

Health problems in children and associated remedial measures in Punjab, India

Balpreet Singh¹, Abhik Ghosh², Amarjeet Singh³

¹Centre for Public Health (UIEAST), Panjab University, Chandigarh, India.

²Department of Anthropology, Panjab University, Chandigarh, India.

³School of Public Health, Postgraduate Institute of Medical Education and Research, Chandigarh, India.

Correspondence to: Balpreet Singh, E-mail: drbalpreetsaini@gmail.com

Received October 1, 2014. Accepted October 11, 2014

Abstract

Background: Majority of child deaths that occur worldwide are due to preventable causes. Maternal practices regarding children's health care have been recognized as an important factor behind mortality. Improving families' care-seeking behavior can significantly reduce child morbidity and mortality in developing countries.

Objective: To look into the prevalence of health problems in children and action taken by mothers for management of these problems.

Materials and Methods: This cross-sectional study was conducted in three districts of Punjab, India. Mothers of children of age 12–23 months were selected. Sample size was calculated to be 1266 mothers. Multistage sampling was administered to identify study subjects. Semi-structured tool was used to get information regarding experiences of any health problems of children in the 15 days preceding the survey. Data were analyzed using Microsoft Office Excel 2007.

Results: More than one third of children had health problems in the 15 days preceding the survey. The most common problems found were cold and cough, crying for unknown reasons, and fever. Majority (71.5%) of mothers took their children to health-care facilities to seek care. Private health-care facilities were used more than their public counterparts. Approximately 54% children were given home remedies. Majority of mothers used home remedies on the day problems appeared and visited health-care facilities on second or third day of the onset of problems.

Conclusion: Home remedies were the first choice of many mothers for the illness of their children. Children with diarrhea and fever were more likely to be taken to health-care facilities.

KEY WORDS: Childhood health problems, care seeking, remedial measures, home remedies

Introduction

In 2013, approximately 6.3 million children under 5 years died worldwide. Most of these deaths were reported from developing countries.^[1] Approximately, 50% of the deaths of children occurred in only five of these countries, namely India, Nigeria, Pakistan, Congo, and China; of which 21% occurred in India.^[2]

Causes of most of these childhood deaths were found to be preventable.^[1] Diarrhea and acute respiratory infections (ARI)

were responsible for majority of children's deaths.^[3] These deaths could have been prevented if early and appropriate treatment were provided to children.^[4]

Various studies have shown that a delay in seeking care or not seeking any care is responsible for a large number of child deaths.^[5–8] Gove^[9] suggested that even simple interventions can deal with childhood deaths. Maternal practices regarding children's health care have been recognized as an important factor linked with mortality. Improving families' care-seeking behavior can significantly reduce child morbidity and mortality in developing countries.^[10,11] Home-based early management and improved health-care-seeking behavior in case of appearance of symptoms are key strategies to prevent childhood life-threatening sickness.^[12] Caretakers have a pivotal function in managing childhood illness. A mother's care-seeking behavior is very important in seeking care and determining mortality of children.^[13] Understanding this health-care-seeking behavior can be useful in planning interventions for controlling childhood morbidity and mortality.^[14]

Access this article online

Website: <http://www.ijmsph.com>

DOI: 10.5455/ijmsph.2015.0110201432

Quick Response Code:



This study aimed to look into the prevalence of health problems in children and the action taken by mothers for the management of these problems. The study also aimed to look into the choices and priorities of mothers for options of management of health problems and time lag in seeking care.

Materials and Methods

Study Design and Setting

A descriptive cross-sectional design was used to identify experiences of illness and action taken by mothers for their 12- to 23-month-old children. Study was conducted in Punjab, India. Punjab is culturally divided into three regions: Majha (area between rivers Ravi and Beas), Doaba (area between rivers Beas and Sutlej), and Malwa (area south of river Sutlej). The study area was provided by health care from various types of government health-care facilities, of which subcenter is the most primary level. Each district is divided into various health blocks by health administration of Punjab. Area of each health block is finally divided into areas of subcenters.

Sample Size and Sampling Procedure

Potential participants were the mothers having at least one living child of age 12–23 months. A sample size of 422 was obtained for each district using the formula for single population proportion ($n = \frac{t^2 PQ}{d^2}$) to obtain the maximum sample size (assumptions: $p = 0.5$; a margin of error, $d = 5\%$; at confidence interval of 95%, $t^2 = 1.96$ and 10% contingency for nonresponse). For every district, sample was divided into urban and rural areas per population proportion (census 2011). Hence, the total sample size came out to be 1266 (886 rural and 380 urban).

A multistage sampling was used to identify study sample. One district from each cultural region of Punjab was selected randomly. For sampling of rural area, one health block from each district was selected randomly. Households were chosen equally from areas of various subcenters of selected health block. For sampling of urban area, one urban area of district was selected and households were randomly chosen from different localities. For household with more than one eligible study subject, only one mother was contacted for survey. If no eligible study subject was found in the selected household, the immediate household was visited. In the case of mothers having more than one child, questions were asked about the youngest child. Data were collected from November 2013 to July 2014.

Data Collection and Study Instrument

A structured questionnaire was developed in English and then translated into local language Punjabi. The questionnaire was designed to get information regarding sociodemographic characteristics of respondents and experiences of any health problems of children in the 15 days preceding the survey. A pilot study was conducted and results were used to refine

the questionnaire. The scale developed by Aggarwal *et al.*^[15] was used to enumerate socioeconomic status of respondents.

Ethical Considerations

This research work was duly approved by the institutional ethics committee of Panjab University (vide no. PU/IEC/107/13/09). Permission to conduct this study in Punjab was sought from Department of Health and Family Welfare, Government of Punjab. Informed written/verbal consent of the respondents was taken before involving them in research after telling them the purpose and procedures of the study. The identity of all the respondents was kept confidential and anonymous.

Data Analysis

After collection, the data were compiled and reviewed. Data were coded and entered into SPSS, version 21 (IBM, India). Frequencies and percentages were used to draw the inferences.

Results

Sociodemographic Characteristics of Respondents

Majority of mothers were between 25 and 35 years of age. Majority of respondents (57.8%) had attended senior secondary schools. All the respondents were married and were living with their husbands. Majority of respondents were either Sikhs (55.6%) or Hindus (41.2%). Most of mothers (57.8%) belonged to middle socioeconomic status. Profile of respondents is presented in Table 1.

Response Rate

Overall, 1266 mothers were contacted for this study; of which, 1218 mothers (96.2%) consented to participate in this study. Further, 48 questionnaire responses were rejected due to incomplete information. Thus, a sample of 1188 mothers (93.8%) who had a child aged 12–23 months were analyzed. Table 2 shows the sociodemographic characteristics of mothers and households.

Prevalence of Health Problems in Children

In this study, 39% (463) children had got some health-related problems in the 15 days preceding the survey. The most common problems faced by the children were cold and cough, crying for unknown reasons, and fever, the prevalence of which were found to be 34.7%, 32.7%, and 32%, respectively. Teething in children was also counted as a problem by mothers. Table 2 represents the main health complaints and its proportionate prevalence in the children.

Action Taken for Health Problems

Majority of mothers sought health care for children in health-care facilities; of which 60% visited private health facilities. Six mothers did not do anything for treatment of health problems of their children and 3.3% visited some

Table 1: Profile of respondents (*n* = 1188)

Characteristics of mothers/ households	Number of respondents (%)
Setting	
Rural	936 (78.8)
Urban	252 (21.2)
Age (years)	
<25	172 (14.5)
25–34	980 (82.5)
35 and more	36 (3.0)
Literacy status	
None and primary	238 (20.0)
Senior secondary	687 (57.8)
Graduate and higher	263 (22.1)
Occupation	
Housewife	922 (77.6)
Working	266 (22.4)
Caste	
General	1082 (91.1)
OBC	34 (2.9)
SC/ST	72 (6.1)
Religion	
Sikh	660 (55.6)
Hindu	496 (41.8)
Christian	24 (2.0)
Muslim	8 (0.7)
Socioeconomic status	
Poor	238 (20.0)
Middle	687 (57.8)
High	263 (22.1)
Birth order*	
1	333 (28.0)
2	681 (57.3)
3 and more	174 (14.6)

*Pregnancy or delivery outcome of which was last live child of age 1–2 years.

religious place or approached spiritual healers to seek care. Many mothers used home remedies for treatment of their children. Children having complaints of flatulence and teething were treated at home more than those with other problems. Children with diarrhea and fever were more frequently taken to health-care facilities than other children. Table 2 shows the action taken for health problems of children in the 15 days preceding the survey.

Time Lag to Take Action for Management of Health Problems

Most of the mothers started giving home remedies to children on the same day of the onset of problems. Majority of mothers who sought care at health-care facilities visited health facilities on second or third day of the onset of problems. Average delay to seek care at health-care facilities was less

in case of fever or diarrhea as compared to other problems [Table 2].

First Choice of Management of Health Problems of Children

Majority of mothers went for home remedies as the first choice of treatment for their children. Table 3 shows first choice of action for health problems of children by mothers.

Discussion

Children are susceptible to infections and various diseases. These diseases can be prevented if treated early or can become lethal if not treated well.

In this study, 39% children were reported to have at least one of health problems such as fever, cough and cold, crying for unknown reasons, and diarrhea within the 15 days preceding the survey. Most frequently reported symptoms were cough and cold followed by crying for no reasons and fever. Children having symptoms of diarrhea formed 11% of the study subjects. Many studies and surveys have come out with different rates of prevalence of health problems in different parts of India.^[16–18] District Level Household Survey 3 (DLHS-3) found that 13.5% children had diarrhea and 6% had ARI in Punjab. On the contrary, Coverage Evaluation Survey 2009 (CES 2009) and National Family Health Survey 3 (NFHS-3) presented prevalence of diarrhea as 15.5% and 8% and that of ARI as 18.8% and 7%, respectively, in Punjab. The variation in prevalence rate can be related to seasonal variations and weather at the time of survey. In this study, maximum data were collected during or near winter, which can be a reason for a higher prevalence of cough and cold than other problems.

The other conditions reported by mothers were unexpected crying of child due to unknown reasons and flatulence. Unexpected crying can be subjective observation of mothers and related to various myths and beliefs in local community. Many mothers reported the cause of this as “nazar,” that is casting evil eye by a person with mala fide intent. Interestingly, teething of children was also reported as a health problem by many mothers. The respondents correlated teething with other health problems such as fever, discomfort, and diarrhea. Traditionally, teething is considered to be related to health problems and various health problems occurring during teething are considered common. Roots of this belief may be found in age-old Indian health system (i.e., Ayurveda), which indicates treatments to children during teething. Homeopathy also supports this and provides prescriptions in this state. However, some studies found no associations with teeth eruption and health problems such as infections, fever, and diarrhea.^[19,20]

In this study, 1.3% mothers had taken no action in response to the health problems of children. One fourth of mothers had treated their children at home; majority of them bought medicines from prescriptions or experience of previous

Table 2: Action taken by mothers for health problems of their children in sampled households

Action taken for health problems	Health-care seeking for health problems of children (n = 463)	Cold and cough (n = 412)	Crying for unknown reason (n = 389)	Fever (n = 380)	Flatulence (n = 349)	Teething (n = 308)	Diarrhea (n = 129)	Others (n = 25)
No action	6 (1.3%)	3 (0.7%)	0	0	3 (0.9%)	0	0	0
Care at home*	111 (24%)	105(25.5%)	97 (25%)	98 (25.8%)	98 (28%)	81 (26.2%)	30 (23.3%)	9 (36%)
Got treatment at home by visit of a health service provider	0	0	0	0	0	0	0	0
Used only medicines brought without consultation (from previous sickness experience)	52 (11.2%)	50 (12.1%)	39 (10%)	51 (13.4%)	41 (11.7%)	26 (8.4%)	18 (13.9%)	4 (16%)
Used only home remedies	39 (8.4%)	37 (9%)	38 (9.7%)	29 (7.6%)	38 (10.9%)	39 (12.7%)	8 (6.2%)	4 (16%)
Used home remedies and brought medicines without consultation	20 (4.3%)	18(4.4%)	20 (5.1%)	18 (4.7%)	19 (5.4%)	16 (5.2%)	4 (3.1%)	1 (4%)
Visited health-care facilities	331 (71.4%)	304 (73.8%)	286 (73.5%)	279 (73.4%)	248 (71%)	221 (71.8%)	99 (76.7%)	16 (64%)
Government	127 (27.4%)	114 (27.7%)	93 (23.9%)	95 (25%)	87 (24.9%)	79 (25.6%)	30 (23.3%)	7 (28%)
Private	197 (42.5%)	189 (45.9%)	184 (47.3%)	178 (46.8%)	160 (45.8%)	133 (43.2%)	50 (38.8%)	9 (36%)
Both	13 (2.8%)	1 (0.2%)	3 (0.8%)	3 (0.8%)	1 (0.2%)	3 (0.9%)	2 (1.6%)	0
Used home remedies as well as visited health care facilities	187 (40.3%)	180 (43.7%)	161 (41.4%)	161 (42.4%)	153 (43.8%)	156 (50.6%)	17 (13.2%)	3 (12%)
Visited spiritual healers/religious places	15 (3.3%)	0	6 (1.5%)	3 (0.8%)	0	6 (1.9%)	0	0
Average time of action taken after onset of problem								
Home remedies	First day	First day	First day	First day	First day	First day	First day	First day
Taking medicine by own	Second day	Second day	Second day	First day	First day	First day	First day	Second day
Visiting health facilities	Third day	Third day	Third day	Second day	Third day	Third day	Second day	Third day

Table 3: First choice of action for health problems of children ($n = 457$)

First choice of action	Number of children (%)
Home remedies	229 (50.1)
Visiting private health-care facilities	106 (23.2)
Visiting government health-care facilities	71 (15.5)
Medication by their own	51 (11.2)

illness followed by home remedies. Shah *et al.*^[21] found that 16% children with diarrhea were given drugs that were left over from previous episodes.^[21] Sharma *et al.*^[22] also found that 10% children attending a tertiary-care hospital previously had taken medicines from medical stores without the consultation of a doctor. Similar to our findings, CES 2009 showed that 32.2% children with diarrhea and 17.4% children with ARI did not seek health care from a designated provider. Taking medicine without the consultation of a health professional is a serious issue that can lead to inappropriate use of drugs and antibiotics.

Majority of respondents in our study went to health-care facilities for treatment of their children, of which many (60%) mothers went to private health facilities. Children with diarrhea and fever were more likely to be taken to health-care facilities than other children. Similar findings were obtained by DLHS-3, NFHS-3, and CES 2009. Percentage of mothers in NFHS-3 who took their children to health-care provider for ARI, fever, and diarrhea was 87, 84, and 75, respectively. Majority of children in Punjab with diarrhea and ARI, from a sample of DLHS-3, were taken to seek health care or advice (93% and 88%, respectively). This further showed that 59% children with diarrhea and 66% with ARI were taken to private hospitals. CES 2009 found the use of private health-care facilities for diarrhea and ARI by 48.4% and 63.4% of ill children, respectively. Treatment provided by government health-care facilities is low cost, still use of private health-care facilities stands high. Better quality service and the availability of doctors can be major factors for higher use of private health-care facilities than government health-care facilities.

Traditional knowledge about management of childhood problems exists in the community of Punjab. Many mothers used home remedies for treatment of their children. Some mothers (39%) used only home remedies for management of health problems of their children. Many (44.7%) mothers used home remedies supplementarily with other treatments; 56.5% mothers who visited health-care facilities also used home remedies without prescription of health professionals. NFHS-3 also found that 1% children with diarrhea were provided treatment with home remedies. Sharma *et al.*^[22] found that 5.7% of the children attending tertiary-care hospitals earlier used home remedies. The first choice of management of health problem of children by majority of mothers, in our study, was also found to be home remedies. There is vast faith in this traditional knowledge of home remedies that needs to be scientifically explored. This can provide public health solutions to childhood problems.

In this study, 3.3% children were taken to spiritual healers to seek treatment. The mothers reported that these healers do "Phanda" (a form of spiritual healing) of children to treat them. The most common problems for seeking spiritual healing were crying for unknown reasons, having fever repeatedly, and teething.

National Rural Health Mission has provided Accredited Social Health Activist (ASHA) to promote the use of government health-care facilities and identification of health problems. It is noteworthy that no child in this study got any treatment at home by the visit of any health-care provider. The work of ASHA is primarily focused on antenatal care, institutional delivery, and immunization of children. The role of ASHA needs to be explored to provide care or guidance to seek care in childhood ailments.

Prompt and appropriate health seeking is critical in the management of illness, especially among children.^[23,24] In this study, we found that a majority of mother who visited health-care facilities to seek care for their child went to health-care facility on the second or third day of the onset of health problems. However, majority of mothers started home remedies on the same day of onset of health problems. Similarly, Sharma *et al.*^[22] showed that most of sick children (32%) were taken to health-care providers on the first or second day of the onset of illness before coming to tertiary-care health center, although a majority of children were taken to tertiary-care hospitals after 1 week of onset of illness to seek care. Shah *et al.*^[21] in their study found that 37% children with diarrhea were taken to health-care provider after two or three episodes of diarrhea.^[21]

In this study, mothers' literacy status and households' socioeconomic status were found to be associated with health seeking in health-care facilities. Educated mothers and mothers who belonged to better socioeconomic status tend to use services of health facilities more than others. Basu *et al.*^[25] and Deshmukh *et al.*^[14] also stated the importance of maternal literacy in prevention of childhood morbidity and mortality.

There is a need to create awareness among mothers about the harms of giving medicines to children without consultation of proper health professionals. Greater effort is needed to involve ASHA in treatment seeking of children to reduce morbidity and mortality. Good traditional health practices need to be identified and promoted in communities for better health care of children.

Limitations of Study

In this study, we classified health problems per symptoms or conditions stated by mothers and did not identify diseases of children. Therefore, mothers' perspectives about health problems may differ from the actual ones. Private practitioners could not be confirmed for registration status, thus nonregistered practitioners could not be identified.

Conclusion

More than one third of children had health problems in the 15 days before the survey. The most common problems found

were cold and cough, crying for unknown reasons, and fever. Actions taken by mothers in response to health problems of children were home remedies, visiting health-care facilities, taking medicines from pharmacy, and visiting spiritual healers. Majority of mothers took their children to private health facilities for seeking care. Average delay to seek care at health-care facilities was 2 days. Home remedies were started on the first day of the onset of problems by majority of mothers.

Acknowledgment

The author duly acknowledges the financial support provided by University Grants Commission (India) and Indian Council of Medical Research (India) in the form of research fellowships for carrying out this study.

References

- UNICEF. Level & Trends in Child Mortality. Report 2014. Available at: http://www.unicef.org/media/files/Levels_and_Trends_in_Child_Mortality_2014.pdf.
- UNICEF. The State of the World's Children 2014. Available at: http://www.unicef.org/gambia/SOWC_report_2014.pdf.
- WHO. Mortality Factsheet (2006). Available at: http://www.who.int/whosis/mort/profiles/mort_searo_ind_india.pdf (last accessed on February 20, 2014).
- Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS, The Bellagio Child Survival Study Group. How many child deaths can we prevent this year? *Lancet* 2003;362(9377):65–71.
- Sutrisna B, Reingold A, Kresno S, Harrison G, Utomo B. Care-seeking for fatal illnesses in young children in Indramayu, west Java, Indonesia. *Lancet* 1993;342(8874):787–9.
- D'Souza RM. Role of health-seeking behaviour in child mortality in the slums of Karachi, Pakistan. *J Biosoc Sci* 2003;35(1):131–44.
- Reyes H, Perez-Cuevas R, Salmeron J, Tome P, Guiscafie H, Gutierrez G. Infant mortality due to acute respiratory infections: the influence of primary care processes. *Health Policy Plan* 1997;12(3):214–23.
- Desilva M, Wijekoon A, Hornik R, Martinez J. Care seeking in Sri Lanka: one possible explanation for low childhood mortality. *Soc Sci Med* 2001;53(1):1363–72.
- Gove S. Integrated management of childhood illness by outpatient health workers: technical basis and overview. The WHO Working Group on Guidelines for Integrated Management of the Sick Child. *Bull World Health Organ* 1997;75(Suppl 1):7–24.
- Taffa N. A comparison of pregnancy and child health outcomes between teenage and adult mothers in the slums of Nairobi, Kenya. *Int J Adolesc Med Health* 2003;15(4):321–9.
- Mane AB, Dohare S, Gitte SV. Child health: understanding the home care practices in some illnesses among under five children in IMNCI implemented rural area. *Int J Biol Med Res* 2012;3(5):1251–54.
- Gupta N, Jain SK, Ratnesh, Chawla U, Hossain S, Venkatesh S. An evaluation of diarrheal diseases and acute respiratory infection control programmes in a Delhi slum. *Indian J Pediatr* 2007;74:471–6.
- Sakisaka K, Jimba M, Hanada K. Poor mothers' care-seeking behaviors in response to childhood illness: findings from a cross-sectional study in Granada, Nicaragua. *BMC Int Health Hum Rights* 2010;10:10.
- Deshmukh PR, Dongre AR, Sinha N, Garg BS. Acute childhood morbidities in rural Wardha: some epidemiological correlates and health care seeking. *Indian J Med Sci* 2009;63(8):345–54.
- Aggarwal OP, Bhasin SK, Sharma AK, Chhabra P, Aggarwal K, Rajoura OP. A New Instrument (Scale) for measuring the socioeconomic status of a family: preliminary study. *Indian J Commun Med* 2005;30(4):10–12.
- Ray SK, Haldar A, Biswas B, Misra R, Kumar S. Epidemiology of undernutrition. *Indian J Pediatr* 2001;68:1025–30.
- Mishra PC, Agrawal VK, Baveja R. Immunization status and morbidity pattern of children: a clinical study. *Indian Med Gaz* 1998;122:234–6.
- Kaushik PV, Singh JV, Bhatnagar M, Garg SK, Chopra H. Nutritional correlates of acute respiratory infections. *Indian J Mat Child Health* 1995;6:71–2.
- Tasanen A. General and local effects of the eruption of deciduous teeth. *Ann Paediatr* 1968;14(Suppl 29):1–40.
- Wake M, Hesketh K, Lucas J. Teething and tooth eruption in infants: a cohort study. *Pediatrics* 2000;106:1374–79.
- Shah MS, Ahmad A, Khaliq N, Afzal S, Ansari MA, Khan Z. Home-based management of acute diarrhoeal disease in an urban slum of Aligarh, India. *J Infect Dev Ctries* 2012;6(2):137–42.
- Sharma N, Sahu D. Care takers health seeking behaviour for acute respiratory infection in children. *Indian J Basic Appl Med Res* 2014;3(2):426–31.
- World Health Organization. Technical Bases for the WHO Recommendations on the Management of Pneumonia in Children at First Level Health Facilities. WHO/ARI/91.20. Geneva: WHO, 1991.
- Amuyunzu-Nyamongo M, Nyamongo IK. Health seeking behaviour of mothers of under-five-year-old children in the slum communities of Nairobi, Kenya. *Anthropol Med* 2006;13(1):25–40.
- Basu AM, Stephenson R. Low levels of maternal education and the proximate determinants of childhood mortality: a little learning is not a dangerous thing. *Soc Sci Med* 2005;60:2011–23.

How to cite this article: Singh B, Ghosh A, Singh A. Health problems in children and associated remedial measures in Punjab, India. *Int J Med Sci Public Health* 2015;4:173-178

Source of Support: Nil, **Conflict of Interest:** None declared.