

Original Research Article

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## A Study on Solid Waste Management Practices by Rural Women in Medak, Telangana State

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### ABSTRACT

#### Keywords

Solid waste management, Knowledge and practices, Environmental impact, Rural women and Waste treatment

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Waste need to be considered as potential resource rather than undesirable and unwanted, to avoid contamination of air, water, and land resources and to avoid transmission of hazardous materials. A properly managed household solid waste can increase the health of the people as well as environmental quality. Women are the primary producers/handlers of traditional environment, rehabilitators of the domestic environment, innovators in the use of new more appropriate technology in the creation of clean and healthy domestic environments and Women are protectors and caretakers of domestic environment. Thus this study was conducted in four rural villages of Medak district to assess the solid Waste management practices followed by rural women. Data was collected through personal interviews with the help of the structured schedules covering 200 rural women. The results of the study revealed that, majority of the respondents were aware of SWM (solid waste management) knowledge and practices. The results revealed that significant relationship existed between the SWM knowledge and SWM practices performed by the rural women.

### Introduction

Waste management is the collection, treatment, and disposal of solid material that is discarded because it has served its purpose or is no longer useful. Improper disposal of waste can be created unsanitary conditions, which lead to environment pollution and have the effect on human health. India is predominantly a rural country. As per the 2011 Census, 68.8 per cent of country's

population and 72.4 per cent of workforce resided in rural areas. Total per day waste generation in India was 143572 tonnes as on 31st January 2018. The top 10 States/UTs with respect to per day waste generation were Maharashtra, Tamil Nadu, Uttar Pradesh, NCT of Delhi, Gujarat, Karnataka, West Bengal, Telangana, Rajasthan and Madhya Pradesh. The per day waste generation in Telangana, was 7371 tonnes. These top 10 States/UTs accounted for 77.96% of the total

per day waste generation in India as a whole. (Source: Ministry of Housing and Urban Affairs)

Population explosion, technological advancement, improved life style of the people, results in increased generation of solid wastes in urban as well as rural areas of the country. The solid waste from rural areas is biodegradable nature where as in urban areas contains more non-biodegradable components like plastics & packaging.

Improper disposal of waste can pose major public health threats and environmental issues. Due to the location of the dumpsite closer to their settlements people suffered from malaria, chest pains, diarrhea and cholera (Va *et al.*, 2019). A major environmental concern is the release of gas by decomposing garbage and these gasses enhance greenhouse gas effect and "global warming". (Alam, 2013)

Waste management in India is a challenge due to increased population. Government of India initiated swachh bharat mission (SBM) or swachh bharat abhiyan (SBA) or clean India mission to eliminate open defecation and improve solid waste management (SWM) in urban and rural areas. Because properly managed effective waste management programme increases the health and environmental quality of the country.

### **Materials and Methods**

The present study was conducted to analyze the waste management practices by the rural women. The selected study area is purposive based on the implementation of the Govt. program Swachha bharat abhiyan which focus on providing interventions for the safe management of solid and liquid waste in the villages under study. Exploratory research design was used for the study. This study was

conducted in four villages of Medak district, Telangana state. A total of 200 rural households from four villages were selected by using random sampling method. The data from the respondents was collected through personal interviews with the help of the structured schedules and were analyzed using standard statistical tools.

Rajkumar Joshi and Sirajuddin Ahmed (2016) concluded that. Lack of awareness, inappropriate technical knowledge, inadequate funding, unaccountability, implementation of legislation and policies were major reasons for the failure of MSWM (Municipal solid waste management). They also suggested that Installation of decentralized solid waste processing units in metropolitan cities/towns and development of formal recycling industry sector is the need of the hour in developing countries like India.

### **Results and Discussion**

**Age:** As indicated in the Table 1, most (79.50%) of the respondents belonged to young age followed by middle age (20.50%).

**Education:** Out of the total respondents, majority (35.50) percent studied up to secondary level, followed by primary school (30.00%), illiterates (16.50%), intermediate (13.50%) and very few (4.50%) were had graduation and above. Ramos (2016) found that, educational attainment was significantly related to the waste storage and disposal of the knowledge in solid waste management.

**Marital status:** Out of the total respondents, 84.00 percent of the respondents were married women, only 16.00% were unmarried, this may be due to that they belong to young age.

**Family type:** From table 1, it can be indicated that majority (81.00%) of the respondents belonged to nuclear family and few (19.00%) respondents belonged to joint family.

**Occupation:** As indicated in the Table 1, 39.00 percent of the respondents occupation were agricultural laborers, followed by 32.00 percent was agriculture, 17.00 percent respondents were tailors and 12.00 percent of the respondents had other works as their occupation such as petty shops, vegetable vendors and Bangle stores.

### **Solid Waste management practices by rural women**

Solid waste management has become very important in rural areas too. Govt. of India is focusing on the Solid Waste management in rural areas to dispose of household waste in a scientifically sensible manner, so that properly managed garbage in rural areas can increase quality of life of the people. With the introduction of Swachh Bharat mission in India, the initiatives by local Gram Panchayats (GPs) in the villages under study are taking responsibility for creation of awareness on scientific methods of waste disposal, garbage collection and disposal in a proper manner.

The members of the Gram Panchayat made necessary arrangements to educate and create awareness to the rural women on the waste management practices. Stringent measures were taken to collect the house hold waste in regular intervals in the form of dry and wet waste. The local authorities also distributed dustbins to every household.

Table 2, clearly showed that, majority (75.00%, 87.50%) of the respondents were aware on practices of solid waste management and had knowledge on segregation of wet and dry waste. A percentage of 81.00 respondents were conscious of biodegradable waste but 41.00 percent respondents aware of non-biodegradable waste. Out of total respondents, 60.00 percent rural women were aware about

3R(Reduce, Reuse, Recycle). A great majority (87.00%) indicated that biodegradable waste can be used as vermin compost meanwhile half (51.00%) of the respondents had awareness of environmental impact due to improper waste management, half of the respondents (55.00) had awareness on health and 43.00 percent respondents had agreed that proper waste management lead to economic benefits.

Warunasinghe (2016) found in his study that, only 2% of the respondents did not have much concern about the health impact of improper waste management. The results also showed that 26% of the households were not aware of waste recycling, reuse & reduction.

The above table 3, presented solid waste management practices by the rural women. Out of total respondents, almost all the respondents (93.33%) had dustbin at their home. Because dustbin is compulsory as swachaa bharaat abhiyan programme is under implementation in those villages. Most of the respondents (83.00%) were Segregating dry and wet waste. Few respondents (24.00%) were using the kitchen waste for pet animals such as cattle, hen etc while 87.50 percent were preparing manure pits with the wet waste.

Only 27.00 percent covered or had closed dustbins, this is because they were using waste buckets, tins as dustbins. As shown in the table 3, majority (69.00%) of the respondents were burning household waste (sanitary pads, polythene covers, leaves etc) at their backyard and 80.00 percent of the respondents were reusing/recycling household waste such as old buckets as dustbins. As shown in the table, 47.00 percent of the respondents were using bio-waste for preparation of vermicompost and 66.00 percent were using kitchen waste for feeding their cattle.

**Table.1** General profile of the respondents n=200

S.No	Profile characteristics	Frequency(F)	Percentage (%)
	<b>Age of the respondents</b>		
1	18-35 (Young)	159	79.50
2	36-55(Middle)	41	20.50
	<b>Education levels of the respondents</b>		
3	Illiterate	33	16.50
4	Primary education	60	30.00
5	Secondary education	71	35.50
6	Intermediate/Diploma	27	13.50
7	Degree and above	9	4.50
	<b>Marital status</b>		
1	Unmarried	32	16.00
2	Married	168	84.00
	<b>Family type</b>		
8	Nuclear family	162	81.00
9	Joint family	38	19.00
	<b>Occupation</b>		
10	Agriculture	64	32.00
11	Agricultural labour	78	39.00
12	Tailoring	34	17.00
13	Other Occupation (Petty shops Vegetable vendors Bangle stores)	24	12.00

**Table.2** Rural women knowledge on solid Waste management n=200

S.no	Statement	Frequency (F)	Percentage (%)
1	Awareness on solid waste management	150	75.00
2	Segregation of wet and dry waste	175	87.50
3	Kitchen waste, crop waste, and cattle dung are biodegradable waste	162	81.00
4	Plastic, polythene, glass, metal, rubber are non-biodegradable waste	82	41.00
5	Awareness on 3R (Reduce, Reuse, Recycle)	120	60.00
6	Biodegradable waste should be used for vermicompost	174	87.00
7	Awareness on environmental impact of solid waste	102	51.00
8	Awareness on health impact of solid waste (burning of plastic, polythene, rubber etc.)	110	55.00
9	Proper waste management can lead to economic benefits	86	43.00

**Table.3** Rural women Practices on solid Waste management n=200

S.no	Statement	Frequency (F)	Percentage (%)
1	Dustbin at home	186	93.00
2	Segregation of dry and wet waste	166	83.00
3	Kitchen waste for pet animals	48	24.00
4	Waste in manure pit	175	87.50
5	keeping the waste or Dustbin covered	54	27.00
6	Burning the waste at home eg: polythene	138	69.00
7	Reuse/recycling non-biodegradable waste eg- plastic, polythene etc	160	80.00
8	Vermi compost using bio-waste	94	47.00
9	Kitchen waste used for cattle feed	132	66.00

**Table.4** Correlation analysis between SWM knowledge and SWM practices by the rural women

S.No	Solid waste management	Practice (r value)
1	Knowledge	.422**

\*\* Correlation is significant at the 0.01 level (2-tailed)

Table 4 shows the significant relationship between the SWM knowledge and SWM practices by the rural women. The results revealed that there is significant relationship exists between SWM knowledge and SWM practices with r value of .422, p-value = .000. This implies that level of Solid waste management Knowledge had influenced respondents towards solid waste management practices. Laor *et al.*, (2017) results also showed that there was a positive correlation relationship between MSW knowledge and practices.

In conclusion the solid waste management is the major challenge to establish balance between environment and development and therefore creation of favourable social and political environments should be the concern of the natives and the local officials for creating awareness on environmental protection. After thorough analysis of the results based on the findings of the study, it can be concluded that majority of the respondent's belonged to young age and

unmarried. Most of the respondents had knowledge on solid waste management due to implementation of the program Swachacha Bharat Abhiyan in the villages. The respondents who had good knowledge also had a good level of practice. The results of the study revealed that that there is significant relationship exists between SWM knowledge and SWM practices.

### Recommendations

Continuous awareness programmes and monitoring to be implemented to sustain the household waste management in rural areas.

Employment opportunities can be generated to the rural poor by adopting innovative initiatives in solid waste management.

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