

Research Article

Assessment of Some Indices of Primary Health Care in Masaki Village, Tanzania

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Abstract: Background: Primary Health Care (PHC) is a critical element in health and socioeconomic development of communities especially in rural Africa. There is paucity of information on the assessment of many indices of PHC in Tanzanian villages. This study was therefore designed with the purpose of evaluating some critical primary PHC indices of Masaki Village in Tanzania. Methodology: One hundred owners of homesteads living within Masaki village were recruited for the study based on informed consent. Information on socio-demographic characteristics, quality of housing, water supply, personal hygiene, diseases' vectors, general health status and environmental sanitation were gotten through self-administered semi-structured questionnaires. Data collected was analyzed using standard statistical methods. Results: The results showed that standard of living (quality of housing is low 23%) and education level of adults in Masaki is low (no education 47%). Water supply is a major problem (only 13% accessed safe water), diseases' vectors are very common (95%). There is high prevalence of malaria (73%), acute respiratory tract infections (19%), typhoid (10%) and diarrhea (6%). Environmental sanitation is poor (56% inadequate refuse disposal and 35% deep latrine). Conclusion: PHC indicators; standard of living, water supply, education, sanitation and diseases' vectors need to be addressed appropriately. Community based health education activities and other programmes geared towards enhancing PHC should be developed and implemented.

Keywords: Community based education on research methods activities, critical, indices, Masaki village, primary health care, Tanzania

INTRODUCTION

Primary Health Care (PHC) is a critical element in health and socioeconomic development of every society, especially the impoverished rural communities of Africa. PHC shifts health emphasis to community, prevention, collaboration, equity and appropriate technology (Muldoon *et al.*, 2006).

PHC concept was formulated by the World Health Organization in 1978. It was then introduced in Africa as it became clear that the health services in African countries could not succeed based on the model of developed western nations (Diesfeld, 1996). Western medicine laid much emphasis on curative aspects and prevention of diseases had relatively little place value (Diesfeld, 1996).

In Africa, about 80% of all diseases were diseases that could be prevented which include; malaria, diarrhea, acute respiratory infections, tuberculosis, to mention just a few (Pfeiffer, 2003). Thus the PHC

strategies led to the reorganization of health systems in the developing countries of Africa. A good example was the efforts made by Tanzania in the further education of its health and paramedical personnel, Village Health Workers, recognition of the traditional healers in the health services as midwives and strengthening of the district health system (Pfeiffer, 2003).

The social determinants of health and health inequality in impoverished populations especially in developing countries stem from the conditions of people's lives, including living conditions, work environment, age and other social factors (WHO, 2008). These also include socioeconomic factors such as material deprivation (of food, shelter, sanitation and safe drinking water), social exclusion, lack of education, unemployment and low income (Loppie and Wien, 2009). These conditions are also shaped by political, social and economic structures (WHO, 2008) and all work together to reduce opportunities, limit

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choices, undermine hope and, as a result, threaten health (Loppie and Wien, 2009).

Victora *et al.* (1986) noted that social variables like family income and father's educational level, unemployment as well as environmental variables, particularly the type of housing, degree of crowding and type of sewage disposal, were also strongly associated with malnutrition in children.

Each year many children and adults die as a result of a lack of access to clean drinking water and poor sanitation. Contaminated water, poor sanitation and disposal of human waste promotes malaria, schistosomiasis, bacterial and parasitic infections (UNICEF, 2005).

Education plays an especially influential part in the lives of the impoverished rural dwellers in Africa. It helps the impoverished develop usable skills, abilities and resources that help individuals reach goals, including bettering health (Mirowsky and Ross Catherine, 2003). In this study we determine some indices which are relevant social determinant of primary health care in Masaki village of eastern Tanzania. They include parental education status, quality of housing, prevalence of common diseases and diseases vectors, sanitation (hand washing habits, drinking water utensils, latrine conditions and solid waste management), access to clean water and animal houses.

METHODOLOGY

Study location and sample: The study was carried out in Masaki village, Kiserawi District, Coastal Region, Tanzania. It has population of about 4,000 and it is about 45 km east of Dares salaam. The inhabitants of this village are largely Zaramo engaged in subsistence farming and lived in compounds consisting of a single main house surrounded by one to three additional households. The main foods crops are Cassava and maize. The cash crops are coconut and varieties of fruits. There are two rainfall patterns, these are short rains popular known as "Vuli" from October to December and Long rains known as "Masika" from March to early June with average rain of 100mm (DMO, 2013). The main categories of education in the district are Pre-Primary and Primary. Masaki has a health centre that serves all inhabitants of Masaki ward including other nearby villages lacking health centers (MVCP, 2013).

We carried out a cross-sectional, household-based survey. 100 homestead owners were randomly selected for the study from all the 6 hamlets that constituted the village based on informed consent. The total population of the 100 households that participated in the study was 485; 103 adult males, 124 adult female, 133 female children and 125 male children. The study was approved by the District Manager and the District Medical officer of Kiserawi.

Data collection: We used a semi-structure questionnaire to obtain demographic characteristics, parental educational status, quality of housing (main house, kitchen and latrine), common diseases, common disease vectors, general sanitation and general PHC status (Immunization, family planning, child nutrition and health).

Statistical analysis: Statistical analyses were done using SPSS I6.0 to determine percentages prevalence of characteristics and histograms were use to describe the variables.

DISCUSSION OF RESULTS

Studies have shown that the social determinants of health especially in developing countries include living conditions, work environment, age and other social factors (WHO, 2008). Also there are socioeconomic factors such as material deprivation (of food, shelter, sanitation and safe drinking water), social exclusion, lack of education, unemployment and low income (Loppie and Wien, 2009). These conditions are also shaped by political, social and economic structures (WHO, 2008) and all work together to reduce opportunities, limit choices, undermine hope and, as a result, threaten health (Loppie and Wien, 2009) (Fig. 1).

Our study showed that parental education status is very low. No education 47%, primary school leavers 53% and none had a secondary education (Fig. 2). Studies have shown parent's educational level is important to health. It influences the health of children, survival and their educational attainment (WHO, 2008). Education helps the impoverished develop usable skills, abilities and resources that help individuals reach goals, including bettering health (Mirowsky and Ross Catherine, 2003).

The type and quality of the houses are not good and they are made mostly of mud and thatches. Permanent houses 23%, semi-permanent 47%, temporal

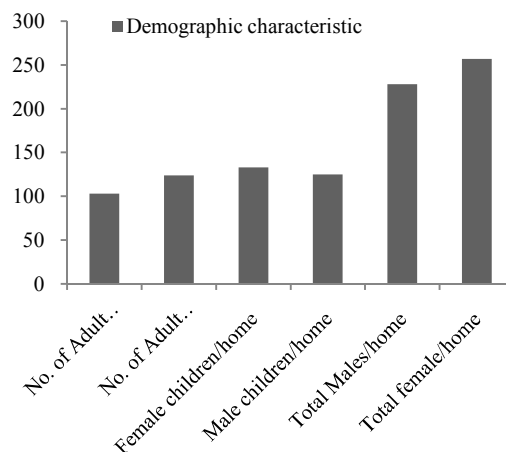


Fig. 1: Histogram of demographic characteristic of Masaki village

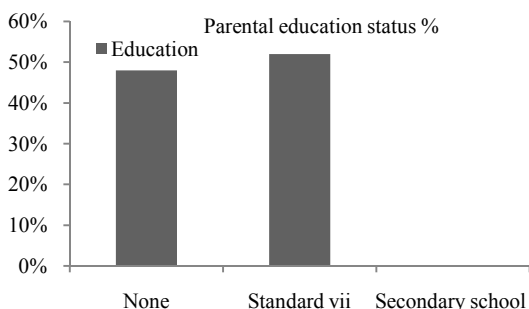


Fig. 2: Histogram of parental educational status of homestead owners in Masaki village

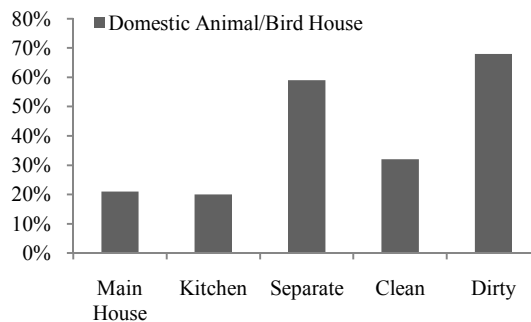


Fig. 5: Histogram domestic animal and bird houses of Masaki village

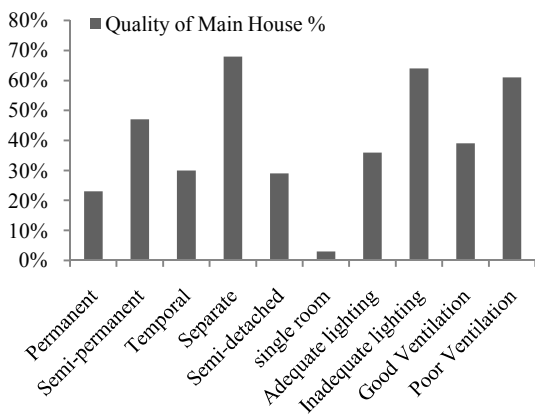


Fig. 3: Histogram of the quality of the main house in Masaki village

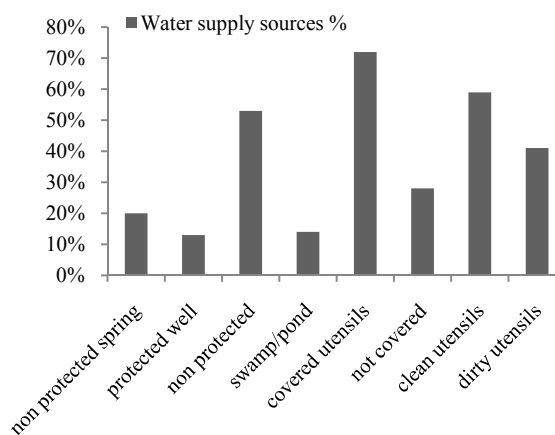


Fig. 6: Histogram of water supply sources of Masaki village

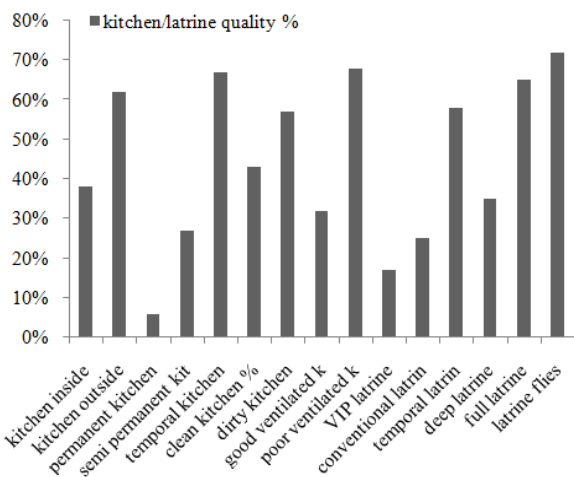


Fig. 4: Histogram of quality of kitchens and latrines in Masaki village

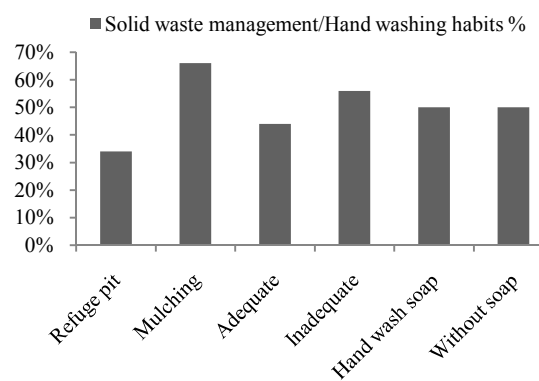


Fig. 7: Histogram of solid waste management and hand washing habits in Masaki village

30% and poor ventilation 61% (Fig. 3). There is no electricity in Masaki village. For the kitchen, 62% outside, 38% inside, permanent 6%, semi-permanent 27%, temporal 67%, dirty 43%, clean 57% (Fig. 4). Regarding animal and bird houses, living inside main house 21%, in kitchen 20%, separated 59%, clean 32% and dirty 68% (Fig. 5).

Poor living conditions are often characterized by inadequate housing, poor ventilation and overcrowding, which can increase the risk of infections. Hastily constructed houses, of readily available materials, might allow mosquitoes and other diseases' vectors inside more easily than well-constructed housing with screened windows (Alton and Rattanavong, 2004; Lindsay, 2003). When family living spaces are not adequately separated from domestic animals, the

animals' body temperature might attract mosquitoes (Lindsay, 2003). This also have been associated with the spread of zoonotic diseases e.g., TB, E. coli, salmonella and campylobacter related infections (Varma *et al.*, 2003).

In many developing countries, potable water is collected from communal sources which are either unimproved (e.g., unprotected wells, unprotected springs and rivers) or improved (e.g., protected wells, boreholes and public standpipes) (WHO/UNICEF, 2010). We also showed that access to safe drinking water is a major problem to the inhabitants. Non protected wells (53%), protected wells 13%, non protected spring (20%) and swamp/pond (14%) (Fig. 6). Personal hygiene needs improvement. Hand washing with soap 50% and without soap 50%. Drinking water utensils, 28 % were not covered with 41% of them dirty (Fig. 7).

Many communicable diseases (malaria, schistosomiasis, bacterial and parasitic infections) spread as a result of inadequate access to clean drinking water. According to UNICEF (2005), 3000 children die every day, worldwide due to contaminated drinking water and poor sanitation. Esry *et al.* (1991), showed that sanitation, personal hygiene and increasing water quantity have a greater effect on reduction of diarrheal diseases.

Infectious diseases and diseases' vectors are very prevalent; Malaria 73%, ARTI 19%, typhoid 10% and diarrhea 6% (Fig. 8). Vectors were present in 95% of houses and they included mosquitoes 82%, flies 73% and rat 92% (Fig. 8).

Poor handling and disposal of waste are major causes of environmental pollution, which creates breeding grounds for pathogenic organisms and the spread of infectious diseases (Boadi and Kuitunen, 2005). Our study showed that solid waste management is poor; inadequate 56%, mulching 66%, refuse pit 34% (Fig. 7). Poor waste disposal in the home is significantly associated with the presence of diseases vectors houseflies in the kitchen. The presence of houseflies in the kitchen during cooking is correlated with the incidence of childhood diarrhea (Boadi and Kuitunen, 2005).

An estimated 2.6 billion people lack access to improved sanitation-defined as facilities those hygienically separate human excreta from human contact (WHO/UNICEF, 2010). Improved sanitation includes water-based toilets that flush into sewers, septic systems, or pit latrines; simple pit latrines; and ventilated improved pit latrines (VIP). Our study showed, VIP 17%, conventional 25%, temporal 58%, deep 35%, full 65% and flies 72% (Fig. 4). There is strong evidence that access to improved sanitation can reduce diarrhea morbidity and mortality as well as soil-transmitted helminths (Albonico *et al.*, 2008; Cairncross *et al.*, 2010).

The indicators of PHC, we showed that the immunization rate is 65% but still lacking behind the national average of 75% (TDHS, 2010). Family

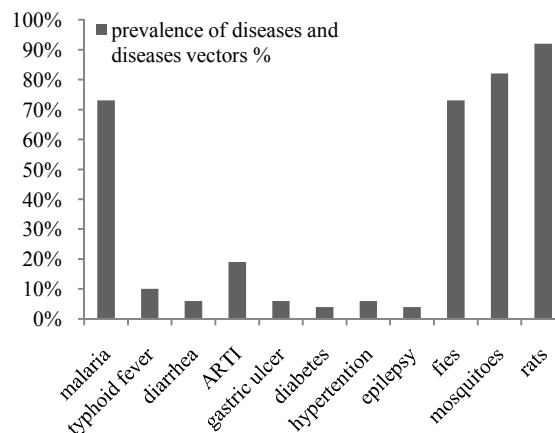


Fig. 8: Histogram of prevalence of diseases and diseases' vector of Masaki village

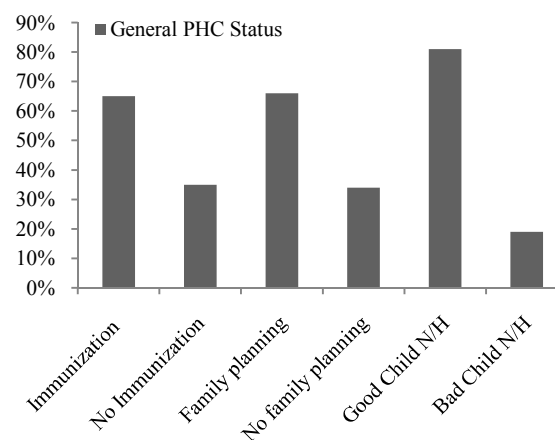


Fig. 9: Histogram of some indicators of primary health care in Masaki

planning 66%, good and bad child nutrition and health had 81 and 19%, respectively (Fig. 9). Children born to more educated mothers are less likely to die in infancy and more likely to have higher birth weights and be immunized (World Bank, 2012). In Ghana, Van de Poel *et al.* (2007) used data from the Ghana 2003 Demographic and Health Survey to demonstrate that malnutrition is related to poverty and maternal education.

CONCLUSION AND RECOMMENDATIONS

Primary health care indicators such as standard of living, water supply, education, sanitation and diseases' vectors need to be addressed appropriately. Community based health education activities and other programmes geared towards enhancing PHC should be developed and implemented. The Government should investigate more closely the PHC issues in the village and the implementation of the existing health insurance scheme.

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