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E-Waste Management Awareness and Disposal Practices Among Engineering Students in Hyderabad City, India

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Abstract

E-waste or electronic waste is one of the fasted growing concerns in the world. The old and obsolete appliances/gadgets like laptops, computers, mobiles, TVs, DVD players, and home appliances like refrigerators, music systems etc. fall in this category. One of the major concerns for human health and the environment is the presence of hazardous chemicals in e-waste. India has become the third biggest generator of e-waste behind US and China producing 3.23 million tons of e-waste per year. The objective of current study to understand about the awareness, knowledge, management and disposal of e-waste issues among engineering students in Hyderabad City. The students were divided into two groups, namely those belonging to IT Courses (Computer Science, IT, Electronics & Communication, Instrumentation, AI & ML, Data Science) and the other group (Civil, Mechanical, Production, Automobile, and Architecture). A cross-sectional survey questionnaire was self-developed for the study. The questionnaire collected the student's demography, knowledge of e-waste awareness, ownership and usage of electronic gadgets. The study also included e-waste handling and health risks and e-waste management and disposal. It is found that there is little difference about e-waste awareness among IT and non-IT students. However, the students of IT related departments are more aware of risks of e-waste than others. Students from both the groups are not much aware of e-waste disposal practices and government legislations. The factors preventing proper disposal of e-waste

were lower resale value for disposing, nostalgic attachment with gadgets, high family sharing of devices and non-availability of proper disposal arrangements. Therefore, awareness about e-waste should be improved and both the manufacturers and government agencies should be more active to reduce and manage e-waste. The results and implications of the findings are discussed in the paper and some recommendations are outlined.

Keywords
E-waste, e-waste awareness, e-waste management, e-waste disposal, engineering students