



A COMPARATIVE STUDY TO ASSESS THE KNOWLEDGE AND PRACTICE REGARDING HOUSEHOLD WASTE MANAGEMENT AMONG HOMEMAKERS IN SELECTED URBAN AND RURAL AREAS OF WEST TRIPURA

Nursing

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ABSTRACT

The management of household waste is a critical aspect of maintaining environmental and public health. Household waste, comprising biodegradable and non-biodegradable materials, poses significant challenges, particularly in regions with limited infrastructure. Urban areas often have better access to waste management services, while rural areas depend on traditional and often less effective methods. This study aims to compare the knowledge and practices regarding household waste management among homemakers in urban and rural areas of West Tripura.

Methodology: A non-experimental comparative research design was employed. Data were collected using structured questionnaires and checklists from 200 homemakers, with 100 participants each from an urban area (North Banamalipur, Ward 22) and a rural area (Purba Champa Mura). Convenience sampling was used, and the study was conducted in January 2024. The tools assessed knowledge and practices related to household waste management, categorized into levels ranging from inadequate to adequate. The results revealed that 75% of urban homemakers had adequate knowledge compared to only 40% in rural areas. Similarly, 70% of urban participants demonstrated satisfactory practices, while only 30% of rural participants achieved the same. A significant association was found between sociodemographic variables and levels of knowledge and practices. The study concludes that urban homemakers exhibit better knowledge and practices regarding household waste management than their rural counterparts. The findings highlight the urgent need for targeted educational interventions and improved waste management systems in rural areas to promote sustainable waste handling and environmental conservation.

KEYWORDS

Household waste management, urban-rural comparison, homemakers, West Tripura

INTRODUCTION

Waste management has become a pressing global issue due to rapid urbanization, population growth, and economic development. The United Nations estimates that global municipal solid waste generation will increase by 70% by 2050, reaching 3.4 billion tons annually. Proper waste management, especially at the household level, is crucial to mitigate its environmental, health, and economic impacts. Household waste, comprising biodegradable and non-biodegradable materials, contributes significantly to environmental pollution if not managed effectively.

Urban and rural areas differ significantly in their approach to household waste management. Urban areas generally have better access to formal waste collection systems, educational programs, and infrastructure, enabling improved practices. In contrast, rural areas often rely on traditional, unsystematic methods such as open dumping or burning, which can lead to adverse environmental and health consequences.

Homemakers play a pivotal role in household waste management, as they are often responsible for segregating, disposing, and managing waste. Their knowledge and practices directly influence the effectiveness of waste management strategies. However, disparities in awareness and practices between urban and rural areas can hinder overall progress in sustainable waste management.

This study aims to assess and compare the knowledge and practices regarding household waste management among homemakers in selected urban and rural areas of West Tripura. By identifying gaps and differences, the study seeks to inform targeted interventions and policy recommendations that can enhance waste management practices and promote environmental sustainability in both settings.

Objectives Of The Study:

1. To assess the knowledge regarding household waste management among homemakers in selected urban and rural areas of West Tripura.
2. To assess the practice regarding household waste management among homemakers in selected urban and rural areas of West Tripura.

3. To compare the knowledge and practice regarding household waste management among homemakers in selected urban and rural areas of West Tripura.
4. To find out the association between level of knowledge regarding household waste management among homemakers residing in selected urban and rural areas of West Tripura with their selected socio-demographic variables.

Hypothesis:

H₁-There is a significant association between the level of knowledge regarding household waste management among homemakers in selected urban and rural areas of West Tripura with their selected socio-demographic variables.

Research Methodology:

Research Design:

A non-experimental comparative research design was adopted to assess and compare the knowledge and practices of homemakers regarding household waste management in selected urban and rural areas of West Tripura.

Variables Under Study:

- **Dependent Variable:** Knowledge and practices regarding household waste management.
- **Independent Variable:** Residence (urban or rural).
- **Demographic Variables:** Age, gender, religion, educational status, occupation, monthly family income, and type of family.

Criteria For Sample Selection

Inclusion Criteria:

1. Homemakers aged between 20-65 years who are primarily involved in household waste management.
2. Only one homemaker from each household selected for data collection.
3. Homemakers who can understand either Bengali or English.

Exclusion Criteria:

1. Homemakers who are not willing to participate in the study.
2. Homemakers who are not present during the time of data collection.

3. Homemakers who are ill during the period of data collection.

Research Setting:

The study was conducted in North Banamalipur (Ward No. 22) representing the urban area and Purba Champa Mura village representing the rural area, both located in West Tripura.

Population:

Homemakers aged 20–65 years residing in the selected urban and rural areas.

Sample And Size:

The study included a total of 200 participants, with 100 homemakers from the urban area and 100 from the rural area, selected using convenience sampling.

Selection And Development Of Tool:

- **Tool I:** A structured knowledge questionnaire consisting of 20 items to assess knowledge about household waste management.
- **Tool II:** A checklist comprising 15 items to evaluate practices related to waste management.

Validity Of Tool:

The tools were reviewed and validated by experts in community health nursing and public health, ensuring content validity.

Reliability Of Tool:

The reliability of the structured questionnaire and checklist was assessed using the split-half method. Reliability coefficients were found to be 0.81 and 0.77, respectively, indicating high reliability.

Ethical Consideration:

Ethical approval was obtained from the institutional ethics committee. Participants were briefed about the study, and written informed consent was secured. Confidentiality and anonymity were maintained throughout the study.

Pilot Study:

A pilot study was conducted in January 2024 with 24 homemakers (12 urban, 12 rural) to test the feasibility of the research tools and data collection process. Minor modifications were made based on feedback.

Data Collection Procedure:

Data were collected from January 9 to January 18, 2024, using structured interviews. Each participant was provided with the questionnaire and checklist after obtaining consent.

Data Analysis: Data were analyzed using descriptive and inferential statistics. Frequency, percentages, means, and standard deviations were used to describe knowledge and practice levels. The chi-square test was employed to find associations between demographic variables and knowledge or practice levels.

RESULTS:

The demographic findings revealed notable differences between urban and rural homemakers. In terms of gender, females were predominant in both areas (urban: 67%, rural: 59%). The majority of participants were aged 36-50 years (urban: 62%, rural: 51%), and most were Hindus (urban: 88%, rural: 95%). Urban homemakers had higher education levels, with 37% being graduates or above compared to 15% in rural areas, where primary education was more common (41%). Unemployment was higher in rural areas (50%) than in urban areas (36%). A significant income disparity was observed, with 86% of rural families earning up to Rs. 25,000, compared to 67% in urban families. Regarding family structure, urban households were mostly nuclear (88%), while rural households predominantly followed a joint family system (82%). These findings highlight distinct socio-demographic patterns across urban and rural settings.

Table 1: Knowledge & Practice Levels of Homemakers

Level of Knowledge	Urban		Rural	
	F	%	F	%
Adequate Knowledge	36	36%	52	52%
Moderate Knowledge	53	53%	42	42%
Inadequate Knowledge	11	11%	06	06%
Practice Levels of Homemakers				
Satisfactory Practices	01	01%	15	15%

Moderately Satisfactory	57	57%	68	68%
Unsatisfactory Practices	42	42%	17	17%

Table 1 presents the knowledge levels of homemakers in urban and rural areas. It shows that in the urban group, 36% of homemakers have adequate knowledge, 53% have moderate knowledge, and 11% have inadequate knowledge. In the rural group, a higher percentage (52%) of homemakers exhibit adequate knowledge, while 42% have moderate knowledge, and 6% have inadequate knowledge.

The practice levels of homemakers in urban and rural areas. In the urban group, only 1% of homemakers exhibit satisfactory practices, while 57% demonstrate moderately satisfactory practices, and 42% have unsatisfactory practices. In contrast, the rural group shows a higher percentage of satisfactory practices (15%) and moderately satisfactory practices (68%), with only 17% of homemakers having unsatisfactory practices.

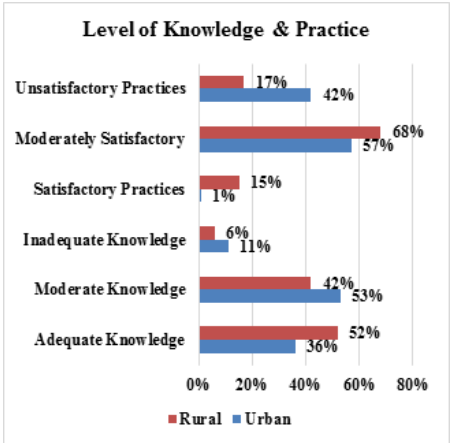


Table 2 Mean, Standard Deviation, And Mean Percentage Of Knowledge And Practice Regarding Household Waste Management Among Homemakers

Parameter	Urban Area (n=100)	Rural Area (n=100)
Knowledge	Mean: 14.56	Mean: 10.75
	SD: 2.34	SD: 3.12
	Mean%: 72.8%	Mean%: 53.75%
Practice	Mean: 10.31	Mean: 8.24
	SD: 1.95	SD: 2.42
	Mean%: 68.73%	Mean%: 54.93%

The table presents the mean, standard deviation (SD), and mean percentage of knowledge and practice regarding household waste management among homemakers in both urban and rural areas. In the urban area (n=100), the mean knowledge score was 14.56 with a standard deviation of 2.34, resulting in a mean percentage of 72.8%. The mean practice score for urban homemakers was 10.31 with a standard deviation of 1.95, translating to a mean percentage of 68.73%. In contrast, the rural area (n=100) showed a lower mean knowledge score of 10.75 (SD = 3.12), with a mean percentage of 53.75%. The practice score for rural homemakers was 8.24 (SD = 2.42), with a mean percentage of 54.93%.

Regarding The Association With Knowledge And Practice With Selected Demographic Variables

The analysis of urban homemakers revealed a significant association between their knowledge of household waste management and specific socio-demographic variables. Educational status and occupation were notably linked to knowledge levels, with higher education correlating with greater awareness. Conversely, variables such as gender, age, religion, monthly family income, and family type did not show a significant association with knowledge levels.

In rural areas, the study found a significant association between homemakers' knowledge of household waste management and their occupation, indicating that employment status influences awareness levels. However, other socio-demographic factors, including gender, age, religion, educational status, monthly family income, and family type, did not exhibit a significant relationship with knowledge levels.

CONCLUSION:

The study highlights the need for targeted interventions to bridge the

knowledge and practice gap in household waste management between urban and rural areas. Training programs and improved waste management infrastructure in rural areas are critical for sustainable waste management.

DISCUSSION

Urban areas benefit from better access to waste management services and awareness programs, which may explain their higher scores. Rural areas require more educational interventions and infrastructure to improve waste management practices. These findings align with prior research emphasizing urban-rural disparities in waste management.

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