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Disposal of Household Healthcare Waste: A Cross-Sectional Analysis from Turkey

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Extended Abstract

Healthcare institutions are the largest producers of medical waste. However, the generation of medical waste is not limited to healthcare facilities; large volumes of medical waste are also produced in home settings. Particularly during the COVID-19 pandemic, Household Healthcare Wastes (HHW) posed serious risks to environmental and public health and became a critical issue requiring urgent improvements [1-5]. While healthcare institutions had relatively more information and oversight regarding medical waste management, significant uncertainties and gaps in HHW management have been highlighted [2-5]. It is well known that such waste poses serious risks to the environment and public health [1]. In Turkey, regulations on the management and disposal of medical waste have been established through the 2017 Medical Waste Control Regulation [6]. However, this regulation only covers medical waste generated in healthcare facilities; there are no regulations regarding the disposal of HHW. This situation creates a significant gap in how HHW should be managed and disposed of. Thus, the aim of this study is to define HHWs and their disposal methods in Turkey.

This cross-sectional study was conducted between December 15, 2023, and March 2024, at a tertiary healthcare institution in Tekirdağ, Turkey. The study included 1243 individuals or their relatives (one person per family) who agreed to participate, were 18 years or older, and had no mental, physical, or sensory (vision, hearing) impairments. These individuals were outpatients, received outpatient treatment, and were discharged. Data was collected using the Household Healthcare Waste Identification Form developed by the researchers. Descriptive statistics (mean, standard deviation, minimum, and maximum) were used for continuous variables, and frequencies and percentages for categorical variables in the statistical analysis.

The findings of the study showed that the most frequently encountered pharmaceutical HHWs over the last year were: pills (89.1%, 20.12±20.37years/item), syrups (56.5%, 7.42±48.73years/item), ointments (52.5%, 6.75±47.82years/item), drops (33.6%, 7.59±63.38years/item), and ampoule medicines (15.4%, 21.65±107.68years/item). Infectious HHWs included: blood-contaminated dressing waste (25%, 16.45±42.47years/item), and sharp objects HHWs included: blood glucose test lancet kits (20.7%, 140.10±247.94years/item), used syringes (19.4%, 15.11±38.32years/item), and broken ampoules (11.3%, 11.34±14.74years/item). Of the participants, 43.1% disposed of infectious HHWs, 37% of sharp objects HHWs, and 67.6% of pharmaceutical HHWs in household waste. Furthermore, 2.8% of participants gave infectious, 1.8% sharp objects, and 7.5% pharmaceutical HHWs to the pharmacy. 3.5% of participants brought infectious HHWs, 2.9% brought sharp objects HHWs, and 5.3% brought pharmaceutical HHWs to the hospital. Additionally, 3.5% of participants gave infectious, and 3.6% gave pharmaceutical HHWs to the municipal waste collection center.

In conclusion, this study reveals significant issues and gaps in the disposal of HHWs in Turkey. The most common HHWs generated were pharmaceutical HHWs (pills, syrups, ointments, drops), infectious HHWs (blood-contaminated dressing waste), and sharp objects HHWs (blood glucose test lancet kits, used syringes, ampoules). A large proportion of HHWs were disposed of in household waste, and a significant portion of the public was unaware of how to properly dispose of HHWs. Legislative measures and public awareness-raising in this area are critical steps for public health and environmental sustainability.

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