



**An Economic Study of Institutional Deliveries in Rural Areas of
Kanyakumari District**

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Abstract

The place of delivery is crucial in determining the maternal health status and is a good indicator for assessing the demand for public health system. A large portion of Indian women, particularly in rural areas, do not go to an institution for their deliveries. This is a major reason for high maternal and neo natal mortality in rural areas. Place of delivery consists of institutional and home delivery. Institutional delivery would definitely reduce the maternal mortality rate (MMR). Institutional delivery is done in government hospital and in private hospital. In Kanyakumari district, no home delivery is found. The researcher selected the Kalkulam taluk in rural areas of Kanyakumari District. Four panchayats (two town panchayats and two village panchayats) were randomly selected and from which 120 respondents (30 respondents from each panchayat) were selected. Primary data were collected from the sample respondents by employing a well-structured interview schedule. Statistical tools like chi-square test and multiple regression were employed to assess the primary data. The aim of the study is to assess the socio-economic and demographic factors influencing women's decision for choice of government hospitals and private hospitals in the rural areas of this taluk of the district and to make the MMR zero in the years to come in this taluk.

Keywords: Intra natal care services, institutional delivery, skilled health personnel, maternal mortality rate.

INTRODUCTION

The place of delivery is crucial in determining the maternal health status and is a good indicator for assessing the demand for public health system. A large proportion of Indian women, particularly in rural areas, do not go to an institution for their deliveries. This is a major reason for high maternal and neo natal mortality in rural areas. In 1946, the Bhore Committee observed that, on a conservative estimate, about two lakh women died annually. In 1990, The Maternal Mortality Ratio (MMR) in India was very high with 600 women dying during child birth per one

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lakh live births, which meant approximately one and a half lakh women dying every year. During the same period, India contributed 27 per cent of the global maternal deaths. The latest Sample Registration System (SRS) in 2015-17 estimated that MMR in India has declined to 122 per one lakh live births. The reasons for reducing the maternal mortality are increasing institutional delivery, emergency obstetric care, home delivery conducted by skilled birth attendant and quality ante natal care and post natal care. The introduction of National Rural Health Mission (NRHM) in 2005 boosted up institutional deliveries in rural areas. In rural areas institutional deliveries increased from 7.8 per cent in 1971 to 24.4 per cent in 2005. This witnessed a remarkable jump by covering the rural areas and home delivery has decreased from 92.2 percentage in 1971 to 75.7 per cent in 2005. In parallel to these efforts, massive training of Anganwadi Workers, Auxiliary Nurse Midwives (ANMs) and nurses for safe delivery and deliveries should be conducted under proper hygienic conditions with the assistance of trained medical practitioners.

Tamil Nadu launched financial assistance scheme for poor women during maternity. The assistance would be enhanced to poor women over 19 years of age for the birth of the first two children. Institutional delivery would definitely reduce the mortality rate. To boost up institutional delivery, Dr. Muthu Lekshmi Reddy Maternity Benefit Scheme launched by Tamil Nadu is enhanced to Rs.12000/-. The cash assistance will be given in three installments (Rs.4000/-) for the pregnant women who should be of age 19 years and above and be in the Below Poverty Line (BPL) and undergoing delivers in the Government institutions.

This district is highly densely populated next to Chennai capital city of Tamil Nadu. In this district, the private hospitals are prominent health care providers. The MMR is very low in comparison with the national and state statistics. This district has already achieved the Millennium Development Goals 5 in MMR. Saving the life of mothers during the intra natal period would reduce the prevailing mortality rate. In Kanyakumari district as well as Kalkulam taluk, the maternal mortality rate (MMR) was 1.11 per 1000 live births in 2001, the rate declined to 0.68 in 2005, further declined to 0.45 in 2010-11 and it was 0.27 in 2013-14. Among the four taluks, the number of deaths during intra natal period was found higher (0.76 per thousand live births) in the rural areas of Kalkulam taluk. The main aim of the study is to assess the socio-economic and demographic factors influencing women's decision for choice of institutional delivery.

Objectives

The specific objectives of the study:

To assess the intra natal care services provided for the respondents.

1. To discuss about the expenditure incurred by the respondents during the intra natal period.



- To analyse the problems faced by the respondents during the intra natal period in the study area.

Methodology

The present study depends upon both primary and secondary data. Primary data were collected from the sample respondents by employing a well-structured interview schedule. The collected primary data were incorporated into excel sheet for further analysis to fulfill the objectives of the study. Secondary data were collected from related journals and government reports.

Sampling design

In this study used the respondents from the study area in Kalkulam taluk were randomly four panchayats (two town panchayats and two village panchayats) selected and from which 120 respondents (30 respondents from each panchayat) were selected.

Statistical tools

Statistical tools like chi-square test and multiple regression were employed to assess the primary data collected from the sample (120) respondents who have one to three months old new born babies.

Data analysis

Provision of Intra Natal Care Services

Intra natal care services consist of place of delivery (Institutional plus home delivery) and assistance to be provided by skilled health personnel. Institutional delivery is done in government hospital and in private hospital. In Kanyakumari district, no home delivery is found. Therefore, the extent of association between institutional delivery (government and private hospitals) and the background variables such as education, religion and community of the respondents is studied to fulfill the intra natal care services provided for the respondents as shown in Table 1. For this a null hypothesis has been formulated as:

H₀: There is no significant association between the institutional delivery and background variables such as education, religion and community.

Background characteristics	Institutional Delivery			χ^2	df	P
	Government	Private	Total			
Education						
Secondary	3	11	14	18.428	12	0.013*
High School	22	26	48			
Hi. Sec. School	9	8	17			
Graduate	9	26	35			



Others	3	3	6			
Total	46	74	120			
Religion						
Hindu	15	50	65	24.108	6	0.000**
Christian	31	19	50			
Muslim	-	5	5			
Total	46	74	120			
Community						
FC	3	5	8	29.593	6	0.000**
BC	17	54	71			
MBC	26	15	41			
SC	-	-	-			
ST	-	-	-			
Total	46	74	120			

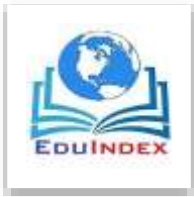
Table 1 Chi-square test for the institutional delivery and the background variables

Source: Primary data

Table 1 reveals that majority higher number of 52 out of 120 respondents who have completed High School level of education and graduate have undergone delivery in private hospitals. The p value is 0.013 and the formulated hypothesis is rejected and the association between the education and institutional delivery is significant at 5% level of statistical probability. Regarding religion, majority 69 Hindu and Christian respondents has taken delivery in private hospitals and the p value is 0.000. Therefore, the null hypothesis is rejected and there exists significant association between religion and institutional delivery at 1% level statistical probability so also in the case of community and institutional delivery, where higher number of 54 BC respondents has made use of institutions for their delivery.

Expenditure incurred by the respondents during the intra natal period

The institutional delivery plays a major role in reducing maternal and infant mortality rate. The major impediment for institutional delivery was the economic condition of the respondent's family. Three types of medical expenditure were found such as (1) direct medical expenditure (2) direct non medical expenditure and (3) indirect medical expenditure. Direct medical expenditure includes expenditure on medicines, hospital bills that is bed charges, charges of investigations and operation theatre charge, charge of anaesthesia and charge of caesarian section. Direct non medical expenditure includes expenditure on food, expenditure of accommodation for attendants and expenditure of transport. Indirect medical expenditure includes wage of care takers. The influence of income and borrowings on the medical expenses



during the intra natal period is assessed with the aid of multiple regression for the 74 (out of 120) respondents who had taken deliveries in the private hospitals is furnished in Table 2.

Table 2 Coefficient of variables in Multiple Regression.

Independent variables	Un standardized coefficients		Standardized coefficients	t	p
	B	SE	Beta		
Constant	-10722.564	1700.386	-	-6.306	.000
Income (X ₁)	0.879	0.082	0.533	10.740	.000**
Borrowings (X ₂)	0.061	0.006	0.473	9.525	.000**

Source: Primary data

Note: ** indicates 1% level of statistical significance

N = 74 R = 0.912 R² = 0.832 Adjusted R² = 0.829

Table 2 exhibits that the two variables income (X₁) and borrowings (X₂) had influence on the medical expenses during the intra natal period. Of the two variables, income has influenced more the medical expenses than the borrowings. These two variables are significant at 1% level of statistical probability in influencing the medical expense during the intra natal period.

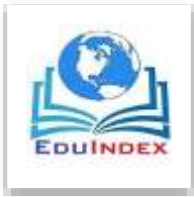
R² = 0.832 indicates that 83% of the variation in the dependent variable, say, medical expenses is explained by the two independent variables such as income and borrowings.

Problems faced by the respondents during the intra natal period

The factors affecting the respondents during delivery are premature baby, excessive bleeding, prolonged labour, high blood pressure, blood sugar, careless operation, careless stitching and waiting for labour pain. The factors affecting pregnant women at the time of delivery is assessed with the aid of the figures given in Table 3.

Table 3. Problems confronting the respondents during the intra natal period

Problems	No. of respondents	Percentage
Premature labour	6	05.00
Excessive bleeding	14	11.67
Blood pressure	7	05.83



Blood sugar	13	10.83
Waiting for labour pain	20	16.67
Prolonged labour	37	30.83
Careless operation	5	04.17
Careless stitching	2	01.67

Source: Primary data

Table 3 clearly indicates that 37 (30.83 per cent) respondents out of the 120 have suffered from the problem of prolonged labour during delivery, followed by 20 (16.67 per cent) respondents having suffered from waiting for labour pain, 14 (11.67 per cent) respondents from excessive bleeding, 13 (10.83 per cent) respondents from blood sugar, seven (5.83 per cent) respondents from blood pressure, six (5.00 per cent) respondents from premature labour, five (4.17 per cent) respondents from careless operation and only two (1.67 per cent) respondents have suffered from careless stitching. It is concluded that majority (59.17 per cent) respondents had suffered from three important problems such as prolonged labour, waiting for labour pain and excessive bleeding.

Findings and suggestions

Following are the findings emerged from the assessment of primary data and suggestions made:

- Majority higher number of 52 out of 120 respondents who have completed high school level of education and graduate have undergone delivery in private hospitals.
- Majority 69 Hindu and Christian respondents has taken delivery in private hospitals.
- Higher number of 54 BC respondents has made use of private hospitals for their delivery.
- There is significant association between the dependent variable, say, medical expenses and the independent variables, say, income and borrowings.
- Income has influenced more the medical expenses than the borrowings.
- Majority (59.17 per cent) respondents had suffered from three important problems such as prolonged labour, waiting for labour pain and excessive bleeding.

Suggestions

Following are the suggestions to boost up institutional delivery and to reduce the problems faced by the respondents during the intra natal period:

- The main aim of the government is to reduce mortality rate. To reduce the mortality rate, institutional delivery has been advised. To boost up institutional delivery, in addition to the

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Janani Suraksha Yojana introduced by the Central government, Tamil Nadu government has announced Dr. Muthulekhami Reddy Maternity Benefit Scheme.

- The problems faced by the respondents during the intra natal period might be due to not taking the prescribed medicine and the prescribed nutritious food properly. Therefore, the respondents must be made aware of taking the prescribed medicine and food properly. For this, the pregnant women must be educated from the time of their pregnancy.
- The facilities in both the government and private hospitals must be enhanced up to the mark in the study area by framing suitable medical policy and implementing the policy properly in a right direction.

CONCLUSION

By creating awareness among the women to make use of the available health care services properly in the prescribed form, the quality, accessibility and utilisation of the health care services during the intra natal period provided by both the government hospitals and private hospitals in Kalkulam taluk can be sustained by minimizing the problems during the intra natal period.

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