MASENO UNIVERSITY
SCHOOL OF PUBLIC HEALTH AND COMMUNITY DEVELOPMENT
MASTER OF PUBLIC HEALTH (INTERNATIONAL HEALTH AND HEALTH PROMOTION)
PARTICIPATION OF HOUSEHOLDS IN SOLID WASTE MANAGEMENT IN KISII MUNICIPALITY, KENYA

ABSTRACT

The growing volume of household solid waste is a concern for public health. The world population in 2016 was 7.3 Million people with a growth rate of 1.14%. This has resulted to increase in consumption rate with a direct effect in the generation of household solid waste. The estimated quantity of Municipal Solid Waste generated worldwide is 1.7–1.9 billion metric tons per year, with 1.2kg/capita/day. In sub-Saharan Africa, generated solid waste is approximately 62 million tons per year; 60% of these is from households. In Kenya, with a population of 44 million and growth rate of 5.8%, there is a realized increase in urbanization which has resulted to rise in amount of solid waste generated from household at 68%. In Kisii Municipality, it is estimated that ⅓ of generated household solid waste is collected, ⅓ is burnt on site and ⅓ remain uncollected. Mismanagement of this solid waste typically results in pollution of environment and may pose danger to health of public. As such, this study assessed participation of households in solid waste management in Kisii Municipality. The study applied cross-sectional study design targeting a total of 5,661 households. A sample size of 391 households was obtained using Fisher’s finite population correction formula. Proportionate sampling method was used to select representative sample. Purposive sampling was then used to select respondents who were either household head or adult aged above 18 years and had lived within household for at least one month. Data collection instrument for this study was a pretested questionnaire. The data was analyzed using descriptive and inferential statistics. Proportions were established using Chi-square while logistic regression analyses were used to establish influence of factors on solid waste management. There was a significantly higher proportion of those aged 18-25 (65.1%) and 26-35 (61.3%) using open burning relative to the rest of the age categories (P=0.011). Likewise, there was a significantly higher proportion of those with diploma (63.7%), bachelors (73.5%), masters (50.0%) and PhD (50.0%) degree in using the open burning than other group categories (P=0.002). The types of solid wastes that go into compost pit are biomass (58.3%), food waste (54%) and metallic (58.8%) wastes. Those that go into open burning are biomass (50.7%) and metallic waste (73.9%). Techniques of handling household solid waste are; improved box for compost pit (58.3%), open burning (48.3%), recycling (55.8%) and land fill (51.0%). The proportion of those using metal bin are significantly higher for the compost pit (54%). The proportions of those using plastic bins are higher for the compost pit (91.5%), recycling (93.9%) and land fill (88.0%). Finally, the proportions of those using polythene are higher for the compost pit (58.8%), open burning (73.9%), and recycling (49.6%). Barriers influencing solid waste management are distance for compost pit (OR=2.12, 95% CI=1.23-3.14; P=0.020) and recycling method (OR=3.11, 95% CI=1.44-4.23; P=0.001). Illegal dumping influenced use of compost pit (OR=3.33, 95% CI=2.11-5.01; P=0.001), open burning (OR=2.22, 95% CI= 1.74-3.54; P=0.006), recycling (OR=2.44, 95% CI=2.01-5.03; P=0.001) and land fill (OR=4.00, 95% CI= 3.55-6.04; P=0.002). In conclusion, socio-demographic factors influencing household solid waste management in Kisii Municipality were age and education. The results from this study will help policy makers in designing better strategies of household solid waste management in Kisii County. The study recommends education and awareness creation among residents of Kisii Municipality so as to enhance proper household solid waste management.

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