



Health Deprivation-A Gender-based Analysis

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Background:

The term health, in economic analysis, is treated as a means to an end, a means to a fuller life as measured by its productive service in the economy and population goals attained. Health is a cumulative result of nutrient intakes ingested over a long period of time. Good health is important for well-being and, like education, a significant resource that allows people to take part in and benefit from the fruits of development (A. Alex (1983); Strauss, J. (1986); Behrman and Deolalikar (1988); Deaton, A. (2003)).

Women's health comprises a wide series of circumstances, which are influenced by socioeconomic status, educational attainment, and the accessibility, cost and quality of services. It also includes concerns related to chronic diseases, mental illness and occupational and environmental health problems. Women's health issues are exclusive to all women or some groups of women; they are more rampant among all women or some groups of women; they have more serious consequences or implications for all or some groups of women; they involve different treatment for all or some groups of women. (Levine *et al*, (2001)). Women are at particularly high risk with respect to certain health problems, largely due to their low socioeconomic status and reproductive role (The World Bank (1994)).

Women's health and nutritional status is a national as well as an individual concern because it affects this generation as well as the next generation through its impact on her economic productivity and its impact on her children. Hence investment in women's health yields significant benefits for their respective families, communities, and the national economy at large (The World Bank (1994)).

Patterns of food allocation between individuals within the family may perhaps comprise of trade-offs, which have both short and long-term implications for the

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household food entitlement. Superior allocation to direct contributors of income may be seen as protecting the current entitlement. An adult's nutritional standard in societies is generally regulated by patriarchy, and is established by his/her ability to work. This preferential allocation of food to males may be the rationale where financial returns are considered, especially if this allocation brings about higher earnings due to improved nutrition (Gillespie, S. and McNeil, G. (1992)). Lack of gender awareness and cultural restrictions forced by stricter patriarchies may be important grounds for denying access to nutrition. The condition with regards to women's health in India, despite the fact that it has improved since independence in 1947 (with an increase in life expectancy), however, is far from satisfactory. The health status of both women and children especially female children suffers in comparison to that of males in areas where patriarchal relationship and economic systems control women's independence (Seth (2001); Bennett (1992); Bloom, S. *et al* (2001)).

The very meaning of male and female in the Indian worldview is closely associated to their access to resources. Women are important frontline workers in family planning efforts although in their own homes they have not as much say as their husbands have in deciding the size of their families. High female mortality and morbidity are noted as great evidence of the ruthless gender-based asymmetries in Indian society. The sex ratio at birth evidently favours males. Gender is an important determinant of nutritional status. Inadequate calorie and micro-intake badly affects women more than men (Bennett (1992)).

Male – Female Comparison's of Health Indicators: Census Data 2001

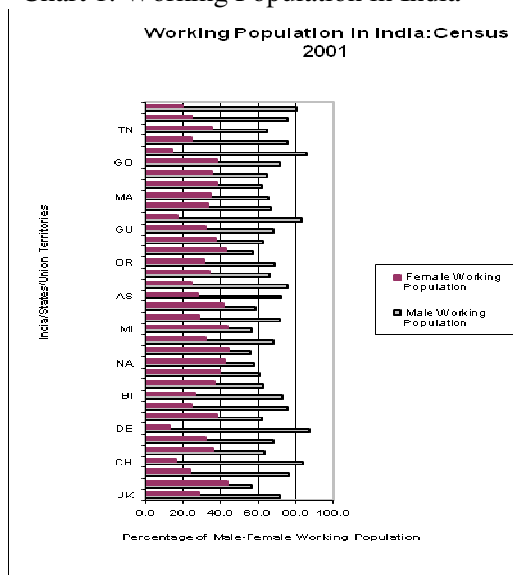
According to the 2001 Census the overall sex ratio in India stood at 933 females per 1000 males. The female-male ratio was 1058 females per thousand males, the highest, in the State of Kerala as against 710, the lowest, in Daman and Diu. Daman and Diu was followed by Chandigarh at 777. Overall the low female-male ratio, which indicates a bias against females in Indian society, is largely found in the Northern States. It was 821 in the state of Delhi, 861 in the State of Haryana and 898 in Uttar Pradesh State. In the State of Maharashtra the sex ratio was 922:1000 (Census of India, 2001)

The literacy rate for females in India was 53.7 per cent as against that for males being 75.3 per cent, with total literacy rate at 64.8 per cent. Female literacy was the highest in the State of Kerala at 87.7 per cent and its male literacy was 94.2 per cent, with the State's total literacy at 86.7 per cent. Female literacy was also high in the State of Mizoram at 86.7 per cent and its male literacy was 90.7 per cent, with total State's literacy at 88.8 per cent. But female literacy was the lowest in State of Bihar at 33.1 per cent and its male literacy was 59.7 per cent, with State's total literacy rate standing at 47 per cent. The State following Bihar in female literacy was Jharkhand. Female literacy in the State of Jharkhand was 38.9 per cent and its male literacy was 67.3 per cent, with the State's overall literacy at 53.6 per cent. Maharashtra's overall

literacy stood at 76.9 per cent with its female literacy at 67 per cent as against the male literacy at 86 per cent (Census of India, 2001).

The working population of India gives us an idea of how women are lagging behind and one of the reasons for their lag is their nutritional requirements not being met by their respective families. The lack of nutrition is further responsible for women's productivity being lower than men's productivity in the labour market. From India's total population of 1,028,610,328 the total working population constituted 39.10 per cent. From this 39.10 per cent the male workers were 68.37 per cent and the female workers were 31.63 per cent. In Delhi, its total working population constitutes 32.8 per cent of its total population. From this 32.8 per cent, its male workers comprised of 87.1 per cent whereas its female workers comprise of 12.9 per cent, which was the least throughout India. In Manipur, its total working population comprise of 43.6 per cent of its total population. From this its male workers are 55.8 per cent and its female workers are 44.2 per cent, which was the highest throughout India. The total working population was the highest in Mizoram at 52.6 per cent from this its male working population stood at 56.3 per cent, while its female working population stood at 43.7 per cent. In Maharashtra, its working population constitutes about 42.50 per cent of its total population, male working population being 64.74 per cent, whereas its female working population being 35.26 per cent (See Table 1 in Appendix).

Chart 1: Working Population in India



Source: Census of India, 2001: Primary Census Abstract

The low status of women reduces their productivity, control on resource allocation and decision making within the household. They are unable to influence decisions on desired size of family, health care for their children, and the amount of time to be spent on child rearing, and the quantity and quality of food to be fed to children. The discrimination the woman dealt with as girl's affects the nutrition status of their children through their own smaller size as adults. Smaller sized women have a tendency of having low-weight children. It is the gender differentials in adults' access to economic resources that appear to be a relevant explanation of gender discrimination at the child level, which finally leads to gender discrimination at the adult level. The low status women lead to undervaluation of their time and to underinvestment in their education and health. This in turn leads to greater gender disparity in wage rates for the same activity (Haddad (1999)).

The availability of health care services will have a negative effect on child mortality. Functioning of health care services is equally vital as its availability. The standard sources of information the 27th round of National Sample Survey as well as 1981 Census of India have indicated that in India the health services in especially northern states are poorly functioning. According to 1981 Census, medical facilities reached only 21.4 per cent of the villages. In Orissa it is available to only 10.8 per cent of its rural population whereas at the other extreme medical facility reached to 95.8 per cent of the Kerala's rural population. One of the reasons is that rural health care services are directed more towards family planning campaigns. There are mixed reactions to the improvement of health care services and its effect on child mortality. One of the arguments that often surfaces is that it would lead to gender bias, as it would increase the survival of boys more than girls in case of limited income. But if this constraint of income limitation were relaxed then it would be difficult to analyse the effect on gender bias (Mamta Murthi, *et al* (1996)).

In the article by Deaton, A. (1997), he discusses the study conducted by Deaton and Subramanian (1991) and their findings. The objective of this study using Maharashtra's NSS 38th round data, is to show the relationship between gender and the pattern of household demand. The sample size consisted of 5,630 rural households and their household expenditures on cereals, pulses, fruits and vegetables, in rural Maharashtra. The findings indicated that men would also prefer to smoke whereas women would prefer to consume high quality food. It is also possible that men control household budgets, and do not permit women to have the same access to the "luxuries" of tobacco, *pan*, alcohol and entertainment. Additional children in the family do increase the family budget but it is more likely that the budget would be reorganized. Maharashtra is not the best Indian State to look for gender bias as there is little evidence of infant mortality amongst girls in Maharashtra as shown in the data provided by the Government of India (1988) (Deaton, A. (1997)).

The question asked in this paper is the following: Are girls systematically deprived of nutrition and other health-care requirements than their male siblings once other determinants of health are taken into account?

Section I of this paper discusses the data undertaken for this study. Section II discusses the empirical results achieved through its analysis and Section III discusses the conclusion of this paper.

Section I:

The purpose of the study was to detect intra-household discrimination between boys and girls with regards to health. A Questionnaire was prepared which included questions pertaining to household expenditure on health-related questions. Average Household expenditure on the children's health includes food expenditure, clothing expenditure, expenditure on illness and expenditure on footwear incurred them by parents to obtain good health. Also questions were asked whether there was any subtle difference in treatment given to girls and boys within the family, with regards health.

A random sample of women was selected from the Mumbai city and the suburban areas of Mumbai. The age group selected was diverse between the ages of 14-40.

Table 2: Average Household expenditure on health

	Gender	Total	Mean Expenditure
Food expenditure	Male	250	9000
	Sibling		
	Female	250	9000
Clothing expenditure	Male	250	6000
	Sibling		
	Female	250	5000
Expenditure on footwear's	Male	250	3000
	Sibling		
	Female	250	1500
Hospitalisation expenditure (if needed)	Male	250	6000
	Sibling		
	Female	250	6000
Expenditure incurred on Medications (doctors, specialists)	Male	250	4000
	Sibling		
	Female	250	4000

Table 2 describes the average household health expenditure incurred on the men and women. Expenditure on food, hospitalization, medications were identical, no difference was evident. The difference in Clothing and footwear expenditures were different between men and women but were not very large.

Certain reservations have to be allowed with respect to the data. First of these limitations may be the sample size itself, which is rather undersized for exact results. Generally, detailed questions on family especially regarding income and expenditure details evoke responses that are approximate rather than exact. However, the relative appraisals about income and expenditure tend to be accurate if not in actual terms. Also, details of the expenditure on health either with regards to the women themselves or their siblings in childhood may also be approximate appraisals based on perceptions rather than exact and authentic figures. Using this primary data, the study proceeds to the analysis. The variables used in this analysis are health, expenditure, and income.

The Household Health expenditures *were* further divided into five different categories expenditure on food items (cereals, pulses, vegetables, fruits etc) (FEXP_i), Expenditure on clothing (CEXP_i), Expenditure on Footwear (FWEXP_i), Expenditure on hospitalization (HEXP_i), and Expenditure on medications (MEXP_i). The variable of sex is also taken as a dummy variable. Women have been assigned the value 1, while men have been assigned the value 0.

$$HLTH_i = \alpha + \beta_1 SEX_i + \beta_2 FAMY_i + \beta_3 FEXP_i + \beta_4 CEXP_i + \beta_5 FWEXP_i + \beta_6 HEXP_i + \beta_7 MEXP_i$$

where

$HLTH_i$ = Health of the *i*th individual

SEX_i = Sex of the *i*th individual

$FAMY_i$ = Family Income of the *i*th individual

$FEXP_i$ = Expenditure on food items *i*th individual

$CEXP_i$ = Expenditure on clothing items of the *i*th individual

$FWEXP_i$ = Expenditure on footwear items of the *i*th individual

$HEXP_i$ = Expenditure incurred on health care items of the *i*th individual

$MEXP_i$ = Expenditure on medication of the *i*th individual

And α, β 's, are the intercept estimate and coefficient estimates of the variables, respectively.

From the literature, we expect Family income to have a negative impact on the health of women. If it is found that family income does not have any impact on the differences in health of women then one can conclude that mere Family income does not make any dent on the women's health. In fact more Family income in a patriarchal

society would give the family more access to resources to discriminate against women's health which could have the impact on their future working population. Hence, it is important to understand the relationship between women's health and family income.

The relationship between expenditure on food, clothing, footwear and health care items as well as services with women's health is also important, as each of the variables has an impact on the health. The amount of expenditure on the above health determinants would further determine the quality of health services provided to women in contrast to men. Is women's health considered equally important so as to improve their productivity in future and hence make equal amount of expenditure on food, clothing, footwear and health care services?

If there is Health discrimination against women, once all the other determinants are taken care of, we would expect the dummy coefficient for sex to be significant and negative. This discrimination would further have a negative impact on the women's productivity in their work.

Section II: Results of the Analysis from Section I:

After running the regression on the given data, the results indicate the adjusted R-square as 0.2454. This would suggest that 24.54 per cent of the variation in the dependent variable Health of an individual has been explained by the regression equation and that there may be other factors accounting for variance in this model that are not captured here.

The estimated equation is as follows:

$$HLTH_i = 14.561 + 250 SEX_i + 1,25,000 FAM_i + 9000 FEXP_i - 5500 CEXP_i - 2250 FWEXP_i + 6000 HEXP_i + 4000 MEXP_i$$

(0.295) (0.527) (0.956) (0.408) (-1.761*) (-1.824*) (0.061) (0.101)

Note: Figures in the parentheses are the *T*-ratios

: *significant at 10%

: *F*-ratio: 1.3145 significant at 10%

: Adjusted *R*-square: 0.2454

The coefficients of the variables are its averages (i.e. average expenditure on various health-related items, average income et al). The signs of the variables Sex of an individual, Family income, Expenditure on food items, expenditure on medication and health care items indicate a positive relation with the health of an individual, unlike the variables expenditure on clothing and footwear expenditure. From the above equation, we see that expenditure on clothing (significant at 10%) adversely affects women's health. Less expenditure per annum (Rs 1000 less) is incurred on women's clothing than on men's clothing. This amounts to clothing expenditure on women to being rigid unlike that of men. Similarly, expenditure on footwear (significant at 10%) too adversely affects women's health. Expenditure on footwear

(Rs 1500 per annum), designed for comfort of an individual while working, is incurred less on women than men.

APPENDIX Table 1:

Table 1: Male-Female Working Population in India

State Code	India/State/Union Territory	Percentage of Working Population	Percentage of Male Working Population	Percentage of Female Working Population
	India	39.10	68.37	31.63
01	Jammu and Kashmir(JK)	37.01	71.39	28.61
02	Himachal Pradesh(HP)	49.24	56.36	43.64
03	Punjab(PU)	37.47	76.26	23.74
04	Chandigarh(CH)	37.80	83.55	16.45
05	Uttaranchal(UT)	36.92	63.69	36.31
06	Haryana(HA)	39.62	68.22	31.78
07	Delhi(DE)	32.82	87.13	12.87
08	Rajasthan(RA)	42.06	61.83	38.17
09	Uttar Pradesh(UP)	32.48	75.91	24.09
10	Bihar(BI)	33.70	73.22	26.78
11	Sikkim(SI)	48.64	63.00	37.00
12	Arunachal Pradesh(AR)	43.98	60.80	39.20
13	Nagaland(NA)	42.60	57.68	42.32
14	Manipur(MN)	43.62	55.78	44.22
15	Mizoram(MI)	52.57	56.30	43.70
16	Tripura(TR)	36.25	71.69	28.31
17	Meghalaya(ME)	41.84	58.60	41.40
18	Assam(AS)	35.78	72.03	27.97
19	West Bengal(WB)	36.77	75.94	24.06
20	Jharkhand(JH)	37.52	65.88	34.12
21	Orissa(OR)	38.79	68.66	31.34
22	Chattisgarh(CG)	46.46	57.15	42.85
23	Madhya Pradesh(MP)	42.74	62.78	37.22
24	Gujarat(GU)	41.95	68.11	31.89
25	Daman and Diu(DD)	46.01	83.21	16.79
26	Dadra Nagra and Haveli(DH)	51.76	66.45	33.55
27	Maharashtra(MA)	42.50	65.22	34.78
28	Andhra Pradesh(AP)	45.79	62.08	37.92
29	Karnataka(KA)	44.53	64.74	35.26
30	Goa(GO)	38.80	71.76	38.24
31	Lakshadweep(LA)	25.32	86.00	14.00
32	Kerala(KE)	32.30	75.51	24.49
33	Tamil Nadu(TN)	44.67	64.93	35.07
34	Pondicherry(PO)	35.17	75.49	24.51
35	Andaman and Nicobar Islands(AN)	38.26	80.12	19.88

Source: Primary Census Abstract: Census of India 2001

Variables such as sex of an individual, family income, expenditure on food, expenditure on health-care items, and expenditure on medications appears to be unrelated to the health of an individual. After running the regression on the given data, the t-ratios results were insignificant for almost all the variables. The expenditure incurred on all the variables was equal in all aspects except in footwear expenditures and clothing expenditures where the difference was not vast enough to create significant results on health of the individual. In almost all the cases there was no difference between the expenditures on health care items spent by the family on both boys and girls. Though subtle differences went unnoticed. Subtle differences like nutritional requirements of the boys were given more attention and priority. So also, the expenditure on the quality of footwear and clothing of men was prioritized. Further, subtly was observed while serving food first to men and later to women. Though not much differences on health expenditure as a whole was observed between both men and women. Mumbai is not the best Indian city to look for gender bias in nutrition as the Literacy level is relatively high compared to the National Literacy rate (2001).

Conclusion:

The results obtained do not support the assumptions in the existing literature that the family expenditures for women and men would differ as men's nutritional requirement in comparison to women's, are considered necessary in the labour market. The inadequacy of these literatures is that Gender discrimination and patriarchy are not taken account of. Certain addition of other variables needs to be looked into for health differences in gender. Variables such as weight-for-height ratio, Body mass Index, height-for age should be considered for further research. The results reinforce the need to include gender much more directly, in addition to its effects through the usual variables.

Bibliography:

- Alex, Alexander V. (1983): '*Human Capital approach to economic development*', Metropolitan, New Delhi.
- Behrman, Jere R. and Deolalikar, Anil B. (1988): "Health and Nutrition" in Hollis Chenery and T N Srinivasan (eds) '*Handbook of Development Economics*', Vol.1, pp: 633 – 711, Elsevier Science Publishers, North Holland, Amsterdam.
- Bennett, Lyn (1992) '*Women, Poverty and Productivity in India*' EDI Seminar Paper No. 43, pp: 4-5, 36-61, World Bank, Washington DC
- Bloom, Sheila, Wypij, David and DasGupta, Monica (2001): "Dimensions of women's autonomy and the influence on maternal health care utilization in a North Indian city" *Demography* Feb, Vol. 38, No. 1, pp: 67 – 78
- Census of India (2001): <http://www.censusindia.net> (Primary Census Abstract)
- Deaton, Angus (1997): '*The Analysis of household Surveys*', World Bank Institute, Washington DC.

- Deaton, Angus (2003): "Health, Inequality and Economic Development" *Journal of Economic Literature* March, Vol. 41, No. 1, pp: 113 – 158.
- Gillespie, Stuart and McNeill (1992): '*Food, Health and Survival in India and Developing Countries*' Vol: XL, Oxford University Press, New Delhi
- Haddad, Lawrence (1999): "Women's Status: Levels, Determinants, Consequences for Malnutrition, Interventions, and Policy" *Asian Development Review* Vol. 17, Issue No. 1, 2, pp: 96 - 131
- Levine, Ruth, Glassman, Amanda and Schneidman, Miriam (2001): '*The health of women in Latin America and the Caribbean*', World Bank, Washington DC
- Murthi, Mamta, Guio, Anne-Catherine and Drèze (1996): "Mortality, Fertility and Gender Bias in India: A District level Analysis" in Drèze Jean and Sen Amartya (eds) '*Indian Development--Selected Regional Perspectives*' pp: 357 – 406, Oxford University Press, New Delhi
- Strauss, John (1986): "Does better Nutrition Raise Farm Productivity?" *Journal Of Political Economy* Vol. 94, No. 2, pp: 297 – 317.
- Seth, Mira (2001): '*Women and Development: The Indian Experience*', Sage Publications India Pvt Ltd, New Delhi
- World Bank Publications (1994): '*A New Agenda for Women's Health and Nutrition: Development in Practice*', World Bank, Washington DC.