



Research Article

Social Determinants of Health and Health Inequities in Children Under-Five Years across Urban Slum and Rural Remote Areas of Sindh, Pakistan: A Qualitative Study

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Abstract:

Background: Social determinants of health are responsible for obvious health inequities in children under five years of age between districts, rural-urban areas, regions, countries, and within countries. Reducing these health inequities requires urgent attention to the unfair distribution of power, money, resources and improving living conditions of urban slum and rural remote areas. The aim of this study was to explore social determinants of health and health inequities in children under-five years of age across urban slum and rural remote settings in the Province Sindh, Pakistan.

Methods: We conducted 24 in-depth interviews (IDIs) with key informants and 12 focus group discussions (FGDs) with mothers and fathers of children under-five years of age and with government health workers across the two study settings.

Results: Eight areas were identified which unevenly affect the health of the study population: (1) environmental factors; (2) sociocultural practices; (3) health care services; (4) economic factors; (5) political factors; (6) food insecurity; (7) early childhood development; and (8) access to child support programs. The most commonly cited social determinants were poverty, food insecurity, lack of health services and sociocultural practices in both urban slum and rural remote areas, while environmental pollution and poor sanitation conditions led to health inequities in urban slum areas.

Conclusions: The study finding indicated that health inequities existed among children under-five years of age in the study area. Our results also indicated that in both study areas, children stand greater risk to be ill due to identified social determinants and inequities. This study supports the framework of Commission on Social Determinants of Health to explore environmental, sociocultural, economic, food insecurity, early childhood development, health care services and political culture as determinants of child health. Addressing these social determinants is very important through collaborative approaches with other sectors to reduce health inequities in children under-five years across urban slum and rural remote populations.

Keywords: Child; Determinants; Equity; Health; Inequities; Social

Abbreviations: **CSDH:** Commission on Social Determinants of Health; **ECD:** Early Childhood Development; **FAO:** Food and Agriculture Organization; **FGD:** Focus Group Discussions; **IDI:** In-Depth Interviews; **LHV:** Lady Health Visitor; **NGO:** Non-Governmental Organization; **OOP:** Out of Pocket; **SDH:** Social Determinants of Health; **WHO:** World Health Organization

Introduction: It has been known that social conditions influence health [1], and therefore an

urgent attention on social conditions is required to promote health and well-being as highlighted very earlier in the Declaration of Alma Ata adopted in 1978 by the International Conference on Primary Health care [2], in the 1986 Ottawa Charter for Health Promotion [3], and in the Commission on Social Determinants of Health in 2008 [4]. The global burden of diseases and the major causes of health inequities are due to the social conditions in which people are born into, and live in. These conditions called social determinants of health, including social, economic, political, cultural, and environmental factors that influence health [4].

Pakistan continues to lag behind other countries in South Asia in terms of child health indicators, despite some improvements made over the years [5]. The under-five mortality rate has declined moderately from 117 per 1000 live births in 1990-91 to 89 deaths for every 1000 live births in 2012-13 [6]. However, it is possible that improvement in the economy which took place between 2002-2007, with per capita income doubled during 2000-01 to 2007-08, has had a significant impact on some of the indicators related to child mortality [6,7].

In Pakistan, almost 65% of health expenditure by families is out of pocket (OOP) [8]. Even at 'free' public sector facilities there are significant hidden health care costs such as transportation, medicines and diagnostics [9]. Another social determinant to access health care services is high OOP payments by families as the foremost barrier for institutional deliveries and emergency services [10]. At community level challenges of low health coverage include lack of awareness, high cost of health care, transportation issues and lack of public health facilities while on the supply side the lack of drugs, commodities, shortage of staff and poorly functioning of health services [11,12].

We are proposing to use the conceptual framework of the WHO commission on social determinants of health (CSDH), which is based on "causes of the causes", identifying that the causes of inequities are located at different levels, and their interaction generates or reinforces social stratification, placing individuals within hierarchies of power, prestige and access to resources that define their respective social position and social disadvantage or advantage [13].

Assessing social determinants of health and health inequities in children under-five years of age are needed, locally, nationally, and internationally. This study will help to identify which social determinants influence children health in Pakistan. Moving forward looking at the effectiveness of interventions to reduce health inequities by focusing on particular social determinants will hopefully improve health outcomes in the country.

Objectives: The aim of this study was to explore social determinants of health and health inequities in children under-five years of age in urban slums and remote districts, and to understand specific level of interventions and policy action needed on social determinants of health across urban slum and rural remote setting of Sindh Pakistan.

Materials and Methods:

Study Design: A qualitative study design was used to explore the research questions. The study consisted of Focus Group Discussions (FGDs) and In-depth Interviews (IDIs) and was conducted between January and June 2014. A purposive, non-random stratified sampling method was used to select study area and study participants which focused on a subpopulation and area in which the respondents share similar characteristics. This sampling technique will help the researcher to understand and describe social determinants and inequities in more in-depth [14].

Study Area: The study was conducted in two urban slum areas of large cities (Karachi & Hyderabad), and two rural remote districts (Kashmore & Badin) of Province Sindh, Pakistan.

Study Participants: In-depth interviews were conducted with district health officers, public health researchers, social workers, medical doctors, lady health supervisors and community leaders. FGDs were conducted with mothers and fathers who have at-least one child less than five years old, and lady health workers of that community.

Data Collection: FGDs and IDIs were conducted using semi-structured interview guides to produce in-depth individual as well as group experiences responses on social determinants and health inequities in children under-five years. Questions were asked on common diseases, environmental conditions, sociocultural practices, health care services, economic factors and access to affordable food for children under-five years of age. In-depth interviews from key informants were conducted by one-on-one interviewing. Data collection was focused on a vehicle of verbal interviews regarding living conditions, health inequities, behaviors and social determinants of health in children under-five years old in urban slum and rural remote settings.

Data Analysis: Transcription and data analysis was carried out simultaneously during data collection period. Five-staged 'framework approach' was used to determine the main themes and sub-themes [15]. In the first stage, repeated ideas and themes were identified through in-depth familiarization with the data. In the second stage, these themes were classified into broad themes and sub-themes to develop a thematic analytical framework. In the third stage, the framework was applied to the data by coding and indexing, and textual data was assigned at least one code from the thematic framework. In the fourth stage, data coded to each theme and sub-themes were together in thematic charts that included summaries of the data from each FGD and IDI participant.

In the fifth stage, the charts were used on the basis of interpretation, whereby the concepts and narratives were characterized for different participant groups, distinguishing majority and minority views and areas of agreement and disagreement.

Explanations were derived directly from the reasons and accounts given by the participants themselves and through inferring underlying logic drawing on patterns within the data itself and SDH concepts [16]. Themes and concepts related to social determinants of health and health inequities were derived from data. Data was analyzed manually by method of thematic analysis. Themes about SDH and health inequities in children under-five years emerged from FGDs and IDIs were organized accordingly to the conceptual framework of CSDH.

Ethical Considerations: The study was approved by the ethics review committee of Tehran University of Medical Sciences, Iran. Verbal informed consent was obtained from all study participants. Participant’s privacy and confidentiality in electronic and printed data was maintained.

Results: A total of 12FGDs (6 each in urban slum and rural remote areas) were conducted with mothers and fathers of children under-five years of age and lady health workers of their catchment area. In addition, a total of 24IDIs (12 each in urban slum and rural remote areas) were conducted comprising 4 each in-depth interviews with district health officers, public health researchers, medical doctors, social workers, lady health supervisors and community leaders.

Characteristics of study participants in FGDs: A total of 102 respondents participated (48% participants from urban slum and 52% from rural remote areas), and number of participants per group ranged from 8-10. The mean age of FGDs respondents was 32 years. Majority of the participants completed secondary school (10th grade or higher).The respondents reported a wide range of occupational levels mentioned in Table 1.

Characteristics of study participants	N = 102
Mean age in years (range)	32 (21-48)
Gender	n (%)
- Male	38 (37.2)
- Female	64 (62.7%)
Residence	n (%)
- Urban slums	50 (49.0%)
- Rural remote	52 (51.0%)
Educational levels	n (%)
- None	14 (13.7%)
- Upto 10 years (secondary school)	58 (56.8%)
- Higher (higher secondary & above)	30 (29.4%)
Occupations	n (%)
- House wife	28 (27.5%)
- Health worker	32 (31.4%)
- Labor	12 (11.8%)
- Teacher	8 (7.8%)
- Landlord	2 (2.0%)
- Farmer	6 (5.9%)
- Shopkeeper	8 (7.8%)
- Technician	6 (5.9%)

Table 1: Characteristics of Study Participants in FGDs

Characteristics of study participants in IDIs: Of the 24 IDIs, 67% participants were male and 33% were females. The mean age of IDIs participants was 40 years. Majority of the participants had a college degree. Four each interviews were conducted from district health officers, public health researchers, medical doctors, lady health supervisors, community leaders and social workers of the study area (Table 2).

Characteristics of study participants	N = 24
Mean age in years (range)	40 (28-50)
Gender	n (%)
- Male	16 (66.7%)
- Female	8 (33.3%)
Residence	n (%)
- Urban slums	12 (50.0%)
- Rural remote	12 (50.0%)
Educational levels	n (%)
- Master of Public Health	2 (8.3%)
- Doctor of Medicine	8 (33.3%)
- Master of Arts	4 (16.7%)
- Bachelor of Arts	6 (25.0%)
- Intermediate	4 (16.7%)
Occupations	n
- District Health Officer	4 (16.7%)
- Public Health Research	4 (16.7%)
- Medical Doctor	4 (16.7%)
- Lady Health Supervisor	4 (16.7%)
- Community Leader	4 (16.7%)
- Social Worker	4 (16.7%)

Table 2: Characteristics of Study Participants in IDIs

Common diseases in children under-five years:

Diarrhea, skin infections, malnutrition, ARI, sepsis, measles and malaria were reported as common diseases in children under-five years of age in both urban slum and rural remote areas, while diarrhea and skin infections were more in urban slum areas and malnutrition and diarrhea more in rural remote area.

Environmental Factors: Environmental pollution, open sewerage system, garbage dumping, unsafe drinking water and poor sanitation conditions were reported and considered to cause illness in children under five years of age in urban slum areas, while floods and heavy rains were perceived as causing illness in rural remote study areas.

Sociocultural Practices: Sociocultural health practices like cord application, prelacteal feeding (feeds given to neonates before the initiation of breastfeeding), seeking health care from traditional or faith healers, swaddling of newborns and

discarding colostrum still existed in both urban slum and rural study areas. Half of the participants in FGDs felt that prelacteal feeding practices were an important factor in delaying the initiation of breast feeding. Common feeds given on the first day of life were honey, sugar water, goat milk and green tea instead of breast feeding and lead to delayed lactation in both urban slum and rural remote areas. Cultural practices such as restricting mothers and infants from going outside during the first 40 days after delivery even for medical reasons interfered with access to health services including emergency care in both areas.

Health Care Services: Majority of the participants reported that health care services in both areas were very limited including lack of medicines and lack of qualified health care providers. Communities cannot seek health care for their children due to lack of access to health services as well as inability to pay for health and transportation related expenses. Basic vaccines for children under-five years are not available in health facilities therefore leading to vaccine preventable diseases. Laboratory facilities for basic tests were not available and participants reported that “we cannot go to city for diagnosis and treatment and it causes more seriousness of minor diseases.”

“We don’t have enough food for our children, and how we can think about availing health services from our own expenses”. (FGD female participant, 48 years, from urban slum).

Economic Factors: Almost all participants stated that they have limited income and they recognized that better economic condition was perceived with better-health of children under-five years in both study areas.

“If a household’s economic condition is good then they can afford balance diet for mother and child. They can seek care in case of illness. Standard of living may be better and they can afford good education for their children”. IDI, LHV, 24 years.

In both areas, communities cannot seek care for their children even in minor diseases due to limited income and this resulted in more complications.

Political Factors: Majority of the participants were of the view that local political leaders are not playing their due role in addressing health inequalities by focusing their attention to the issue, while very few participants expressed that political leader cannot contribute to solving issues related to health of children under-five years of age. However, in rural remote study area, political engagements in providing basic health facilities were given a high priority and they believed that the government can provide these facilities.

“There is no specific attention of political leaders for the community to reduce health inequities in children under-five years, there is no proper sanitation and sewerage systems, no proper health awareness and no proper health services. They are only interested in their commission and corruption”. (IDI, Health Worker, 45 years from rural remote area).

Food Insecurity: Poverty was equally considered with food insecurity in children under-five years in both study areas. High food prices and lower quality of available foods for children under-five years were more prominent factors in urban slum areas, while non-availability of balanced dietary foods was reported as a prominent factor in rural remote study areas. Most of the urban slum participants mentioned that they rely on less preferred and less expensive foods and sometimes limit portion size at mealtimes due to lack of affordability of nutrition rich food.

Mother’s unhygienic practices during preparation of foods were correlated with its contamination resulting in diarrheal diseases and food insecurity in both study areas by majority of lady health workers during FGDs.

Early Childhood Development (ECD): High population growth rate, lack of knowledge, traditional practices of seeking health care from faith healers, lack of basic vaccines and poverty were perceived by parents as one of the main barriers for their children to give them a best start in early life in both study areas. Poor sanitation conditions, environmental pollution and absence of play-grounds were prominent determinates for early childhood development in urban slum study areas. Autonomy of mother was linked with ECD and mothers cannot go alone to health facilities to seek newborn care in rural remote areas.

Access to Child Support Programmes: The availability of child support programmes from public and private sector was very limited in both study areas. Governmental buildings for programs existed but were not functional or were used by village leaders for personal use. Stabilization centers for malnourished children were available in rural remote study area from NGO organizations but on limited basis. Participants emphasized the importance of running these child support programmes by their Government continuously.

Discussion: The main objectives of this study were to explore social determinants of health and health inequities in children under-five years of age in urban slums and remote districts, and to

understand specific level of interventions and policy action needed on social determinants of health across urban slum and rural remote setting of Sindh Pakistan. Our study identified eight key themes related to social determinants of health across urban slum and rural remote areas, and on the basis of which we suggest taxonomy for understanding health inequities in children under-five years in urban slum and rural remote areas. Our results show that in study areas, children from the poorest households are at greater risk to be ill due to identified social determinants and inequities.

Evidence suggests that poor sanitation increases the risk of morbidity and mortality from diarrhea among poor children [17]. Several studies have emphasized the association between unsanitary excreta and waste disposal and high prevalence of diarrheal diseases in affected communities [18-20]. Results of our study areas shows that the children from urban slum and rural areas are affected due to poor sanitation, unsafe water and environmental pollution, although environmental conditions were worse in poor urban areas than poor rural areas.

Prelacteal feeding was very common in both study areas and these practices can delay the milk letdown reflex and could contribute to lactation failure. Hence community education should include curtailing the use of prelacteal feeds in addition to promoting early initiation of breastfeeding.

Demand and supply-side factors affecting utilization of maternal health care; including inadequate physical resources, supplies, medical equipments, unavailability of technology, low capacity of staff, absenteeism and bad attitudes of staff creates hindrances to seek facility-based care [21]. The main entry points include working within the health sector at different levels (local, district, national, regional, international) and with other health providers. Many preventive interventions, however, are more likely to reach high and equitable coverage if delivered through outreach or community channels. Health care services in our study areas were equally worse in both areas.

There is strong evidence that the programme is well targeted at the poorest and that dietary quality improved as a result, though the results of impact and coverage evaluations are mixed [22,23]. In Nicaragua, increases in growth monitoring and immunization coverage were reported as a consequence of the conditional cash transfer programme [24]. So to improve health of urban slum and rural remote children, it should be a top priority of Government and NGOs emphasized by participants from both study areas.

The World Declaration on Nutrition (1992) of the Food and Agriculture Organization of the United Nations (FAO) and WHO states that “access to nutritionally adequate and safe food is a basic individual right”. As reaffirmed by the 1996 World Food Summit, access to safe and nutritious food is not a luxury of the rich but a right of all people. Food safety constitutes an effective platform for poverty alleviation and social and economic development, while opening and enlarging opportunities for trade. The Commission on Social Determinants of Health understands health as a social phenomenon and intends to advance health equity [4].

The major concern with street foods is their microbiological safety, as street vendors generally operate from places that lack appropriate hygiene and sanitation facilities [25]. Foods can also be contaminated because of lack of personal hygiene and unhygienic handling practices, and can serve as a vehicle for a number of pathogens [25-27], including cholera [28,29]. This study shows that malnutrition problem was prominent in rural compared to urban areas and similar findings reported by other authors [30-32].

Social inequities in early life contribute to inequities in health later on, through ECD and educational attainment. Children from disadvantaged backgrounds are more likely to do poorly in school and subsequently, as adults, are more likely have lower incomes and higher fertility rates and be less empowered to provide good health care, nutrition, and stimulation to their own children, thus contributing to the intergenerational transmission of disadvantage [33]. Our study also revealed that opportunities for early childhood development were not available at all in both areas.

Our study findings are based on qualitative data. Nevertheless, because the study was conducted in just two urban and two rural districts in Sindh, the study results cannot be expanded. However, the results are likely to differ by province and region; there is evidence that the systematic social and economic marginalization of lower caste women and their families is a persistent feature across Pakistan [34]. In Sind, for example, low caste Hindu women have been found to be particularly disadvantaged and reported similar obstacles to progress in other South Asian countries, referring to the idea of durable inequalities that are deeply embedded in the fabric of caste-based social systems [35,36].

Conclusions: The study highlights issues that are particularly important for current child health care policy and practice in Pakistan. While a robust health system is essential, our findings illustrate that improvement in technical aspects of public sector health services alone does not benefit the urban slum and rural remote population. Policymakers must recognize that health care organizations are not automatic structures to provide services, but are culturally rooted. There is an urgent need for Pakistan’s current health policy to engage all sectors to work on social determinants of health to reduce health inequities in children under-five years.

As health depends on multiple social determinants, many responsibilities are shared between programmes, within the health sector and between different ministries. The ministries of agriculture, education, finance, interior, planning and social affairs are natural partners of the ministry of health. Non-governmental and civil society organizations must also be involved at all levels.

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