Health seeking behaviour of parents of burned children in Bangladesh is related to family socioeconomics

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ABSTRACT

Objective: The study was design to explore the health seeking behaviour of Bangladeshi parents for their children during burn injuries.

Methods: A population-based cross-sectional survey was conducted between January and December 2003 in Bangladesh. Nationally representative data were collected from 171,366 rural and urban households comprising of a total population of 819,429, including 351,651 children of 0–18 years. Mothers or heads of households were interviewed with a structured questionnaire in obtaining the information.

Results: About sixty percent parents seek health care from unqualified service providers for their children during a childhood burn injury. Educated and the higher income groups parents choose qualified service provider at significantly higher rate compared to illiterate and poor. Higher proportion of parents of urban residence chooses qualified service provider compared to rural. No significant difference of health seeking behaviour of parent in choosing care provider was found in relation to sex of the children.

Conclusion: Education, economic condition and place of residence were found as the contributory factors in choosing service provider. Education to the parents can contribute in changes in health seeking behaviour which ultimately contribute in reducing morbidity and mortality from childhood burn injuries. Including parent's education a national burn prevention program needs to be developed to combat the devastating child injury, burn.

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Introduction

In terms of morbidity and long term disability burn is a huge public health issue throughout the world, especially in developing countries.¹⁸ Burn and its consequences are emerging as a major child health problems in our neighbouring countries like Nepal, India, Pakistan, Afghanistan, Sri Lanka and also in other developing countries.^{1,3,10,11,14,16,17,20} In Bangladesh childhood burn has already been established as a major child health problem and causing significant number of death disability and illnesses every year.^{14,15} Childhood burn is of special importance as children are much more vulnerable, have less perception about dangerous situations and have limited ability to react promptly and properly against it.²

Proper medical care can reduce consequences of any illness^{4,5,13,28} and ensuring proper care in childhood illness proper

health seeking behaviour of parents is important. Although childhood burn is a huge child health problem in Bangladesh health seeking behaviour of parents is yet to be studied and documented. This study was designed to explore the health seeking behaviour of parent in Bangladesh after a childhood burn. The findings of this study will help to design a national strategy to attain better health seeking behaviour of parents to reduce consequences of childhood burn and this will ultimately contribute national burn prevention effort in Bangladesh.

Methods

Study design, area and population

This was a cross-sectional survey conducted during 2003 (January to December) in 12 randomly selected districts of Bangladesh and in Dhaka Metropolitan City. This encompassed a population of 819,429 which included 351,651 children less than 18 years of age.

Multi-stage cluster sampling was used to choose a total sample size of 171,366 households: 88,380 from rural areas, 45,183 from

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district towns (urban areas) and 37,803 households from Dhaka Metropolitan City. Bangladesh is divided in 6 divisions. Two districts were selected from each division by stratified random sampling. In each district, to represent the rural community, one upazila (sub-district) was randomly chosen and in each upazila two unions (administrative lowest units comprising of ~20,000 population) were selected randomly and each union was considered as a cluster. All households in the union were included in the survey. The district headquarters of the 12 selected districts and Dhaka Metropolitan City constituted the urban areas. In the urban areas, mohallas, the local political unit, served as clusters, and systematic sampling was done to achieve the required number of households.

Case ascertainment

Anyone under 18 years of age was considered as a child. A child was identified as a burn case when s/he took any treatment or could not perform normal activities at least three days due to the burn injury.

Data collection and interview

Forty-eight data collectors collected data from respondents using face to face interviews. Along with the researchers, six fulltime supervisors were employed for supervision and monitoring the data collection process. A household member was defined as a person living in the same house including domestic helpers, long term guest, etc., sharing meals and information. Mothers were primarily preferred as respondents. However, if a mother was not available, the most knowledgeable member of the household was considered as the primary respondent. Where possible, the head of the household, and as many members of the household as possible were present to corroborate or add detail to the respondents' interview answers. Screening forms were used to identify any mortality or morbidity in the household.

The respondents were first asked whether any deaths had taken place in the household in the last 2 years in the national survey and 3 years in Dhaka metropolitan survey respectively, or any illness in the last 6 months. If any deaths or illnesses were identified, the interviewer proceeded with further clarification. Structured questionnaires were employed if burn injuries caused the death or illness which included questions about cause of burn, place of burn, and health seeking behaviour of the parents of the burn victim. Repeat visits were made to the household where respondents were unavailable on the first visit. In spite of repeated attempts, 2.7% households could not be interviewed. A total of **166,766** households participated in the study.

The service providers were categorized into two groups: *qualified service providers* and *unqualified service providers*. *Qualified service providers* included registered practicing doctors, private and government health centers and hospital. *Unqualified service providers* included govt. home visitors, non-government organization (NGO) field workers, who are involved only in health promotion activities at home and have no institutional degrees on health, homeopathic practitioners, herbal medicine practitioners, medicine shopkeepers, traditional healers/religious leaders and relative/friends.

Literacy: Person who attended school at least for 1 year was called literate and who never attended school was designated illiterate.

Health seeking behaviour of parents was observed in terms of choosing service providers for their children after a childhood burn.

Statistical analysis

Results were expressed as percentages according to type of service provider. 'Type of service provider' was considered as dependent variables. The literacy level of parents, monthly family income, birth order of the child, place of residence, total number of children and sex of the children were considered as independent variables or predictors of health seeking behaviour. Initially Chi-square test was conducted to see significant association between dependent and independent variables.

Both crude and adjusted model of logistic regression were carried out to identify the factors influencing care seeking behaviour with 'type of service provider'. A crude model shows how a single covariate influences the dependant variable. An adjusted model shows how two or more covariates influence the dependant variable after adjusting the effect of each other. Sex of the children had no significant association with 'type of service provider'. So it was excluded from the regression model.

Predictors of the care seeking behaviour were estimated by calculation of odds ratios (OR) and 95% confidence intervals (CI).

Result (Fig. 1)

A total of 351,651 children were found among 819,429 population surveyed. Among them 1013 were found with burn injury. For management of burn injury about 60 percent of the parents took their children to unqualified service providers. About 41% of the parents took their children to medicine shopkeepers for treatment of burns. Five percent went to friends or relatives and another 5% to homeopath and traditional healers. Herbal medicine practitioners treated more than 5% of the burnt children. About 40% parents choose qualified service provider after a child burn. About 23% of the children were taken to government and private hospitals and 17% parents took their children to registered medical practitioners after a childhood burn.

Place of residence (Table 1)

Urban parents were more likely to choose qualified service providers for their children with burn injury than rural parents. It was observed that 63.2% of the urban parents brought their children to registered physicians or hospitals, where as in rural areas it was only 35.9% (OR 3.10; 95% CI 2.17–4.43).

Literacy level of parents

Fifty-one percent of the literate fathers took their children to qualified service providers, where as it was only 27.5% among the

Fig. 1. Distribution of patients by health seeking pattern for burn (N = 974).

Table 1

Factors influencing seeking service from qualified service provider.

Taking treatment from qualified service provider				Logistic regression			
Factors	n	Frequency	(%)	Crude		Adjusted ^a	
				OR	95% CI	OR	95% CI
Literate mother	495	234	47.3%	2.10	1.61–2.76	1.26	0.90–1.75
Illiterate mother	438	131	29.9%	1.00			
Literate father	480	246	51.3%	2.79	2.12–3.66	1.90	1.36–2.64
Illiterate father	451	124	27.5%, 27.5%	1.00			
1st order child	303	135	44.6%	1.51	1.11–2.04	1.49	0.92–2.40
2nd order child	231	97	42.0%	1.36	0.98–1.89	1.45	0.93–2.27
3rd order child	413	143	34.6%	1.00			
≤2 children in family	392	175	44.6%	1.43	1.09–1.86	.99	0.64–1.53
>2 children in family	555	200	36.0%	1.00			
>3000 BDT monthly income	442	215	48.6%	1.88	1.45–2.45	1.42	1.05–1.91
≤3000 BDT monthly income	528	177	33.5%	1.00			
Urban residence	155	98	63.2%	3.10	2.17–4.43	2.47	1.67–3.67
Rural residence	818	294	35.9%	1.00			

OR calculated by logistic regression.

^a All of the independent variables mutually adjusted in adjusted logistic regression

illiterate (OR 2.79; 95% CI 2.12–3.66). Like father, 47.3% literate mothers took their children to qualified service providers and it was 29.9% in case of illiterate mother (OR 2.10; 95% CI 1.61–2.76). Association between literacy of parents and choosing service provider was found statistically significant.

Monthly family income

A significant association was found between monthly family income and health seeking behaviour of the parents. Higher income group parents chose qualified service providers for their children at a higher rate compared to poor (OR 1.88; 95% CI 1.45–2.45). Among high-income group 48.6% parent choose qualified service provider and on the other hand it was only 33.5% among poor.

Birth order of children

Parents took their 1st child to a qualified service provider at higher rates (OR 1.51; 95% CI 1.11–2.04) compared to their following children. It was observed that 44.6, 42.0 and 34.6% children took treatment from qualified service providers where birth order of the children was 1st, 2nd and 3rd or above, respectively.

Family size

A higher proportion of children belonging to families with lower numbers of children were taken to the qualified service providers (OR 1.43; 95% CI 1.09–1.86). More than 44% parent choose qualified service provider for their children after a childhood burn who have 2 children or less on the other hand only 36% parent took their children to qualified service provider who have more than 2 children.

Gender

Study findings show that parents took their female children with burn injury to qualified service providers at a slightly higher proportion than the male children (43.5 percent and 37.9%, respectively). This difference between care seeking for male and female children was not significant.

The adjusted odds ratio revealed that parents' education and financial condition were the important contributory factors in

choosing service provider for their children after a burn injury. Educated parents took their children to qualified health service providers at a higher rate compared to non-educated parents. Urban parents choose qualified service provider at a significantly higher rate compared to rural.

Discussion

In Bangladesh about 173,000 children get burnt and 3400 of them become permanently disabled every year.^{14,15} High incidence of this devastating injury and its consequences need to be prevented. Proper health seeking behaviour of parents could help in reducing burn consequences. About two-thirds of childhood burn victims were treated in Bangladesh by unqualified service providers because of parents' choice. Medicine shopkeepers were the first choice care providers for the treatment of childhood burn. Traditional healers, friends and relatives are also treating a significant proportion of burnt children because of their parents' choice. Preference of seeking health care from unqualified service providers was higher among poor, illiterate and rural people.

In many other developing countries analogous pattern of health seeking behaviour of parents has been observed during other illnesses of their children.^{7,8,23,24,27} After much search for literature specifically dealing with parents' health seeking behaviour in case of childhood burn one study of Ghana was found which revealed that 48% of the burned children were taken to a modern health facility. Economic condition, place of residence, severity and complication of burn were the factors in choosing modern healthcare in Ghana, however no association was found between mother's education and choosing health care.⁶ On the contrary mother's education was found as a significant factor in choosing and utilizing health service in many other studies^{13,22} including Bangladesh. Belief and understanding about health problems is an important factor in health seeking behaviour.¹² Health belief plays an important role in determining whether a mother will seek traditional or biomedical (modern) health care for her children. Study findings reveal that mothers who hold modern beliefs are more likely to visit qualified service providers.⁷

Socioeconomic condition and maternal education were found as contributory factors in health seeking behaviour for children in Vietnam.²⁶ People of poor financial condition were found reluctant to seek health care in China.²⁹ Similar finding has been revealed in Nepal and in many other African countries.^{8,9,21,23,25}

This study revealed that number of children in a family was an important factor in health seeking behaviour of parents for their children during a burn injury. Parents having fewer children took their children to a qualified service provider at a significantly higher proportion in comparison to the parents having more children in the family. Association was also found between birth order of the children and parent's health seeking behaviour. Early order children were taken to qualified service providers at a higher rate compared to following order children. This study had limitation to explore the reason behind it. Maybe because parents are always more concerned about their first issue. Maybe with successive issues they get more confident about handling the situation themselves. Maybe increasing poverty with increasing number of children causes inability to seek qualified health care.

A similar feature in health seeking behaviour was found in Africa in cases of malaria management.⁹

In this study relatively poor health seeking behaviour was observed among rural parents. Rural parents brought their children 3 times less often to a qualified service provider. Similar type of trends in health seeking behaviour of parents was also observed in other developing countries.^{8,22} In Brazil it was found that remote rural people were unwilling or delayed in going to modern service due to the absence of a modern transport system and/or the inability to pay the cost of treatment.²² Similar factors might be the reason for the rural people of Bangladesh to take service from unqualified service providers as these unqualified service providers are easily accessible and always available.

In Bangladesh unqualified service providers are providing health services to a huge number of patients with different kinds and levels of health problems. As both the literacy rate and financial condition of the people in this country are very low, people's perception about health service and service-seeking behaviour will not be similar to high-income countries.

Regarding choosing care provider Bangladeshi parents clearly value female children as much as male children, a thing that has not been observed in some other low-income countries.^{19,25} An important factor could be the cultural norm of this country of getting girls married off. This can be quite difficult and a costly process if the girl carries scars or disabilities due to burns. This in turn will make her a burden to her family. Another reason for such health seeking behaviour could also be the impact of government and non-government initiatives for gender equity in the society. Lot of work is going on for, female education, professionalism and women empowerment.

Strength and limitation

Findings about health seeking behaviour of the parents came from quantitative data only. Qualitative information could make the findings more comprehensive.

Conclusion

About two-third of the childhood burns were treated by unqualified service providers because of parents' option in choosing health care. Education, economic condition and place of residence were found as the contributory factors in choosing service provider. High prevalence of permanent disabilities is one of the major consequences of burn can be trimmed down by changing health seeking behaviour of the parents. Education program for the parents can contribute in changing in health seeking behaviour of them which ultimately can contribute in reducing morbidity and mortality from childhood burn injuries.

Recommendation

A national burn prevention program strategy needs to be developed to combat the devastating child injury, burn. Prevention strategy should include education program for parents at household and community level both for prevention of burn and proper health seeking behaviour.

Competing interests

None declared.

Ethical issues

Ethical clearance was obtained from the Ethical committee of Institute of Child and Mother Health Dhaka. Participants were informed about the benefits and objectives of the study. Verbal consent was obtained from each head of household before proceeding with the interviews.

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