

## **ASSESS THE AWARENESS ON ILL-EFFECT OF ELECTRONIC WASTE ON HEALTH AMONG GENERAL POPULATION OF SELECTED URBAN COMMUNITY**

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### **Type of Article: Study Protocol**

**Conflict of Interest : None**

### **ABSTRACT**

**Introduction:** The increase use of these electronics equipment leads to increase in the amount of electronic waste. This study is planned to assess the awareness on ill effect of electronic waste among general population of selected urban community and to associate the awareness on ill effect of electronic waste on health among selected urban community with a selected demographic variable.

**Methodology –** It will be a quantitative research approach and it will be conducted among 100 selected sample of community urban area of Aarvi Naka. Self-structured questionnaire will be used to collect data.

**Expected Results:** Gaps in related knowledge are expected to be more. The conclusion will be drawn from the results..

**Keywords –** awareness, ill-effect, electronic waste

### **INTRODUCTION**

Advancement in information technology took place after the industrial revolution and has entirely changed the lifestyle of mankind. This development has helped in the progress of daily living but also adversely lead to several pollution and may be contagious to health if they are not treated properly. The increase use of these electronics equipment also leads to increase in the amount of electronic waste. In some areas, wastes are recycled and then sold into market which become source of income. These electronic wastes can accumulate or settle themselves in water, food, and other materials and could become harmful if contact with the harmful chemicals present in them. Not only them being toxic for our health, but they could cause injury while handling them if they are not carefully disposed.<sup>1</sup>

Adults have chance for higher risk of being contact with the hazardous chemicals as they got more exposure in handling the waste and also due to larger body surface area. The chemicals present in the electronic waste could become lethal and toxic for the functional organs of our body.<sup>2</sup>

Therefore, proper handling of these electronic wastes is very important in order to minimize the chance of being contact with the hazardous chemicals and reduce chance of injury.

## BACKGROUND OF THE STUDY

"Electronic waste" are discarded electrical or electronic devices which includes used electronics which are destined for reuse, resale, salvage, recycling, or disposal. India, being one of the swiftest growth of several market in the world in which smart phones production was about 27 million in 2016 only, even while the lifetime of these cell phones are longer as compared to the other countries production and just imagining of the amount of unused or outdated cell phones in India could give us a headache. These phones and other electronics contributed to 1.5 million tons of electronic wastes generated in India in 2015, 90 per cent of which were handled by the informal sector using unskilled methods that damage human health and the environment.<sup>3</sup>

Per year approximately 20-50 million tons of Electronic Waste are disposed of globally. According to the Report of the Comptroller and Auditor General, 4 lakh tones of electronic waste are generated annually in the country. In 2012, CPCB projected Electronic Waste to reach 8 lakh tone points. There are 10 states contributing to 70 per cent of the country's total E-Waste produced. Mumbai ranks first among the top ten Electronic Waste producing cities. The effects of these electronic materials are far worse in counties liked India where most of the people are having poor economic status that leads to engagement in picking up and recycling of trash cans and other dumps and they are not equipped with any proper protective measures.<sup>4</sup>

## NEED OF THE STUDY

There are certain studies that show that the exposure to certain chemicals from the processed electronic wastes could be harmful to human health and leads to destruction of the functional organs of the human body and could even be transmitted from mother to the foetus.<sup>5</sup>

If the level of awareness is allied with practice and attitude, that worker awareness can decrease risky practices; representing that a bottom-up approach to addressing the negative effects of electronic wastes recycling possibly will be an effective strategy for improving the condition of the workers.<sup>6</sup>

Therefore, with consideration of all the health risks related to exposure with electronic wastes, this study aims to respond to the extent to which how much awareness do people recited in Aarvi Naka have in relation to management of electronic wastes.

## METHODOLOGY

The study will be conducted among 100 samples in selected urban community of Aarvi Naka.

## INCLUSION CRITERIA

- General population of Aarvi Naka who are present at the time of data collection.
- General population of Aarvi Naka who are willing participate in the study.

## EXCLUSION CRITERIA

- General population of Aarvi Naka who have already attended the programme on the same topic.
- General population of Aarvi Naka who are not willing to participate at the time of data collection.

## SAMPLE SIZE

The sample size for this study is 100

## RANDOMIZATION

Non-randomized purposive sampling technique will be used for data collection.

## INTERVENTIONS

The purpose of the study will be explained to all the participants and written consent form will be taken before starting the study. Self-structured questionnaire will be distributed and explained to them if required, the participants will give answers to the questionnaire given to them in verbal or written. The score will be calculated to find their level of awareness.

## DATA MANAGEMENT AND MONITORING

The demographic data will be recorded. Questionnaire will be conducted after explanation of the purpose of study and taking written consent from the participants and the results will be obtained to see the level of awareness among the participants who are representing the population.

## STATISTICAL ANALYSIS

SPSS software will be used for statistical analysis.

## ETHICS AND DISSEMINATION

This study is approved by the Institutional Ethics Committee of DMIMS (DMIMS(DU)/IEC/Dec-2019/8638). Proper information about the study will be given to all the participant and they will be requested to go through the consent form and sign on it if they agree to participate.

## EXPECTED OUTCOMES/RESULTS

This study is planned to assess the awareness on ill effect of electronic waste on health among general population of selected urban community of Aarvi Naka. The assessment will be done through self-structured questionnaire among the selected participants.

## DISCUSSION

The general residents of the community are expected not to have good awareness regarding the handling and management of the electronic wastes. The researcher wants to know about how much the people of the selected area is aware on the harmful health effects of electronic wastes and how much they are influenced by the awareness and policies given by the Government of India. This study will help the researcher to conclude the findings and take necessary intervention in the selected urban area.<sup>7</sup>

A study was done on Management and Concern for the Environment amongst the population in Onitsha, South-eastern Nigeria in 2013. In this study, the researcher wanted to assess the level of awareness of the general population regarding the management, disposal and health effects of electronic wastes. In this study, the data was collected using well-structured questionnaires among 247 samples. The study revealed that awareness among majority of the study samples is very low. The informants declared that although they are very much concerned for their environment, they were not taking proper management and disposal of the electronic wastes as they do not know about their harmful effects.<sup>8</sup> Few articles have studied the effects on various aspects in this community<sup>9-11</sup>. Similar studies on awareness regarding health problems were conducted by Vora et al<sup>12</sup> and Balwani et al<sup>13</sup>.

## CONCLUSION

Conclusion will be made from the result after statistical analysis is done.

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