

“Assess Knowledge Regarding E-Waste Management and Its Impact on Health Among People at Selected Urban Community”

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Abstract:- Electronic waste or e-waste describes discarded electrical or electronic devices. Used electronics which are destined for reuse, resale, salvage, recycling, or disposal are also considered e-waste. Informal processing of e-waste in developing countries can lead to adverse human health effects and pollution. So there is great need to assess the knowledge of people regarding e-waste and its impact on health to develop new rules and policies regarding management of e-waste. **AIM:** assess knowledge regarding e-waste management and its impact on health among people at selected urban community, Indore. **Objective:** 1. To assess pretest knowledge regarding e-waste management and its impact on health among people at selected urban community, Indore. 2. To find association of knowledge regarding e-waste management and its impact on health among people with their socio-demographic variables. 3. To distribute Pamphlet regarding e-waste management. The purpose of this study to assess knowledge regarding electronic waste management and its impact on Health among urban community people. **Methodology:** An evaluative approach with descriptive design was used for the study. 30 samples were selected through the non probability convenient sampling technique. Structured questionnaires were administered to evaluate the knowledge regarding e-waste management and its impact on health among people at selected urban community. The collected data was analyzed by using descriptive and inferential statistics. **Results:** Findings revealed that mean level of knowledge was 11.3 and there was a significant association of level of knowledge with educational qualification, experience, previous knowledge and sources of information. Thus, the study revealed that people of urban community (Chikitsak nagar, Indore) had good knowledge.

Keywords:- Knowledge, E-waste, urban community People, E-waste management.

I. INTRODUCTION

A. “Re-Start And Recycle Your E-Waste Now”

Industrial revolution followed by the advances in information technology during the last century has radically changed people's lifestyle. Although this development has helped the human race, mismanagement has led to new problems of contamination and pollution. With the usage of

electrical and electronic equipment (EEE) on the rise, the amount of electrical and electronic waste (e-waste) produced each day is equally growing enormously around the globe. Recycling of valuable elements contained in e-waste such as copper and gold has become a source of income mostly in the informal sector of developing or emerging industrialized countries. However, primitive recycling techniques such as burning cables for retaining the inherent copper expose both adult and child workers as well as their families to a range of hazardous substances. E-waste-connected health risks may result from direct contact with harmful materials such as lead, cadmium, chromium, brominated flame retardants or polychlorinated biphenyls (PCBs), from inhalation of toxic fumes, as well as from accumulation of chemicals in soil, water and food. In addition to its hazardous components, being processed, e-waste can give rise to a number of toxic by-products likely to affect human health. Furthermore, recycling activities such as dismantling of electrical equipment may potentially bear an increased risk of injury.

Adults having the risk of hazardous chemical absorption. Furthermore, their bodies' functional systems such as the central nervous, immune, reproductive and digestive system are still developing and exposure to toxic substances, by hampering further development, may cause irreversible damage.

Thus proper management is necessary while disposing or recycling-wastes.

II. NEED FOR THE STUDY

"Electronic waste" or "E-Waste" as discarded computers, office electronic equipment, entertainment device electronics, mobile phones, television sets, and refrigerators. This includes used electronics which are destined for reuse, resale, salvage, recycling, or disposal.

Rama Mohana R Turaga (May 18, 2017):- India is the fastest-growing market in the world for smart phones with 27 million units shipped in the second quarter of 2016 alone, and though the lifespan of a mobile phone is higher in India than in the West, one can imagine the number of “obsolete” phones contributing to electronic waste (e-waste). Such phones and other electronics contributed to 1.5 million tons of e-waste produced in India in 2015, 90% of which was

managed by the informal sector using unscientific methods that cause harm to human health and the environment.

Ashok Kumar Das (2014):- Globally about to 20-50 million tons of E-Waste are disposed of each year. According to Comptroller and Auditor-General’s (CAG) Report, 4 lakh Tones of electronic waste generated in the country annually. CPCB has estimated that E-Waste exceeded 8 lakh tones mark in 2012. There are 10 states that contribute to 70% of the total E-Waste generated in the country. - 65 cities generate more than 60% of the total E-Waste in India. - Among the top ten cities generating E-Waste, Mumbai ranks first followed by Delhi, Bangalore, Chennai, Kolkata, Ahmadabad, Hyderabad, Pune, Surat & Nagpur. Many of these substances are toxic and carcinogenic -The materials are complex and have been found to be difficult to recycle in an environmentally sustainable manner causing health hazard - The impacts is found to be worse in developing countries like India where people engaged in recycling E-Waste are mostly in the unorganized sector, living in close proximity to dumps or landfills of untreated E-Waste and working without any protection or safe guards

III. STATEMENT OF THE PROBLEM:

A descriptive study to assess knowledge regarding e-waste management and its impact on health among people at selected urban community, Indore.

IV. OBJECTIVES OF THE STUDY

- To assess pretest knowledge regarding e-waste management and its impact on health among people at selected urban community, Indore.
- To find association of knowledge regarding e-waste management and its impact on health among people with their socio-demographic variables.
- To distribute Pamphlet regarding e-waste management.

V. HYPOTHESIS

- The following hypotheses will be tested at .05 level of significance.
- H1: There is a significant association between pretest knowledge of people with their selected socio-demographic variables.

VI. METHODOLOGY

A quantitative descriptive survey research approach was used in the study, 30 people of urban community(chikitsak nagar), Indore, were selected by using non probability sampling technique who were 20 years of age & above & willing to participate in the study. Data were collected using socio-demographic & structured knowledge questionnaire & analysed through descriptive and inferential statistics.

VII. RESULTS

➤ *Tables And Figures*

This section deals with the description of socio demographic variables, findings related to assessment of value orientation and association of level of value orientation with selected socio demographic variables.

- Age wise: 46.7% of adolescents were in 20<30 years of age and 10% were in 30<40 years of age and 43.3% were in 40 years and above.
- Gender: 60% were male and 40% were females Education wise: 26.6% were diploma holder, 30% were graduates and 43.3% were post graduates.
- Years of experience: 40% of people having 1-5 yrs of experience, 23.3% people having 6-10 yrs of experience and 36% having 10 yrs of experience.
- Previous knowledge: 46.7% having previous knowledge and 36.7% don’t have knowledge.
- Source of information: 10% got information from books, 16.7% got information from newspaper, and 56.7% got information from internet and 16.7% having no information.

| S.No | SOCIO DEMOGRAPHIC VARIABLES | FREQUENCY | PERCENT AGE |
|------|-----------------------------|-----------|-------------|
| 1 | Age (in years) | | |
| | 20<30 | 14 | 46.7 |
| | 30<40 | 3 | 10 |
| | 40 and above | 13 | 43.3 |
| 2 | Gender | | |
| | Male | 18 | 60 |
| | Female | 12 | 40 |
| 3 | Education | | |
| | Diploma | 8 | 26.6 |
| | Graduate | 9 | 30 |
| | Post graduate | 13 | 43.3 |
| 4. | Years Of Experience | | |
| | 1-5 yrs | 12 | 40 |
| | 6-10 yrs | 7 | 23.3 |
| | 10 and above | 11 | 36.7 |
| 5. | Previous Knowledge | | |
| | Yes | 14 | 46.7 |
| | No | 16 | 36.7 |
| 6. | sources of | | |

| | | | |
|--|------------------------|----|------|
| | Information | | |
| | Books | 3 | 10 |
| | Newspaper | 5 | 16.7 |
| | Internet and others | 17 | 56.7 |
| | Sources of information | 5 | 16.7 |

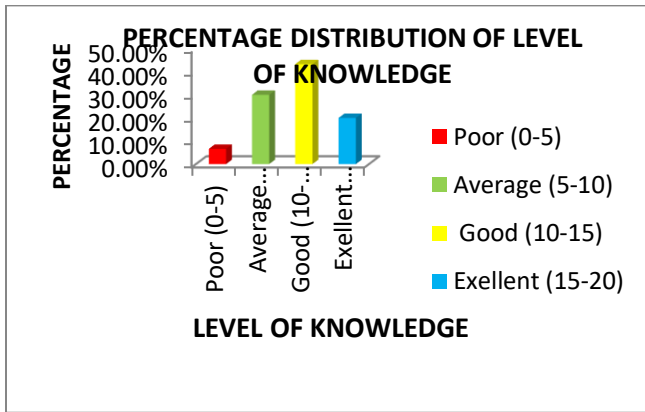
Table- 1. Distribution of samples according to socio demographic variables.(n = 30)

| KNOWLEDGE SCORE | GRADE | ASSESSMENT OF KNOWLEDGE SCORE | | | | |
|-----------------|-----------|-------------------------------|------------|------|--------|------|
| | | Freq. | PERCENTAGE | Mean | Median | S.D |
| 0-5 | Poor | 2 | 6.6% | 11.3 | 11.5 | 4.46 |
| 5-10 | Average | 9 | 30% | | | |
| 10-15 | Good | 13 | 43.3% | | | |
| 15-20 | Excellent | 6 | 20% | | | |

Table 2. Description of Knowledge Score (n = 30)

| Socio demographic variables | | Poor (0-5) | Average (5-10) | Good (10-15) | Excellent (15-20) | d.f. | χ^2 value | p-value | level of significance |
|-----------------------------|----------------|------------|----------------|--------------|-------------------|-----------|----------------|---------|-----------------------|
| AGE(In years) | 20<30 | 0 | 6 | 6 | 2 | 6 (12.59) | 5.50 | .481 | No significance |
| | 30<40 | 0 | 0 | 2 | 1 | | | | |
| | 40&above | 2 | 3 | 5 | 3 | | | | |
| SEX | Female | 1 | 6 | 7 | 4 | 3 (7.81) | .566 | .904 | No significance |
| | Male | 1 | 3 | 6 | 2 | | | | |
| EDUCATION | Diploma | 2 | 5 | 1 | 0 | 6 (12.59) | 15.9 | .014 | significance |
| | Graduate | 0 | 3 | 4 | 2 | | | | |
| | Post Graduate | 0 | 1 | 8 | 4 | | | | |
| EXPERIENCE | 1-5 yrs | 1 | 7 | 3 | 1 | 6 (12.59) | 12.8 | .046 | significance |
| | 6-10yrs | 0 | 0 | 6 | 1 | | | | |
| | 10 & above | 1 | 2 | 4 | 4 | | | | |
| PREVIOUS KNOWLEDGE | Yes | 1 | 3 | 4 | 6 | 3 (7.81) | 8.83 | .032 | significance |
| | No | 1 | 6 | 9 | 0 | | | | |
| SOURCES OF INFORMATION | Books | 1 | 0 | 2 | 0 | 9 (16.9) | 19.6 | .021 | significance |
| | Newspaper | 0 | 2 | 3 | 0 | | | | |
| | Internet | 0 | 3 | 8 | 6 | | | | |
| | No information | 1 | 4 | 0 | 0 | | | | |

Table 3. Association of knowledge scores with selected socio demographic variables.



Bar diagram showing percentage distribution of level of Knowledge of urban community people about e-waste management and its impact on health.

VIII. IMPLICATIONS OF THE STUDY

Government Sector:- The govt of India gives more emphasis on management of e-waste and on control measures of impact of e-waste on human being. The finding of the study can serve as guidelines for the govt or local bodies for planning of e-waste management and its impact on health.

Local Administrative Sector:- The govt and local bodies should take initiatives to make policy regarding the e-waste management for community people in different areas about the various health issues. Govt or local bodies organize mass awareness programmes in various urban community setting to educate the people regarding the necessity of proper management of e-waste. should take an initiative in providing continuous education to community people, Indore.

Nursing Area:- There is a need for extended and intensive nursing research in the areas of management of e-waste.

IX. RECOMMENDATIONS

On the basis of findings of the study, it is recommended that a similar study may be replicated on workers in different electronic centers so that the findings cannot be generalized.

A study can be conducted to identify the level of knowledge of community people.

X. CONCLUSION

This study revealed that urban community people have good knowledge regarding e-waste management and its impact on health & but there is need to improve knowledge in that diversity.

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