

A Study on Determinants of Maternal Mortality Rate in Tamil Nadu

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Abstract

The determinant of maternal health services is a complex phenomenon and it is influenced by several factors. Therefore, the factors at different levels affecting the use of these services need to be clearly understood. The main objective of the study was to explore the determinants of maternal mortality rate in Tamilnadu districts. The data was collected from Directorate of Family Welfare, Tamil Nadu during 2010. The present study highlights that only 0.9% of the women did not receive antenatal check-up during pregnancy period in Tamilnadu, With regard to TT vaccination and IFA tablets, 1.3% and 7.5% of the women did not receive TT injection and IFA tablets in Tamilnadu. It can be concluded that the pregnant women more utilize the antenatal care than the women lived in Tamil Nadu.

Key Words: Maternal Mortality Rate and Ante-natal Care.

Introduction

Definition: Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. To facilitate the identification of maternal deaths in circumstances in which cause of death attribution is inadequate, a new category has been introduced: Pregnancy-related death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.

Millions of women in developing countries experience life threatening and other serious health problems related to pregnancy or childbirth. Complications of pregnancy and childbirth cause more deaths and disability than any other reproductive health problems (EC/UNFPA, 2000). The situation is worse in developing countries like India due to

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inadequate access to modern health services and poor utilization. Despite the government's serious commitment to deliver health facilities to the doorsteps of common people through innovative approaches, such as Essential Service Package (ESP), the utilization of health services is still far below any acceptable standard. One of the public health challenges in developing countries such as India is, therefore, to identify vulnerable groups and to provide them with needed preventive and curative health services.

Utilization of health services is a complex behavioral phenomenon. Empirical studies of preventive and curative services have often found that the use of health services is related to the availability, quality and cost of services, as well as social structure, health beliefs and personal characteristics of the users (Andersen and Newman, 1973; Kroeger, 1983; Becker *et al.*, 1993; Sarin, 1997). It is well recognized that women's current age plays an important role in the utilization of medical services (Fiedler, 1981; Elo, 1992; Fosu, 1994). Mother's age may sometimes serve as a proxy for the women's accumulated knowledge of health care services, which may have a positive influence on the use of health services. On the other hand, because of development of modern medicine and improvement in educational opportunities for women in recent years, younger women might have an enhanced knowledge of modern health care services and place more value upon modern medicine

Generally there is a distinction between a direct maternal death that is the result of a complication of the pregnancy, delivery, or their management, and an indirect maternal death that is a pregnancy-related death in a patient with a preexisting or newly developed health problem. Other fatalities during but unrelated to a pregnancy are termed accidental, incidental, or non obstetrical maternal deaths. Maternal mortality is a sentinel event to assess the quality of a health care system. The most common causes of maternal mortality and morbidity are widely known and include a range of medical, social and health system-related factors. The vulnerability of certain subgroups of women to pregnancy-related mortality and morbidity based on other health conditions, income, caste and age has been documented, making it possible to assess the risk of mortality in specific populations. Policies aimed at reducing maternal mortality have been in place for decades, but as the current situation shows, they have not had substantial impact.

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The UN estimates that for every woman who dies as a result of pregnancy, approximately 30 women suffer injury, infection and disabilities. Complications arising from pregnancy include anemia, infertility, pelvic pain, incontinence and obstetric fistula. While there are no national data on the incidence of maternal morbidity in India, based on this global estimate it may be inferred that the incidence of maternal morbidity is very high, making it an equally pressing concern (*Maternal Morbidity: Fistula a Neglected Concern*).

This study is based on secondary data. Data collected from the 2010 Directorate of Family Welfare, Tamil Nadu. The use and factor determinants of maternal healthcare services were Neo-natal Mortality Rate, Post-neonatal Mortality Rate, Infant Mortality Rate, Under Five Mortality Rate, Maternal Mortality Rate and Still Birth Rate in Tamil Nadu.

Table – 1: Birth Rate, Death Rate, Total Fertility Rate, and Per cent Birth Order or More in Tamil Nadu

S. No	Districts	Birth Rate	Death Rate	Total Fertility Rate	% of Birth Order 3+
1	Thiruvallur	17.9	6.2	1.8	17.0
2	Chennai	15.3	3.6	1.8	8.6
3	Kanchipuram	17.7	5.4	1.6	9.4
4	Vellore	17.9	7.3	2.2	27.6
5	Dharmapuri	19.6	6.8	2.4	26.9
6	Thiruvannamalai	18.6	7.3	1.8	31.4
7	Villupuram	19.5	7.4	2.2	25.8
8	Salam	17.3	7.2	2.1	24.8
9	Namakkal	15.4	7.1	2.1	14.7
10	Erode	15.3	7.0	1.6	13.6
11	The Nilgiris	15.2	5.2	1.5	14.5
12	Coimbatore	17.1	5.8	1.8	9.7
13	Dindigul	17.3	7.7	2.1	17.9
14	Karur	16.0	8.2	1.8	12.9

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15	Thrichrapalli	17.2	7.5	1.95	24.5
16	Perambalur	19.5	8.5	2.3	21.5
17	Ariyalur	N.A	N.A	2.3	28.2
18	Cuddalore	18.4	6.7	2.1	24.7
19	Nagapattinam	17.3	6.9	2.2	29.4
20	Tiruvarur	17.3	6.5	2.0	28.0
21	Thanjavur	17.9	7.4	2.1	22.3
22	Pudukottai	19.1	6.3	1.7	24.2
23	Sivagangai	18.1	6.7	2.0	26.7
24	Mudurai	18.4	7.1	1.9	21.2
25	Theni	17.4	7.4	2.0	20.0
26	Virudunagar	18.2	7.2	2.2	18.5
27	Ramanathapuram	18.7	6.1	1.9	29.3
28	Tuticorin	17.4	6.5	2.6	29.9
29	Tirunelveli	17.6	7.3	1.9	27.4
30	Kanniyakumari	15.8	5.6	2.1	14.2
Tamil Nadu		17.8	6.9	2.1	22.2

Source: Directorate of Family Welfare, Tamil Nadu, 2010.

Note: N.A. (Not Available).

Table – 2: Neo-natal Mortality Rate, Post-neonatal Mortality Rate, Infant Mortality Rate, Under Five Mortality Rate, Maternal Mortality Rate and Still Birth Rate in Tamil Nadu

S. No	Districts	NMR	PNMR	IMR	Under 5 Mortality Rate	MMR	Still Birth Rate
1	Thiruvallur	N.A	N.A	30.8	38.0	1.1	11.8
2	Chennai	7.2	16.7	23.9	26.5	0.4	3.0
3	Kanchipuram	N.A	N.A	26.8	32.2	1.4	9.7
4	Vellore	21.7	6.6	28.3	34.2	1.6	17.4
5	Dharmapuri	35.5	12.0	47.5	54.6	1.8	17.7

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6	Thiruvannamalai	39.6	14.1	53.7	65.4	1.5	14.6
7	Villupuram	N.A	N.A	40.5	47.5	1.5	15.7
8	Salam	N.A	N.A	39.3	45.5	1.4	17.5
9	Namakkal	N.A	N.A	40.9	43.3	0.9	11.9
10	Erode	33.3	12.1	45.4	48.4	1.3	12.1
11	The Nilgiris	19.1	2.5	21.6	26.9	0.5	13.4
12	Coimbatore	19.3	4.3	23.6	26.5	1.0	13.8
13	Dindigul	16.1	3.1	19.2	27.5	0.7	17.8
14	Karur	N.A	N.A	38.5	44.3	1.6	18.2
15	Thrichrapalli	N.A	N.A	29.9	33.0	2.3	19.4
16	Perambalur	N.A	N.A	46.9	63.3	2.9	21.1
17	Ariyalur	N.A	N.A	28.2	55.8	N.A	N.A
18	Cuddalore	N.A	N.A	29.4	37.3	1.4	17.1
19	Nagapattinam	N.A	N.A	33.8	40.3	2.1	16.7
20	Tiruvarur	N.A	N.A	10.5	17.2	2.0	15.0
21	Thanjavur	N.A	N.A	48.8	58.0	0.8	16.1
22	Pudukottai	21.0	9.3	30.4	34.9	1.2	20.8
23	Sivagangai	16.0	7.8	23.8	32.3	1.3	12.0
24	Mudurai	N.A	N.A	34.2	46.1	1.6	18.8
25	Theni	N.A	N.A	67.0	67.0	2.2	19.9
26	Virudunagar	14.0	8.0	21.9	16.8	1.2	14.3
27	Ramanathapuram	26.4	2.6	29.0	29.0	1.9	15.5
28	Tuticorin	31.6	4.5	36.1	49.9	1.2	16.0
29	Tirunelveli	N.A	N.A	42.1	42.9	1.9	17.8
30	Kanniyakumari	12.8	1.8	14.6	18.9	0.2	6.6
Tamil Nadu		N.A	N.A	N.A	N.A	0.9	15.5

Source: Directorate of Family Welfare, Tamil Nadu, 2010.

Note: N.A. (Not Available).

The Directorate of Family Welfare, Tamil Nadu, 2010 only 6.9 of total deaths occurring in the state are registered. Out of these reported deaths 3.1 of total reported deaths

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are of women. Table 1 and Table 2 show the total deaths and maternal deaths respectively for Tamil Nadu from the year 2010. The maternal deaths registered in the data are in all districts. Compare with some districts is high; the reason is most of the people getting low level awareness in ANC Check-up. Another reason behind this may be lack of registration of the maternal deaths in Tamil Nadu. Most of these deaths might have occurred in homes which is why it is not registered with the system.

The massive differences between districts in availability and access to services, and maternal health indices the following differential strategy will be adopted for achieving incremental improvement in antenatal care during the Tenth Plan. In all districts: Awareness generation to ensure universal screening of pregnant women; identification of women with problem; manage/ refer women with complications to appropriate institution for care; 100% coverage for Tetanus Toxoid, Screening for and treatment of anaemia; Provide information on, Nearest PHC where women with problems can seek doctor's advice, Nearest FRU with obstetricians and facilities where women with, Obstetric emergency can seek admission, How to access emergency transport system.

In better performing districts focus on improvement in universal coverage and content and quality of ANC to enable very early identification of women with any antenatal problem through examination; Referral of those with problems to PHC/ FRU for care. In poorly performing districts focus will be on improving coverage for ANC screening by ANM providing ANC at least thrice during pregnancy, Building up system of RCH camps in PHC/CHC on specific days throughout the year when doctors/specialists will be available to examine women with problems and provide treatment/referral.

Conclusion

The maternal healthcare a service among rural adolescent women is far from acceptable. Low coverage of these services could lead to adverse health outcomes for both the mother and the child. Earlier reproductive health programs in India have paid limited attention to married adolescent girls as a separate category, typically grouping all married women together regardless of current age, age at marriage, and socioeconomic characteristics.

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There is need for building awareness on the issue of early marriage and adverse effects of early pregnancy at the family and societal levels. Recent studies have emphasized the need to work within existing community structures and attempt to bring awareness to communities about how child marriage compromises opportunities and health for women and their children. More specifically, the approach could be two-fold to ensure the healthy life for rural adolescent women, who includes – delaying the age of marriage among unmarried adolescents, by providing better information to the parents of unmarried girls in particular and community in general regarding other options/avenues in education and the economic sphere. In this connection, the role of Women Advocacy Group (WAG) and Self Help Groups (SHG) comprising adolescent women at the village level could be effective. On the other hand, support can be provided to adolescent married women through targeted interventions that include working with the husband and in-laws in order to delay childbearing, promotion of contraceptive use and aware them not to link early childbirth with the honor of the family.

The future policies and programs must not only address young people as individuals but consider them in the context of their overall development. In this regard special efforts must be made by the Department of Women and Child Development and Department of Youth to encourage effective participation of young adults in civil society and decision making processes. This study also emphasizes the importance of the recent law enforcement on the Prohibition of Child Marriage Act-2006 which restricts minimum age at marriage to 21 years for boys and 18 years for girls by integrating panchayat's (local self-government body at the village level) accountability towards effective implementation. The approach to the health needs of young married adolescents must not be from the viewpoint of problems to be solved and health problems to be addressed, rather, it must be recognized as a matter of right and a means to achieve the Millennium Development Goals.

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