

Low socio-economic development vis-à-vis high infant mortality: role of women autonomy among the Ladiya population of Central India

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Short Abstract

Infant mortality studied in a depressed class, Ladiya of central India in terms of socio-economic development and women's autonomy. Ladiya mothers with high level of autonomy experienced low incidence of infant deaths and with low autonomy high incidence of infant deaths.

Long Abstract

Infant mortality is considered as a marker of socio-economic development of a nation. The Ladiya, an offshoot of a scheduled caste of Central India has been studied. Rate of infant mortality indicates a very high level (110 per 1000 live births) among them. Living condition of the studied population is deplorable, characterized with marked poverty, lack of sewage and housing which consisted mostly of one or two living rooms per household. A high per cent of the womenfolk among them are illiterate (71.57). The mothers in the present study are found to opt for frequent child bearing in order to make up the loss, despite the consequent risk of their health as well as survival.

Ladiya mothers who enjoyed high level of autonomy in family decision-making experienced relatively low incidence of infant deaths (6.33%). Incidence of infant deaths is highest (15.04%) among the respondents who have negligible importance in the process of family-decision making. However, slight improvement (moderate level of autonomy) in women's position is found to have considerable effect in declining the incidence of infant deaths. Thus it infer that efforts to be made to improve Ladiya women's level of educational attainment and raising their active participation in economic activities for better employment. This, in turn, will help them to have more autonomy in decision making to overcome the high infant mortality rate, which determines life expectancy of children surviving and hence birth rate as well as natural growth rate of population too.

Introduction:

Autonomy is the ability to obtain information and make decisions about one's own concerns (Dyson and Moore, 1983). In general, the attitude of the males towards the females that persists on the traditional garb is shaped by a notion of superiority which has rather been to imposing and repressing. History tells that the women have, most of the time, suffered at the hands of the men. Elements of incompetence, incapability, lack of understanding etc. have often been regarded as attributes of the women. Status, in fact, is a relative term, which can be measured, in general, by the level of autonomy enjoyed by the process of decision making by a particular group. Overall improvement in the status of women not only ensures high quality of life but population control too. If women have more autonomy in decision making, then they will be having more say in deciding the number of children, between the children and certain other aspects of fertility. Status of women thus determines the process of fertility to a considerable extent (Kumar, 1997).

Dyson and Moore (1983) emphasized the relationship between fertility and women's autonomy in India. Maitra (2004) examined parental bargaining, health inputs and child deaths in India. According to them fertility varies as a negative function of women's autonomy in India. They have also linked female and child mortality. Visaria and Visaria (1994) are of the opinion that the pace of demographic transition can be hastened only if women gain in autonomy. The speedy decline in fertility in Kerala State of India is attributed to the high status enjoyed by Kerala women. Thus, an increased status of women in the society as well as within the family may help her to act rationally particularly in matters relating to reproductive behavior. Adhikari and Sawangdee (2011) studied the influence of women's autonomy on infant mortality in Nepal. Side by side, Woldemicael and Tenkorang (2010) and Al Riyami et al. (2004) studied on the same line in Ethiopia and Oman respectively.

Sen and Batliwala (1997) suggest that women's autonomy is likely to have significant impact on the demographic and health seeking behavior of couples by altering women's relative control over fertility and contraceptive use and by influencing their attitudes (for example attitudes towards the sex composition of children) and abilities (for example the ability to obtain health services) for themselves and for their children. Women with more autonomy have been shown in a range of local-level and aggregate studies to tend toward electing smaller families and to be more likely to use contraceptive, seek health care more often, and exhibit improved health measures for themselves and their children, while better child nutrition, and sometimes lower child mortality.

“Children health, tomorrow’s wealth” is a very well-known saying. In reality, birth of a child occupies a special position in people’s life, and they are generally loved all over the world. Unfortunately a good number of children die every year in India due to various kind of illness. Such child deaths always bring sorrow to the families and a child right to survival is violated to a great extent. India has a largest number of children in the world. The task of every child is enormous given the huge number of children in the country. Every year 21 million children are born in India of whom 8 million die due to various infections and diseases (State of Child Rights in India, 2011).

The bulk of India’s population lives in villages. On the development indicators India has fared quite well over the decade. However, we are still lagging in certain vital respects and child centric indicators contradict the growth. Infant mortality rate is still very high. A high per cent of the children in India are still malnourished. In India, the eight socio-economically backward states of Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttaranchal and Uttar Pradesh, referred to as the Empowered Action Group (EAG) states, lag behind in the demographic transition and have the highest infant mortality rates in the country. Neonatal mortality constitutes about 60% of the total infant mortality in India and is highest in the EAG states (Arokiasamy and Gautam, 2008).

In Madhya Pradesh the socio economic development is relatively low when compared to most of the states of India. The infant mortality continues to be higher than many other states. This study is an endeavour to deal with women’s autonomy and infant mortality in a depressed class namely the Ladiya of Madhya Pradesh, India.

Material and Methods:

Present study was conducted among the Ladiya, an offshoot of the Chamar community (Singh, 1998). As there is no census data on this population and they are sparsely distributed in different villages of Sagar district of Madhya Pradesh, a dominant Ladiya village namely Pathariya Jat, was deliberately chosen for the sake of study. Village Pathariya Jat is situated between 20°48’ north latitude and 78°47’ east longitude. All the Ladiya households in this village were covered during the survey. They are landless people with dependence on labour mainly in urban area. Their men are mainly engaged as daily labourer (30.21%), bidi worker (26.56%) and masonry (25%), whereas most of the women are engaged in bidi making occupation (75.53%). However, a good number of them are also housewives (Adak, 2001).

Due to operational feasibility reasons only few selected variables have been taken into consideration as autonomy related factors. The selections of these variables are not arbitrary. They were chosen on the basis of certain theoretical relation associated with as well as their relevance on the study population. In the present study altogether three variables (mother’s

education, mother's occupation and mother's age at marriage have been considered as independent variables and infant mortality has been considered as dependent variable.

An exhaustive schedule was prepared for the sake of data collection. This schedule was filled in case of 188 informants of the village. To get the women's view the filling of schedules was restricted to the women informants. However, in order to examine the effects of mothers education, occupation and age at marriage on fertility and infant mortality 60 mothers were chosen, who have completed fertility. Social pressure experienced by the ever-married Ladiya women was examined and mother's degree of autonomy and infant deaths and survival were calculated. Side by side, fertility of the mothers with different infant deaths was also examined. In order to find out the relationship among different variables and infant mortality path analysis was performed using multiple regression equations. Data of the present study were collected during January – March, 2006.

Results:

Infant mortality rate (IMR):

Rate of infant mortality was found to be 110 per 1000 live births among the study population. This was higher than Madhya Pradesh state level data and much higher than national level data. IMR thus indicates a very high level among the Ladiya. However, when the components of infant mortality were considered it was found that the share of neonatal deaths is about 31 percent, while the share of post neonatal deaths is 69 percent. Therefore, the post neonatal deaths constitute the major component in infant mortality among the study population.

Causes of infant deaths:

Table 1 shows the causes of infant deaths among the Ladiya. For this purpose the cases of 37 infant deaths were taken into consideration. It is revealed from the Table that highest percent of infant deaths occurred due to fever (24.32) and lowest percent occurred due to diseases of digestive system (5.40). The causes like jaundice (16.22), respiratory infections (13.51) and asphyxia (16.22) share moderate per cent of deaths. However, deaths due to pre-maturity (10.81) are also occurred in considerable percent.

Table-1: Causes of infant deaths among the Ladiya

Sl. No.	Causes	No. (n=37)	Percent
1.	Prematurity	4	10.81
2.	Asphyxia	6	16.22
3.	Fever	9	24.32
4.	Respiratory infections	5	13.51
5.	Jaundice	6	16.22
6.	Diseases of digestive system	2	5.40
7.	Causes not known	5	13.51

Components of infant deaths by sex:

The data reveal no association between two major components of infant mortality and sex of the infant. However, when the sex difference in respect of infant mortality is taken into consideration, it is seen that the rate of male deaths is higher than that of the female deaths (Table 2). This indicates greater adaptability of the females as compared to the males to adjust the new environment.

Table - 2: Components of infant deaths (per 1000 live births) by sex

Sex	No. of live births	Neonatal		Post-neonatal		Total	
		No.	Rate	No.	Rate	No.	Rate
Male	543	24	44.20	39	71.82	63	116.02
Female	450	10	22.22	36	80.00	46	102.22
Total	993	34	34.24	75	75.53	109	109.77

$\chi^2= 3.32$; $p<0.05$; Insignificant

Mothers Education and infant mortality:

It is apparent from Table 3 that incidences of infant mortality are very high among the illiterate mothers (12.73%) than the just literate and primary and above educated mothers. However, among the primary and above educated mothers' considerably lower percentage (4.76) of infant deaths are recorded than that of the just literate mothers (6.56).

Table- 3: Mother's education and infant mortality

Mother's education	Number of mothers	Total live births	Infant mortality	
			No.	%
Illiterate	46	377	48	12.73
Just literate	10	61	4	6.56
Primary & above	4	21	1	4.76

Mother's occupation and infant mortality:

Table 4 describes infant mortality in terms of mother's occupation. Percentage of infant mortality decreases from the mothers engaged in miscellaneous activities (14.29 percent) to the housewife

mothers (8.70) through the bidi binder mothers (11.54). However, the incidences of infant mortality are considerably low among the housewife mothers than the mothers of other two categories.

Table- 4: Mother's occupation and infant mortality

Mother's occupation	Number of mothers	Total live births	Infant mortality	
			No.	%
Housewife	7	46	4	8.70
Bidi binder	47	364	42	11.54
Miscellaneous	6	49	7	14.29

Mother's age at marriage and infant mortality:

Infant mortality is highest (13.50 percent) among the mothers who marry below 15 years of age. In turn, the mothers belong to the category of 15–19 years age at marriage experienced half of the infant mortality (6.25 percent) than the mothers of earlier category. Infant mortality, however, is considerably higher among the mothers belong to 20 and above years age at marriage (9.52 percent) than their earlier counterpart (Table 5).

Table- 5: Mother's age at marriage and infant mortality

Mother's age at marriage	Number of mothers	Total live births	Infant mortality	
			No.	%
Up to 14 years	41	326	44	13.50
15-19 years	15	112	7	6.25
20 & above years	4	21	2	9.52

In application of Pearson Correlation it is found that relationship of infant mortality is found to be negative with mother's education and age at marriage, while the relationship with mother's occupation is positive. All these relationship are, however, found to be statistically insignificant (Table 6).

Table – 6: Relationship of some autonomy related factors with infant mortality

Factors	Correlation coefficient
Mother's education	-0.2434
Mother's occupation	0.1314
Mother's age at marriage	-0.1319

Path analysis:

In order to find out the causal model to depict the relationships among the socio-demographic variables and fertility as well as infant mortality the path analysis is performed using multiple

regression equations. For this purpose the method suggested by Wonnacott and Wonnacott (1990) is followed. In this connection each factor was assigned independent scores. Each variable is scored according to the nature of corresponding sub-variables. This is as follows:

SCORE ASSIGNED

Variables	Code	1	2	3	4
Dependent variable					
Infant mortality	(Y ₁)	Nil	1	2	3 & above
Independent variables					
Mother's education	(X ₁)	Illiterate	Just literate	Primary & above	
Mother's occupation	(X ₂)	Housewife	Bidi binder	Miscellaneous	
Mother's age at marriage	(X ₃)	Up to 14 years	15-19 Years	20-24 years	

The direction of causal relationship between three independent variables (i.e. mother's education, occupation and age at marriage) and one dependent variable (i.e. infant mortality) have been conceptualized and presented in path diagram. Based on these paths the following structural equation was evolved.

$$Y = -0.1163 X_1 + 0.3047 X_2 - 0.3333 X_3$$

$$X_3 = 0.3332 X_1 - 0.0008 X_2$$

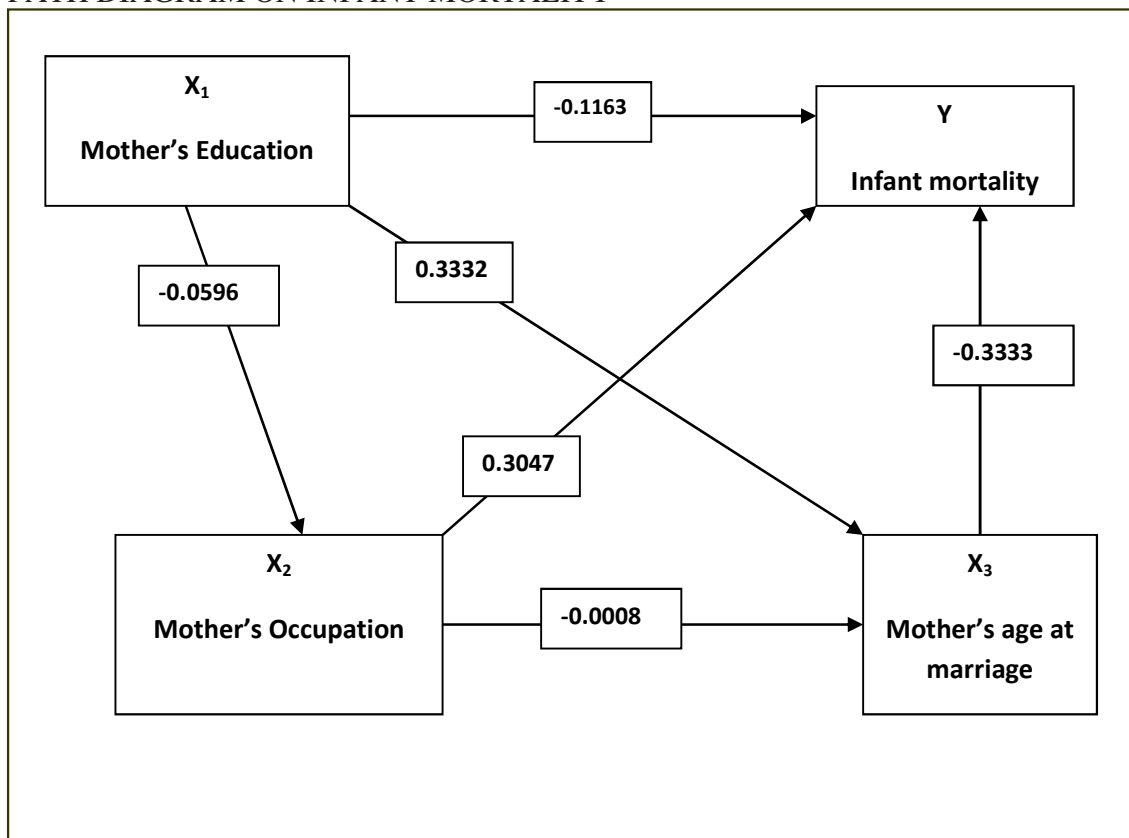
$$X_2 = -0.0596 X_1$$

The total effect of these variables on infant mortality is as follows:

Direct effect of X_1 on Y :		=-0.1163
Indirect effect via X_3 :	$(0.3332) \times (-0.3333)$	=-0.1111
Indirect effect via X_2 alone :	$(-0.0596) \times (0.3047)$	=-0.0182
Via X_2 and X_3 :	$(-0.0596) \times (-0.0008) \times (-0.3333)$	=-0.0000
	<u>Total effect</u>	<u>=-0.2456</u>

Thus it appears that the total effect (i.e. -0.2456) of mother's education, occupation and age at marriage on infant mortality is found to be negative.

PATH DIAGRAM ON INFANT MORTALITY



Social pressure on family size:

To explore the social pressure on family size the Ladiya women were asked a series of questions like, how they would feel if they had one child. For this purpose 75 mothers aged 18-45 years were taken into consideration. As Table 7 shows more than 80 percent women expect peer

pressure at each of the question if they had one child. Which in turn increase pressure among the women to have second or third child.

Table 7: Percentage of ever-married Ladiya women expecting social pressure from family and society if they had one child

QUESTION	Percent agreeing women (n=75)
<i>If had one child:</i>	
1. Husband, father and mother-in laws would urge you to have more child	80
2. Family members and others would say if your child face serious illness and die due to that there will be nobody to serve you in old age	89
3. You would worry that it would be bad for the child	82
4. You would worry that there will be nobody to compensate the loss if he/she dies of infant or child mortality	85
5. Husband, father and mother-in-laws would say it would not increase earning members in the family	81

Status of women and infant mortality:

In order to find out the differential influence of women’s autonomy on the incidence of infant mortality and survival among the Ladiya, altogether seven parameters have been taken into consideration. For this purpose methodology suggested by Guru (1997) was followed. In this connection seven variables were scored accordingly.

Sl. No.	Variables	Degree of participation with score value		
		Less	Moderate	High
1.	Desire number of children	1	2	3
2.	Pregnancy and delivery care	1	2	3
3.	Child rearing and feeding	1	2	3
4.	Treatment of the sick child	1	2	3

5.	Family expenditure	1	2	3
6.	Family food choice	1	2	3
7.	Women's work participation outside home	1	2	3
		7	14	21

By equal distribution of the scores in an ascending order between the minimum seven to maximum twenty one score values for the variables pooled together, the “women’s autonomy” index was calculated as follows

*Low autonomy (score 7-11),
Moderate autonomy (score 12-16), and
High autonomy (score 17-21).*

In this context those 60 Ladiya mothers were considered, who have completed their fertility. It is apparent from Table 8 that only 20 percent of the women have greater say in family decision making. Side by side, more than half of the women enjoyed a low level of autonomy in the decision making process in the family. However, more than 28 percent of the women have a moderate level of autonomy.

Table-8: Distribution of women by Degree of Autonomy

Level of autonomy	Number of women
Low	31 (51.67)
Moderate	17 (28.33)
High	12 (20.00)
Total	60 (100.00)

Figures in parenthesis indicate percentage values

It reveals from Table 9 that the women who enjoyed high level of autonomy in family decision-making experienced relatively low incidence of infant deaths (6.33%). Incidence of infant deaths is recorded to be highest (15.04%) among the respondents who have negligible importance in the process of family-decision making. However, considerable improvement (moderate level of autonomy) in women’s position is found to have substantial effect in declining the incidence of infant deaths among the Ladiya.

Table – 9: Mother’s Degree of autonomy and infant deaths and survival

Level of autonomy	Infant deaths	Infant survival	Total births
Low	40 (15.04)	226 (84.96)	266 (100.00)
Moderate	8 (7.02)	106 (92.98)	114 (100.00)
High	5 (6.33)	74 (93.67)	79 (100.00)
Total	53 (11.55)	406 (88.45)	459 (100.00)

Figures in parenthesis indicate percentage values

Discussion:

The health behavior of an individual is closely linked to the way he/she perceives various health problems; what they actually mean to him/her, on the one hand, on the other his/her access to various relevant institutions. The culture of a community determines the health behavior of the community and of its individual members. The cultural responses of the community to the health problems, it meets, determines its health care practices.

The Ladiya are an offshoot of a depressed class namely Chamar, who have totally given up working on leather. They are landless people with dependence on labour mainly in urban area. Their men are mainly engaged as daily labourer (30.21%), bidi worker (26.56%) and masonry (25%), whereas most of the Ladiya women are engaged in bidi making occupation (73.53%) (Adak, 2001). Education of mother can improve child bearing and health of entire family. Side by side, the surroundings of a man and his occupation from which he earns his livelihood play an important role in his health habit. Along with these age of mother at the time of her marriage is also an important variable which influence the level of infant mortality.

It reveals from the present study that infant mortality is considerably high among the illiterate mothers. Literate mothers in turn experienced low level of infant mortality. It is generally believed that lower the level of socio-economic development of a community, the higher will be the proportion of infant deaths. It is to be noted that in the State of Madhya Pradesh the level of socio-economic development is relatively low when compared to most of the States of India. The infant mortality rate in this State continues to be higher than many other States. Living condition of the study population, the Ladiya, in Sagar district of the State is deplorable, characterized with marked poverty, lack of sewage and housing which consists mostly of one or two dwelling rooms per household. The rate of infant mortality among them is found to be higher than Madhya Pradesh State level data.

It is apparent from the present investigation that the Ladiya represent the first stage of demographic transition, characterized by a high level of fertility and infant mortality. The couples are motivated for keeping the level of fertility in high order to cope with the high level of infant mortality due to low level of socio-economic development. The theory of demographic transition which is based on the experience of today's low birth rate (or industrialized) countries holds that the trends in birth rate and family size in a population are determined by the trends of economic production (Misra, 1982).

In fine, it can be inferred that effort should be made to enhance women status through improving their educational status and raising their active participation in economic activities for better employment. This, in turn, will help the women folk to have more autonomy in decision making to overcome the high occurrence of infant deaths, which determines life expectancy of children surviving and hence birth rate as well as natural growth rate.

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