STATUS OF ENVIRONMENTAL HEALTH EDUCATION IN THE EASTERN AFRICA REGION: OPPORTUNITIES, CHALLENGES AND THE WAY FORWARD

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An Assessment of the Impact Of Improved Child Care Campaigns on Child Health. An Environmental Health Perspective Among Pre-School Children In Kasarani Division By M.N. Keraka

Abstract

Many children in the wild today continue to suffer the consequences of environmental degradation. Collapsing ecosystems leave them less able to realize their rights and sustain their basic needs, for example, clean food, air and water. Environmental degradation has become widespread in Kindergarten environments due, in part, to lack of change in childcare practices. Many local and international organizers have carried out research on the influence of environmental conditions on child health but still there are increased cases of ill-health among under six year old children as have been revealed by UNICEF (2000). The aim of this paper was to evaluate the effectiveness of improved childcare campaigns on child health. Both primary and secondary data were utilized. Primary data was collected using structured interviews in which 30 school managers were interviewed. Observation method was also used to collect data on the prevailing sanitation and hygiene conditions in the schools.

The key findings indicated that there were several specific threats of major importance to the children. Fifty per cent of the schools studied lacked safe water for drinking while sixty per cent did not have access to adequate water. The necessary sanitary conditions were not maintained. Ninety per cent of the schools lacked adequate sanitary latrines. There was unsafe waste disposal and unhygienic childcare behavior and food preparation. The presence of waste dumps created an unpleasant smell and hazardous environmental condition to the children. Water-borne and diarrhoea diseases were the most common diseases reported. The study recommends that a healthy learning environment should be given priority through increased environmental health education and community participation in designing and implementing environmental health education programmes. The proprietors of kindergarten schools should be encouraged to resist increasing the number of children proportional to the size of the class to avoid overcrowding and its environmental related effects.

Key Words

Environment, health, children, sanitation, garbage, water quality, nutrition, ventilation.

Introduction

Many children everywhere continue to suffer the consequences of environmental degradation. Collapsing ecosystems leave them less able to realize their rights and sustain their basic needs for example clean food, air and water. Their health is a key barometer of the long-term suggests of the decisions and activities of adults. The children are continually being exposed to a series of environmental health problems that affect their physical and mental development and ultimately their survival. Preliminary estimates suggest that up to 1/3 of the global burden of disease can be attributed to negative environmental indicator, such as polluted water and air. However, it is important to note that morbidity and mortality due to unhealthy environmental conditions are largely preventable by taking decisive actions and finding innovative, health, cost effective and sustainable ways to develop and improve our livelihoods. Whereas children can be exposed to harmful environmental hazards, they can, on the other hand, be dynamic and powerful forces for environmental protection. They show a natural interest in nature and are often passionate about the preservation of the environment. With proper support, children can acquire useful knowledge from participation in unique manner, with energy and vision to finding solutions.

In the 1990 World Summit for children, leader adopted a World Declaration and plan of action, recognizing that children have the greatest stake in the preservation of the environment and its judicial manage as their survival and development depends on it. Also the Habitat Agenda (1996) stresses that the needs of children should be taken into account, During the G8 environmental ministers communiqué (2001), the ministers pledged to develop policies and implement actions to provide children with a safe environment including during prenuptial and postnatal care. The most serious environmental health threats include microbial and chemical contaminates in drinking water, air pollution that exererces ill health and death from asthma and other respiratory problem, polluted water, toxic substances and pesticides were to be addressed.

The background factors to children’s environmental health problems in the study areas include; poverty-an underlying cause of both ill health and undernourishment of the children. Poverty robs children of the right to grow up to their full potential. Childhood is a time of rapid growth and development, when great leaps are
made physically, intellectually and emotionally. It is also a time to great vulnerability to environmental risks that can lead to mental problems or death. Poverty exposes children to terrible risks to their health and development. The other factor is high population density in the school that contributes to competition for limited facilities e.g. clean drinking water and latrines.

Problem Statement

In the ‘say yes to children’ campaign worldwide, over 44 million women and men have pledged to say yews to children. The campaign outlines over ten principles that seek to improve and protect the lives of children. One of these principles relates to environmental protection and has received wide support from the people who made their pledges. However in some places the environmental condition tend to continue degrading especially in pre-school environments in low income settlements where the sanitation facilities available are inadequate and inspection of these schools in insufficiently done. Environmental degradation in such places continues to increase use to social and economic problems, inequity in distribution of income, unequal access to resources. Such problems as unsuitable management of chemical and hazardous wastes are major environmental health threats; children in such instituting are exposed to various environmental threats such as auto respiratory infections often caused by bacteria that thrive in unclean environment. Also diarrhea diseases and malaria infections are some other of major diseases affecting pre-school children.

Study Objectives

The main objective of the study was to determine the extent to which environmental health conditions have been improved to enhance child health with specific reference to children less than six year of age among low-income settlement in Kasarani Division.

Justification of study

This study subjects were chosen because it has attracted several government and non-governmental organization that aim at improving the health conditions of children. It was deemed necessary to analyze the extent such efforts are required for disadvantaged groups, including low-income groups where the provision of essential facilities for a healthy learning environment are lacking.

Materials and Methods

The research was carried out in Kasarani division, Nairobi. The division has 8 location namely Kahawa, Githurai, Roysambu, Zimmerman, Ruara, Kasarani, Mathare North and Kariobangi. The study aimed at assessing the impact of the improved childcare campaigns on child health. It covered children aged between 2 ½ to 6 years who are in pre-school institution commonly referred to as Kindergarten.

Purposive sampling was used to select 30 school kindergarten based on the children’s populations in the schools. Interview of school proprietors and observations were made 15 respondents belonged to schools that has less than 30 children while the rest belonged to the schools that had between 50 and 100 children. The schools with less than 50 children were expected to have improved learning environments. Both primary and secondary data were used in the study. Primary data was collected some structured questionnaires, in which thirty school managers were interviewed between November 2003 and January 2004. Secondary data was collected from existing literature in journals and reports from previous surveys, and used to obtain background information of the study areas. The school proprietors and some teacher gave us information regarding their experiences as regards to the environmental conditions and hygiene in the schools.

Results and Discussions

Environmental Conditions around the school compound

Most respondents defined environmental health as the presence or absence of either positive or negative effects on living things within a surrounding. Others defined it as the cleaning of the surrounding for better life. Others defined it as an environment without a healthy hazard. All these definitions are within the world health definition environmental health. About 20% of the school studied were cigarettes smoke free zones because of their religious affiliations. Twenty five percent had stagnant water in school compound. The study was done during the rainy season; it is possible that the stagnant water may have been seasonal. More than 30% of the school studied did not clear the grass in the compound. Most respondents indicated that the neighborhood is generally dusty. Others said it is: filthy while the rest observed that it was noisy. They make the children lack concentration in class. Waste paper, in most cases, was disposed off in the open pot in the school compound. This was occasionally burned. This implied low levels of awareness of the need for a cleaner environment.

Water Quality

The study revealed that 50 % of the study population lacked safe drinking water. About 60% did not have access to adequate water. Too little water made it impossible to maintain the necessary sanitary conditions in the school, which sometimes contributed to outbreak of typhoid for children. A study carried out by UNICEF 200 indicated that a child’s well-being is highly dependent on both the quality and quality of available water. Biological contmine9ts of water...
sources include parasites, bacteria and viruses. They get into drinking water when the water source is contaminated by waste material such as human or animal waste and sewage. Human faeces are the most important source of water contamination due to inadequate sanitation facilities.

This study revealed that children faced dangerous health risks when they came into contact with stagnant water through washing, bathing or drinking. Poor management of water resources creates increased contamination of standing surface water. Stagnant water bodies provide ideal breeding grounds for mosquitoes, which carry debilitating diseases, such as malaria. As far as the water points were concerned the ground for the water points was wet and slippery due to poor drainage system hence children would easily fall. This made it difficult to observe personal hygiene and cleanliness. Most children drank water directly from the tap without boiling. The management indicated that it was difficult (expensive) to boil the water. This may have contributed to the common complaint about suffering from worms by children as one of the teacher indicated.

Sanitation and Garbage

The study revealed that the average number of pupils to one toilet was more than 50. None of the schools studied has built more school toilets in the last 5 years, and in some of the schools, there were no adequate sanitary latrines. Over 50% of the schools studied did not have adequate sanitation facilities. Such facilities included toilets and washing points. There were for instance approximately 100 children in almost a half of the schools studied that have not more than 3 toilets. This forces some of the children to use the outer space as a toilet facility (Table 1.1). There was also unsafe waste disposal and unhygienic behavior of children and food preparation, which created a dangerous environment with health risks to children. The presence of waste dumps created slightly view, unpleasant smells and hazardous environmental conditions to the children. The presence of unsafe water and poor sanitation contributed to a range of life threatening disease, with diarrhoea being the most common water-borne diseases.

### Table 1.1 Summaries of the State of Sanitation Facilities

<table>
<thead>
<tr>
<th>Facility (Per School)</th>
<th>No.</th>
<th>Ad</th>
<th>Av</th>
<th>In</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilets</td>
<td>2</td>
<td>20%</td>
<td>30%</td>
<td>50%</td>
</tr>
<tr>
<td>Washing Points</td>
<td>1</td>
<td>20%</td>
<td>20%</td>
<td>50%</td>
</tr>
</tbody>
</table>

Most of the toilets were pit latrines, which were not covered hence promoted the breeding of flies and risk of food contamination. The researcher also observed that the holes in some latrines were too wide, yet children would at times visit the toilets over their own without being escorted by the teacher. The risks of children falling into the latrines were high, and their cases of children who had fallen into the pit latrines have been reported. This is want contributed to children being injured in the toilets as some of them fell on sharp objects. One3 would detect toilet smell from the classroom, which is an indication of poor management of the toilet facility. Garbage in most schools was not incinerated. It was dumped in an open pit that was not deep enough to allow decomposition of the garbage to occur. Such garbage dumps served as breeding grounds for mosquitoes and flies, which may have contributed to malaria and diarrhoea infections respectively (Table 1.2).

### Table 1.2 Summary of the Hygiene Observation Status in the Schools

<table>
<thead>
<tr>
<th>Facility</th>
<th>School</th>
<th>(Per)</th>
<th>Ad</th>
<th>Av</th>
<th>In</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleanliness of Toilets</td>
<td>20%</td>
<td>27%</td>
<td>43%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Preservation</td>
<td>10%</td>
<td>23%</td>
<td>57%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposal of waste</td>
<td>20%</td>
<td>28%</td>
<td>52%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposal of waste paper</td>
<td>32%</td>
<td>30%</td>
<td>38%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ventilation and Indoor Air Pollution

Some schools had only one building where they also did their cooking of snacks and lunch for the children. The cook-stoves used would pollute the house because of the fact that the stoves were not fuel-efficient. Most of the classrooms in many private schools did not have adequate ventilation due to the fact that the building in which classrooms were located were initially meant for residential purposes. Rooms that were suitable for two persons were converted to classes that were used by more than 20 children. These classrooms were usually cleaned twice a week. This implies that there was a lot of dust in the rooms that would facilitate the spread of coughs, colds and respiratory related infection among the children. Some of the schools studied did not have power electricity (electricity) because it had been disconnected. There were some rooms that did not have adequate lighting posing a danger to children at night and/or dusk. Some classrooms had leaking roofs. Some floors were made of mud. Others were dusty. Some of the mattresses that were used by the children were torn. Kindergarten children normally sleep after lunch. The clothing that the children used when sleeping was dusty and was washed once after every two weeks. This increased the rate of coughs and flues among the children.

### Nutrition

A substantial number of children in the study areas were found to be malnourished. The main symptoms being born air, stunted growth and skin rashes infection. Millions of children under five die each year in
developing countries mainly from preventable disease. It is estimated that half of these deaths are either directly or indirectly attributable to malnutrition. Frequent illness will almost result in physical weakness and nutrition deficiency. Hence poor nutritional status weakens a child’s immune system, making the child all the more susceptible to diseases as a result of environmental pollution.

Food Quality and Availability
Most school managers indicated that the children carried food from home to school for their tea and lunch break. However, such food was stored in containers that would not keep the food warm. To those who depended on school tea and lunch, the most common types of foods consisted of potatoes, cabbage and Ugali. During tea break the children were mainly given porridge or tea that did not have adequate milk. When asked about the source of milk, some managers indicated that they got it from the milk vendors who sold whole milk that was not hygienically packaged. About 49% of the respondents observed that left-over foods was dumped in waste bins while 51% observed that the food was thrown into a dumpsite. The latter attracted flies that could easily contaminate the food that the children fed on. Food contamination along with poor sanitation and hygiene has been reported to be the caused of helminthic diseases among the children. Coming into contact with soils and vegetables that contain effects or young worms of these parasites infected the children.

Distance of the school from the nearest health facility
Nearly 90% of the schools studied were ½ km away from the nearest health facilities that were close to the schools were private clinics. This affect utilization of such facilities since it required one to pay for the treatment. There was no kindergarten with a school nurse. If a child fell ill the parents has to be contacted to take the child to the hospital. This made some of the children who fell ill to go to the hospital when they were seriously ill. It was mainly because of this reason that a good number of children missed school. There would be an average of 8 children missing school per day due to illness. The common illness in the school way physical injuries and malaria as was reported by 50% of the schools studied. Other types of sicknesses that were common included skin rashes, diarrhoea and typhoid (Table 1.3).

Table 1.3 Common Diseases in the Study Area

<table>
<thead>
<tr>
<th>Diseases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diarrhoea</td>
<td>25</td>
</tr>
<tr>
<td>Typhoid</td>
<td>36</td>
</tr>
<tr>
<td>Malaria</td>
<td>60</td>
</tr>
<tr>
<td>Skin Rashes</td>
<td>37</td>
</tr>
<tr>
<td>Physical Injuries</td>
<td>57</td>
</tr>
</tbody>
</table>

Methods of Teaching Environmental Health Education
The methods of teaching environmental health education identified by the respondents were observation; discussion and through washing hands after visiting the toilet. The respondents indicated that children participate in collection of rubbish and cleaning classes and toilets on daily basis although children under study had not reached the age of engaging in any meaningful clearing of the environment.

Conclusions
The yes to children campaigns adopted by various stakeholders has not has significant impact on improving the health conditions of children. In the study area, one of the reasons for this scenario is lack of awareness of the need for improved learning environmental for the children. The other reason is lack of adequate fund (poverty) needed to improve the conditions. The school managers also contributed to this scenario because they only focused on making profits from their schools rather than improving learning environments. They spent very little in improving sanitation. The fees charged was very high: for instance each child paid Ksh 5000 per term and if there were 100 children, from this the school was able to generate Ksh 500,000 per term. However this money was not used in the construction for more latrines or built spacious rooms for learning and cooking. The cleaners were very few, there roughly 2 cleaners for the whole school. These were not adequate for a school that had more than 100 children. Generally the environmental conditions in the school compound were unhygienic. The water supply was inadequate and of poor quality. Sanitation facilities were poor. There were high levels of indoor air pollution. Food quality was also not good because of the lack of proper storage facilities and also unsanitary cooking facilities.

Recommendation
Governments, international organizations, donor agencies and other relevant civil society organization should strive to achieve the target set by world leaders at the UN millennium in September 2000 to halve the percentage of the world’s people who are unable to reach or to afford safe drinking water by the year 2015. For the case of Kasarani Division, all the school institutions should be supplied with adequate safe drinking water improve children’s hygiene. They should closely monitor drinking water quality in decentralization supply system such as wells and ponds. The communities should strive to promote hygiene education and behaviour change among parents, childcare givers and children including hand washing as a simple but effective way of blocking hand to mouth disease transmissions. The community should develop effective
programmes on school sanitation, proper water handling and storage and protection of water sources. The school community should avoid creation of mosquito breeding grounds through eliminating areas where water collects and stagnates such as discarded tires, improving latrine designs.

Based on the results obtained, the following recommendations were made; that school communities should promote health and hygiene education in schools by providing safe and sanitary facilities to break the worm transmission routes, proper maintenance of water supplies, protection of food supply and storage, proper excreta dispose, clearing of bushy areas to reduce breeding sites for mosquitoes, use of alternative clean energy and fuels for cooking, and incineration of solid waste. The pupils should be trained on how to protect drinking water supplies, dispose of contaminated food, and hygienically wash their hands among other things.

Reference
Environmental health perspectives, Vol.106 No. 1 January 1998


