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A study to assess the knowledge and practices of household waste management among housewives in selected urban areas of Pune city with a view to develop an information booklet

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Abstract
Waste disposal has become big problem all over India. Leads to various contagious health hazardous diseases. Statement of the problem was "A study to assess the knowledge and practices of household waste management among housewives in selected urban areas of Pune city with a view to develop an information booklet." Population: Population under study includes 500 housewives at urban of areas Pune city. Research approach was quantitative research approach was exploratory descriptive survey design. The sampling is done by systematic random sampling technique. Conclusion It has been seen that most of the housewives staying in selected urban area of Pune city Pune city are not aware of household waste management .Therefore information booklet has been provided to the housewives, to increase the level of knowledge and practices as well.

Keywords: Household waste management, housewives, knowledge, practices, information booklet

Introduction
The total quantity of waste generated per day is about 1300 to 1400 metric tons (approximate generation per capita per day is 500 gm). Pune Municipal Corporation (PMC) is responsible for collection, storage, segregation, transportation and disposal of all solid waste generated in the city. This paper attempts to assess the attitude, perception, practices and general information regarding collection, segregation, transportation, recycling and disposal of household waste among housewives residing in selected urban area of Pune city .Pune is the 8th largest city in India and the 2nd largest in Maharashtra with an area of 243.84 sq. km and population of 36 lakhs as per 2013 census. Pune generates 1500 to 1600 tons of solid waste per day, 122 trucks collect waste door to door, collecting an average of 137 organic tons per day; 56 percent of households have door to door coverage; 44 percent of households provide segregated waste. Ward wise average waste generated per capita per day is 350 to 750 grn. In an attempt to make Pune a "Zero garbage discharge" city, the Pune Municipal Corporation (PMC) implemented rules for all societies in the city to construct their own compost pit. PMC has given two small garbage bins white for wet and green for dry waste at free of cost for better waste management. The output of daily waste depends upon the dietary habits, life styles, living standards and the degree of urbanization and industrialization. There is a correlation between improper disposal of solid wastes and incidence of vector-borne diseases. In all civilized countries, there is an efficient system for its periodic collection, removal and final disposal without risk to health. Women play an important role in household waste management in the family; if she has adequate knowledge on it, she can educate her children, family members and neighbors.

Methodology
Research approach
Research approach for the study is quantitative approach

Research design
An exploratory descriptive survey design

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Variables under study
The study variables are knowledge and practices of the housewives on household waste management.
Demographic variables are age, gender, number of the people in the household, educational qualification, occupation, religion, and family's average income.

Sampling technique
Subjects are randomly selected from the list of households provided in the municipality geographical map.

Sample size
500 housewives residing in the selected area of Pune. City

Inclusion criteria
(ii) Housewives who present at the time of data collection,
(iii) Housewives who can read and write in Marathi, Hindi and English.

Exclusion criteria
(i) housewives who have prior scientific knowledge regarding household waste management, and
(ii) Housewives who are employed

Ethical consideration
- Written permission will be obtained from corporation of selected area of Pune city
- Consent from the subject before the data collection
- Confidentiality of the data of the subject

Tools and instruments
The questionnaire was divided in to three parts:
Part I consist of demographic variables (age, gender, number of the people in the household, educational qualification, occupation, religion, and family's average income).
Part II consist perceptions and attitude of housewives on waste management (waste source and generation at home, waste handling, waste storage, final disposal of waste, waste collection service and transportation, waste minimization.
Part III consist of general awareness on household waste management with 6 questions.

Validity
- Content validity has done of the tool from various experts from the department
- Various suggestion has taken into consideration and
- Tool has found valid

Reliability
- Reliability of the tool has done on 50 samples by using test retest method
- Tool has fond reliable

Pilot study
Pilot study has done on 50 samples
Study was found feasible

Data collection method
- Permission was obtained from Gokhale Nagar Municipal corporate.
- Informed consent was obtained from subjects; purpose of conducting.

- The study was explained to the subjects.

Data collected using
- Structured knowledge questionnaire, and\
- Structured attitude, practices and perceptions rating scale.
- General awareness on household waste management with 6 questions

Plan of data analysis
- Scores on knowledge and practice of housewives on household waste management will be analyzed by using mean, median, standard deviation and mean percentage, frequency and percentage distribution.
- The knowledge and practice scores of housewives on household waste management using rating scale.
- Association of the knowledge and practice score of housewives on household waste management with selected demographic variables will be analyzed using chi-square test.

Results
Section I
Description of samples based on their personal characteristics

Table 1: Description of samples (housewives) based on their personal characteristics in terms of frequency and percentage

Demographic variable	Freq.	%
Age		
<20 years	155	31%
21-30 years	125	25%
31-40 years	105	21%
41 years and above	115	23%
Religion		
Hindu	320	64%
Muslim	180	36%
Education		
Illiterate	180	36%
Primary	320	64%
Husband's occupation		
Private	140	28%
Business	255	51%
Government	105	21%
Type of family		
Nuclear	280	56%
Joint	210	42%
Single parenting	10	2%
Dietary preferences		
Vegetarian	120	24%
Non-vegetarian	370	74%
Both vegetarian and non-vegetarian	10	2%
Source of previous knowledge		
T.V	225	45%
Radio	20	4%
News paper	255	51%
Husband's salary		
< Rs.10,000	140	28%
Rs.10,001-15,000	170	34%
Rs. 15001-20,000	190	38%

Section II
Analysis of data related to knowledge regarding household waste management among housewives

Table 2: Knowledge regarding household waste management among housewives N=500

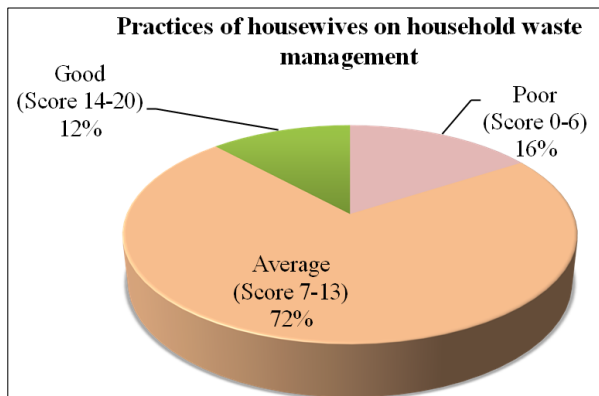| Knowledge	Freq.	%
Poor (Score 0-10)	0	0%
Average (Score 11-20)	490	98%
Good (score 21-30)	10	2%

Fig 1: practices of housewives on household waste management

Section IV
Analysis of data related to relationship between knowledge and practices scores of housewives on household waste management

Table 3: Relationship between knowledge and practices scores of housewives on household waste management

Statistic	Value
r	0.21
t	4.72
p-value	0.000

Pearson's correlation coefficient was found to be 0.21, which is positive, indicating that more the knowledge of the housewives regarding household waste management better are their practices. The significance of this relation was tested using t-test for significance of correlation coefficient. T-value for this test was 4.72 and the corresponding p-value was 0.000, which is small, which indicates the correlation between the knowledge and practices of the housewives was significant positive. More the knowledge better are the practices of the housewives regarding household waste management.

Conclusion
It has been seen that most of the housewives staying in Meenatai Thakre of Pune city are not of household waste management. Therefore information booklet has been provided to the housewives, to increase the level of knowledge and practices as well.

Discussion
Sichaaza, Hannah Muzyamba An assessment of knowledge, attitudes and practices towards waste management among Ng'ombe residents the main purpose of the study was to assess the knowledge, practices and the attitudes towards waste management. The following research questions were addressed: (i) what are the attitudes of the residents towards waste management? (ii) What are the knowledge levels of the residents on waste management? (iii) What are the practices of Ng'ombe residents regarding waste management? A mixed design was used in this study. The

study used both qualitative and quantitative methods to answer the research questions. For this reason, three methods of data collection were used, the questionnaire, interview guide and focus group discussion. The study population consisted of both male and female adults of 20 years and above from selected households; community leaders, Environmental Health Technicians, Community Based Enterprises (CBEs) workers and Lusaka City Council (LCC) waste management staff. The study revealed that all respondents were knowledgeable about the risks of having waste in their environment. However, they poorly handled the waste. They lacked knowledge on how to manage waste which included aspects of waste minimization, recycling, composting, segregation and separation. Results also indicated that health providers were the main source of knowledge about waste management. The other sources of knowledge were Community Based Enterprises (CBEs), megaphone announcement by the council, television, parents and radio. As regard to practices, the results indicated that only a small fraction of residents used the waste management scheme by the Community Based Enterprises (CBEs) for waste disposal. The majority used illegal dumping, disposing waste in the drainages, roads, unfinished structures, nearby stream and also the bush at the end of the compound. Some residents asked a mad person in the compound to dispose waste for free and anywhere .The other common methods used were pit digging and burning. The residents did not recycle waste. The common type of waste recycling was that of exchanging finished cooking oil containers with sweeping brooms. The other health hazard type of waste recycling that was being practiced was that of refilling empty water bottles with water from the tap and latter reselling to the community. The bottles are picked from places of functions such as weddings and meetings. Residents did not practice composting and did not separate waste or segregate it, they mixed all types of waste in the sacks, in the pits and some burnt all the various types of waste together. The results indicated that residents had negative attitudes towards waste management. The majority of the respondents indicated that it was the responsibility of the council to manage the waste and not the residents. This was because the council collects ground rates from the public which should enable the council to keep the community clean. Respondents also indicated that the government should employ people to keep the community clean and also that garbage collection should be for free as it was before in United National Independence Party (UNIP) government under Kenneth Kaunda's presidency.[37]

In the present study 98% of the housewives had average knowledge (score 11-20) and only 2% of them had good knowledge (score 21-30) regarding household waste management among housewives16% of the housewives had poor practices (score 0-6), 72% of them had average practices (score 7-13) and 12% of them had good practices (score 14-20) regarding household waste management

Limitations
- Study has limited for 500 samples
- Study has limited to housewives
- Study has limited to urban areas of Pune city

Recommendations
- A comparative study can be done between urban and rural area about knowledge and practices on household

waste management.

- An experimental study can be done by assessing the effect of health education or instructional manual.
- This study can be done on more sample size.
- Study can be done in another setting.
- Study can be done on another population

Acknowledgement

References

1. Park K. Preventive and social medicine. Jabalpur: Banarasidas Bhanot, 2009.
2. Pathan AK. Domestic waste: Hazard to the life and its effect on human being, 2006.
3. The directorate of environment. s.c.o. 1-2-3, sector 17-d, Chandigarh, 2004.
4. Kaundal R, Sharma A. Problems of household waste disposal. J hum ecol. 2007; 21(3):199-201.
5. Abdellah FG, Levine. Better patient care through nursing research, 2nded. New York: millat press ltd, 1979. Available from: https://www.google.co.in/#q= according+to+abdellah+and+levine%2c+1979+review+ of+literature+definition
6. Gani BA, Chiroma A, Gana BA. Women and solid waste segregation in Bauchi Nigeria. 2012, 2(8).
7. Stonec, Guiremc, eigsti. Comprehens https://www.scribd.com/document/25532543/related-literature-chapter-2.
8. Kaundal AR. problems of household waste disposal. J Hum Ecol. 2007; 21(3):199- 201.
9. Virk KM, Vandana S, Sandhu P. awareness among urban inhabitants about waste management and its impact on environment. J Hum Ecol 2004; 15(2):97-100. http://ac.els-cdn.com/s2211601x16000390/1-s2.0-s2211601x16000390-main.pdf?_tid=4d6c7ad8-87cd-11e7-af64-00000aab0f6b&acdnat=1503470329_0947a29519d76b0de3ea04086a8cecc5
10. https://link.springer.com/chapter/10.1007/978-981-4560-70-2_27 international journal of technical research and applications e-issn: 23 www.ijtra.com special issue 24, 2015, 13-16.
11. Journal of biology, agriculture and healthcare, 2015, 5(3). www.iiste.o ISSN 2224-3208 (paper) ISSN 2225-093x (online).
12. International journal of applied environmental sciences. 2016; 11(5):1323-1332. ISSN 0973-6077.
13. Journal of environmental and public health volume 2016 (2016), article ID 9024160, 14 pageshttp://dx.doi.org/10.1155/2016/902416
14. https://doi.org/10.1016/j.proenv.2016.07.08
15. (http://creativecommons.org/licenses/by-nc-nd/4.0/).
16. Journal of environmental protection, 2013, 4, 665-67 http://dx.doi.org/10.4236/jep.2013.47076 published online July 2013 (http://www.scirp.org/journal/jep
17. http://ecubelabs.com/blog/overflowing-garbage-bins-5-impacts-on-health-and-environment-and-how-to-revent/
18. Bernardo ec. ann n y acad sci, Oct;. 2008; 1140:420-4. DOI: 10.1196/annals.1454.016.pmid: 18991942
19. Boadi KO, Kuitunen M. environmental and health impacts of household solid waste handling and disposal practices in third world cities: the case of the accra metropolitan area, Ghana. J environ health Nov. 2005; 68(4):32-6.
20. Wang J, Han L, Li S. Waste Manag. 2008; 28(9):1672-80. Epub 2007 octpmid:17967528 https://www.ncbi.nlm.nih.gov/pubmed/18991942
21. http://www.ripublication.com journal of environmental protection. 2013, 4(7). Article Id: 34526, 6 pages DOI:10.4236/jep.2013.470
22. https://www.researchgate.net/publication/282637507_household_recycling_knowledge_attitudes_and_practices_towards_solid_waste_management
23. Ying Liu, Jikun Huang. "Rural domestic waste disposal: an empirical analysis in five provinces of china", china agricultural economic review. 2014; 6(4):558-573.
24. https://doi.org/10.1108/caer-05-2013-0076
25. Sujauddin M, Huda Sm, Hoque AT. Waste Manag. 2008; 28(9):1688-95. epub 2007 sep 12.pmid:17845843
26. https://www.ncbi.nlm.nih.gov/pubmed/17845843
27. http://edugreen.teri.res.in/explore/solwaste/health.htm
28. https://www.ncbi.nlm.nih.gov/pubmed/18991942
29. https://drive.google.com/file/d/0b-zzkunv8pmwogvhu3ztbm0zenc/view
30. International journal of innovative research in science, engineering and technology (an iso 3297: 2007 certified organization) April, 2015, 4(4) https://www.ijirset.com/

upload/2015/April/35_present.pdf

31. Tilaye M *et al*, Int. J Waste Resources 2014; 4:3
    http://dx.doi.org/10.4172/2252-5211.1000158
    http://www.mdpi.com/2071-1050/9/4/506

32. Abdellah AM, Balla QI. Domestic solid waste management and its impacts on human health and the environment in Sharg el Neel locality, Khartoum state, Sudan. Pakistan journal of biological sciences. 2013; 16:1538-1544.

33. International journal of scientific & technology research September. 2015, 4(9). http://www.ijstr.org/final-print/sep2015/assessing-the-current-status-of-solid-waste-management-of-gondar-town-ethiopia.pdf

34. http://www.avfallsverige.se/fileadmin/uploads/rapporter/externa_rapporter/ltu-dt-0833-se.pdf

35. http://www.ijesrt.com/issues%20pdf%20file/archive-2016/july-2016/169.pdf

36. http://dspace.unza.zm:8080/xmlui/handle/123456789/515

37. Mazaheri Tehrani A, Hosseindoost GH, Miranzadeh MB. Knowledge and attitude level of students about solid waste recycling; Kashan University of medical sciences. International archives of health sciences. 2016; 3(1):13-17.

38. file:///c:/users/asus/downloads/kaums-iahs-v3n1p13-en.pdf