Gender Differences in Healthcare-seeking during Common Illnesses in a Rural Community of West Bengal, India


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ABSTRACT

This follow-up observational study examined gender disparities in seeking healthcare and in home management of diarrhoea, acute respiratory infections, and fever among 530 children (263 boys and 267 girls) aged less than five years in a rural community of West Bengal, India, from June 1998 to May 1999. Of 790 episodes detected by a weekly surveillance, 380 occurred among boys and 410 among girls. At the household level, girls were less likely to get home fluids and oral rehydration solutions (ORS) during diarrhoea. Qualified health professionals were consulted more often (p=0.0094) and sooner for boys than for girls (8.3±4.5 hours vs 21.2±9.5 hours), for which parents also travelled longer distances (3.3 km for boys vs 1.6 km for girls). Expenditure per treated episode (Rs 76.76±69.23 in boys and Rs 44.73±67.60 in girls) differed significantly (p=0.023). Results of logistic regression analysis showed that chance of spending more money was 4.2 [confidence interval (CI) 1.6-10.9] times higher for boys. The boys were 4.9 (CI 1.8-11.9) times more likely to be taken early for medical care and 2.6 (CI 1.2-6.5) times more likely to be seen by qualified allopathic doctors compared to girls. Persistence of gender disparities calls for effective interventions for correction.

Key words: Diarrhoea; Diarrhoea, Infantile; Acute respiratory infections; Fever; Healthcare; Gender issues; Inequalities; Oral rehydration solutions; Health equity; Follow-up studies; Observational studies; India

INTRODUCTION

Inequalities in gender, in one form or the other, with considerable regional differences, are ubiquitously present and all-pervasive (1-5). In health, these are manifested in differences in mortality (6-9). Discrimination and gender gaps have been observed even in early years of life (10-12). Girls, aged less than five years, in India show steadily high mortality compared to boys (10,11). Although overall sex ratio in India has improved from 927 to 933 in the last decade, it declined from 945 to 927 in children aged less than six years (11). Besides, other discriminatory treatment-seeking practices probably contribute to this (13-17). Relatively fewer studies have been undertaken in western part of India (13), whereas there is a lack of information from eastern part of India. In western India and Bangladesh, cross-sectional surveys of practitioners and care providers reported discriminatory care-seeking for boys and girls (13,14). Differences in intra-household resource allocation have also been reported from many developing countries (18-20).

Since acute respiratory infections (ARIs), diarrhoea, and fever are the common childhood illnesses (21-23), these are chosen to study home management and treatment-seeking by a longitudinal follow-up of 719 children aged less than five years for a one-year period. The findings can help identify the prevailing practices,
which may be useful in planning effective health-
education intervention at the community level.

MATERIALS AND METHODS

Operational definitions

**Acute respiratory infection (ARI):** Acute infection of the respiratory tract, as judged by clinical features based on the guidelines of the World Health Organization (21), lasting for less than 30 days.

**Diarrhoea:** Passage of three or more loose or watery stools in the past 24 hours or passage of stools with blood or mucus in a young child. For young breastfed infants, change in the consistency of stool was considered a case of diarrhoea.

**Fever:** Any child reported hot by mother and on measuring axillary temperature ≥37.5 °C. This includes fever episodes with and without rashes.

**Home practices:** Locally-prevalent practices included the following:

*For diarrhoea:* Frequent feeding of child, including breast-feeding, administration of home fluids, and appropriate use of oral rehydration solutions (ORS).

*For ARI:* Frequent feeding of child, including breast-feeding, use of traditional remedies of cough, e.g. ginger, honey, herbal extract, etc., and covering the child to keep him/her warm.

*For fever:* Frequent feeding, increased fluid and water administration.

**Qualified professionals:** Registered medical practitioners of both allopathic and homeopathic systems.

**Money spent:** Direct expenditure on treatment-seeking, including doctor’s fee and cost of medicines. In the case of multiple sources, it included total treatment cost but did not include travel expenses and loss of wages due to illness of child.

**Time lag:** Since onset of illness, i.e. recognition of first symptom by mothers/care providers and treatment-seeking. It was recorded in days and hours and later converted into hours. In the case of multiple treatment sources, time lag since onset to first treatment contact (initial source) was taken.

**Distance covered:** Approximate distance (km) travelled by a child for treatment-seeking. In the case of multiple treatment sources, the most distal distance was recorded.

**Study area**

The study was conducted in a cluster of four villages, situated 10 km from Kolkata (Calcutta), which constitute the test site of the National Institute of Cholera and Enteric Diseases (NICED), India. The area has 1,500 families with a total population of 7,000.

In the area, a community-based surveillance of all children aged less than five years for diarrhoea, ARI, and fever has been carried out with the help of locally-resident female surveillance workers. These surveillance workers have a minimum education level of class VIII. The NICED trained them in methodology of surveillance, identification of cases, assessment of severity using a checklist (25), first-line treatment, and referral of severe cases. To detect an episode, they visit each child once a week. This is followed by confirmation from the NICED team headed by a physician. The team visits the area daily and offers appropriate treatment to all willing cases free of charge and refers severe cases to the government facilities. The study area also has one sub-centre and many registered and unregistered private practitioners of allopathic, homeopathic and indigenous systems of medicine.

**Study population**

It was a follow-up observational study. The observations were based on the surveillance period of one year from June 1998 to May 1999. Children aged 0-59 month(s) were included in the study. Those attaining the age of 59 months during the study period were excluded, but all the newborns were eligible for inclusion.

**Data collection**

From the existing database, families having children aged less than five years were segregated and listed. Information on sociodemographic characteristics, viz. age of child, birth order, education of mother, occupation of household head, and per-capita income, was also retrieved. To detect the occurrence of cases, the existing surveillance system was used. Each case detected by the surveillance workers was followed up by a team from NICED on the same or subsequent day. Mothers or care providers were interviewed to know the care-seeking and home-management practices for the episode. Information on care-seeking included type of outside sources used, time lag in care-seeking since onset of episode, direct expenditure on treatment, distance travelled for care-seeking, etc. Active cases where children were still suffering were followed daily till recovery to record changes in their care-seeking and management.
The surveillance workers/interviewers were kept blind about the aim of the study to minimize bias.

All data were recorded on a specially-designed proforma, which was pretested in the field before administration.

**Data analysis**

Data were analyzed using both bivariate and multivariate techniques. During bivariate analysis, all independent categorical variables relating to home management and treatment-seeking were examined by gender using chi-square test. Fisher’s exact (two-tailed) test was also used wherever it was applicable. Student’s t-test was used for continuous variables, such as difference in time lag and money spent on treatment-seeking. Non-parametric tests were used for variables with asymmetrical distribution.

For multivariate analysis, logistic regression was used. The variables, viz. time lag, money spent, and treatment sources used, were dichotomized. Then logistic regression was run independently for each of these dichotomized variables as dependent variables, using gender as independent variable. Other independent variables were controlled and included type of illness (diarrhoea vs non-diarrhoea), severity of illness (severe vs not severe), age of child (≤12 months vs >12 months), birth order of child (more than one vs one), education of mother (illiterate vs literate), occupation of household head (low-end jobs vs regular jobs), and per-capita income (less than and equal to Indian Rs 500.00, i.e. median value and more than Indian Rs 500.00).

**RESULTS**

**Sociodemographic characteristics**

All 719 children (369 boys and 350 girls), aged less than five years, constituting 10.3% of the total population, were enrolled. Later, 25 newborns (11 boys and 14 girls) were also included, and 24 children (15 boys and 9 girls) who crossed 59 months of age were excluded. Diarrhoea, ARI, and fever occurred in 530 children which included 263 (49.6%) boys and 267 (50.4%) girls. The study boys and girls both belonged to low-socioeconomic class with mean per-capita income of Rs 475.50 per month and median Rs 500.00 per month. Most (82.8%) children came from the families where heads earned their wages through daily labour or low-income jobs, such as boating, fishing, or vending, etc. Mothers of 39.8% of the boys and 36.9 % of the girls were illiterate.

**Types of illness studied**

Of 790 spells of illness recorded during the one-year surveillance period, 380 (48.1%) occurred in boys and 410 (51.9%) in girls. Disease-wise, these episodes were diarrhoea in 359 (45.5%), ARI in 317 (40.1%), and fever in 114 (14.4%) children. Of diarrhoeal episodes, 188 (52.4%) occurred in boys and 171 (47.6%) in girls. Fifty-two (27.7%) episodes of diarrhoea in boys and 53 (31%) in girls had dehydration. Of ARI episodes, 147 (46.4%) occurred in boys and 170 (53.6%) in girls. Fourteen (9.5%) and 16 (9.4%) episodes, respectively, in boys and girls were of pneumonia. In total, 114 fever episodes were recorded—45 (39.5%) in boys and 69 (60.5%) in girls.

**Care-seeking and home-management practices**

In 747 (94.6%) episodes, children were looked after by mothers during illness, and in 43 (5.4%) episodes, they were looked after by grandmothers, fathers, and aunts.

Table 1 summarizes the home-management practices during diarrhoea. Boys were more likely than girls to be adequately given home fluids, whereas girls were more likely than boys to be deprived of such fluids/ORS use. No sex difference was observed in quantity of fluid intake during ARI and fever.

**Relationship between care-seeking and sociodemographic variables**

Socioeconomic variables studied by univariate analysis included education of mothers, occupation of fathers, and per-capita income.

Mothers of 276 (38.4%) children belonged to the illiterate group. No association was found between the level of education of mothers and seeking of treatment. The gender difference was found in both literate and illiterate groups. Fathers of 67 (18.2%) boys and 57 (16.2%) girls had regular jobs. Care-seeking was more in those with regular jobs with steady income. Fathers of 67.3% of the children were daily labourers. The gender difference was maximum in children of daily labourers and none in those with regular jobs. With regard to per-capita income, 8.3% of the children belonged to families with per-capita income of >Rs 700.00 per month, 39.7% with per-capita income of Rs 300.00-700.00 per month, and the rest 52.0% belonged to families with per-capita income of ≤Rs 200.00 per month. The gender differences were seen in all the three groups. Treatment was sought significantly more for children aged ≤12 months compared to those aged above 12 months. Of the total 790 episodes observed, 207 (26.2%) were suffered by infants. However, of the total 216 episodes where treatment was sought, 108 (50.0%) were suffered by infants. The gender differences existed among both the age groups.
Table 2 shows the use of medical care for sick children. In the case of boys, not only outside care was sought more frequently, but it was also sought from qualified professionals. Seeking treatment did not, however, have any relationship with the type and severity of disease. Results of bivariate analysis (Table 3) showed that the mean time lag in care-seeking for boys was significantly less than girls. The average expenditure per treated episode was significantly higher for boys. The boys also travelled longer mean distance compared to girls for care-seeking.

Table 4 shows the results of logistic regression analysis. After controlling for the type and severity of episodes and other factors, such as age, birth order of child, education of mother, occupation of household head, and per-capita income, it was found that the chance of spending more money was 4.2 [confidence interval (CI) 1.6-10.9] times greater for boys than for girls. Likewise, boys were 4.9 times (CI 1.8-11.9) more likely to be taken early for medical care and 2.6 (CI 1.2-6.5) times more likely to be seen by qualified allopaths compared to girls.

**DISCUSSION**

The study revealed the prevailing discriminatory practices against female children in seeking healthcare in rural West Bengal. Similar differences have been documented in several other developing countries (13-17). A survey in India showed a considerable regional variation; Orissa, Haryana, and Punjab provinces are the worst affected (17).

At the household level in our study, it manifested in low use of home fluids and ORS in diarrhoeal episodes among the girls. Data from various nutritional and ethnographic studies in different parts of India showed discrimination against girls which is common in plains of North India, whereas in the South in general and in hills of North India, instances of preferential feeding for girls are not uncommon (16). Data from West Bengal are scarce. However, a few studies reported poorer nutritional status of girls in all socioeconomic strata (20). Discrimination in intra-household resource allocation has been reported from Bangladesh (18-19). This shows that the cultural rules for judging the merits of preferential feeding in different regions are not uniform.

The difference in seeking outside medical care was obvious as 32.6% of the episodes in boys against 22.4% of the episodes in girls received such care. In a study conducted in Bangladesh (19), boys were 67% more likely than girls to get healthcare from outside sources. A nationwide survey in Vietnam (15) also revealed that
fewer girls were likely to receive medical care from outside sources. However, in rural Maharashtra, no
consulted more often for boys than for girls. The observed sex difference was rare (16). The finding may be a reflection of better status of women in the South. Another nationwide survey of diarrhoea in rural India (24) reported the use of outside healthcare by 65% of children with no sex difference.

Among various socioeconomic variables in our study, occupation of father was an important determinant. Children of fathers having regular jobs with steady income were not discriminated. Social security offered through regular jobs with steady income indeed played a role in seeking treatment for boys and girls. However, with a small sample, it is difficult to draw conclusion. Moreover, despite several studies, the issue remains inconclusive (16,25). Future elaborate studies are needed taking into consideration all sections of the society.

Table 3. Expenditure, time delay, and distance travelled for treatment-seeking in relation to sex of child

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sex of child</th>
<th>t value/Kruskal-Wallis</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time delay (hours)</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Mean±SD</td>
<td>8.33±4.49</td>
<td>21.19±9.44</td>
<td>78.66</td>
</tr>
<tr>
<td>Median</td>
<td>6.5</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>Money spent (Rs)</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Mean±SD</td>
<td>76.76±68.93</td>
<td>44.79±67.20</td>
<td>3.29</td>
</tr>
<tr>
<td>Median</td>
<td>50</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Distance covered (km)</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Mean±SD</td>
<td>3.3±2.4</td>
<td>1.6±1.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Median</td>
<td>4</td>
<td>0.25</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at 0.05 level

Table 4: Adjusted odds ratio for seeking medical care (n=216)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Odds ratio Male:female</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment source</td>
<td>2.6 (1.2-6.5)**</td>
<td>0.034*</td>
</tr>
<tr>
<td>Money spent (&gt;Rs 30 vs &lt;=Rs 30)†</td>
<td>4.2 (1.6-10.9)**</td>
<td>0.004†</td>
</tr>
<tr>
<td>Time lag (≤12 hours vs &gt;12 hours)‡</td>
<td>4.9 (1.8-11.9)**</td>
<td>0.000‡</td>
</tr>
</tbody>
</table>

* Significant at 0.05 level
† All other sources, including homeopathic and unqualified allopathic sources
‡ Division based on median value
** Figures in parentheses denote 95% confidence interval

apparent sex difference in seeking care was observed (13). Hospital data from different parts of India revealed that the North showed greater imbalance in the number of boys and girls brought to hospital for treatment (16). While from the South, such sex difference was rare (16). The finding may be a reflection of better status of women in the South. Another nationwide survey of diarrhoea in rural India (24) reported the use of outside healthcare by 65% of children with no sex difference.

Differences in time lag in seeking treatment and expenditure incurred towards such care for boys and girls were observed. The boys were given treatment earlier in the course of illness and were offered more expensive care. They also travelled longer distances for treatment compared to girls. There are reports of delayed treatment for girls by other observers too (26).

The study revealed prevailing inequalities and discrimination against female children in seeking healthcare in rural West Bengal. Continued discrimination is a cause of concern and calls for effective correction. Despite a relatively smaller number of study subjects in a limited area, the results point to some deficiencies in our social education and health system. The message of gender equality has not percolated deep enough to reach the family and community levels. Thus, a girl child begins her formative years on a weak
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foundation, and this continues throughout her life. It is even transmitted to the next generation. To break this vicious circle, an urgent action-oriented behavioural change campaign, involving health, education and other social sectors, is required. However, to realize gender equity, a strong social and political will is indeed needed.

REFERENCES


