

Strengthening Health Education Activities; Key to Reducing Vulnerability to Epidemics among Children: The Case of Mathare Slum, Nairobi, Kenya.

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Abstract

Immense knowledge of preventive and risk reduction measures is crucial to help stem epidemics; which are prevalent in slums and children heavily bear the impact. Public education and awareness can be raised in a number of ways; from short-term, high-profile campaigns using broadcast, literature and posters, to more long term, low-profile campaigns that are carried out through general education. Information about these epidemics should be integrated into the media and other sources of information, stories, TV soap operas, newspapers which are frequently used by the communities. The study assesses the effectiveness of strengthened health activities in reducing epidemic prevalence among children in the slums. The study employed descriptive method to assist in providing adequate interpretation of the relevance of increased health education activities to reduce vulnerability of epidemics among children. Likewise, instruments of data collection for this study were questionnaires, interview schedules and observation guide. The questionnaire was administered to the care takers of children; parents, guardians and relatives. The target population was 76 males and 136 females constituting the care takers of children. Purposive sampling and simple random sampling were used for this study. Analysis was obtained through editing, coding, classifying and tabulation processes. It was established that despite the environmental challenges facing slum dwellers, there is need to emphasize on behaviour and attitude change in order to address the epidemics. The relevant authorities need to put emphasis on increasing education on healthy behaviours and promote positive lifestyle.

Key words: Epidemics, Hygiene, Health education, sanitation

1.0 Introduction

Good health is a prerequisite for socio-economic development. Epidemics cause adverse effects; disruption of social and political stability and economic loss Reed (1997). When new cases of a certain disease occur, in a given human population, and during a given period, substantially exceed what is 'expected', based on recent experience, this becomes an epidemic UNICEF (2008). Epidemics affect the holistic development of children contributing to stunted growth, poor health, malnutrition, and even death. In addition, Bartlett (2003) argues that diarrhea and intestinal parasites, contribute to malnutrition and stunting that continue to affect over one third of the world's children and that compromise their capacity to realize their potential and contribute fully to their societies. However, Oxfam (2009) identifies the main diseases; pneumonia, diarrhoea, malaria, measles and malnutrition which contribute to most deaths in children aged below five years. Children at highest risk live in slum areas, where the incidence of illness is prevalent. According to Reed, (1997) epidemics are commonly caused by disease known or suspected to be infections or of parasitic origin.

1.1 Health education, hygiene promotion, and behavior change

Effective public health education enable people make informed decisions about health related activities. Education and communication are important components of hygiene promotion. According to UNICEF (2003) all people have a right to know about the relationship between water, sanitation, hygiene and the health of themselves and their families. Furthermore, Education enhances sensitivity to our environment, and helps develop positive attitude towards good health and behavior change on issues around us by inculcating relevant values. Further studies by MOH (2004) indicate that beliefs, (taboos and ignorance) about certain hygienic practices among the vulnerable groups hinder implementation of environmental health interventions. For instance, slum dwellers uphold misconceptions on the causes of certain diseases; they deem malaria to be caused by exposure to cold, rain and eating mangoes; cholera and other diarrheal diseases, the causes range from the effect of “lake spirit”, litter and flies dying in food. More still, majority does not present their children for vaccinations Magadi (2004) and many practice self-prescription of medication. Bartlett (2003) argues that education alone does not necessarily result in improved practices. However, education should help create behaviour and attitude change among the residents.

According to IASC,(2005), hygiene promotion is concerned with understanding and promoting the capabilities of people to improve their own health, chiefly through their ability to: make best use of prevailing environmental health conditions and existing services and facilities: act to improve environmental health conditions; and make behavioral changes to reduce certain environmental risks at the household level. Additionally, Hygiene Promotion is a planned approach to preventing diarrhoeal diseases through the widespread adoption of safe hygiene practices. It begins with, and is built on what local people know, do and want. According to the World Health Organization, Investment in hygiene promotion, sanitation and water services is also among the most cost-effective ways of reducing child mortality. The key to children’s environmental health problems is often assumed to lie in the education of caregivers in hygiene and other protective measures Bartlett(2003). Consequently, inadequate awareness of behavioral issues that affect children tends to heighten their vulnerability to epidemics.

UNICEF (2008) points out that, communities should be fully engaged in behaviour change strategies at all stages using participatory processes, and special attention should be given to building on local knowledge and promoting existing positive traditional practices. Behavioural change is necessary not only at the community level, but among decision makers as well. All stakeholders – from politicians and government officials to field workers and people themselves – must be encouraged to recognize the importance of hygiene. According to Oxfam (2009), a great majority of slum residents use pit latrines that are over-used and inadequately maintained. More still, some cartels have taken over the management of latrines; user charges are high and unaffordable. As a result many slum dwellers resort to the use of plastic carrier bags as toilets which are then randomly discarded (usually referred to as “flying toilets”) UN-Habitat, (2003). In addition to this view, Al-Eissa et al. indicates that Small children have a drive to play and explore, they are in close contact with the ground and they have little appreciation of hygiene; they are more likely to come into contact with excreta, the primary source of diarrhoeal disease and intestinal parasites, as well as other pathogens. Rosling and Rosling, (2003) points out that, in the past, epidemics misinformation has been rampant, and this has led to substantial public anxiety, to reliance on word of mouth for knowledge, and to the purchase of ineffective and expensive products. In addition, WHO (2003) reveals there is need to promote appropriate use of hygienic methods including; hand-washing, disinfection, proper etiquette for coughs, sneezes, and spitting.

1.2 Water and environmental sanitation

According to MOH (2008), water and sanitation services are the basic necessities of a community, and the two most important preconditions for development, as they play an important role in improving health and quality of life. Similarly, UNICEF (1998) affirms that water and sanitation access and equity are very important issues in ensuring children’s quality of life. Bartlett (2003) points out that, in poor urban communities around the world, thousands of children still die every day from preventable diseases related to the inadequate provision of water and sanitation. Many more live with repeated diarrhoea, worm infestations, skin infections and chronically challenged immune systems as a result of their unsanitary surroundings. Further studies by UNICEF (1998) indicates high burden of disease to children is as a result of water and environmental sanitation. Additionally, Satterthwaite et al,(1996) notes that, in the poorest countries and neighbourhoods, unsanitary living conditions probably account for at least half of the total burden of ill health.

The water and sanitation-related health burden for children under the age of five in Africa, for instance, is up to 240 times higher than it is in high-income nations. Bartlett (2003) in support of this view states that, in urban areas, many low-income settlements are served, at best, by filthy, crowded public latrines that are distant from many of the dwellings they serve, causing many people to defecate in the open. Such arrangements are particularly challenging for young children and their caregivers. Consequently, Bartlett (2003) points out that hundreds of millions more children, because of poor provision of water and good sanitation, are debilitated by illness, pain and discomfort, primarily from diarrhoeal diseases but also from other waterborne diseases such as cholera and enteric fevers, from schistosomiasis and guinea worm, from heavy intestinal worm burdens, and from various skin and eye diseases and infections such as scabies and trachoma. However research by Oxfam (2009) reveal that, the Government in partnership with the local community, local leaders, the Nairobi City Water and Sewerage Company (NCWSC), and some international agencies- provide water kiosks with chambers to provide safe drinking water; plot-based toilets and bio-centres that use human waste to generate domestic energy and produce fertiliser. Even though majority of informal settlements purchase water from water kiosks or other water delivery services, slum dwellers practice illegal connections to piped water supply, posing a major health challenge to residents due to compromised water safety UN-Habitat (2006). More still majority of the residents do not take responsibility of their environmental sanitation and embrace unhygienic practices. The Nairobi Urban and Health Demographic Surveillance System 2004 showed that the poor health status of children could be explained by the continuous exposure to environmental hazards and lack of good hygiene practices as well as the absence of health services in the area. Recently the Government engaged the National Youth Services to clean drainages in the informal settlements, however, the amount of wastes recovered daily is still high, a demonstration that the residents are not taking seriously their environmental sanitation. There is need to empower these populations with health education activities that will instill proper health behaviors and attitude.

1.3 Purpose and objectives

The main purpose of this study is to assess effectiveness of strengthened health education activities to reduce vulnerability to epidemics among children in the slums. The study was intended to identify adequate knowledge and information that could facilitate improvement in environmental sanitation. The objective is to establish health seeking behaviors that influence the prevention of epidemics among children.

1.4 Problem Statement

Over-time, epidemics break out in the slums and children especially under-five years bear the burden of its impact. According to MOH, (2004) malaria, diarrhea, Acute Respiratory Infection (ARI), malnutrition and measles, have been identified as priority diseases in child survival, and contribute the highest percentage of total health burden to children's mortality. Moreover, UNICEF, (2008), in support of this view notes that, everyday on average, more than 26000 children under the age of five die around the world, mostly from epidemics which have preventable causes.

The Government in partnership with other international agencies has initiated various programmes geared towards improving and promoting good environmental sanitation, however, the beneficiaries accord little or no support. Despite the knowledge of the causal effects of these epidemics, the dilemma is why are epidemics still a threat to children? Are these communities empowered with adequate knowledge and practices to handle the impact of these epidemics? What options are available to help prevent these epidemics? These unanswered questions are the purpose for this study.

1.5 Research Methods

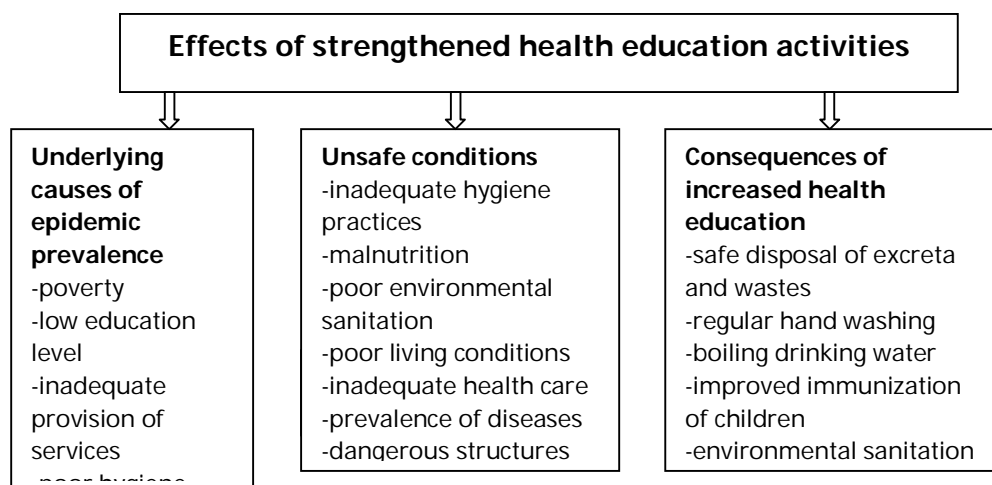
The study employed descriptive method to assist in providing adequate interpretation of the relevance of increased health education activities to reduce vulnerability of epidemics among children. Descriptive studies portray an accurate profile of persons, events or situations Chandran (2003) and describe existing conditions and attitudes through observation and interpretation techniques. The target population to this study was the residents of Mathare Valley Slums in Nairobi; one of the oldest slums. It is located 5Km (3.2 Miles) Northwest of Nairobi City centre and is approximately an area of three square miles. According to Mugenda & Mugenda (2003), the most commonly used instruments of data collection are questionnaires, interview schedules, observations forms, standardized tests and content analysis. Instruments of data collection for this study were questionnaires, interview schedules and observation guide. The questionnaire was administered to the care takers of children; parents, guardians and relatives.

This study incorporated both primary and secondary sources of data. Residents of the informal settlement, who participated in the study, as well as the key informants, were the primary sources of data. Secondary data and quantitative data were sourced from survey of literature in books and journal articles, theses, government official publication and reports as well as unpublished record of stakeholders data on cases attended to by diagnosis or medication records. This data was solely for non-research purposes and was in existence prior to the beginning of this study.

Conceptual framework

In this study, a conceptual framework was used to explain the relationship between increased health education activities and prevention of childrens' vulnerability to epidemics. Low education on hygiene practices adds to a cycle of ill health, unhealthy hygiene practices and poor environmental sanitation. Education is essential to breaking such cycles.

Diagram 1: Illustrating the relationship of health education activities to epidemic prevalence



In the diagram above, the effects of strengthened education activities is viewed from the underlying factors and the unsafe conditions. The underlying causes of epidemics are poverty, low level of education, inadequate provision of services, poor hygiene practices, and dangerous locations. The unsafe conditions are further triggered by the underlying causes which are quite remote from the epidemics and generate vulnerability of the people. Basic health and nutritional status of people relates strongly to their ability to survive disruption of their livelihood system. Chronically undernourished and disease populations succumb sooner than do well nourished and healthy ones. Likewise, chronically malnourished people have less active immune systems and suffer more from infections common among vulnerable groups.

2.0 Findings

This chapter presents and analyzes data collected and characteristics of the research subject from whom the information was gathered. The study investigated ; the demographic information (age, marital status, level of education and gender) of the respondents who participated in the study.

2.1 Age Distribution and Marital status

Maternal age and marital status relationships are important as they determine the adequate health care provided to children. The rising cases of teenage pregnancies and single mothers who comprise mostly young individuals, would assist in understanding the prevalence of epidemics among children.

Table 1: Influence of age and marital status

AGE		MARITAL STATUS						Total
		Single		Married		Other		
Years	Frequency	F	Percent	F	Percent	F	Percent	
16-20	23	5	21.7	14	60.9	4	17.4	23(10.9)
21-25	34	7	20.6	21	61.8	6	17.6	34(16.0)
26-30	50	12	24.0	33	66.0	5	10.0	50(23.6)
31-35	39	7	18.0	27	69.2	5	12.8	39(18.4)
36-40	29	5	17.2	16	55.2	8	27.6	29(13.7)
41-45	16	4	25.0	10	62.5	2	12.5	16(7.5)
46-50	13	1	7.7	8	61.5	4	30.8	13(6.1)
Above 50	8	1	12.5	5	62.5	2	25.0	8(3.8)
L	212	42	19.8	134	63.2	36	17	212(100)

From table 1, the study found out that majority of the respondents lie in the age cohort of between; 26-30, 50(23.6%) and 31-35, 39(18.4%). Additionally the same category represents the highest number of the married with 26-30, 33(66.0%) and 31-35, 27(69.2%). Similarly, the same age group constitutes a large number of single mothers with 26-30 represented by 12(24.0%). The least representation fall in the upper age group 41-45, 16(7.5%), 46-50, 13(16.1%) and above 50years 8(3.8%)

This data reveals that the majority of mothers in the informal settings fall in the middle age group of 21-45 years. Moreover, a high number constitute teenagers and single mothers who are mostly young, who are assumed to should be undertaking education at Secondary or Tertiary levels. This indicates that they could have dropped out of School and married early. This finding corroborates with the findings of Magadi (2004) who also found out that, single mothers are observed to have the lowest tendency of receiving adequate antenatal care, compared to ever married women. This contributes to to poor child care strategies among young mothers.

2.2 Level of education and Gender distribution

Education has a vital role in empowering people with relevant knowledge and information. The World Bank 1993 concluded that education increases the opportunities for households, particularly for mothers, to seek access to information and to make better use of financial resources to shape the diets, fertility, healthcare, and other lifestyle choices that have a crucial impact on the health of household members. Additionally, level of parental education (particularly maternal) has been shown to be a predictor of child health. Education provides a channel for conveying health and survival messages and environmental conservation. Our society defines males and females according to social attributes, opportunities, and relationships between them. IASC (2006) have pointed out clearly that women are often viewed to carry the reproductive task of caring for children as well as running the household. Women's knowledge, behaviour and beliefs play crucial role in health status of children.

Table 2: Level of education and gender distribution of respondent

Highest Level of Education By Gender	Male		Female		Total
	F	PERCENT	F	PERCENT	
Never went to school	6	7.9	5	3.7	11(5.2)
Incomplete Primary Education	16	21.0	23	16.9	39(18.4)
Complete Primary Education	23	30.3	36	26.5	59(27.8)
Incomplete Secondary Education	14	18.4	48	35.3	62(29.2)
Complete Secondary Education	10	13.2	19	14.0	29(13.7)
Tertiary/College	5	6.6	4	2.9	9(4.3)
University	2	2.6	1	0.7	3(1.4)
Total	76	100	136	100	212(100)

From table 2 above, it is clear that majority of the respondents were females 136 (64%), whereas, males constituted 76(36%). The females are more because they spend most time with the children, unlike males who are commonly involved in the productive sphere. This data also reveals that a high number of males 23 (30.3%) completed primary education as compared to females 36(26.5%). Similarly, high females 48(35.3%) incomplete secondary education contrary to males 14 (18.4).

This indicates low level of education attainment among women in the slum. Consequently, females 19(14.0%) and males 10(13.2%) have complete Secondary education. A minimal number males 2(2.6%) and females 1(0.7%) attained university education. This data explains how the low level of education attainment among especially women contributes to the prevalence of epidemics in the slums. This finding relates to the findings of Magadi (2004) who also found out that maternal education is an important determinant of child health. Children of women with at least secondary level education have about double the odds of being fully vaccinated compared to those whose mothers had no more than incomplete primary education level. Children of educated women live in more hygienic environment, have higher prevalence of vaccination than their counterparts, receive appropriate care in case of disease, and therefore have better nutritional status than others Barret et al. (1996). In support of this view, WHO (2000) points that Education level has been constantly found to be related to the health status at the levels of individuals, household and country, usually with a stronger effect than that of income. Additionally, Frost et al., (2005) states that women's education improves maternal health knowledge, include that about child nutrition and hygiene. Education facilitates mother's learning about causation, prevention, recognition, and treatment of disease Thus, children of educated women live in more hygienic environment, have higher prevalence of vaccination than their counterparts, receive appropriate care in case of disease, and therefore have better nutritional status than others.

2.3 Causes of epidemics ranked by frequency of responses

The study sought to find out the respondents knowledge on the causes of epidemics. This is important as it provides direction on the areas of weaknesses.

Table 3: Causes of epidemics

Causes of epidemics	Ranking based on frequency and percentage (in parenthesis)				Total
	Least cause	Moderate cause	Serious cause	Most serious cause	
Poor environmental sanitation	9(4.2)	25(11.8)	57(26.9)	121(57.1)	212(100)
Lack of immunisation	33(15.6)	82(38.7)	53(25.0)	44(20.7)	212(100)
Poor housing and overcrowding	16(7.5)	51(24.1)	64(30.2)	81(38.2)	212(100)
Poor drainage	11(5.2)	48(22.6)	54(25.5)	99(46.7)	212(100)
Inadequate provision of services	7(3.3)	26(12.2)	61(28.8)	118(55.7)	212(100)
Poor waste disposal	12(5.7)	58(27.3)	59(27.8)	83(39.2)	212(100)
Less hygiene practices	3(1.4)	39(18.4)	47(22.2)	123(58.0)	212(100)

From table 3 the study established that the respondents are aware of the causes of epidemics. The most serious causes with above average percentage are; less hygiene practices 123(58.0%), poor environmental sanitation 121(57.1%) and inadequate provision of services 118(55.7%). The least contributory cause is lack of immunization 44(20.7%). This indicates that there is improvement on children who receive regular vaccination. This finding is consistent with the views of other researchers.

According to Dalrymple et al (2002), inadequate water sources lead to the prevalence of diseases and ailments among children. Insufficient health facilities and the deficiency of quality care, drown out by cost and corruption, slum dwellers are exceptionall susceptible to diseases and illnesses. UNICEF (2002) indicates numerous health risks associated with poor quality housing construction and materials. Additionally, Bartlett (2003) argues that the crisis is especially severe in poor urban settlements, where concentration of people and wastes create environments that undermine health and human dignity and add considerably to the challenges of daily survival.

Conclusion

From the findings, it is evident that there is need to strengthen information, education, and communication to help increase knowledge and create positive attitude, among especially mothers. Emphasis on health promotion and prevention strategies to reduce the burden of diseases should be consistently adopted mainly through activities including health education, environmental health, communicable disease control, vaccination, and child health management. The study reveals that the main causes of epidemic prevalence are; poor prevention measures employed by care takers, poor environmental conditions characterized by poor sanitation and poor hygiene practices.

In addition, their vulnerability is aggravated by poor living conditions, poverty, and low levels of education. It is evident from the study that the child-care takers have low levels of education which intensify their inability to handle the epidemics. Therefore, continuous repetition of health activities would help transform behavior and attitude change.

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