

Ravindra, Sundari T.K.: Women's Health in a Rural Poor Population in Tamil Nadu. In: Women's Health Situation in a Rural Population Edited by T.K.Sundari Ravindra. p.175-211.

Women's Health in a Rural Poor Population in Tamil Nadu

T. K. Sundari Ravindran

Introduction

The health status of women in India is an area which so far has received inadequate scholarly attention. The limited evidences from the few studies available present a dismal picture.

India is one of the few countries where life expectancy of women has been less than that of men till very recently. For rural women this still holds good [1]. More girls than boys die in infancy and childhood. This higher female infant and child mortality is a rare phenomenon not found even in countries with far higher mortality rates than, India, and is believed to be the consequence of the discriminatory treatment of the female child. It is seen that 'Deaths of young girls in India exceed those of young boys by at least one-third of a million every year. Every -sixth infant death is specifically due to gender discrimination.' (1). What is more, the gap shows no signs of narrowing: the ratio of female to male mortality in childhood has remained at around 1.1 since 1970 (Registrar General of India, Sample Registration System, various years).

Trends in Life Expectancy At Birth By Sex Are As Follows (Source: Registrar General of India, Sample Registration System, various years)

Years	Rural		Urban		Total	
	Male	Female	Male	Female	Male	Female
1972-76	47.85	46.82	57.60	58.02	49.47	48.62
1977-81	48.40	47.53	59.92	61.66	52.69	52.33

1982-86	48.64	47.82	61.08	63.68	54.89	55.35
---------	-------	-------	-------	-------	-------	-------

The trend of excess female mortality is pronounced till the age of 35. High rates of maternal mortality contribute to excess female mortality in the reproductive years, the mortality rate being more than 50 per cent higher for females than for males. Maternal mortality rates in India (at 500 per 100,000 live births) are among the highest in the world, and more than 50 times the average for industrialized countries. Even this may be an underestimate [2]. Frequent pregnancies compound a woman's lifetime risk of dying from maternity-related causes. The absence of trained attendance at birth for the majority women contributes greatly to high rates of maternal mortality. As recently as 1988, 66 per cent of all births in the country took place without trained medical attendance, and only 22 per cent of births took place in medical units (3).

Pregnancy outcome - the probability that a pregnancy results in a full-term, healthy live birth-is an important indicator of women's health status. According to community studies from different parts of the country, there were above 139 unsuccessful pregnancies per 1000 (4). In comparison, the rates range from 71 per 1000 pregnancies in South Korea to 126 per 1000 in Costa Rica (5). The levels of pregnancy wastage for women from poorer communities is steeper, in some cases reaching even a high of 300 per pregnancies (6). [3]

Morbidity Data

Sources of information on women's morbidity and nutritional status are even fewer than those on mortality. According to National Sample Survey data for 1973-74, the incidence of morbidity in women was 12 per cent for India as a whole. A 1990 national survey reported prevalence rates of 47 per cent and 60 per cent for urban and rural women respectively. However, the prevalence rate in the latter case is restricted to 'treated' illness rather than all illnesses (7 and 8). According to macro-level studies conducted by the NNMB, only 20 per cent of girls below 5 years of age are adequately nourished, 77 per cent suffer mild to moderate malnutrition, and 3 per cent are severely malnourished (9). Interestingly, all the above studies indicate better morbidity and nutritional status for women/girls as compared to men/boys.

Nevertheless, two large-scale rural morbidity surveys, one in Kerala (10) and the other covering two districts each from Madhya Pradesh, Uttar Pradesh and Rajasthan (11), find the contrary. Prevalence rates reported by these studies vary

from only 6 per cent in Alwar, Rajasthan, to 21 per cent in Kerala [4] The prevalence of anaemia in women is again very high, especially in the reproductive age-groups. A study covering four centers found more than 70 per cent of rural women between 25 and 44 years to be anaemic. (12)

Intensive community-level micro-studies, not attempting comparison by gender but documenting women's reproductive health problems in detail, have found very high morbidity rates: more than 50 per cent in the 15-45 age-groups (13 and 14). It therefore seems likely that macro-studies underestimate women's morbidity for reasons such as: (a) non--inclusion of reproductive morbidity; (b) the definition of prevalence being restricted to treated illness-as a result, if women tend not to treat their illnesses they would be recorded as having lower morbidity; (c) not questioning the women concerned, but only the male heads of their households, and so on.

Any attempt to arrive at an understanding of the extent and causes of morbidity from these sources of data are further hampered by the use of widely varying reference periods, definitions and classifications of health problems. There is also a near absence of information on socio-economic differentials of morbidity levels and the nature of health problems experienced.

[4] The Male and Female Prevalence Rates for Morbidity in the Kerala study (10), which has a two-week reference period, were 203.4 and 209.2 per 1000, respectively, While the prevalence rates over a one month reference period in the NCAER study

	Madhya Pradesh		Uttar Pradesh		Rajasthan	
	Gwalior	Datia	Mathura	Hardoi	Alwar	Tonk
Male	158	184	209	154	68	143
Female	182	194	202	190	62	156

In short, serious lacunae exist in the information available on Indian women's health status. A number of crucial questions remain unanswered:

1. What is the extent of illness burden experienced by women?

2. What are the main causes of illnesses?

3. How do socio-economic and demographic characteristics (such as age and parity) of the women concerned influence (a) their susceptibility to illnesses, and (b) their health-seeking behavior?

The present study is an attempt at addressing some of these questions through a case study of women from a rural poor population. The focus is especially on women's reproductive health, about which far less is known as compared to their other health problems.

Framework, Indicators, Data sources and Limitations

We start from the basic premise that disease is a socially produced natural/biological, reality, influenced by the economic environment at both macro-and micro-levels.

This approach is at variance with the biomedical paradigm which views disease in purely biological terms, as an impairment in the functioning of one or more components making up the body. Within, this paradigm, it is usual to take into consideration only factors related to the natural environment, which may increase risk of, or susceptibility to, certain illnesses.

Our framework also differs from approaches which recognize the influence of socio-economic factors on health status, but treat these factors in a social vacuum, as if individuals were just a mass of separate entities who 'happen to have' specific attributes such as a given level of income, education and so on.

The health status of an individual depends on two interrelated factors:

(a) the frequency with which he/she falls ill, and

(b) action taken in the event of illness, such as self-treatment and professional medical help.

It is inequitable resource distribution and the concentration of wealth and productive resources in a small section of the population, which is at the root as poverty in many societies, including our own. Poverty increases a person's risk of disease due to chronic malnutrition, unhealthy living conditions, excessively strenuous work and so on. It often simultaneously makes people less able to take care of themselves or seek professional help in case of illness, because of lack of appropriate information, or limited access to health services owing to lack of time and money. Thus the same factors which make some sections of the population more vulnerable to disease through denial of basic resources also impedes their ability to deal with disease effectively. Differentials in health status across socio-economic groups, and across households and individuals varying in socio-economic characteristics are usually the result of these disadvantages resulting from inequitable distribution of/access to resources.

In societies where gender-based discrimination limits women's access to resources, one may expect to find gender differentials both in susceptibility to illnesses and in access to health care. The health status of women from poor communities suffers from the compounded disadvantages of being poor and female.

Within the specific context of a community with a given resources base and resource distribution, social stratification by class/caste/gender, and health culture (beliefs and practices affecting well-being), the following set of factors have been considered, as having a major influence on women's health at the household level [5]

1. Household resource base.
2. Women's access to resources.
3. Demographic characteristics of women, such as age and parity.

The resource base of the household sets the context for defining women's susceptibility to illness, mediated by women's access to resources and women's demographics. These factors also have a role to play in women's health-seeking behavior: i.e. what women do when they have a health problem. The functioning of these factors becomes evident through their influence on women's self worth; women's awareness of illnesses and their causes; and the time, money and social support at their disposal.

The community's health culture and the accessibility, quality and range of health services provided are also major influences on whether women feel Inclined to seek medical help.

Two indicators are used to express women's susceptibility to illness:

Prevalence M_p = Number of women ill/Target Population

Frequency M_F = Number of times illness reported /Target Population

Since high fertility considerably increases the risk of morbidity and mortality from pregnancy-related causes, the Marital Fertility Rate is also used as an indicator of women's health status. Pregnancy outcome is the other indicator used. Both these indicators were computed from data on women's' pregnancy histories collected during the baseline survey.

Contraceptive prevalence and place of delivery are the preventive health measures considered, while type of health care resorted to in case of illness, including self-care, constitute the indicators related to curative care.

Women's access to resources is expressed in terms of their educational status, and participation in the labor force.

The main indicators of household resource base are caste status and the extent of land owned. In addition, indicators such as quality of housing, access to safe water and sanitation have been considered. The extent and causes of women's morbidity and the nature of their health-seeking behavior have been analyzed with respect to these variables.

The prevalence of morbidity was computed from a household interview survey covering 1452 households, conducted during August-October 1989. The reference period was 24 hours, to minimize recall errors and false positive reporting. To compute frequency, a follow-up survey was carried out over a period of six months (January-June 1990) for a representative sub-sample of the reference population, and all episodes of illnesses and their causes were documented. Data on causes of illnesses were used to arrive at cause specific prevalence and frequency rates.

The data were collected by a non-governmental rural women's organization (NGO) committed to health promotion among Scheduled Caste women, in Chengalpattu district of Tamil Nadu, South India. The choice of households was not random, but consisted of all the 1452 households and 1017 women covered by the NGO's activities. The majority of them are illiterate and landless agricultural wage workers and belong to the Scheduled Castes. They live in abject poverty, and have limited access to basic amenities and services. Consequently, the morbidity profile and health-seeking behavior found in this study is not representative of the general population, but perhaps more indicative of the worst possible scenario.

The data pertain only to married women in the reproductive age group of 15 to 40 years, who form the main clientele of the NGO. The numerous health problems of older women, single women or unmarried adolescents have therefore not been captured.

The baseline survey's concern with women's reproductive health problems, moreover, was prompted by the virtual absence of information on women's reproductive health even for the state as a whole, and the need for information on this area as a necessary basis for the NGO's program directions. The follow-up data however, included both general and reproductive health problems. Data on general health problems suffered by women were thus available only for a sub-sample of 351 women, while data on reproductive health problems are for 1017 women covered by the baseline, and for the smaller sample of women observed over the six-month period.

Another limitation is that data on morbidity are based on health interviews and not on clinical examination. A number of steps were taken at the data collection stage to ensure reliability of data collected. These included limiting the reference period of illness reported to 24 hours; using a checklist of specific symptoms rather than asking general questions on prevalence of illness; talking to the women concerned on an individual basis; and carrying out clinical examinations on a small sub-sample of women to get a rough estimate of the probability of false positive or false negative reporting.[6]

In the following section we have presented information on the extent and nature of the illness burden suffered by women belonging to the study population, and analyzed their relationship to the socio-economic and demographic characteristics of the women. Section 3 looks at patterns of health seeking

behavior, while the fourth and concluding section highlights the major findings and discusses their implications for policy.

2. Health Status Currently Married Women

2.1 Socio-economic Characteristics

The women covered by this study belong to a section of the rural population that suffers extreme social and economic deprivation. They live under harsh circumstances and bear a heavy work burden. 95 percent of the women belong to the Scheduled Castes and the remaining 5 percent to Backward Castes. About 60 percent of them come from agricultural households that are totally landless. Most of these landless households (80 percent) do not even own the sites on which their huts stand, while 60 percent do not own any other productive assets, including livestock. This group is completely dependent on agricultural wage labor for its subsistence.

The vast majority of women (85 percent) have not had even a single year of schooling. Given their lack of resources and education, the women have little option but to work and earn money for their families' subsistence. Only 13 percent of the women are home-based (not working outside the home, and not participating in any regular remunerative activity). Further analysis shows that non-participation in paid work is related more to women's reproductive responsibilities, being higher among young mothers than among any other demographic or socioeconomic category. Three-quarters of the women are wage laborers in agriculture, while the rest work on their own or leased farms. Only 2 percent are engaged in salaried employment, usually in their own villages as teachers and helpers in the Balwadis and state-sponsored nutrition (feeding) centers. Wages in agricultural employment are very low, and do not exceed Rs. 10 per day for women, hardly enough to buy one kilo of rice, the staple food.

Hours of work on the other hand, can extend from dawn to dusk, and in peak seasons are even longer.

Housing conditions are poor: 75 percent live in mud huts with thatched roofs, with only one room inclusive of kitchen. There is little space around the houses. These are crowded together in a locality called the 'cheri', specifically allocated in every village under traditional land tenures for habitation by the 'untouchable' Scheduled Castes.

Public wells and taps (47 percent each) are the main sources of water for all purposes, while about 6 percent have to rely for water supply on irrigation pumpsets belonging to landed households. In most cases the source of water is at least five minutes away, and gathering water from public taps takes a couple of hours. Water supply in summer is unpredictable, with water levels in wells dipping and taps often running dry. Toilets are virtually non-existent. Only 5 women a toilet in their homes, and the remaining 1012 use the fields.

2.2 Demographic Profile

The picture that generally emerges is one of women characterized by a low age at marriage trapped into high fertility and repeated pregnancies by high rates of child loss, which not only increases their risk of pregnancy wastage, but also seriously compromises their health and well-being.

(a) Age at marriage

Marriage is universal for women, and the vast majority marry and begin childbearing while still in their teens. The average age at marriage is 16.9 years, far below the average of 20.22 reported for Tamil Nadu (15).

59 percent of currently married women in the 15-44 age-group were married before they were 18, 96 percent before 20 and only 4 percent were married after they were 20 years old. However, a shift in the age at marriage is indicated, on analyzing age at marriage by current age of women. There is a jump from median age at marriage of 15 for women above 25 years of age, to 18 for women who are currently below 20 years old.

(b) Fertility

Fertility is high: the average number of children ever born to women in the 45-49 age-group is 5.12. The total marital fertility rate (TMFR), calculated on the basis of number of births to women over the last one year, is 5.75, higher even than the all-India figures for rural SC of 5.56 in 1978 (16). When computed on the basis of children ever born, the total marital fertility rate is 5.04. Even this is higher than the corresponding rate for women of rural Tamil Nadu, which was 4.8 in 1988 (17).

Table 1: Total Marital Fertility Rates by Characteristics of Women, Rural India (1978) and Chengalpattu (1989)

Characteristics	Total Marital Fertility Rate	
	Chengalpattu*	Rural India
Caste	5.04	5.56
SC	4.86	5.40
Non SC		
Land ownership (of household)	5.04	N.A
Landed	4.95	N.A
Landless		
Literacy status	5.18	5.48
Illiterate	4.02	4.98
Literate		
Occupation	5.03	4.90
Agricultural	4.94	4.91c
Wage Labourer		5.61
Home-Based		
All Women	5.04	4.60

N.A.: Not Available.

a Calculated from field survey data.

b For Rural India, figures for women with primary and secondary education are given.

c Includes all workers.

Source: India, Rural-Registrar General of India 1979 and 1988.

Chengalpattu -- Baseline Survey 1989.

Differences in total marital fertility rates exist according to caste, ownership of land, literacy status and participation in economic activity. The sharpest difference is seen between illiterate and literate women, the TMFR being 5.18 and 4.02 respectively [7]. It is marginally higher for Scheduled Caste women as compared Backward Caste women, and for women from landed households as compared to those from landless households. While these differences are in the expected directions, the TMFR for agricultural wage workers is found to be higher not only as compared to those engaged in other occupations, but also compared to women who do not work outside the home (Table 1). This is contrary to all-India trends, where non-workers have higher marital fertility rates than all workers (16). The demand for children among female agricultural wage workers is likely to be related to their need for children to help in domestic work and participate in wage labor to supplement the household income, as well as to the higher probability of child loss.

The first five years of marriage result in less than 1 birth (0.7) on an average. The number of children added to the family is highest, in the next five years of marriage (1.3), to make the total number of children ever born 1.98. The average number of children ever born increases to 2.94, 3.95 and 4.23 in subsequent five year periods, and reaches 4.9 only for women who have been married for 25 years and more (Table 2). Childbearing is thus spread over the women's whole, reproductive span. This may be explained by the high rates of child loss and pregnancy wastage. In addition, it has a bearing on contraceptive prevalence and choices (see section 3.1).

Table 2: Mean Number of children ever born and children surviving to currently married women, by age and duration of marriage, Scheduled Caste Women (1989)

	Mean Number of Children Ever Born	Mean Number of Children Surviving	Proportional Dead
Age Group	0.37	0.31	0.162
15-19	1.21	1.10	0.091
20-24	2.50	2.22	0.112
25-29	3.51	2.98	0.151
30-34	4.16	3.51	0.157
35-39	4.66	3.84	0.176

40-44	4.93	4.01	0.187
45-49			
Duration of Marriage (yrs)	0.67	0.63	0.060
0-4	1.98	1.76	0.112
5-9	2.94	2.58	0.123
10-14	3.95	3.38	0.144
15-19	4.23	3.49	0.175
20-24	4.85	4.00	0.175
25-29	4.92	4.01	0.185
30-34			

Source: Field Survey

(c) Child loss

A comparison of information on children ever born and children surviving to currently married women, indicates a high level of child loss. Six per cent of all children born during the first years, and 11 per cent of children born during the second five years of marriage die (Table 2). For every 5 mothers in the study population, there have been two child deaths. 20 per cent have lost one child each, while 11 percent have lost 2 or more children (Table 3). The under-five mortality rate works out to 184 per 1000 births, far higher than the estimated figure of 114 for the state in 1988 (17).

(d) Pregnancy wastage

Of every 1000 pregnancies only 906 result in a live birth. 60 fetuses are lost due to miscarriage, 27 as a result of intra-uterine death, and 7 are terminated. The stillbirth rate is 29.8 per 1000 live births, more than twice that for rural India (13.9/1000 live births) and 1.5 times that of rural Tamil Nadu (17.8/1000 live births) in 1988 (17).

Socio-economic differences do not proportionately reflect the number of pregnancies ending in miscarriages or stillbirths (Table 4). (Table 4 is missing) Unlike in the present case, higher pregnancy wastage rates for higher caste groups is reported from a community study from rural Haryana. Here, the rate of pregnancy wastage is 8.1 per 1000 live births for the Scheduled Caste population, 12.33 for Rajputs and 9.32 for other Backward Castes. The rates of miscarriages and of stillbirths were higher for higher castes (18).

Table 3: Distribution of Mothers by Number of Children Lost in Childhood for Children Ever Born to Currently Married Women (1989)

	Child Deaths							
	0	1	2	3	4	5	6	Total
Number of Mothers	609	176	64	30	4	3	1	887a
Percent	68.7	19.8	7.2	3.4	0.5	0.3	0.1	100

aWomen who have had at least one live birth

Source: Baseline Survey, 1989

The rate of miscarriages is high for women in the younger age-groups of 15-19 and 20-24, and tapers off thereafter. The stillbirth rate, however, is highest for women between 30 and 35 years age. There is no incidence of stillbirths among women below 19. The mean number of miscarriages as well as stillbirths increasing significantly, in a step-wise fashion, with increasing parity. Women of parity 6 and above have, on an average, three times as many miscarriages and six times as many stillbirths as women of parity 2 and 3 (Table 5).

Table 5: Mean Number of Miscarriages and Stillbirths by parity of Women (1989)

Parity	Miscarriages	Stillbirths
1	0.0211	0.0158
2 & 3	0.1532	0.0520

4 & 5	0.2570	0.0964
6+	0.4732	0.3036
All parties	0.1709	0.0776

Source: Base Line Survey, 1989

2.3 Morbidity Associated with Pregnancy and Childbirth

The complications and problems experienced by women in their most recent pregnancy are taken up here. Maternal morbidity would be best captured by prospective study covering all pregnant women. The present study, being retrospective in nature, is likely to be fraught with under-estimations due to memory lapses in reporting, especially by women whose most recent pregnancy was several years ago. Further under-estimations may also result because the information we have pertains only to complications directly related to pregnancy and childbirth as perceived by the respondent, instead of obstetric morbidity which include also illnesses aggravated or complicated by pregnancy and childbirth, such as anaemia.

Extent and Causes

Of the 887 women who have had at least one prior delivery, 42 per cent have suffered from one or more serious problems related to pregnancy and childbirth. 22 per cent of the women encountered problems during pregnancy or childbirth, while 32.9 per cent had complications in the postpartum period. This includes 119 women (11.7 percent) who suffered complications in both periods.

Problems included here are antepartum hemorrhage, obstructed labor (at times, but not always, caused by breech presentation) often resulting in stillbirth, excessive bleeding during delivery; as well as perineal tear and other injuries of the birth passage, excessive bleeding, reproductive tract infection, and/or fever within the first week following childbirth. Details of the proportions of women affected by these problems are given in Table 6.

Table 6 : Complications during pregnancy, childbirth and postpartum in the most recent pregnancy, currently married women (1989)

Complications	Number of women ^A	Percent
<i>Pregnancy and delivery</i>	17	1.9
Antepartum bleeding	163	16.0
Prolonged labour (24 hrs) ^B	16	1.6
Obstructed labour due to breech presentation	42	2.7
	22	2.2
Complicated labour/obstructed labour ^C	106	10.4
Eclamptic fits ^D		
Excessive bleeding during delivery		
<i>Within a week following delivery</i>	136	13.4
Excessive bleeding	81	8.0
Fever	122	12.0
Perineal tear (unrepaired)	6	0.6
Reproductive tract infections		

^A Several women had more than one problem

^B Not included as part of obstetric morbidity

^C 12 cases led to stillbirth

^D 15 cases led to stillbirth

Source : Baseline Survey, 1989.

As expected, the incidence of problems increases with parity, but is significantly higher only for those whose parity is six or more, at 53 per cent. Teenage mothers have a significantly higher incidence of postpartum problems, which are mainly related to injuries resulting from difficult deliveries, while women above 30 encounter a significantly higher rate of problems during pregnancy and childbirth.

Socio-economic factors seem to have an important influence on the incidence of complications related to pregnancy and childbirth. Complication rates are significantly higher for Scheduled Caste women and women from landless

households. They are lower for women from the owner-farmer or tenant-farmer category when compared to all occupational categories. A puzzling finding is the higher complication rates for literate women (53 per cent) as compared to illiterate women (40 per cent). It is possibly because of higher reporting as a consequence of better awareness, or perhaps because of a medical diagnosis from hospital delivery. The lower prevalence rates for current reproductive health problems point in this direction (Table 7). (Table 7 is missing).

Out of the 351 women included in the follow-up, 32 were pregnant at the time of the initial survey. Only 12 of these pregnancies resulted in a normal and healthy birth, implying an even higher rate of pregnancy-related complications (63 per cent) than captured by the baseline whence information was retrospective [8]

Comparison with a number of studies from rural India show that pregnancy and childbirth-related morbidity among Scheduled Caste women in Chengalpattu is very high. According to a study conducted in rural Uttar Pradesh, only 4.6 per cent of Scheduled Caste women reported having had complication during delivery, as compared to around 18 per cent in Chengalpattu [19]. A 1979 study from Rajasthan reports complication rates of only 6.8 per cent [20]. In yet another study from Gujarat in 1983 [21], postnatal problems were found in only 2.25 per cent of the women, while another study in 1982 [22] gave a postnatal complication rate of 26.7 per cent [9]. Although differences in definitions and details probed by the questionnaire are likely to have caused some difference in reporting of complications, it seems unlikely that this is the only reason for the considerably higher rates of morbidity observed in the present study.

2.4. Women's Illness Burden

Compared with the baseline survey which is restricted to reproductive health problems, the follow-up survey gives a more comprehensive picture of the burden of illness borne by poor women. In all, 150 women out of 351 had a health problem during the six months of follow-up. The prevalence rate M_p for all health problems thus works out to 43 per cent, and the frequency M_f is a stupendous 68 per cent. More than two-fifths of the population reporting illness points to a prevalence rate far exceeding that normally reported, even making allowances for the fact that our period of coverage is six months [10]

Prevalence rates vary across socio-economic groups, with educated women from landed families who are home-based or in salaried employment being less affected. However, the differentials are far more significant by age and parity

groups, being more than twice as high for older and high-parity women as compared with women below 25 years and those who have had less than two pregnancies (Table 8).

Table 8 : Prevalence of health problems in women (January-June 1990) (Figures in brackets give prevalence rate Mp)

Characteristic	Had one or more problems			Had no problems	Total
	All problems	Reproductive	General health		
Age in years	6(22.3)	1(3.7)	5(18.5)	21	27
15-19	23(28.8)	10(12.5)	16(20.0)	57	80
20-24	60(52.6)	33(28.9)	44(38.6)	54	114
25-29	36(52.2)	19(27.5)	30(43.5)	33	69
30-34	25(41.0)	10(16.4)	19(31.1)	36	61
35-39					
Parity	11(28.2)	3(7.7)	9(23.0)	28	39
0	17(28.3)	8(13.3)	14(23.4)	43	60
1	58(43.9)	32(24.2)	41(31.1)	74	132
2-3	44(51.7)	20(23.5)	35(41.2)	41	85
4-5	20(57.1)	10(28.6)	15(42.9)	15	35
6+					
Land-ownership	139(43.4)	70(21.9)	105(32.8)	181	320
Own < 1.5 acres	11(35.4)	3(9.7)	9(29.0)	20	31
Own > 1.5 acres					
Education	139(44.6)	69(22.1)	103(33.0)	173	312
Illiterate	11(28.2)	4(10.2)	11(28.2)	28	39
Literate					
Occupation	6(54.5)	4(36.4)	4(36.4)	5	11
Owner-farmer/tenant	125(43.6)	65(22.6)	93(32.4)	162	287
Wage labourer	3(37.5)	2(25.0)	2(25.0)	5	8
Non-farm employment	16(35.6)	2(2.3)	15(33.0)	29	45
Home-based					

Total	150(42.7)			201	351
-------	-----------	--	--	-----	-----

Source: Follow-up Survey, January-June 1990.

(a) General health problems

For general health problems the prevalence rate is 33 per cent, and the frequency is nearly equal at 34 per cent. In other words, general health problems were for the most part one-time occurrences.

The single most important cause of morbidity was non-specific, fever, accounting for 27 percent of all affected. Nineteen percent of the women complained of severe backaches or joint pains that restricted them to bed, while respiratory infections accounted for a further 15 percent. Other important problems reported include oral infections, diarrhoea, eye infections and injuries related to work and to domestic violence (Table 9). (Table 9 is missing) This cause pattern is similar to those reported by the various morbidity studies discussed above.

(b) Reproductive health problems

Direct gynecologic morbidity such as menstrual disorders, reproductive tract disorders (RTD) (both sexually and otherwise transmitted), and sequelae of complicated deliveries such as uterovaginal prolapse constitute reproductive health problems. Urinary incontinence, and urinary tract infections (UTI) may also be included in this category. Although they cannot be strictly termed reproductive health problems, they have been included since they are more common in women than in men and are related to physiological differences by sex.

(i) Prevalence: Thirty-one per cent of women covered by the base-line survey reported having a reproductive health problem at the time of the survey. A third of those with problems, or 106 women, were suffering from more than one ailment. If morbidity reported as a sequela of sterilization for birth control is also considered, the prevalence rate rises to 39 per cent.

Gynecologic morbidity, as in the case of complications related to pregnancy and childbirth, increases dramatically, with age and parity. Only 11 per cent of the

teenagers reported current reproductive health problems; the figure more than doubled for women between 20 and 29 (26 per cent), rising to as high as 43 per women above 35. With parity, the prevalence of reproductive morbidity rises from 11 per cent for nulliparous women to a stupendous 57 per cent for women of parity above 6 (Table 10).. (Table 10 is missing)

The prevalence of reproductive health problems is significantly higher among illiterate women, and lower for women who are from owner-farmer and tenant families (Table 10). This is perhaps a consequence of the resource base of women's households, as per evidence from the follow-up survey. In the latter, women from households owing less than 1.5 acres of land-i.e. households dependent primarily on wage labor-have twice the prevalence rate of women from households with more land (see Table 8).

A comparison of morbidity rates (reference period 24 hours) with those of Maharashtra and Gujarat in 1983 shows prevalence rates of 4.71 and 3.1 per 100 women respectively, for all illnesses (not only gynecologic morbidity), and 6.6 per 100 women in Madhya Pradesh ((23), (21) and (24)). Female morbidity figures over a reference period of one month also do not present rates higher than 17 per cent, almost half the rate for Chengalpattu women, despite our taking a restricted definition of morbidity [25].

However, the few health examination surveys on rural Indian women present a different picture, reporting higher gynecologic morbidity. A WHO study conducted in Gandhigram, Tamil Nadu, in the mid-seventies found 59 per cent of all women to be suffering from gynecological diseases (14). In rural Maharashtra it was found that 55 per cent of 650 women medically examined suffered from a gynecological disease (13).

The six month follow-up of the baseline survey points to some interesting trends. A program of health education and provision of basic health services at the door-step accompanied the follow-up. While this has made an impact on the proportion of women affected, [11] the frequency of episodes has not come down substantively. Among the 351 women covered, 118 episodes of reproductive health problems were reported, by only 73 women. Thus while prevalence is only about 21 per cent, frequency is 34 per cent. The high frequency is a consequence of the repetitive or chronic character of a number of reproductive health problems, with the same women being affected over and over again, by the same or a related health problem.

Another interesting finding from the follow-up is that differentials by socio-economic status are far more pronounced in the case of reproductive health problems than in the case of general health problems. Women from lower socio-economic groups had twice as high a prevalence of reproductive health problems as compared to their better-off counterparts (Table 8).

(ii) Nature of problems: Twenty per cent of all the women had problems associated with menstruation, such as excessive bleeding, extremely painful periods, and irregular periods, apart from those suffering from urinary tract infections (9 per cent), reproductive tract infections (10 per cent), and uterine prolapse (2 per cent). Irregular periods were common not only in older women who were nearing menopause, but also in younger women who seemed to be in very poor general health. All women with uterine prolapse had associated genital infections and, sometimes, urinary tract infections as well. Incontinence was also similarly accompanied by urinary and reproductive tract infections (Table 11) (Table 11 is missing)

Some patterns in the nature of problems suffered by women of varying demographic and socio-economic characteristics were apparent. Menstrual problems were higher for older and higher parity women. This was true of urinary tract infections. This trend is most pronounced in the case of reproductive tract disorders, which are 10 times more prevalent in women of parity six and more when compared to nulliparous women. There is not much difference by socio-economic class in the nature of reproductive health problems, save for the fact that Backward Caste women as well as home-based women have a significantly lower prevalence rate of reproductive tract infections.

The more problematic and serious conditions, namely incontinence, uterine prolapse and cancer, are all found in women between 20 and 29 years of age, of parity two and more, who are all from the Scheduled Castes, predominantly landless, and all illiterate wage workers in agriculture (Table 12). (Table 12 is missing) Early marriage, strenuous manual labor, coupled with early childbearing complicated by prolonged labor, and inadequate delivery care-predisposing factors for uterine prolapse, were all simultaneously present in women covered by the present study (26).

In addition to these problems, 91 of the 242 women who had undergone sterilization for birth control (38 per cent of family planning acceptors or 9 per cent of all women) complained of a variety of chronic health problems. These

ranged from menstrual irregularities and recurring reproductive tract disorders, to backaches, extreme weight loss and non-specific lower abdominal pain.

In the follow-up survey, the most frequent problem reported was reproductive tract disorders, accounting for 73 out of the 118 episodes or 62 per cent, in 44 women, pointing to repeated episodes in the women affected. In 39 of the 44 women, the problem was not present during the baseline survey. The situation was similar for cases of uterine prolapse and urinary incontinence [12] Over all, ten per cent had more than one reproductive health problem; 51 per cent, in addition, experienced other general health problems such as fevers and respiratory infections. Three of the 18 women who had undergone tubal ligation for birth control developed post-operative infections.

Effectively curing the above health problems, leave alone preventing their recurrence, would be a formidable task, as shown by the health Intervention program. Reproductive tract infections, for instance, were in a number of instances sexually transmitted. Treatment proved useless since both partners, not just the woman, were required to comply with it. The men did not want to be identified as the source of Infection. More tragically, they repeatedly infected their wives. Other causes of RTDs, such as poor menstrual hygiene, were, once again, not a problem of awareness alone. They were related to affordability of better means of menstrual hygiene, water supply, waste disposal facilities, and women's strenuous working conditions in agriculture. Prevention of urinary incontinence and uterine prolapse also require a whole gamut of changes such as fewer births, better delivery care, avoidance of strenuous work during pregnancy and immediately following delivery, and of course, better general health and nutrition so that the muscles supporting the uterus and bladder do not give way.

3. Utilization of Health Care Services

Women's utilization of preventive care (such as the use of contraceptive services and choice of place of delivery) and of curative care is discussed in this section.

3.1 Preventive care

(a) Contraceptive prevalence

Only 24 per cent of the women (237) practiced family planning, mainly sterilization (95 per cent) [13] This is exactly half the prevalence rate for Tamil Nadu which was 53 per cent in 1988 (15).

An overwhelming majority (90 percent) of women who used a method of contraception were above 25 years of age. Contraceptive prevalence was almost nil in women aged 20 or less, and was highest for women between 31 and 35 years of age, at 41 per cent (Table 13).. (Table 13 is missing) Acceptance increased with number of surviving children: from 42 per cent for those with three surviving children to 60 per cent among women with 5 or more. But not until women were 30, perhaps married for fifteen years or more, did they have three surviving children.

Thus, practically none of the women who had been married for less than five years were practicing contraception. After the fifth year of marriage, the proportion increased steeply, and was highest for women who had been married for 16 to 20 years. Significant differences by caste and land-ownership also existed in the extent of contraceptive prevalence: 37 per cent for Backward Castes and only 23 per cent for Scheduled Castes. Acceptance was lowest among women from landless households (20.5 percent) as compared to those owning up to 5 acres (28.4 percent).

Contrary to expectation, education did not influence family planning practice at all among young women below 25 years of age. The women's occupational status did not influence contraceptive prevalence as much as the land-owning status of her household. Both home-based women and wage laborers had a similar rate of lower contraceptive prevalence. A much higher proportion of women who worked in their own farms or in leased farms (32 percent) had adopted family planning.

Thus women's utilization of contraceptive services seems to be far less influenced by women's education or ability to earn an income than by the prevailing patterns of child survival and the asset base and social status of their households. In particular, because child survival is related to the household resource base, contraceptive prevalence also seems to be influenced by the latter.

(b) Place of delivery

Trained attendance at delivery is one of the most important health interventions necessary to bring down infant and maternal mortality, and considerably reduce obstetric morbidities. Kerala owes its remarkable achievement in lowering infant mortality rates in no small measure to the very high proportion of institutional

deliveries in the state (90 per cent) (27). Even in rural Kerala, as shown recently (10), 76 percent of all deliveries have taken place in hospitals.

Access to emergency obstetric care can reduce maternal mortality rates by 30 per cent. For every case of maternal death, there are estimated to be 16 women who suffer morbidities that can last a lifetime. These, again, can be avoided, to a large extent with trained attendance and, where necessary, institutional care (26).

The contrast in the situation of the women under study is stark. Seventy-five per cent of all deliveries took place at home assisted by a traditional birth attendant. The remaining 25 per cent took place under the medical supervision of the auxiliary nurse midwife or, less often, of the doctor in the health center or hospital. For rural Tamil Nadu, the proportion of untrained attendance at delivery was far lower (41 percent), while even for rural India it was lower than the present case (67 percent) (17).

A conscious choice of place of delivery was indicated, according to risk perceived in childbirth, and perhaps reflecting a tacit valuation of the woman by the family. Forty-four per cent of all first deliveries had taken place in a hospital, and the proportion of hospital births gradually declined with increasing parity, despite the higher rates of obstetric morbidities associated with high parities [14] (Table 14). The increasing proportion of hospital deliveries with lower age-groups appears to be indicative, not of a gradual change in favor of medically supervised deliveries, but of the higher risk associated with first births and deliveries to very young women. Another reason seems to be the value place on the birth of a first child (ideally a male child), which is seen as the *raison d'etre* of marriage, and in respect of which the family does not want to take unnecessary risks. The absence of a clear trend towards a gradual increase in institutional deliveries is underlined by the fact that the proportion of hospital deliveries at 26.6 years, the mean age at childbearing, was only about 22 percent [15]

Table 14 : Proportion of first deliveries in health unit (by socio-economic characteristics of currently married women) (1989)

Characteristic	Number of women of parity one	Proportion of institutional deliveries
Scheduled caste	197	43.1
Backward caste	10	60.0

Landed	77	49.3
Landless	131	41.2
Illiterate	173	40.8
Literate	35	62.9
Owner-farmer/Tenant	23	65.2
Wage-labourer	153	37.9
Home-based	27	63.0
Total	208	44.2

Source: Baseline Survey, 1989.

Educational status and occupation significantly affect the proportion of first deliveries taking place in hospital. Sixty-three per cent of first deliveries to literate women were in institutions, as against only 41 cent for illiterate women. Only 38 per cent of women wage laborers had their first deliveries in hospital, as compared to over 63 percent of women engaged in all other occupation. Level of awareness and opportunity costs involved obviously play a determining role in choice of place of delivery even in the case of first births (Table 15).

Table 15: Type of health care sought by currently married women with a current reproductive health problem (1989)

Type of help	Number of women	Percent
No help	187	59.4
Self-treatment at home	56	17.8
Traditional healer	7	2.2
Village health worker	17	5.4
Government facilities or personnel	36	11.4
Private facilities or personnel	12	3.8
Total	315	100.0

Source : Baseline Survey, 1989.

3.2 Curative Care

Despite having an acknowledged reproductive health problem, inaction and self-neglect is pervasive among women. This situation contrasts strongly with these very women's utilization of health services for their children [16]

Almost 60 per cent the women affected ignored it, 19 per cent initiated self-treatment at home, and only 22 per cent sought external help [17] (Table 16). (Table 16 is missing)

An analysis of differentials in health care utilization reveals some rate unusual features (Table 16). Illiterate wage laborers, and women from lower socio-economic groups ignored their ailments far less frequently than their educated and economically better-placed counterparts. At the same time, unlike the latter, they also tended to resort at least as much to self-treatment, as to medical help.

In terms of demographic characteristics, the use of medical facilities increases progressively with parity. There is however, no difference in the extent of non-action by parity, being between 57 and 64 percent for women of all parities. None of the teenagers sought any help; nor did they resort to self-treatment. The extent of utilization increased for women in their twenties, was the highest for those between 30 and 34, and tapered off thereafter. The extent of inaction followed an exactly Inverse pattern: highest for teenagers, lower in the 20-29 age-group, lowest for 30-34-year-old women, and again higher for those above 35.

Health care utilization patterns suggest conscious selectivity in favor of those most at risk and who air least afford to be immobilized due to illness: wage workers, salaried workers, and mothers with one or more grown-up children to run the household or compensate for the loss of an adult's income.

Opinion has been expressed that female mortality has an inverse correlation with female labor force participation, and that this is because girls and women who are potential or current wage earners, are better valued and consequently better cared for ((28),(29) and (30)). Patterns of high morbidity among wage earners found in the present study suggest the contrary, at least insofar as adult women

are concerned. It is clear that women wage earners are more vulnerable to diseases, not less. However, they fight to keep themselves on their feet through self-treatment and, when absolutely essential, resort to medical care since they cannot afford to be sick.

If the variables hypothesized earlier on as influencing susceptibility to illness and health-seeking behavior are now referred to, an expected correlation is seen only with respect to the former. Women with a better household resource-base and access to resources are less susceptible to illness. In contrast, it is women from households with a poor resource base, with low income and no education, who exhibit positive health-seeking behavior. A factor that could not be considered separately, namely the value placed on women by society (rather than their education and employment), seems to play the most decisive role in health-seeking behavior.

Utilization of health care is also related to some extent to the nature of the problem. Women with reproductive tract disorders and uterine prolapse, and to a lesser extent women suffering from urinary tract infections, tend to seek medical help most often. Women suffering from problems related to menstruation do not seek medical help at all ([Table 16](#)).

A number of reasons were cited by the women for this health-seeking behavior, the most important of all being the absence of any specific reason! More than half the women had not considered taking any action regarding their health problem, confirming their tendency to ignore or neglect health problems. Fifteen per cent were embarrassed or afraid to visit the doctor for a reproductive health problem and about 10 per cent thought home remedies were sufficient. Other reasons given included lack of time and money, problems at home, permission withheld by the husband, or because they felt medical treatment had brought no improvement.

Most of these reasons are a consequence of the community's health culture which reflects also traditional values and biases related to women's fertility and reproduction. Menstrual problems, for instance, are not considered 'illness', and home remedies or traditional treatments are usually resorted to. Further, it is not considered appropriate for women to discuss matters related to reproductive health, especially with male doctors. The quality of health services also plays a role: dissatisfaction with treatment is a commonly stated reason, although inaccessibility is perhaps of greater consequence in influencing health-seeking behavior.

4. Conclusions

To summarize, the burden of illness borne by the women covered by this study is enormous, and far higher than that reported from similar health interview studies. The interplay between poverty and gender discrimination seems to be the lynch-pin in any explanation of women's health problems here. Growing up in landless families, eking out a hand-to-mouth existence, children, especially girls, drop out early from school and join the labor force or manage the household while the mother engages in wage work. Girls are married early and are under tremendous social pressure to bear children immediately, a typical situation of a high mortality social group where fertility is highly valued. Inadequate nutrition together with heavy manual labor on land and low age cause high pregnancy wastage, and in turn extend the period of childbearing to the woman's entire reproductive span. It is worth noting that in a poverty group such as this, participation in the labor force increases the risk of morbidity and is not an indicator of better status but of greater deprivation.

Both the need to have at least three surviving children and the fear of health risks discourage contraceptive prevalence, contributing in turn to high fertility. With increasing age and parity women are at higher risk of obstetrics as well as gynecologic morbidity. They are also more vulnerable to general health problems. The role of overt gender discrimination is most evident in the case of reproductive tract infections in women, and injuries related to domestic violence.

The low priority accorded to women's health is reflected in patterns of health care utilization. Choices as to when health services may be sought seem to be based on a careful consideration of the value of such an investment, from the perspective of a patriarchal social setting.

For instance, women are permitted trained attendance only for the first delivery or when they are very young. Begetting the first offspring is of high significance, whereas an additional child for a woman who already has three or more children is not an event important enough for scarce resources to be invested in it, despite the fact that higher order births are more risky and may require medical attendance.

This is in direct contrast to the pattern of health care utilization in case of illness. Young women, especially teenagers, do not take any action whatsoever for their illnesses, while women in their early thirties, and wage workers take some form of action promptly. This may be because a few days' immobility in addition to loss of wages in a middle-aged woman with several dependent children is

unacceptable and unaffordable from the family's point of view. The women themselves consider it imperative to take care of themselves, if only to ensure the family's survival. If a young bride without children falls ill, this is not likely to upset the family routine very much, and she is in no way indispensable. According to some of the young women interviewed, complaining of health problems and seeking medical attention were risky. Being childless, they were of little value to their marital families, and there was the fear of being sent back to their parental homes if they were seen to be 'sickly'. The husband might even remarry in such cases. Thus it seems that, in addition to constraints imposed by poverty, the main barrier to women's utilization of health services relates to how society values them. Education and awareness, and even access to money, play, if at all, a minor role.

The nature of reproductive and other health problems encountered are such that they cannot be effectively prevented without fundamental changes--not just in the poverty situation of their households, but specifically in the women's own living and working conditions, and in their relationship to men. To make an impact on women's susceptibility to disease would thus call for policies and programs that make a perceptible dent in poverty levels, and those specifically aimed at enhancing women's access to resources.

Changing women's health-seeking behavior seems to be a more hopeful avenue for action. Through health education and awareness-raising programs which reach out to women (especially, those in poverty groups), and through programs aimed at enhancing their self-confidence and self-image, women have to be encouraged to initiate self-treatment or seek medical help when ill, to actively seek antenatal and delivery care, and more importantly, to feel entitled to good health and care. A number of community based organizations have had success with such efforts, even though limited.

The commitment of the health services system to respond to women's health needs is another pressing issue to be addressed. The lack of information on women's health needs is a major hurdle in this respect. National level surveys on morbidity and mortality and the use of health services need to include specific questions on aspects such as women's reproductive health problems, their use of health services, and factors that restrict their access to health and health services.

A minimum agenda for action would include at least two demands:

(a) A comprehensive range of reproductive health services in place of the narrowly defined maternal health care currently available; and

(b) Concerted action to drastically reduce the proportion of deliveries with untrained attendance, and pregnancies receiving no antenatal or postnatal care.

The absence of specific health interventions to address the extensive reproductive health problem in women, and worse, the abysmally low proportion of women receiving health care even during pregnancy and delivery, is a sad commentary on how priorities for health, services are set and implemented. Despite pious platitudes on the importance of women's well-being for national development, women's health has remained a neglected issue for far too long. It is action that is urgently needed.

Acknowledgements

Sincere thanks are due to the health workers of the Rural Women's Social Education Center Chengalpattu, Tamil Nadu, who carried out the health interview surveys on which this study is based. Many thanks to Viji who assisted with the data processing.

References

1. Chatterjee, Meera (1990) Indian Women, Health and Productivity. Policy, Research and External Affairs Working Paper, Washington D.C. World Bank.
2. Bhatia, J.C. (1 988) A Study of Maternal mortality in Anantapur District, Andhra Pradesh, India. Bangalore Indian Institute of Management.
3. Registrar-General of India (1989) Sample Registration System 1988, New Delhi, Ministry of Home Affairs, Government of India.
4. Sundari, T.K. (1993) 'Can Health Education Improve Pregnancy Outcome? Report of a Grassroots Action-Education Campaign', Journal of Family Welfare, March.
5. Casterline, John B. (1989) 'Maternal Age, Gravidity and Pregnancy Spacing Effect on Fetal Mortality'. Social Biology, Vol. 36, Nos. 3-4,186-212.

6. Gopalan, C. and Nadamuni Naidu (1972) 'Nutrition and Fertility', The Lancet, 18 November, 1077-1079.
7. National Sample Survey Organization (1980) 28th Round Survey on Morbidity (1973-74), Sarvekshana, July-October.
8. National Council of Applied Economics Research (1992a). Household Survey of Medical Care, NCAER, New Delhi.
9. National Nutrition Monitoring Bureau (1980) Consolidated Report for 1975-79. National Institute of Nutrition, Hyderabad.
10. Kannan K. P. et al. (1991) Health Status in Rural Kerala. A study of the Linkages Between Socioeconomic Status and Health Status. Integrated Rural Technology Center of the Kerala Sestra Sehitya Parishad, February.
11. National Council of Applied Economics Research (1992b) Rural Household Health Care Needs and Availability. NCAER, New Delhi.
12. Indian Council of Medical Research (1982) Report of the ICMR Working Group, American Journal of Clinical Nutrition, 35:1442.
13. Bang, R.A. et al. (1989) 'High Prevalence of Gynecological Diseases in Rural Indian Women' The Lancet, 14 January, 85-88.
14. Dutt, P.R. et al. (1976) 'Gandhigram' in A.R. Omran and C.C. Stanley (eds.) Family formation Patterns and health) An International Collaborative Study in India, Iran, Lebanon, Philippines and Turkey. World Health Organization, Geneva, 337-44
15. Department of Family Welfare (1989) Family Welfare Program in India Year Book 1987-88, Government of India, Ministry of Health and Family Welfare, New Delhi, 178-181, Table C-12.

16. Registrar General Of India (1979) Survey Report on Levels, Trends and Differentials in Fertility. India, Ministry of Home Affairs, New Delhi.
17. Registrar-General of India (1988). Fertility, in India - An Analysis of 1981 Census Data. Census of India 1981, Occasional Paper No. 13 of 1988, Demography. Division, Ministry of Home Affairs, New Delhi.
18. Murthy, G.V.S. et al. (1987) 'A Study of Pregnancy Wastage In a Rural Area of Haryana', Health and Population: Perspectives and Issues, No. 10, 26-34.
19. Trakroo, P. L. and S.D. Kapoor (1990) A Study to Identify Problems and Patterns of Acceptability and Utilization of Health Care Services by Scheduled Caste Population in Rural India. National Institute of Health and Family Welfare, New Delhi.
20. Datta, K.K. et al. (1980) 'Morbidity Pattern among Rural Pregnant Women in Alwar, Rajasthan: A Cohort Study', Health and Population: Perspectives and Issues, No. 3, 282-92.
21. International Institute of Population Sciences, Bombay, and Population Research Center, M.S. University, Baroda (1985) Baseline Survey Fertility, Mortality and Related Factors in Rural Gujarat, December.
22. Walia (1988) 'Health Services and the Rural Pregnant', The Nursing Journal of India, September.
23. International Institute of Population Sciences, Bombay, and Department of Sociology, Marathwada University, Aurangabad (1985) Baseline Survey of Fertility, Mortality, and Related Factors in Maharashtra, July.
24. National Institute of Health and Family Welfare (1985) Levels of Fertility, Mortality, Family Welfare, and Utilization of Health and Family Welfare Services--A Baseline Report of Eight Project Districts of Madhya Pradesh, October.

25. Saramma Thomas Mathai (1989) 'Women and the Health System' in C. Gopalan and Suminder Kaur (eds.) Women and Nutrition in India. Nutrition Foundation of India Special Publication series no. 5, Hyderabad.
 26. Division of Family Health World Health Organization (1990) Measuring Reproductive Morbidity: Report of a Technical Working Group, Geneva, 30 August-1 September 1989. WHO/MCH/90.4, WHO, Geneva.
 27. Thankappan, K.R. and V Ramankutty (1990) 'Immunization Coverage in Kerala and the Role of the Integrated Child Development Scheme Program', Health Policy and Planning, vol. 5, no. 3, 267-73.
 28. Bardhan, P.K. (1974) 'On Life and Death Questions', Economic and Political Weekly IX, nos. 32-34,1293-1304.
 29. Krishnaji, N. (1987) 'Poverty and Sex Ratio-Some Data and Speculations', Economic and Political Weekly XXII, 892-97.
 30. Rosenzweig, M. and T.P. Schultz (1982) 'Market Opportunities, Genetic Endowment and Intra-Family Research Distribution: Child Survival in Rural India', American Economic Review, 72, 803-15.
1. A community-based study reported maternal mortality rates of 545 and 830 per 100,000 live births, respectively, in urban and rural Anantpur (2).
 2. Casterline's figures (5) are from World Fertility Survey results for 8 developing countries, and Gopalan and Naidu's figures (6) are based on a survey of 2537 rural and 2021 urban women from a low socio-economic group, subsisting on a daily calorie intake of less than 1850 kcals per day.
 3. A more detailed discussion of the various background factors mentioned here is given in a recently published article by this author, entitled 'Research on Women's Health-Some Methodological Issues', in Development in Practice, vol. 2, no. 3, 1992.
 4. 25 women underwent a follow-up with a clinical examination by a physician on the same day. It was found that symptoms reported

coincided with those of physical examination in 20 out of 25 women, and that there were no false positives. However, vaginal infections went unreported-i.e. there were false negatives in 4 out of 10 women who actually had a problem. It was discovered that under-reporting tract infections was largely due to women's inability to identify symptoms. A series of five one-day workshops were organized, each covering five hamlets/villages, and having participation of five to six women from each settlement. A resurvey was done after these workshops in November-December 1989, to document gynecological problems alone. The results of this resurvey are the ones considered for, reproductive tract infections.

5. The TMFR for different sections of the study population have been computed from data on children ever born to currently married women, by age of women, using the MORTPAK software of the UN Population Division.
6. One pregnancy ended in a miscarriage. In one case the childbirth was complicated by prolonged labor and foetal distress. It ended in a c-section, but the infant died soon after birth. Four women had premature deliveries, and one of the premature babies died within a week of birth. Two of these women had shown symptoms of hypertensive disorders of pregnancy with high blood pressure and fluid retention. In ten other cases, labor was prolonged resulting in perineal tear, accompanied by severe blood loss in five of them.
7. References 21 and 22 are as quoted in Saramma Mathai (reference 25).
8. The highest prevalence rates for women over various seasons, in six rural districts in North India was only 20 per cent, according to a study conducted by NCAER (11). In the study of health status in rural Kerala (1987), prevalence of acute illnesses in women was only 21 per cent (10). Comparison with a number of community studies with reference periods of one to three months confirms this situation (ref. 25, p. 272, Table 6).
9. We believe that the significantly lower prevalence rates when compared to the baseline survey are a result of the health intervention program. However, the different months of the year covered by the two surveys (January to June in the case of the follow-up and August to October in the case of the baseline) may also have had some influence on prevalence of morbidity in these periods.

10. One new case of urinary incontinence and 7 new cases of uterine prolapse complicated with reproductive tract infections were reported during the follow-up period.
11. 5 women are protected against conception since their husbands have adopted a method of birth control, so that 242 women in all are covered by family planning methods.
12. Another finding confirms this trend: 69 percent of all births to teenage mothers took place in a health unit. The proportion declines dramatically to a mere 22 per cent for mothers in the age-group 20-29 years, and further to 18 per cent for those above 35.
13. Mean age at childbearing has been computed from data on children ever born to women, by years of marriage, using the MORTPAK software of the UN Population Division.
14. These same women had sought medical help for 51 per cent of their children who had a health problem. A further 6 per cent had been treated by a traditional healer, and 23 per cent treated at home. Only 20 per cent had received no help.
15. Those who sought help from a medical facility were even lower, only 15 per cent. Five per cent sought help from the village health worker, and 2 per cent from a traditional healer.