Unmet Health Needs for Sick Children in Mothers' Views in Rural Bangladesh

Nurul Alam, Ph.D., Assistant Scientist, Public Health Sciences Division, ICDDR,B,
 Email: nalam@icddrb.org

Background: While a country's health policy aims to provide health services to all who need them, an appreciable proportion of sick people do not get the health services at the time of illness they need in their viewpoints to restore health, particularly in developing countries. The consequences of `not getting needed health services in time` are high prevalence of unmet health needs, prolong ill-health and ill-health-induced poverty. The objective of this study is to examine the prevalence of unmet health needs in views of mothers of children with chronic and acute morbidities, controlling for type and severity of illness, access to health services, age and sex of sick children, maternal education and household economic condition in a rural area of Bangladesh. Identification of the sub-groups with high prevalence of unmet needs may help to make the service delivery system sensitive to people's health needs.

Data and Methods: This study used the data of the Matlab Health and Socioeconomic Survey (MHSS) conducted in 1996 in the Demographic Surveillance System (DSS) area, established 30 years ago in south central Bangladesh. DSS area was halved into the ICDDR,B and the government areas in late 1977. The ICDDR,B area has more and better quality health facilities: ICDDR,B hospital in Matlab and four sub-centres than the government area. ICDDR,B area is a proxy for better access to high-quality services. The MHSS randomly selected 2695 baris[1] in DSS area and one household[2] from each bari having more than one household. If a household had more than two children aged less than 15, up to two children were chosen randomly. One man and one woman with at least 14 grade of schooling and a non-medical background formed an interview team. The interviewers were trained to collect health and socioeconomic data. They asked mothers of sampled children, at their homes the checklists of chronic (long-lasting) and acute (short-lasting) disease symptoms of their children in Bangla. Age of the children was known from their date of birth recorded by DSS.

---

[1] A bari consists of a cluster of households, whose heads are generally related by blood or affinal connection. These households cooperate with one another to a varying degree in social events such as the marriage or funeral of a bari member.
[2] a group of members living together and sharing food from a common pot, cooked in the same kitchen.

The chronic check-listed disease symptoms included anaemia, arthritis or rheumatism, complications of broken or fractured bones, cataracts, refractive error, asthma, other breathing difficulty, diabetes, paralysis, tuberculosis, gastric problem, edema or other specific problems that the child may have had in the past three months even if the child was no longer ill. The acute check-listed symptoms included headache, eye infection, toothache, cough and fever, vomiting and stomachache, fever with chills, watery diarrhoea, loose stool associated with mucus or blood, skin infections, minor accident or injury and other symptoms that the child may have had in the past one month. Asking about specific symptoms could help mothers to recall and report minor morbidity that would otherwise not have been reported.

If a child had any morbidity symptom in the reference period no matter whether it started before the reference period or was still continuing, the mother was asked, "Do you feel that your child (name of the child) has any such health problems or illness for which the child needs health services, which are not available to the child during illness?" Her affirmative response to this question was used to define the unmet health needs for the child in her views, to combat health problems or illness. She was again asked for severity of illness and health services use to combat illness.

Mothers' education was obtained by asking grade passed in secular school. Households were divided into three equal groups: low, medium and high based on score of per head asset values. Per head asset values were obtained from the sum of average sale values of household-owned assets: farm business, agriculture equipment, non-farm business, livestock and other economic assets in the locality divided by number of household members.

In the reference periods, 2,123 of 3,765 children aged 3-179 months had had either chronic or acute or both types of morbidity symptoms. Mothers had reported unmet health needs for 245 of 2,123 sick children. The dependent variable is whether a mother had expressed unmet health needs for her sick child and the independent variables are type and severity of morbidity symptom, age and sex of the sick child, maternal education, household economic condition and the provision of primary health care services in the area. The independent variables, except for age of the child, are categorized and the dichotomous weighted logistic regression (allowing for intra-household correlation in unmet health needs) is used to estimate their effects, controlling simultaneously for all other variables, on unmet health needs. This procedure yields robust estimates of the standard errors of the coefficients for unmet health needs.

Results: The overall prevalence of unmet health needs was 11.5 percent (Table 1). The prevalence was 5.4 percent for children who had experienced acute morbidity only, 28.6 percent for children who had experienced chronic morbidity only, and 30.8 percent for children who had experienced both chronic and acute morbidities in the reference periods. Since the difference in unmet health needs between children who had both chronic and acute morbidities and children who had only chronic morbidity was not statistically significant, these two groups were merged together and hereafter labeled as children with chronic morbidity (with or without acute morbidity) in subsequent analyses.

Table 1. Distribution of sick children by morbidity type and the prevalence (%) of unmet Health needs perceived by their mothers		
Type of morbidity	Number (and %) of sick children	Prevalence of unmet health needs
All sick children	2,123 (100.0%)	11.5
Children with acute morbidity only	1,599 (75.3%)	5.4
Children with chronic morbidity only	154 (7.2%)	28.6
Children with both chronic and acute morbidity	370 (17.4%)	30.8
χ^2 (df = 2)		236.6, p<0.001

The logistic model shows that the odds of unmet health needs were 7 times higher for children who had experienced any chronic morbidity than for children who had experienced any acute morbidity (Table 2). The interruption of routine activities due to illness, controlling for morbidity type, was not related to the unmet health needs. Because the unmet health needs were critically higher for chronic morbidity than for acute morbidity, what determined the unmet health needs were examined separately for chronic and acute morbidities (Table 3). The odds of unmet health needs for children with chronic morbidity were 0.6 times lower if they were treated at home as opposed to any health providers outside the home. For acute morbidity, the odds ratio was lower for younger children than for older children. The odds ratio was 0.63 times lower for girls than for boys with chronic morbidity. Neither mothers' education nor the provision of better quality PHC services in the area, but the household economic condition (indicated per head asset values) was related to higher unmet health needs for children having chronic or acute morbidity.

Table 2. Odds ratios (and 95% CI) of unmet health needs for sick children on morbidity and child's characteristics	
Morbidity and child's characteristics	Odds ratio (& 95% CI)
Morbidity type:	

acute only	1
chronic with(out) acute symptom	6.97** (4.09-10.2)
Interruption of routine activities due to morbidity:	
no interruption	1
interruption	1.03 (0.71-1.49)
Age of the child (range 3-179 months)	1.005** (1.002-1.008)
Sex of the child:	
male	1
female	0.74* (0.56-0.98)
Mother's education:	
none	1
primary	0.94 (0.66-1.34)
secondary+	0.95 (0.57-1.58)
Per head asset values:	
low	1
medium	0.66* (0.46-0.96)
high	0.42** (0.28-0.64)
The provision of PHC facilities:	
Government area	1
ICDDR,B area	1.27 (0.94-1.73)
Model χ^2 (df=10) with	217.13, p<0.001

Note: dependent variable was coded as 1 if unmet needs were stated, otherwise coded as 0.
*P<0.05, **P<0.01.

Table 3. Odds ratios (and 95% CI) of unmet health needs for children with chronic and acute morbidities on sickness care and child's characteristics

Morbidity and child's characteristics	Chronic symptoms Odds ratio (95% CI)	Acute morbidity Odds ratio (95% CI)
Sickness care:		
home-care	0.60* (0.40-0.89)	0.87 (0.56 – 1.36)
any health provider	1	1
Age of the child (3-179 months)	1.00 (0.99 – 1.01)	1.01** (1.00 – 1.02)
Sex of the child:		
male	1	1
female	0.63* (0.42-0.93)	0.85 (0.55 – 1.32)
Mother's education:		
none	1	1
primary	0.78 (0.0.50 – 1.21)	1.31 (0.79 – 2.14)
secondary+	0.91 (0.49 – 1.68)	0.99 (0.45 – 2.14)
Per head asset values:		
low	1	1
medium	0.60* (0.38 - 0.94)	0.79 (0.48 – 1.31)
high	0.46** (0.27 – 0.78)	0.41** (0.22 – 0.77)
Provision of PHC facilities:		
Government area	1	1
ICDDR,B area	1.16 (0.79 – 1.71)	1.47 (0.95 – 2.30)

*P<0.05, **P<0.01.

Conclusions: The prevalence of unmet health needs in mothers' views was critically higher for children with chronic morbidity than for children with any acute morbidity. The low prevalence of unmet health needs for acute morbidity may suggest that mothers get needed health services, no matter what is the technical quality of healthcare providers for acute morbidity. The unmet health needs were higher for boys than for girls with chronic morbidity, and higher for children of economically poor households than those of rich households. The provision of high-quality primary health care services could not reduce unmet health needs for children with chronic illnesses. The study population need a chronic disease control program for lowering unmet health needs.