



CODEN [USA]: IAJPBB

ISSN : 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**

SJIF Impact Factor: 7.187

<https://doi.org/10.5281/zenodo.5506671>Available online at: <http://www.iajps.com>

Research Article

**KNOWLEDGE AND PRACTICES OF SOLID WASTE
MANAGEMENT AMONG PEOPLE OF JALAL COLONY
HARBANSPURA, LAHORE**¹Rukhsana Kausar, ²Robina Ashraf, ³Tahira Shaheen¹Charge Nurse, Services Hospital Lahore, Email ID: hiraa96542@gmail.com, ²Charge Nurse, District Headquarters Hospital, Okara, Email ID: robina5556@gmail.com, ³Nursing Instructor, Post Graduate College of Nursing Punjab Lahore, Email ID: ushnahumna@gmail.com.**Article Received:** July 2021**Accepted:** August 2021**Published:** September 2021**Abstract:**

Introduction: Domestic and municipal waste becomes a source of serious threat to the public health and environment if not properly collected, stored and disposed. Waste is anything which is considered un-useful, surplus and is not perceived of any practical value. This study investigates the knowledge and practices regarding solid waste management in urban population of Lahore. **Methods:** The study is based on a mixed-method approach. A cross-sectional survey with self-structured questionnaire was used to assess the response for data collection. A total of 200 house representatives were interviewed during the study. **Results:** The results of the study revealed that 89.0% of households disposed of food debris as waste and 86.5 % disposed of plastic materials as waste. The study also showed that 64.5.0% of the households disposed of their waste at community bins or had waste picked up at their homes by private contractors. The remaining 35.5% disposed of their refuse in gutters, streets, manholes and nearby bushes. Of those who paid for the services of private contractors, 73.0 % were not satisfied with the services because of their cost and irregular collection. About 87% of the respondents believed that improper solids waste handling leads to the spread of water and air borne diseases at community level; particularly typhoid, malaria, cholera, hepatitis and diarrhea. Majority of the inhabitants mostly asked the minors to throw of the refuse mostly after dawn and dusk so that no one notice and object. **Conclusion:** Public awareness campaigns, health education programmes, installation of extra municipal trash bins and the collection of waste by professional public-private based firms and contractors can help lessen the public exposure and prevent the toxic effects of the solid waste in the community.

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Please cite this article in press Rukhsana Kausar et al, **Knowledge And Practices Of Solid Waste Management Among People Of Jalal Colony Harbanspura, Lahore., Indo Am. J. P. Sci, 2021; 08(9).**

INTRODUCTION:

Thousands of tons of municipal waste is generated every day globally. Solid waste management has become a matter of great concern in urban settings because of population explosion and rapid industrialization, a lot of refuse is seen disposed of on the pathways unattended posing a health threat to the general public [1,2].

Such a trend is also being observed in the densely populated outskirts of cities of the developing world. [3,4]. Due to the rapid urbanization, over population, consumption of the synthetic material, introduction of processed and packaged food, disposable containers has resulted in a massive increase in the overall bulk of the municipal waste, causing serious health and environmental degradation risks to the managers [5,6]. Solid waste management is a shared public responsibility warranting contribution from every citizen to develop a unanimous and productive civic sense or the cleanliness and the stability of the ecosystem [7-9].

In the last two decades, the bulk of waste used to be negligible mostly consisting of the natural and biodegradable organic variety therefore it was easy to handle because half of it had already decayed and converted into simpler forms without choking the drainage system of the cities [9]. The inadequate waste management practices in recent years has led to gross sanitization condition and led to the endemic outbreaks of water and airborne diseases such as cholera, hepatitis, typhoid, malaria and parasitic worm infestations causing an alarming health crisis [10-13]. Mostly the problem upfront are related to collection, storage, transportation and disposal of the domestic waste. It is evident that the capacity of the current facilities is insufficient to accommodate the overwhelming burden of the municipal refuse. Efficient and ecofriendly processes are the need of the hour to resolve the issue [14].

A study conducted in Kodiabe Ghana, made direct observations at disposal sites on the methods in which waste was disposed [15]. Another study conducted in Nigeria reflected that the perception of waste disposal is the index of the people's mind and attitudes towards sanitation issues [16].

Similarly, the study in Khulna, Bangladesh identified that since the citizens think that they are paying the taxes and duties therefore it is district government is solely responsible for the provision of clean and green pollution free city [17]. Although, the solid waste management operations fall in the domain of the local

government. However, due to the lack of political will and unequitable division of the resources it has become highly unlikely for the district administration to provide efficient and cost effective ecofriendly waste management services[18][19,20]. Not only huge investment and planning is required to overhaul the waste management infrastructure, but social and behavioral modifications are equally beneficial if waste management campaign in urban areas is to be cherished [21]. In the light of above facts the current study aims to investigate knowledge and practices towards solid waste management in urban population of Lahore Jalal Colony Harbanspura.

METHODOLOGY:

Ethical approval for this study was obtained from the district government Lahore. The aim and objective of the study was explained to all participants, after which informed received formally. Anonymity and the confidentiality was ensured during the study.

it is a descriptive cross sectional study combining systematic and purposive sampling techniques and used both quantitative and qualitative methods for data collection conducted during April 2019 and June 2019. The quantitative part consisted of a survey using a questionnaire and the qualitative part used in-depth interviews with the household representatives. The first household to be surveyed was selected by spinning a bottle. Private enterprises and trading are the dominant occupations in the municipality, followed by office works and crafts. A sizeable proportion of the inhabitants is unemployed, which relates the fact of their inability to own health and sanitation services.

The data was analyzed using SPSS, version 21 (IBM, Chicago, IL, USA).

A total of 200 out of the 220 sampled households responded to the survey questionnaire. The sex of the respondents was almost evenly divided, with 48.0% being male and 52.0% being female. The modal age of the respondents was 31-40 years with 34.0 % of respondents being in this age group. Nearly half (51.0%) of the respondents had secondary, and 25.5% attained higher secondary and above level, whereas the rest (23.5%) had no primary level or no formal education. About three quarters (76.0%) were employed whilst the remaining 24.0% were unemployed.

Tables 2 and 3 show the typJales of solid waste generated and the disposal methods used by the household. Food debris was the major waste generated

in the study area, with 44% of respondents saying they generated food debris as a solid waste. The remaining reported types of waste were: plastics (24.0%), bottles/cans /paper (10.0%), and old clothes (22.0%).

Most households (84.0%) did not separate their solid waste into different types before disposal, whereas 75% did not cover their waste during storage. Similar views were shared during the in-depth interviews.

Table 1 Socio-demographic data of the respondents

Variables	Frequency (N = 200)	Percent %
Sex		
Male	96	48.0
Female	104	52.0
Age in years		
21 – 30	40	20.0
31 – 40	52	34.0
41 – 50	68	26.0
51 – 60	32	16.0
61 and above	8	4.0
Marital status		
Single	89	44.5
Married	111	55.5
Religion		
Muslim	164	82.0
Christians	32	16.0
Others	4	2.0
Qualification		
Primary	47	23.5
Secondary	102	51.0
Higher Secondary and Above	51	25.5

Table 2 Types of waste generated by the household

Types of waste generated by household	Frequency	Percent
Food Residues	88	44.0
Plastic/Synthetic Material	48	24.0
Clothing Material	44	22.0
Bottle and Cans	20	10.

Table 3 Waste disposal methods by households

Characteristics	Frequency	Percent
Separation of solid waste?		
I do not separate my waste	301	84.0
I separate my waste	63	16.0
Sites of solid waste disposal		
Appropriate disposal sites	222	66
In – appropriate disposal sites	142	33
Transportation of waste		
Self	40	20.0
Children	60	30.0
Housemaid	36	18.0
Paid collection	56	28.0
Others	8	4.0

Out of the 200 respondents, 66.0% disposed of their refuse at the proper designated sites, which included either roadside communal trash bins or the dumping containers of city district government/waste management companies, while 33.0% of the respondents practiced crude and reckless dumping on footpaths, abandoned streets, buildings, ponds and nearby bushes gutters, or manholes).

The two most common items employed for waste storage were plastic bins (32.0%) and baskets (28.0%). The remaining respondents reported making use of synthetic bags (20.0%), cartons (12.0%), used paint and edible oil buckets (6.0%), and other items (2.0%). Contracted agents mainly transferred household garbage to the municipal disposal sites and containers, and 28.0% of volunteers told that they paid for the disposal of their waste. Others transported the waste

themselves (20.0%), had their children (30.0%) or housemaids (18.0%) transport it, or used some other means (4.0%). Some of the key informants reported similar information:

The majority (82.0%) of the respondents believed that solid waste management is important. Most of them (85.0%) also reported that children should be made responsible to clean the environment, while 2.0% reported that private contractors must do their job. Most of the respondents (81.5%) reported that improper solid waste disposal causes health risk and diseases, (62.0%) mentioned malaria. Some 60.0% indicated that they impart awareness and educate their family recommended practices of waste management. 65.0% of the volunteers stated that they dispose their waste because of cleanliness, as shown in Table 4.

Table 4 Perceptions of households toward solid waste management (n = 200)

Variables	Frequency	Percent
Do you think waste management is important		
It is important	164	82.0
It is not important	33	16.5
Do not know whether it is important	3	1.5
Responsibility to clean		
Children	171	85.5
Community members	11	5.5
District assembly	14	7.0
Private operators	4	2.0
Cause a disease		
Do not cause a disease	163	81.5
Do not know if it cause a disease	35	17.5
2	1.0	
Kinds of disease/illness		
Malaria	144	62.0
Diarrhea	26	23.0
Typhoid	30	15.0
Others	10	5.0
Do you educate your family		
Do education	130	65.0
Do not do education	70	35.0
Motivation to dispose your waste		
Cleanliness	120	60
Fear of illness	50	25
Unpleasant Smell/Sight	30	15

DISCUSSION:

The study reflects that increased domestic and household processes are leading to the generation of higher bulk of municipal wastes [23]. It was also noticed that some of this waste is spilled on the streets, gutters, manholes, backyard and ponds. Such practice can lead to outbreak of air and waterborne diseases by providing breeding place for the parasites, fungi and bacteria [24]. Moreover, non-biodegradable waste such as plastic, glass and metal when disposed off recklessly can clog drains and choke sewage leading to urban flooding in rainy season [25].

Similarly, burning of plastic waste also leads to formation of the toxic sulfur and nitrogen oxides, causing air pollution and ozone layer depletion posing threat to both aquatic and terrestrial lives through green-house effect and global warming.

The best practice is to store domestic waste in covered plastic bins to prevent stray animals, scavengers and parasites to spill them off [25,26,28]. To ensure compliance of the public towards solid waste management zero tolerance legislations need to be made and should be implemented in full letter and spirit under the guiding principles of WHO Millenium Development Goals framework.

The perceptions of the respondents towards waste management generally seemed to be fairly low.

CONCLUSIONS:

Waste management is a global issue. Joint and concentrated long term planning by the involvement of all the stakeholders, community representatives, civil society and international donors should be implemented in full swing to cherish the effects of solid waste management in urban population of Lahore.

Acknowledgements:

We wish to thank the City District Government Lahore for their kind permission and support.

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