ORIGINAL ARTICLE

AVAILABILITY AND AFFORDABILITY OF ESSENTIAL MEDICINES: EXPLORING THE HEALTH SEEKING BEHAVIOURS AND HEALTH SERVICE UTILISATION FOR CHILDREN UNDER-5 YEARS LIVING IN SQUATTER SETTLEMENT OF KARACHI, PAKISTAN

Yasir Shafiq, Babar Tasneem Shaikh, Ramesh Kumar

Health Policy & Management, Research Coordinator, Women & Child Health Division, Aga Khan University, Karachi, *Health Systems & Policy Department, Health Services Academy, Islamabad, Pakistan

Background: Child health outcomes in the poor communities are largely affected by the non-availability of essential medicines at government health facilities and non-affordability of prescribed medicines at private retail pharmacies. This phenomenon largely defines health seeking behaviours and health service utilisation patterns of the families of the children. **Methods:** Using observational visits, we examined the shelf-availability of medicines for children less than 5 years of age at a rural health centre and conducted focus group discussions with the mothers to explore the effects of non-availability and non-affordability of medicines. We also validated all information by interviewing the health care providers of the area. **Results:** We found that erratic and insufficient supply of essential medicines at the government health facility and a limited purchasing power to buy medicines from a retail pharmacy, led to considerable 'financial burden' on the poor people, non-compliance with the treatment, health care seeking from informal health providers and healer shopping. This trend has a serious repercussion on the health seeking behaviours and of course the health outcomes, especially among children. **Conclusion:** On the users' side, health education and health promotion campaign must be instituted to explain the adverse effects on child health ensure appropriate health care seeking behaviours. For the supply side, the health care authorities must ensure the availability of essential medicines for the children at the government facilities. Local community representatives must be involved in the matters related to medicines stock management at the facility.

Keywords: Essential Medicines, Health Seeking Behaviours, Health Service Utilization, Child Health, Developing Countries, Healthcare System

INTRODUCTION

People living in the squatter settlements or urban slums are exposed to various health related threats: poverty, dilapidated living conditions, lack of civic amenities and limited availability and access to health services.[1] Consequently, the health outcomes in such settlements remain jeopardized.[2] For instance, under-5 mortality was found to be 2.5 times higher in the squatter settlements as compared to urban areas in the developing countries, where the health indicators are already poor.[3] In Pakistan, the under-5 mortality is found to be 90/1,000 live births, with greater proportion in poor settlements and rural settings.[4] Of the total disease burden among the children in Pakistan, 60% of the diseases are found in population under the age of five years.[5] Children are still dying because of pneumonia, diarrhoea, malnutrition, measles, and malaria.[6] Health seeking behaviour and health service utilization can be defined on the basis of perceived anticipation and perceived effectiveness of the health services which includes availability of essential medicines at PHC level and affordability of prescribed medicines as major determinant.[7] Therefore, provision of health services is vital for improving the health of the poor communities in the developing world. The philosophy of 'Primary Health Care' was focused on free or low cost, good quality, easy to access and basic health services[8] and within that paradigm, the concept of 'Essential Medicines' was given, available at all times in adequate quantity, appropriate dosage and affordable prices.[9] Yet, one third of the world population does not have access to essential medicines; more than half of which is living in Africa and Asia[10], leading to poor health outcomes. Many people continue to purchase medicines for children out of pocket from the private sector and at 5–10 times the variation prices, thus facing catastrophic health expenditure.[11] As a result, people turn to seek care from unskilled and non-formal healers.[12] If they resort to the drug sellers, they have very incomplete and superficial knowledge regarding drug dispensing and storage. Their improper dispensing practices may risk lives of many who trust on them.[13] This inappropriate health-seeking behaviour and health service utilisation multiply the chances of poor health outcomes.

Study questions:

1. What is the state of availability of essential medicines for children under 5 years at a government health facility in the study area?

2. How does the non-availability and later non-affordability of essential medicines affect parents' health seeking patterns?

Aim:

To improve the health seeking behaviour and health service utilisation for children under-5 year of age in a squatter settlement of Karachi, Pakistan.

Objectives:

To authenticate the shelf-availability of essential medicines at primary health care facility for children under-5 year of age in the month of July 2010, and to explore the effects of non-availability and non-affordability of medicines on health seeking behaviour and health service utilisation for children under-5 year of age.

METHODS

The study was conducted in a squatter settlement near coastal areas of Karachi, Pakistan. The household income of inhabitants of this area, is below US$ 2 a day, because of very few earning opportunities.[14] Family size constitutes 6–7 children per married women of reproductive age having poor literacy (more than 90% of women do not have any formal schooling) and living with an absolute lack of civic amenities in the area.[15] Children under-5 constitute around 30–40% of the population, 25–30% of which are malnourished with high prevalence (35–40%) of diarrhoea, acute respiratory tract infection, pneumonia, malaria, measles and skin related problems.

This study aimed to investigate the health seeking behaviours and patterns for children under-5 years in the squatter settlement; therefore, all the mothers were included who had at least one sick child suffering from acute neonatal tetanus, diarrhoea, dysentery, acute respiratory tract infection, pneumonia; typhoid, malaria, and meningitis during the month of June 2010. Health care providers included general practitioners, government doctors, nurses, lady health workers (LHW), lady health visitor (LHV), community health workers (CHW), dispensers and retail chemists in the squatter settlement, practicing full time and willing to participate in the study.

The literature review was used for developing the focus group and the in-depth interview guide. A qualitative descriptive component comprised 'focus group discussions' (FGD) with mothers of children under-5 because of homogeneity in the group; whereas 'in-depth interviews' with health care providers were conducted because these represented quite heterogeneous cadres. The second study component comprised of the 'observational visits' of government health facility to collect data on shelf-availability of essential medicines for selected childhood illnesses. This approach helped us validating the information provided by the mothers of children and the local private health care providers about the availability of essential medicines in the government facility and for data triangulation.[16] The study duration was July- September, 2010.

Study got approval from the Ethics Review Committee of the Aga Khan University, Karachi. Rural health centre is the only available government health facility in the study area and therefore was selected with the permission of the Medical Superintendent for observation visits. Written informed consent was obtained from each study participant. Confidentiality and anonymity was ensured.

We selected eight geographic sectors randomly in the study area and with the help of LHW in each selected sector, study participants (mothers) were invited for discussion. Eight sessions of FGDs were conducted, each with a small homogeneous group of around 7–9 mothers to discuss the issues around availability and accessibility of the essential medicines for children. Similarly, in-depth interviews were conducted to capture the perceptions and experiences of the health care providers on similar arguments. In-depth interviews with one government physicians, two local drug dispensers, one LHV, four LHWs, two CHWs and a local private general practitioner were carried out. The FGD guide and the in-depth interview questionnaire were translated in Urdu for the execution purpose and then transcribed in Urdu as well. Later, all the transcripts were translated back in English and checked for reliability by another person, not working with the research team.

For one calendar month, i.e., July 2010, data was collected on the shelf-availability of selected essential medicines for treating childhood illnesses in the government health facility. The shelf stock was monitored on assigned days every week on different timings, i.e., 1st, 7th, 14th and 21st day. Data on the availability of medicines in the government facility was triangulated with the responses given by mothers and health providers.

Data was analysed by using Constant Comparison Analysis.[17] The scripts of focus group discussions and the in-depth interviews were read several times, and initial drafts were made after sorting of the data, which formed the bases for writing qualitative results. The generated ideas, codes and themes were re-written and brought together to make it in an acceptable form. Transcription of data provides us a descriptive record. The process of analysis was started during the data collection and thus got well-connected to the final analysis. Nodes were generated out of the questions, sub-nodes were

formulated from nodes, and themes were emerged from the most frequently answered responses. Coding or indexing was done for specific nodes and probes of in-depth interviews keeping in view the interview guidelines. All the data relevant to each node was identified and examined using the 'constant comparison' in which each item was checked and compared with the rest of the data to establish analytical categories. Key findings were aggregated and analyzed to develop the thematic areas. Triangulation was done by using in-depth interviews, focus group discussions, findings of observational visits and finally for the discussion, literature support was applied.

RESULTS

The information on very first health care service sought by parent (mother) was recorded as shown in Table-1.

Table-1: Reported illnesses by mother with first healthcare service sought

Illnesses	Government health care providers	Private health care providers
Generalized body stiffness after delivery	1	-
Loose watery diarrhoea, sunken eyes, irritability, lethargic	8	12
Blood in stool	2	8
Fast breathing, chest in drawing, fever	4	7
Barking cough	1	1
Fever more than 7 days	1	5
Fever more than two days, shivering	3	7
Fever with neck stiffness	1	1
Total	**21**	**41**

For presenting results merging of themes was done for both effects i.e. 'effects of *non-availability* of essential medicines for children on health seeking behaviour and health service utilisation' and 'effects of *non-affordability* of essential medicines for children on health seeking behaviour and health service utilisation', as similar themes were identified, except few which are mentioned separately.

1. Availability Of Essential Medicines At Primary Health Care Facility

The detail of shelf-availability of selected essential medicines (recommended by WHO for children under 5 years) at primary health care facility is given in table 2. Oral re-hydration salt was available in first two weeks only. It was observed that Ciprofloxacin (3rd generation cephalosporin/antibiotic) was not available in paediatric form. Likewise, the stock of syrup Co-trimoxazole (antibiotic for ARI and GI infections) was fully consumed before the last week of the month. The remaining medicines were not available in any dosage form at the end of the month. Overall 61% of the selected essential medicines for selected childhood illnesses were not in the stock of RHC. The details are shown in Table-2.

Table-2: Shelf- availability of selected essential medicines at Primary Healthcare Facility

Name of the selected medicines (with approved dosage forms)	Stock availability			
	day 1	day 7	day 14	day 21
Ringer's lactate	Yes	Yes	Yes	Yes
Normal saline	Yes	Yes	Yes	Yes
Co-trimoxazole	Yes	Yes	Yes	Yes (only tablets)
Ciprofloxacin	Yes (only tablets)	Yes (only tablets)	Yes (only tablets)	Yes (only tablets)
Gentamicin	Yes	Yes	Yes	Yes
Metronidazol	Yes	Yes	Yes	Yes
Chloroquine	Yes	Yes	Yes	Yes
Paracetamol	Yes	Yes	Yes	Yes
Amoxicillin	No	No	No	No
Ampicillin	No	No	No	No
Benzyl penicillin	No	No	No	No
Nalidixic acid	No	No	No	No
Erythromycin	No	No	No	No
Chloramphenicol	No	No	No	No
Quinine sulphate	No	No	No	No
Primaquine	No	No	No	No
Sulfadoxine-pyrimethamine	No	No	No	No
Ibuprofen	No	No	No	No
Diazepam	No	No	No	No
Salbutamol	No	No	No	No
Oral re-hydration salt	Yes	Yes	No	No

It was found that the supply of medicines to the health facility was erratic and irregular from Town Health Office (THO). Fulfilment of the request is entirely dependent on the availability of stock there, which was always uncertain.

"District office provides medicines to the Town health office and therefore, we send our request to town office offices. If they have stock of medicines, they do provide us. However, this is not the case most of the time. We send our request on monthly basis but it is not necessary that Town office provides us at the same time and the requested quantity." (Government healthcare provider)

Most of the paediatric medicines are always out of stock, particularly the essential medicines for children.

"Supply is supposed to be given on monthly basis as per policy; but government hardly complies with it. Officials involved are not doing it in a professional manner. Huge corruption is there in the government sector. Many a times, medicines are

stolen from the Town and District Health office." (Government healthcare provider)

About the availability of essential paediatric medicines, a mother said, *"They provided me with the prescription; which I had to buy from the Medical store (Retail Pharmacy). It is extremely difficult for me to afford them"*. (Mother in a focus group)

2. Affordability Of Medicines For Children Under-5

Majority of the people in the community have meagre financial resources and because of the limited income generated from fishing, the cost of healthcare especially the medicines always poses a problem.

"They are fisherman with no stable earning source. Sometimes, they have money and sometimes they are left with no money.... most of the months they live like this. They cannot buy the medicines." (Private healthcare provider)

Quite often, they do not purchase the whole prescription due to limited income at their disposal.

"I went to the medical store; the cost of three medicines was Rs 300, and what I could do... Rs 300 is enough for 7 day food. I have bought only one. It cost me Rs150." (Mother in a focus group)

3. Effects Non-Availability And Non-Affordability On Health Seeking Behaviour And Health Service Utilisation For Children Under-5

Poor people often facing financial constraints, have limited purchasing power to buy medicines. They have to ask for financial assistance from their relatives or neighbours.

"They are fisherman. All their earning depends on the luck. If they do not get medicines from government health centre, it will cause severe financial burden to buy medicines from the pharmacy." (Government healthcare provider)

Struggling to set their priorities, a mother said, *"Meal for one time is an issue for us, how can we buy medicines? As a result, my husband has borrowed money from his brother."* (Mother in a focus group)

Some of the common consequences include giving an incomplete prescription to child for a lesser duration, dose skipping, delayed treatment and even leaving a child untreated.

"As far as I know, they borrow money or sell some household goods to buy medicines from medical store, but I am sure they still did not go for full prescription." (Private healthcare provider)

Confirming what healthcare providers said, a mother shared, *"I have bought only one medicine; though there were more than three medicines on the prescription."* (Mother in a focus group)

"I took my girl to Hakim, who provided me with free herbs to treat her bad chest and fever." (Mother in a focus group)

More serious consequence of non-availability and non-affordability to mention is borrowing medicines from the neighbourhood major outcomes.

"When no option is left, they also borrow medicines from their neighbours; and based on their experiences, they provide the same dose to their child. They have no idea that how harmful this practice could be for their child." (Private healthcare provider)

"They perceive that all pink colour syrup is Paracetamol, and no matter what actually it is? They borrow it and give it to their child. They are uneducated, so you can't blame them." (Government healthcare provider)

Non-availability of any health service which also includes availability of essential medicines; lead to dissatisfaction among the clients. This was found in the interviews with mothers as well. A government community health worker commented:

"They have lost trust on an already poorly resourced government setup." (Government healthcare provider)

It is also noticed that people rather prefer applying home remedies for their child's treatment.

"They told me that they do not have medicines for my child. The same thing happened last month when my daughter was ill; they did not have medicines at that time also. It is better to treat the child with some home remedy" (Mother in a focus group)

Seeking care from a number of health care providers and switching amongst them, in case if medicines were not affordable, was documented as an important outcome.

"I have seen many times that they come to us just for getting free medicines. The reason was that the private physician they went to prescribed so many medicines which they could not afford." (Government healthcare provider)

4. Reasons For Switching Health Care Providers

Switching healthcare providers and doing health shopping in the case of non-affordable treatment was very common. People went to different providers either because of the non-availability of medicines at the government facilities or non-affordability of medicines at retail pharmacy.

"They start searching for those, who provide free medicines, and we have some 'doctors' here…so called 'doctor' which administers an injection in Rupees 10 only and people are very satisfied." (Government healthcare provider)

Spiritual and faith healers were also providing free services in the area, having their own ways of treatment. *"Dam Darood (spiritual therapy) is the last resort. If poor cannot afford the cost of medicines; they have to go for it."* (Private healthcare provider)

A summary of thematic results is presented in Table-3.

Table-3: Summary of thematic results

Availability of essential medicines at Primary Health care facility	1. Erratic availability and poor supply chain
Affordability of medicines for children under-5	1. Limited purchasing power
Effects non-availability and non-affordability on health seeking behaviour and health service utilisation for children under-5	1. Financial burden. 2. Non-compliance with the prescription. 3. In-appropriate treatment actions. 4. Lost trust on government health care system. 5. Seeking alternative health care providers
Reasons for switching health care providers	1. Healers shopping in search of free treatment.

DISCUSSION

In a health care system of a developing country, the availability and affordability of essential medicines is a major challenge; yet these medicines are vital in saving the lives of poor children.[18] We found that 61% of the essential medicines included in our list were not present in the stock, and such finding is in consonance with other studies from various developing countries where the public health facilities have the lowest availability of essential medicines and the highest stock-out duration, with average of only 34.9%.[19] Poor availability and erratic supply of medicines in the government sector might be rooted in several factors, such as: an inadequate management to address the local needs, poor distribution at the level of local health facilities, corruption at the level of distributers and suppliers; and inefficiencies in the supply and distribution chain and insufficient availability of medicines in appropriate dosage forms for children as found in other studies.[20]

On the other hand, the presence of vertical programs somehow seem to jeopardise the regular medicines supply at the horizontal health care system because of the potential inefficiencies that can follow from this form of segmentation in the supply of medicines.[21] Our study showed that eventually people have to purchase medicines for their children from retail pharmacy. This corroborates with the findings from other developing countries where people have to purchase medicines from the higher-priced private sector or they abandon treatment altogether.[22] This study confirmed that most of the people relied on out-of-pocket purchasing of medicines whether they visited government or private health facility. In standard terms, spending more than one day's income per month on purchasing medicines could be considered to be catastrophic in poor countries.[23] Overall, a low paid unskilled government worker would need up to 3 days' wages for treating an acute childhood illness such as a respiratory infection.

Economic status of the household has been identified as major factors influencing health seeking behaviours and service utilization.[24] High costs of medicines affect the adherence to the prescription in most of the cases. Incomplete therapy and incomplete duration of treatment were very common amongst the group seeking care from government health facility; failure to buy medicines; delay in starting therapy, conscious omission of doses and premature stopping of the therapy owing to the non-availability and unaffordable cost of medicines, are consistent with the findings of other studies.[25,26] This explains to some extent, how an under-privileged population suffers from a "disease poverty trap".[27] This is the phenomenon where poor access i.e. non-availability and non-affordability of the medicines can lead to worst health outcomes. Furthermore, taking erroneous decision by using leftover medicines, either available at home or at neighbours; is another outcome. Self-treatment of the child using already saved medicines at their own home and applying home remedies using different herbs and household tips was found as a common practice.[28]

Seeking alternative health care providers, which include traditional healers, spiritualists, drug peddlers and dispensers at medical stores, in case of the non-affordability of medicines, is observed as a common practice in the community where cost of the treatment forces the poor in rapid switching of health care providers.[29] Yet, many of them eventually end up with the informal ones or quacks, treating child by injections for all types of illnesses and providing poor quality and substandard medicines from the bulk available in the compounding vicinity of their so called 'clinics', at a cost lower than the formal health care providers to attract the community.[30]

Health seeking behaviour and health service utilisation framework

The results of the study are now easy to present in the form of a framework which shows clear trajectory of health care seeking behaviours and health service utilization patterns of the community for their children less than 5 years of age.

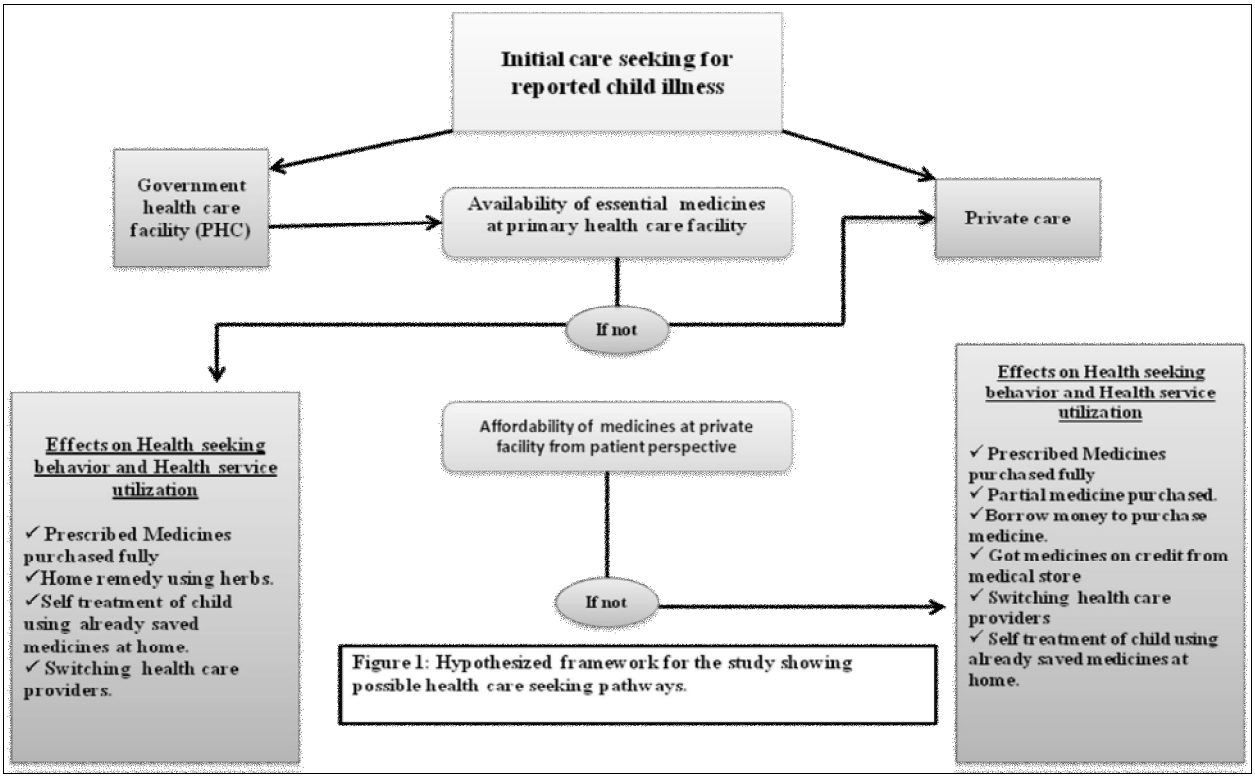

Figure 1: Hypothesized framework for the study showing possible health care seeking pathways.

STUDY LIMITATIONS

Time and financial constraints limited the study to a very small scale. There could be some reporting bias during the interviews with healthcare providers especially those of government health department. Moreover, our data was limited to a selected set of illnesses among children under-5 and that also in a typical slum of the metropolitan of Karachi, so results cannot present a generalized picture. Since the study was pre-dominantly based on qualitative methodology, supported by an observational component, the concerns pertaining to the validity of the result still can arise.

CONCLUSION

Access to medicines is a complex construct because medicines not only have to be available at the government health facilities free of cost; they also have to be affordable at private health facilities i.e. pharmacies. Much work remains to be done at the level broader than the scope of this study to understand these factors, even more. On the users' side, there is a need to move beyond determining the effects of non-availability and non-affordability of essential medicines for children under-5, thus considering interventions addressing the adverse effects on child health in poor communities living in squatter settlements. Financial burden, non-compliance with the treatment prescribed, inappropriate actions, loss of trust on government health facility and healers shopping are the major effects of non-availability and non-affordability of medicines. Health education, health promotion and social marketing campaigns are needed to change existing health-seeking behaviors and patterns of poor decision making as an effect of availability and affordability of the essential medicines among parents of children under-5.

On the supply side, availability of essential medicines for the priority illnesses of children under-5 should be ensured at primary health care level, if we need to bring down under-5 mortality and morbidity rates in Pakistan. Based on our study, we recommend that there should be proper auditing and monitoring of the drug distribution and supply system at the community and district level by involving the major stakeholders such as health personnel at facility, community elected leaders (local mayor) and members of community. Local authorities must improve coordination with the medicines suppliers and the distributors to minimize distribution delays and corruption within the system and erratic supply of medicines at the government facility. Local CBOs and NGOs must introduce safety nets in the form of treatment packages for those who are poor and cannot afford the cost of medicines. We need to sensitize all health personnel within the community to provide more empathetic care and to encourage, educate and inform the community at large, to encourage seeking

appropriate and timely healthcare. Policy makers and health authorities must understand the importance of this issue and ensure provision of essential medicines for children and overcome the flaws in government health care system, especially focusing on the supply and distribution mechanisms.

ACKNOWLEDGEMENTS

We are grateful to Dr. Yousuf Memon and his team of Urban Health Programme, Aga Khan University, Karachi for facilitating our rapport building with the local community and health authorities. We also wish to extend our deep gratitude to all the respondents of the study for their time and enlightening thoughts.

FUNDING

Authors are grateful to the Aga Khan University's kind support for funding this important work.

REFERENCES

1. Ezzati M, Lopez AD, Rodgers A, Vander Hoorn S, Murray CJ. Selected major risk factors and global and regional burden of disease. Lancet 2002;360:1347–60.
2. Zahid GM. Mother's health-seeking behavior and childhood mortality in Pakistan. Pak Dev Rev 1996;35:719–31.
3. Bartlett S. Water, sanitation and urban children: the need to go beyond "improved" provision. Environ Urba 2003;15:57–80.
4. UNICEF, WHO, the World Bank, UN Population Division. Levels and trends in child mortality 2010: estimates developed by the Inter-agency Group for Child Mortality Estimation. Report 2010. Geneva: UN; 2010. Available from: www.unicef.org/childsurvival/.../UNICEF_Child_mortality_for_web_0831.pdf
5. Khan MS, Hussain I, Kazmi NR, Majid A, Javaid A. Morbidity and mortality in children in rural community of district Peshawar. Gomal J of Med Sci 2009;7:31–4.
6. United Nations Children's Fund. Unite for children. UNICEF: Geneva; 2009. Available from: http://www.unicef.org/infobycountry/pakistan_pakistan_background.html.
7. Atkinson S, Haran D. Individual and district scale determinants of users' satisfaction with primary health care in developing countries. Soc Sci Med 2005;60:501–3.
8. World Health Organization. Declaration of Alma-Ata. International Conference on Primary Health Care. Alma-Ata, USSR, 6-12 September, 1978.
9. World Health Organization. Globalization, TRIPS and Access to Pharmaceuticals: WHO Policy Perspectives on Medicines. Geneva: 2001.
10. Banda M, Everard M, Logez S, Ombaka E. Multi-country study of medicine supply and distribution activities of faith-based organizations in sub-Saharan African countries. Geneva: WHO; 2006.
11. World Council of Churches. Essential medicines in primary health care: where are we? Geneva. . [Accessed March 5, 2010]. Available from: www.oikoumene.org/fileadmin/files/wcc.../contact/con-187.pdf
12. D'Souza RM. Role of health seeking behavior in child mortality in the slums of Karachi, Pakistan. J Biosoc Sci 2003;35:131–44.
13. Butt ZA, Gilani AH, Nanan D, Sheikh AL, White F. Quality of pharmacies in Pakistan: a cross-sectional survey. Int J Qual Health Care 2005;17:307–13.
14. Siddiqui AR. Maternal characteristics in relation to income in a semi-rural community in Pakistan. East Mediterr Health J 2007;13:1353–63.
15. International Union for Conservation of Nature (IUCN). Poverty and Environment Nexus study: Rehri Goth, Main Korangi Creek area. Islamabad: Asian Development Bank, IUCN–The World Conservation Union Pakistan; 2003.
16. Shaikh BT, Haran D, Hatcher J, Azam SI. Studying health-seeking behaviors: collecting reliable data, conducting comprehensive analysis. J Biosoc Sci 2008;40:53–68.
17. Glasser BG. The constant comparative method of qualitative analysis. Social Problems 1965;12(4):436–38. Available at: http://www.jstor.org/stable/798843
18. Bhutta ZA, Ali N, Hyder A, Wajid A. Maternal and child health in Pakistan: Challenges and opportunities. Oxford University Press; 2004. p19-46.
19. World Health Organization. Access indicators developed by the World Health Organization. [Accessed on June 15, 2010]. Available from: http://www.un.org/esa/policy/mdggap/appendix.pdf.
20. Saleh K, Ibrahim MIM. Are essential medicines in Malaysia accessible, affordable and available? Pharm World Sci 2005;27:442–6.
21. England R. The dangers of disease specific aid programmes for developing countries. BMJ 2007;335:565.
22. Mbugua KJ, Bloom GH, Segall MM. Impact of user fees on vulnerable groups: The case of Kibwezi in rural Kenya. Soc Sci Med 1995;41:828–35.
23. Nisar N, White F. Factors affecting utilization of antenatal care among reproductive age group Women (15–49 years) in an urban squatter settlement of Karachi. J Pak Med Assoc 2003;53:47–53.
24. Government of Pakistan. Utilization of public health facilities in Pakistan. National Health Management Information System. Islamabad: 2000
25. Harris Interactive. Out-of-pocket costs are a substantial barrier to prescription drug compliance. Available at: http://www.harrisinteractive.com/news/newsletters/healthnews/HI_HealthCareNews2001Vol1_iss32.pdf.
26. Kardas P. Patient compliance with antibiotic treatment for respiratory tract infections. J Antimicrob Chemother 2002;49:897–903.
27. Xu B, Fochsen G, Xiu Y, Thorson A, Kemp JR, Jiang QW. Perception and experiences of health seeking and access to TB care-a qualitative study in Rural Jiangsu Province, China. Health Policy 2004;69:39–49.
28. Nonvignon J, Aikins MK, Chinbuah MA, Abbey M, Gyapong M, Garshong BN, *et al.* Treatment choices for fevers in children under-five years in a rural Ghanaian district. Malar J 2010;9:188.
29. Dzator J, Asafu-Adjaye J. A study of malaria care provider choice in Ghana. Health Policy 2004;66:389–401.
30. Shaikh BT, Haran D, Hatcher J. Where do they go, whom do they consult, and why? Health-seeking behaviors in the northern areas of Pakistan. Qual Health Res 2008;18:747–55.

Address for Correspondence:

Dr. Babar Tasneem Shaikh, Associate Professor, Health Systems and Policy Department, Room B-205, Health Services Academy, Chak Shahzad, Park Road, Opposite NIH, Islamabad, Pakistan. **Tel:** +92.51.9255590–4/Ext:102, **Fax:** +92-51-9255591

Email: shaikh.babar@gmail.com