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Assessing knowledge, attitude and practices towards household e-waste management: A case study of householders in Gampaha district, Sri Lanka

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This study aimed to assess the knowledge, attitude and practices of householders towards e-waste management in Gampaha District. Due to the current economic status and high rate of urbanization, Gampaha District was selected to study and it was based on a quantitative approach. Primary data were collected through pre-tested a structured questionnaire. Then, 400 questionnaires were distributed among households and the response rate was 85%. Mobile phones, desktop computers, laptops, cameras, and other electronic appliances were the types of e-waste considered in this study. The analysis demonstrated that 71.1% of respondents were aware of e-waste although 51.3% did not receive proper education on e-waste. 93.2% of the participants were not aware of government rules and regulations on e-waste and 81.4% did not know the ewaste collection centers in their area. 96.2% of householders tend to change their electronic devices and move into new devices due to damages. 22% of householders store their waste electronic and electrical equipment at home and the rest of the people dispose of them by exchanging them for new devices (15%), dumping (10%), sell to recyclers (17%), donate (5%), sell to individuals (16%), discard with household waste (7%) and burning (8%). Furthermore, the knowledge score of the participants was calculated using the eight questions about knowledge, the score of zero was given for incorrect answers and one was given for correct answers. Hence, the maximum Knowledge score was eight. A score less than 3 was considered poor, 3-5 moderate and above 6 was good. Results revealed that 48.38% of the respondents have good knowledge about e-waste. "The continuous increase in e-waste is a problem for Sri Lanka", "Everyone is responsible for the e-waste at their home", "I refrain from buying new device as long as they can use the old one", "They need to be aware of the materials in the electronics they use", "I would like to provide e-waste to the equipment manufacturer free of charge for eco-friendly recycling" and "If the cost of recycling is included in the cost of production, I would like to pay more for the equipment" were the six questions used to evaluate the attitude of the householders towards ewaste management and those were considered as indicators to assess attitude. The attitude score was assessed by applying a four-level Likert scale (strongly disagree-disagree-agree-strongly agree) such that the minimum score was 4 and the maximum score was 24. The average of an individual's total score is considered for the categorization of the attitude level. It disclosed the necessity to change the attitudes of the household members over the e-waste management activities. Hence, the findings provide valuable insights for the government and for the responsible authorities on the requirement of installing effective steps to promote knowledge and attitude level of the citizen about the household e-waste management activities and sociodemographic based promotional and training activities will be more productive. Furthermore, results indicate that respondents dispose their e-waste using unsustainable practices and hence cause damages to the environment.

Keywords: Attitude, E-waste management, Householders, Knowledge, Practices