries. An analysis of institutional deliveries by sectors from 2006 onwards showed a changing scenario. HSC and domiciliary deliveries declined to less than 1%, a four-fold increase was observed in PHCs, marginal decline in secondary and tertiary hospitals, and surprisingly deliveries in the private sector declined by 10 points.3-5 What led to this increased utilization of primary health centers for birthing care?

At the root of any successful interventions in maternal health, a fundamental shift in norms and behavior are required in many fronts: Government policies, investments, initiatives, community...
support, and changes in the health seeking behavior. This study analyzes the various state policies and supply side initiatives and innovations which has led to the increased utilization of PHCs for birthing care. The current paper does not include the user's perspective for this change process as it has been taken up as a separate study.

**Materials and Methods**

Existing policies, documents, and published reports of the Government of Tamil Nadu (GoTN) were reviewed and analyzed in depth. In addition to these in-depth interviews (IDI) were conducted with the various stakeholders involved in providing birthing care in the PHCs from three districts: One with high MMR (>120), the next with low MMR (<60), and the third with an average MMR (60-120). This mode of selection of districts was done to validate the findings.

IDIs were conducted with Deputy Director of Health Services (DDHS), the district administrators for PHCs in the three districts. One block was randomly chosen from each district. The block medical officer (BMO) and three medical officers (MOs), three staff nurses (SNs), and three auxiliary nurse midwives (ANMS), randomly selected from each of the chosen blocks were interviewed.

IDIs were conducted by the first author between May and September 2012 to collect information on the services provided and factors contributing to increased use of PHCs for birthing care. A framework analytical approach was used for data analysis. Recorded IDIs were transcribed and then coded. Segments of text that were related to a common theme were put together and emergent themes were identified. Finally, quotes were selected from transcripts that best helped to illustrate the themes described.

**Ethics**

Permission was obtained from the GoTN to take up the study and ethical clearance was obtained from the Institutional Review Board of the Institute of Child Health, Chennai. Informed written consent was obtained from all the respondents.

**Results**

**Initiatives**

**Physical infrastructure, essential equipments, and lab services**

In 2006 there were 1,417 PHCs, another 200 new PHCs were started over the last 6 years in a phased manner and 92% of them function in the government buildings. One PHC in each block has been upgraded as 30 bedded PHC, providing basic emergency obstetric and newborn care (BEmONC) and upgraded PHCs has increased from 106-309 in the last six years. Upgraded PHCs have operation theatre (OT), modern diagnostic equipments like ultrasonogram (USG), electrocardiogram (ECG), and semi auto analyzer. Doctors said “women who wanted to undergo

**Human resources**

24 × 7 PHCs: ‘Three nurses’ model’

Prior to 2005, PHCs were grossly underutilized contributing to less than 5% of the institutional deliveries. People were reluctant to seek services in the PHCs due to nonavailability of doctors and ANMs beyond the normal working hours and would go to the referral hospitals even for normal delivery. GoTN introduced 24 × 7 services in 90 PHCs as a pilot initiative and posted three nurses. Based on the success, this model has been scaled up to cover all the 1,612 PHCs and today around 62% of the PHCs conduct more than 10 deliveries per month.

**Capacity building of staff**

Doctors and nurses in the PHCs have been trained in skilled birth attendance, BEmONC, and use of standard treatment protocols. Nurses posted in the PHCs are fresh recruits; they have been exposed to birthing care during their nursing course, but their hands on experience were very limited. They felt that these trainings were useful and made them more confident. They said that women judge their efficiency by the way they provide service. DDHS said that prior to the training, doctors and nurses were not confident and would frequently refer women coming for their first delivery.

Doctors trained in Life Saving Anesthesia Skills (LSAS) and emergency obstetric care (EOC) have helped to meet the specialist shortage. Their services are used to provide tubectomies and cesarean sections in PHCs in addition to hiring of specialists.

**Policies**

Government policy on rural posting for nonspecialist doctors and nurses entering into government service and compulsory stay for at least 2 years has ensured availability of adequate manpower. GoTN’s order to permit a birth companion in all public hospitals is a boon to delivering women especially those delivering their
first baby. The state’s policies to post one lady MO in all PHCs, providing food for women attending antenatal (AN) clinics and women admitted for delivery in the PHCs, discharge only after 48 h following delivery are polices favoring women. Incentives are provided to village health nurses for providing complete AN checkup and to ANMS and nurses for providing intranatal and postnatal care.

**Maternity benefit funds**

In 2006, GoTN introduced Dr. Muthulakshmi Reddy Maternity Benefit Scheme (MRMBS) providing a cash incentive for women below poverty line delivering in public facilities in addition to the centrally sponsored assistance - Janani Suraksha Yojana. MRMBS provides a cash incentive of Rs. 6,000 in two phases one during the AN period and the other following delivery. During 2011, the funding was enhanced to Rs. 12,000 and was distributed in a three phase mode of Rs. 4000 each, the third on completion of three doses of pentavalent vaccine to the newborn.

All service providers were of uniform opinion that financial incentives did play a role in motivating women to seek delivery care from the public health facilities, but client satisfaction scored over the cash incentives in choice of facility.

**Innovative strategies**

**Community participation**

One of the DDHS said “I conducted block level meetings for all the panchayat members and local leaders, brought them to the PHCs and briefed them about the available services leading to use of PHC services by more families”

**Expected date of delivery chart**

List of women residing in the catchment area, who are expected to deliver in the subsequent month is prepared and displayed as an EDD chart. This simple tool has helped to track the mothers and counsel them to come to the PHCs for delivery.

**Maternity picnics**

When women come for the AN checkup, nurses take them as a group to the labor room and wards including toilets and briefed them about the facilities available. This popularly known as ‘maternity picnics’ has helped women gain confidence about the services and the clean environment making them opt for PHC services by more families.

**Referral system**

The state’s emergency transport system: Emergency Management Research Institute (EMRI) now has a fleet of 434 ambulances on road, parked at strategic locations and is accessible with an hour. In 2011, 25% of the cases transported were pregnant women. In times of emergency private vehicles are hired and paid from untied funds. Intranatal referrals from PHCs are mostly accompanied by nurses. Considering the benefits GoTN has now proposed to give a small incentive to the accompanying nurses. One DDHS said “I have designated one PHC doctor residing close to the referral hospital as the Referral Nodal Officer for the district, who would be informed of all referral cases immediately. She would immediately move to the referral center and provide necessary support till the women is taken care by the referral hospital.” Another DDHS said that he arranges periodic meeting of his PHC staff with the obstetricians in the referral hospitals. Mentoring support of these specialists has helped in prompt referral and management.

**Monitoring, review, and supervision**

It is only since 2006 that the state directorate started reviewing the number of deliveries in each PHCs and districts were ranked based on performance making the DDHS more accountable. Institutional service monitoring report of the PHCs is used for reviewing the performance of the staff during the monthly meetings of the DDHS with the PHC staff. Interaction during the meetings gives an opportunity for taking up corrective measures for problems like shortage of staff, repairs in building and equipments and medicines required, etc.

One of the DDHS said “I review the case sheets of the women who were referred from the PHCs and asked them the reasons for referral. When I felt that the nurses were not confident I sent them for retraining”.

Each district has its own supervisory mechanism. In one district, nurses are responsible for maintaining the wards and rooms clean, the health inspector takes care of campus cleanliness and the MOs are overall responsible. In another, supervision of blocks is allocated to second level district officers. Processes of International Organization for Standardization (ISO) certification of PHCs have helped staff to understand the mandatory requirements and services to be provided.

**Initiatives to motivate staff**

Most of the initiatives are uniformly practiced across the state, the best practices adopted in one district was replicated by the others, while few were ideas of the DDHS and PHC staff based on individual needs. Increased utilization of PHCs was observed in all the districts. One of the DDHS said “I have meetings with each category of staff, insist on providing quality care and to be kind and supportive to the patients. We motivate the MOs and they in turn motivate the other staff”. All the three district officials uniformly stated that prior to 2005, PHC staff never felt that it was their responsibility to provide birthing care in the PHCs.

Doctors and nurses said that kind attitude of staff and a user friendly environment is essential to promote deliveries in the PHCs. They ensure that the hospital premises are clean, and provide basic facilities like clean linen, bed, food and water, and adequate privacy. They felt that lack of such facilities in many referral hospitals was a reason for women choosing PHCs.
All DDHS have arranged for visit of their staff to better performing PHCs within their own district or outside for onsite learning. This has motivated the staff to work as a team to improve their PHCs. DDHS had initially set targets on the minimum number to deliveries that should be conducted in each PHC, but refer promptly when required. They felt that exposure to more cases has given doctors and nurses a lot of confidence and the enabling environment have given them an opportunity to practice the skill learnt.

DDHS could be contacted by the staff over phone for any help. One of them said “even if the emergency ambulance do not reach the place within 30 min, they call me, I would immediately contact the EMRI and arrange for a transport, they know they can depend on me for any help”.

**Discussion**

**Policies and Initiatives**

**Infrastructure**

Increase in the number of PHCs with good infrastructure, modern diagnostic equipments, and OTs in the PHCs have changed the perception of the people about the public facilities. Untied funds and grants under the NRHM have given the flexibility to make local purchase based on need. Support from private bodies has also helped to give a face lift to the PHCs. However, it has to be mentioned that support from NRHM is across the country. Common review mission reports in few states like Rajasthan, Andhra Pradesh, and West Bengal shows that underutilization of PHCs were observed in spite of good infrastructure and more people accessed private sector. Supply side interventions have not resulted in increase in deliveries in additional PHCs unlike TN where 62% of the PHCs conduct more than 10 deliveries per month. Existence of facilities does not guarantee its use; provision of quality care is essential for effective utilization.

**Human resources**

24 × 7 services with three SNs’ model in all PHCs can be singled out as a key determinant for increased utilization of PHCs. This has been acknowledged as a best practice by Policy Reforms Option Database (PROD) and is now adopted by the other states. Empowering doctors and nurses with adequate skills has made them more competent to handle the cases since most of them are new recruits, thereby reducing unwanted referrals. Nurses posted in TN are posted initially on a contract basis and later absorbed in the regular system. Other states recruiting contractual staff could also adopt this model for long-term planning to ensure sustainability.

A report has shown that 50% of the women did not stay for more than 12 h in PHCs following delivery in some states of India due to both supply and demand side problems. The GoTN policies on permitting a birth companion, compulsory stay for 48 h following delivery, MRMBF, management of anemia and provision of food, basic facilities, and presence of a lady MO have attracted more women towards PHCs.

**Innovations**

Innovative marketing of PHC services has paid rich dividends. Creating awareness among local leaders about the service facilities, follow-up of women using EDD charts and ‘maternity picnics’ has motivated more women to choose PHCs for birthing and has been documented.

**User friendly environment**

When users have access to more facilities it is the quality of care perceived by them that decides the choice of the facility. A key factor for client satisfaction with the public sector is provider behavior which takes a priority over technical competence. Services provided should meet the accepted standards and equally important is to address the human dimension, otherwise clients will look of other options. Study on rural health care in West Bengal has recommended that more time has to be spent with patients and a cordial relationship has to be established and premises should be kept clean as services in the public sector lacks attraction and is provided mechanically and not emotionally. The success of the PHCs in TN lies in addressing these issues recommended.

**Referral system**

Presence of EMRI managed with NRHM funds is not unique to TN, but additional supportive measures like an accompanying nurse, nodal officer for referral cases, and period meeting with staff of referral hospitals has helped to strengthen referral system.

**Monitoring and Review**

State reviews ranking districts based on PHC deliveries has made the DDHS more accountable. Exchange visits to better performing PHCs, district and PHC level reviews and continuous monitoring and support to provide user friendly services have made the staff more accountable and is the basis for the successful functioning of the PHCs. Such decentralized reviews exist in states like Karnataka. Better performing DDHS and doctors have received due recognition by the state officials and politicians which has helped to sustain the momentum gained.

PHCs are under the control of a separate Directorate of Public health (DPH) and are headed at the State and District level by public health professionals who are exposed to management right from the beginning of their career unlike other states where PHCs and hospitals are managed by the chief medical officer who are clinicians posted based on their seniority. Studies have reported that due to inefficient managerial system, many times patients are referred to other hospitals due to lack of drugs and staff and not because of the severity of the condition. DPH has with a separate budget allocation unlike other states where PHCs share a common budget with secondary hospitals and gets a lesser share. An effective managerial system coupled with separate budget to provide primary care is one of the strengths of the state.

Government policies and initiatives taken have achieved its objective. This is visible by increased utilization of PHCs
and views of the women who have clearly stated that good infrastructure, clean environment, women friendly services, and confidence in the service provided have all made PHCs the preferred option for birthing care.[20]

Conclusion

Women centered policies; support from NRHM, strengthening PHCs with adequate infrastructure, and provision of 24 × 7 services have paved the way for increased utilization of PHCs for birthing care. However, mere infrastructures and human resources do not guarantee its use. Provision of user friendly services and innovative marketing of services has helped to create a demand in the community. Good managerial systems, motivated staff, enabling environment for the staff to practice their skills are added factors. Such multipronged effort has led to a trend of increased utilization of PHCs for birthing care, compared to the situation 6 years back. Health systems of other states and developing countries could explore the possibilities of replicating this model at primary level which would help to optimally use the investment made towards PHCs and also reduce the load of normal deliveries in the secondary and tertiary centers which can focus on complicated cases.

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