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Abstract

Objective: Information on health seeking behavior and health care utilization has important policy implications in health systems development. The paper presents some of the issues related to health care utilization and health seeking behavior in case of terminal Child illness in seven squatter settlements of Karachi.

Methods: From seven squatter settlements of Karachi, with a population of 100,000 approximately, we collected information, using pretested structured questionnaire, from the mothers on health care utilization during the final illness of under five children dying during 1995-1996. These deaths were identified from an earlier baseline health and demographic survey in these areas.

Results: Interviews were completed for 259 infant and child deaths of which 57% were boys. Of all deaths 72 % were taken to a health care provider, of which 82% went as soon as the child got ill. Private sector is the most preferred first choice i.e., 83%. Of all those who had been to a health care provider, 65% were referred to some other place and 72 % of them took more than 12 hours altogether to reach the referred facility. Children in older age categories (OR 4.495% Cl 222- &67 and OR 5.0, 95% CI 2.09- 12.31), boys (OR 26, 95% CI 1.46-4.77) and those with appropriate or incomplete immunization (OR 41, 95% CI 2.13- 7.94) were significantly associated with the health care utilization as compared to their counterparts.

Conclusion: Living in urban areas does not ensure accessibility to effective health care. In poor urban communities, referral to other facility delay the initiation of effective treatment in case of child illness leading to death which could be prevented otherwise. Private sector constitutes an important segment of our health care system, which requires strengthening and back up support. Furthermore, the study finding is suggestive of gender discrimination in health seeking behavior (JPMA 50:405, 2000).

Introduction

Reducing the burden of preventable deaths is an important objective of basic health services in developing countries. In Pakistan various child survival initiatives are undertaken by public and private sectors since the declaration of Alma-Ata in 1978, aiming to reduce the burden of preventable childhood morbidity and mortality. Despite these efforts, major causes of under five death in Pakistan, remain diarrhea and AR!, which are mostly preventable and low cost technologies are available to prevent them. Research evidence indicates a host of socioeconomic, environmental and household risk factors that in conjunction of lack of appropriate health care utilization contribute to high infant and child death. Lack of timely utilization of appropriate health care has been identified as one important contributing factor of child mortality[1-5].

Physical proximity is an important factor in the use of health services as most patients in order to get to the service out-let, have to rely on public transport or walk[6-8], In Pakistan, the healthcare delivery system in rural as well as to a larger segment of urban areas has not been able to reach those in need because of inaccessibility. Almost 40% of the people of Karachi live in unauthorized squatter settlements called ‘Katchi Abadis’. These poor communities arc unimaginably over-crowded due to high fertility rate accentuated by high rate of urbanization and are deprived of essential commodities and access to health care[9].

However the mere availability of health services does not always guarantee their use. Affordability and time required are other important factors in seeking care from a doctor[10-12]. Besides, level of

education, local and cultural beliefs, perceived cause of disease and severity of illness dictate health seeking behavior and selection of health care[13,14].

Once the health care is utilized, the quality and type of care being utilized is crucial for favorable health out come. One of the reasons why the health care delivery system in Pakistan has not been effective is the unavailability of certain health services and an inadequate supply of medicines[15]. Furthermore, perceived quality of care can at times overcome the barrier of distance. People are willing to travel further for more specialized services or better quality care. On contrary time hesitate to travel few kilometers to a dispensary or clinic for treatment when they are uncertain that it will be open and that the doctor or adequate medical supplies would be available. It is therefore, imperative to explore the dynamic of health care utilization, a knowledge and understanding of which will identify the areas in our health systems that require attention.

The focus of this paper is to gain insight into the process of health care utilization and its type being used among those who received some type of care yet succumb to death when most of the deaths were preventable. It also attempts to explore some of the issues related to differential health care utilization in terminal child illness in poor urban communities. The information about quality of care and case management are not available given the scope of the study.

Methodology

Setting

The data of this study were collected from the seven squatter settlements of Karachi in 1997, from the households where an infant and childhood death had occurred in the previous year. In these areas the Urban Health Project (UHP) of the Department of Community Health Sciences (CHS) of the Aga Khan University (AKU) is operating health and developmental strategies since 1996. The aim is to improve health status of its residents through community participation. These squatter settlements or katchi-abadis are located in various parts of time city. Two are coastal, two pen urban and the other three are situated in the central region of Karachi. The total population is about l00,000 of which 98% are Muslims, however, ethnic diversity is present and all linguistic groups are represented. The main occupation in coastal communities is fishing whereas labor work predominates at others, People are poor and education level is low; on an average 70% of adult population has no schooling. Furthermore, overcrowding , lack of basic amenities and inadequate health care delivery system prevails.

Data Collection

A team of four interviewers was trained to collect information using a pretested structured questionnaire from mothers. We sought detailed information from mothers on health seeking behavior amid health care utilization during the final illness of under five children along with the history of illness to determine the cause of death. Our data collection team visited each death household and verbal consent was sought, after explaining the objectives of the study, from each respondent. We made three attempts to complete interview for every locked household before declaring it not available. Data was double entered in Epilnfo 6.1 and same package was used for its cleaning and analysis.

Results

interviews were completed for 259 infant and child deaths, from mothers in all cases. Predominantly they belonged to Sindhi (45%) and Pushto (30%) speaking groups followed by Punjabi (7%), Balochi (4%), Urdu speaking (3%) and others (11%) inclusive of Hindko, Katchi, Brohi, Saraiki and Bengali. Maternal illiteracy was almost universal (93%). Ninety-three percent of the fathers were employed, either permanently or temporarily, at the time of the child's death, while 47% and 39% of the household had TV and radio. Among all deaths 28% were not at all taken to a health care facility or to a trained health care provider.

Table 1. Selected characteristics of the deceased children under five years of age by gender; infant and child deaths, urban squatter settlements, Karachi, 1997.

S. No.	Characteristic	Boys (147)		Girls (112)		Total (259)	
		No.	(%)	No.	(%)	No.	(%)
a)	**Age**						
1.	<28 days	51	35	27	24	79	30
2.	28 days - < 1 year	71	48	50	45	121	47
3.	1 year - < 5 years	24	17	35	31	59	23
b)	**Mothers' Perception of Birth Size**						
1.	Normal	106	72	87	78	193	75
2.	Smaller	39	27	23	21	62	24
3.	Don't know	2	1	2	1	4	1
c)	**Immunization Status**						
1.	None	83	57	56	50	139	54
2.	Appropriate	58	40	54	48	8	3
3.	Incomplete	6	4	2	2	112	43
4.	Complete	-	-	-		None	
d)	**Health Care Utilization During Terminal Illness**						
1.	Yes	118	80	68	61	186	72
2.	No	29	20	44	39	73	28
e)	**Main Cause of Death**						
1.	Diarrheal Disease	92	62	68	61	160	62
2.	Birth Asphyxia	8	6	7	6	15	6
3.	ARI	4	3	10	9	14	5
4.	Accident	6	4	5	4	11	4
5.	Prematurity / LBW	8	6	1	1	9	4
6.	Neonatal tetanus	2	1	1	1	3	1
7.	Malnutrition	1	1	2	2	3	1
8.	Undetermined	9	6	6	5	15	6
9.	Others*	17	11	12	11	29	11

* Other causes of death include: EPI preventable= 6 , CNS infection = 7, Unspecified fever = 4. Blood Cancer = 2, Congenital abnormality = 4 , liver disease = 4 and sudden death = 2.

Table 1 presents the selected characteristics of the deceased children and the main cause of death by gender. Most of the deaths occurred in infancy i.e.. from one month to one year. More boys had died than girls in time first year of life (83% vs 69%). The pattern changes in older children (from one to five years) which shows high mortality in girls than boys (3 1% vs 17%). Remarkable difference

between boys and girls was observed in health care utilization i.e.. 80% vs. 61% respectively. Information on immunization status indicates that not a single child was completely immunized and 54% of them had none. However, no apparent significant difference was observed between boys and girls.

Table 2. Health care utilization in case of terminal child illness among those who had utilized health care (n= 186); infant and child death, urban squatter settlements, Karachi, 1997.

No.	Indicators	N	%
1.	**Health Care Provider (n=186)**		
	1. Private Clinic	127	68
	2. Private Hospital	27	15
	3. Govt. Facility	26	14
	4. Traditional	6	3
2.	**Time lapse since the child got sick to reach the health facility (n=186)**		
	1. As soon as got sick	153	82
	2. < 12 hrs.	15	9
	3. 12 hrs < 24 hrs	10	5
	4. > 24 hrs	8	4
3.	**Response received at the health faculty (n=186)**		
	1. Given treatment	66	35
	2. Referred to other place	120	65
4.	**If treatment, was he hospitalized (n=66)**		
	1. Yes	29	44
	2. No	37	56
5.	**If referred, was advice followed (n=120)**		
	1. Yes	63	52
	2. No	57	48
6.	**If followed , place of referral (n=63)**		
	1. Private clinic	18	29
	2. Private Hospital	20	32
	3. Government Health Center	1	1
	4. Government Hospital	24	38
7.	**Time lapse to reach the referred health facility (n=63)**		
	1. < 1 hour	4	6
	2. 1 - 6 hours	5	8
	3. 6 - 12 hours	9	14
	4. > 12 hours	45	72
8.	**Response at the referred facility (n=63)**		
	1. Received treatment	59	94
	2. Referred	4	6
9.	**If treatment , was he hospitalized (n=59)**		
	1. Yes	31	53
	2. No	28	47
10.	**Place of death (n=186)**		
	1. Home	133	71
	2. Private hospital	18	10
	3. Govt. hospital	30	16
	4. Others	5	3

death, un-affordability (11%) and lack of recognition of severity in 9% (results not shown in Tables).

Table 2 presents the health care utilization among those who went to a health care provider Private sector was the most preferred health care delivery system to be approached in case of a child illness in these squatter settlements. Mothers were inquired to recall when did they decide to take the child to a care provider. Eighty two percent reported that the child was taken to the health care provider

immediately after they realized that the child is sick. Sixty five percent of all who visited a health care provider were referred to another health facility while 35% did received sonic type of care, however, only 44% of them were hospitalized. Approximately half of those who were referred to another health care facility, followed the advice. however, it took more than 12 hours to reach the referred health facility for 72% of them. Seventy one percent of the children died in their homes and 26% in a hospital. The commonly cited reason for not receiving care and not following the advice in case of referral were inability to reach the health facility due to distance and difficulty in getting the transport (50%). leading to on the way death un-affordability (11%) and lack of recognition of severity in 9% (result not shown in Tables).

Table 3. Crude association of selected characteristics and health care utilization; infant and child deaths, urban squatter settlements, Karachi, 1997.

S.No.	Factors	Health care utilized n=186 (72%)	Health care not utilized n= 73 (28%)	OR (95% C I)
1.	**Age**			
	1. <28 days (ref)	39	40	1
	2. 28 days - < 1 year	98	23	4.4 (2.22- 8.67)
	3. 1 year - < 5 year	49	10	5.0 (2.09 - 12.31)
2.	**Gender**			
	1. Boys	118	29	2.6 (1.46 - 4.77)
	2. Girls (ref)	68	44	1
3.	**Immunization status**			
	1. Appropriate and Incomplete	103	17	4.1 (2.13 - 7.94)
	2. None (ref)	83	56	1
4.	**Ethnicity ***			
	1. Sindhi (ref)	88	29	1
	2. Pathans	53	25	0.7 (0.35 - 1.38)
5.	**Maternal education**			
	1. Some	12	7	0.7 (0.23 - 1.92)
	2. None (ref)	174	66	1
6.	**Fathers' employment**			
	1. Temporarily Employed	71	24	1.1 (0.30 - 3.60
	2. Permanently Employed	101	44	0.8 (0.24 - 2.64)
	3. Unemployed (ref)	14	5	
7.	**Area of resident**			
	1. Non- coastal	109	46	0.8 (0.46 - 1.50)
	2. Coastal (ref)	77	27	1
8.	**Owns TV**			
	Yes	88	33	1.1 (0.61- 1.95)
	No (ref)	98	40	1
9.	**Owns radio**			
	1. Yes	71	29	0.9 (0.52 - 1.70)
	2. No (ref)	115	44	1
10.	**Cause of death****			
	1. Diarrhea (ref)	126	34	1
	2. ARI	12	2	1.6 (0.32- 11.02)
	3. Birth Asphyxia	4	11	0.1 (0.02- 0.36)

* analysis is based on two ethnic groups, therefore, n=195

** Analysis is based on three main cuases of deaths, therefore n=189

Table 3 presents differential health care utilization with respect to selected demographic and socio-economic characteristics.. The data suggest significant association between health care utilization and age, gender and immunization status of the child. More infants were taken to a health care provider than the neonates (OR 4.3, 95% CI 2.22-8.67). The effect is more pronounced when older children

were compared to neonates (OR 5. 95% Cl 2.09 - 12.3 1). Boys were more than twice that the girls to be taken to a health care provider (OR 2.6. 95% Cl 1.46-4.77).
In order to appreciate the effect of cause of death three major causes of under live deaths were analyzed i.e diarrhea, AR! and birth asphyxia. Children who died of AR! and birth asphyxia were 62% more likely 90% less likely respectively, to be taken to a health care provider than those who died of diarrhea. However, the numbers were small to interpret these as statistically significant results.

Discussion

The study presents the health care utilization in case of terminal child illness in selected poor urban communities. Overall 28% of these children were not taken to a health are providers in the terminal episode of illness. This indicates that there is a marginalized segment of population, which despite residing in the urban areas is not utilizing the services that are available, Furthermore, girls arc more disadvantaged than boys in receiving medical care in terminal illness, apparently shows the gender discrimination in health seeking behavior in poor communities. However, a final comment about neglect of female children cannot be made on this analysis as (lie effect is not controlled for other confounding factors like cause of death, severity of illness and birth order etc. Nonetheless, earlier studies have demonstrated a similar effect[16] A detailed examination of gender issues in health seeking behavior and health care utilization is required for which this study was not designed.
Our finding of high mortality in boys compared to girls in neonatal period and infancy is consistent with many other studies. Girls are better off biologically and cope better than boys in unfavorable circumstances. However, differential health care practices make them vulnerable later[17,18].
Contrary to the common assumption that people in urban areas are more privileged to have access to health care, our finding of 54% of the deceased children were not immunized once again points out that there is an inaccessible section to even basic preventive health care.
Among those who utilized health care, private sector remains the most preferred one. Despite the finding that an overwhelming proportion of these children were taken to a health care provider immediately. yet succumb to death. indicates a lack of adequacy of the health services that were consulted to manage serious childhood illness. The prompt action taken by the families was not effective in terms of favorable health outcome due to inadequate health care they approached in (lie first place as indicated by high referral. Information on quality of care is not available given the scope of the study. However, whatever care they received was not adequate to save deaths, which were preventable clinically. The high referral and low hospitalization rates emphasize the need to upgrade (lie local health care facilities in terms of commodity and staff, competent enough to recognize and manage common childhood illnesses. Need assessment is required in rationale management of illness and quality of care. Furthermore, findings are suggestive of strengthening the local private services with defined back-up support and referral.
As an attempt to explore the differential in health care utilization among these terminally ill children, we assessed the associations of selected socio-dcmographic characteristics and health care being utilized. The data suggest that age of the infant and child, gender and immunization status were significantly associated with the health care utilization. Infants and children are more likely to be taken to a health facility than the neonates are. The explanation could either be biological i.e., sudden deterioration of the condition in neonatal period shortly leading to death, or social that an older infant and child is considered valuable. However, it identifies neonates as high-risk group and this should be addressed in our information, education and communication strategies. Similarly children with appropriate or incomplete immunization status were taken to a health care provider more than those who had none. Immunization status therefore, reflects on the other health-seeking behavior. We have already commented on the role of gender in health care utilization above.
The socio-economic indicators like ethnicity, maternal education, fathers' employment and household

goods etc and area of residence were not found to be significantly influential for differential in health care utilization in our study. The study groups were homogenous in background; this could explain the inconsistency with other existing research evidence demonstrating significant influence of these factors[1,8,10,19].

In Pakistan, most of the research on infant and child mortality has focused on socio- economic and demographic determinants. The recent research evidence on child mortality indicates strong influence of behavioral determinants of health. Health seeking behavior is in fact phenomenal of cultural belief, maternal skills and health service utilization. It is now desirable to have information of other factors like health service utilization, its determinants and quality of care. Knowledge of these would be helpful in developing child survival strategies to be sensitive and technically competent to address the need of the communities.

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References

1. Akesode, F.A.. 'Factors affecting the use of primary health care clinics for children.' J. Epidemiol Community Health, 1982; 36: 310-314.
2. Fassin, D., Jeannee, E., Cebc. D. and Reveillon. M., 'Who consults and Where? Sociocultural dilierentiation in access to health cares in urban Arica. Int. J. Epidemid., 1988; 17: 858-864.
3. V.P Reddaiah and S.K.Kapoor. 'Socio-biological factors in underfive deaths in a rural area'. Indian. Pediatr. 1992 59: 567- 571.
4. Hunte, P.A. and Sultana,F.. Health seeking behavior and the meaning of medication in Balochistan, Pakistan" Soc. Sci, med,, 1992; 34; 1385- 1397.
5. Chaudhary, A.J. and Bhutta, Z. A.. " Factors influencing the prescribing practice pattern in acute watery diarrhea". J. Pak. Med. Assoc., 1997; 47: 32- 35.
6. Stock R.. 'Distance and the utilization of health facilities in rural Nigeria. Soc. Sci. Med., 1983;17: 563-570.
7. Rahman, M.M.. Aztz, K.M.S.. Munshi, MH., et aI. A diarrhea clinic in rural Bangladesh; influence of distance, age and sex and attendance and diarrhea mortality. Am, 5. Public Health 1982; 72: 1 124-1128.
8. De Zoysa, I., Carson, D, Feaehem. R., et al. Perception of childhood diarrhea and its treatment in runt Zimbabwe. Soc. Sd. Med., 1984; 19; 727-734.
9. Ashraf Mirza,. "Child health related practices in Karachi slums", Office of Health, Population & Nutrition, USAID/ Pakistan, 1997.
10. Kroeger, A., Zurita, A., Percz-Samaniego. C. et al. illness perception and use of health services in north - eaatArgentina. Health Policy and Plan., 1988; 3: 141-151.
11. Kundi, M. Z. M., Anjum. M., Mull. D.S et al. "Maternal perception of Pneumonia and Pneumonia signs in Pakistani children." Soc. Sci. med., 1993; 37: 613- 620.
12. Cored, 5., Augustin, A., Halsey, NA. et al.. I Social and psychological costs of preventive child health servioes in Haiti. Soc. Sci. Med., 1994; 38: 231 - 238.
13. Mull, JO. and Mull, D.S.. 'Mothers' concepts of childhood diarrhea in rural Pakistan: what ORT program planners should know. Soc. Sci. Med., 1988; 27:53-67.
14. Stretlield, K., Tampubolon, L.H. and Surjadi, C. Child health among the Jakarta poor, In: CaIdwell et.al*Culture, social and behavioral determinants of health and their mechanism - a report on related

research programme. Canbara. Austraiola, 1990, 1990b, pp. 806-19.
15. Khan, Z.. 'Immunization and infant mortality in Pakistan.' Islamabad, Pakistan Development Review 32(4. Part II); l993,pp. 1117-1123.
16. UNICEF, Growing up as a girl - Life without choice, In; Children and Women in India. A Situation Analysis 1990. New Delhi; United National Children Fund, 1991:, pp. 63- 80.
17. SatharZ A." Sex differentials in mortality: a eorollan' of son preference? Islamabad Pakistan development Review26(4) l987.pp. ; 555-565
18. Afzal M, Raja T A. and Mohammad A. "Some differentials in infant and child mortality risk in Pakistan Islamabad, * Pakistan Develoment Review. 27 (4 part II); 1988,pp. 635-642.
19. Lindenbaun,S Maternal education and health care processes in Bangladesh; the health and hygiene of the middle class, In Caldwell et al. • Culture social and behavioural determenanats of health and their mechanism - a repon on related research programme. Canbara, Austrailia, 1990.1990b,, pp; 425-440.