

Assess the knowledge regarding toxic effects of plastic on human health among adolescents in selected pre-university college Bengaluru urban district, with a view to develop an information booklet.

MRS. SANGITA DEY

Ph.D SCHOLAR, Mansarovar Global University, Bhopal

Email : - sangitadey@hotmail.com

ABSTRACT: Plastic is made up of a wide range of synthetic or semi-synthetic organic substance that are soft and can be moulded into solid objects of diverse shapes. Plastics are typically organic polymers of high molecular mass and they often contain other substances. They are usually synthetic, most commonly derived from petrochemicals and many are partially natural. Plastic can be made of a selection of many different chemicals to improve. **OBJECTIVES OF THE STUDY:** 1. To assess the existing knowledge regarding toxic effects of plastics on human health among adolescents in selected pre-university college Bengaluru urban district. 2. To find the association between knowledge score and selected demographic variables of adolescents. 3. To develop and provide an information booklet about the toxic effects of plastic on human health. **METHODS:** Quantitative approach with descriptive research design was used in this study. Sample was selected through convenient sampling technique. Total sample size was 60 adolescent students. **RESULTS:** According to the study, majority of the respondents 51.66% inadequate knowledge, 11.66% moderate knowledge and 36.66% adequate knowledge of adolescent regarding toxic effects of plastic on human health. **INTERPRETATION AND CONCLUSION:** This finding indicates that there is a need for health education on toxic effects of plastic on human health.

KEYWORDS: Assess, toxic effect, plastic, human health, adolescent, information booklet.

1. INTRODUCTION:

Toxic is a poisonous or related to poisonous substance on unacceptable which causing a lot of harm of unhappiness over a long period of time and toxicity is the quality on state of being toxin such as- a. The quality, state as relative degree of being poisonous. b. An extremely harsh, malicious or harmful quality. Plastic is made up of a wide range of synthetic or semi-synthetic organic substance that are soft and can be moulded into solid objects of diverse shapes. Plastics are typically organic polymers of high molecular mass and they often contain other substances. They are usually synthetic, most commonly derived from petrochemicals and many are partially natural.¹ Plastic makes an estimated 10% of household waste, most of which is disposed in land fill. However, 60-80% of the waste found on beaches, floating on ocean on sealed in plastic. 2.3 billion pieces were recovered from South California beach over 72 hours, which weighed 30,500 kg : the majority being foams such as polystyrene (71%) followed by miscellaneous fragments (14%) pre-production pellets 10% and whole item 1%, 81% of all plastics were between 1 and 4.75 mm.²

2. LITERATURE REVIEW:

A descriptive study was conducted to assess the knowledge and practice of the student community; especially of the professional courses on plastic waste to rise the awareness in this regard is considered as a vital one. A total sample size was 563. The result was, 46% of the students found having good knowledge, and only 27.6% were found to have good practice. Though the students have good knowledge on ill effects of plastics, their practice in terms of disposal was less. Significant variations were observed among the students of different courses. The conclusion of this study is addressing

the gap between knowledge and practice in terms of designing messages for proper disposal and avoiding usage of single use plastics at individual and collective level is required.³

A cross sectional study was conducted in a hospital to assess the knowledge regarding disposal of plastic. The data was collected by using questionnaire method and the sample size was 500 people. The result was, out of 500 study subjects, 201 (40.2%) were males and 299 (59.8%) were females; in that, 237 (47.4%) were nurses, 132 (26.4%) were lab technicians and 131 (26.2%) were housekeeping staff. Totally 266 (53.2%) study subjects knew about BMW correctly, of which 138 (51.8%) were nurses, 114 (42.85%) were technicians and 14 (5.26%) were housekeepers. Only 8 (1.6%) study subjects knew about categories of disposal of plastic. Total 353 (70.6%) study subjects were having idea about segregation of plastic waste. Only 72 (14.4%) subjects had knowledge about various methods of disposal of plastic. The conclusion of this study is majority of the study subjects i.e. 479 (95.8%) had knowledge about various health problems related to improper plastic disposal.⁴

3. OBJECTIVES:

- To assess the existing knowledge regarding toxic effects of plastics on human health among adolescents in selected pre-university college Bengaluru urban district.
- To find the association between knowledge score and selected demographic variables of adolescents.
- To develop and provide an information booklet about the toxic effects of plastic on human health.

4. METHODOLOGY: The research design used in this study was non-experimental descriptive co-relation design to assess the knowledge regarding toxic effects of plastic on human health among adolescents in selected pre-university college, Bengaluru urban district with a view to develop an information booklet. This study is conducted among adolescents of pre university college, Bengaluru. In this study independent variable is information booklet of toxic effects of plastic on human health. Sample comprises of 60 adolescent students of selected urban pre university college of Bengaluru.

4. RESULT:

TABLE-1: Frequency and percentage of distribution of respondents according to their selected demographic variables. N=60

Sl. No	Question	Category	Frequency	Percentages
1.	Age in years	16	44	73.3
		17	6	10.0
		18	10	16.7
2	Gender	Male	26	43
		Female	34	57
3	Religion	Hindu	12	20
		Muslim	43	71.6
		Christian	5	8.3
4	Father`s education	No formal Education	19	31.6
		Primary education	9	15
		Secondary education	20	33.3
		Graduate/post Graduate & above	12	20

5	Mother`seducation	No formal Education	16	26.6
		Primary education	13	21.6
		Secondaryeducation	22	36.6
		Graduate/post graduate &above	9	15
6	Residential area	Urban	42	70
		Rural	18	30
7	Food habits	Street food	4	6.6
		Packed food	2	3.3
		Homemade food	32	53.3
		All of the above	22	36.6
8	Father`soccupation	Government employee	4	6.6
		Private employee	14	23.3
		Self-employee	27	45
		Others	15	25
9	Mother`soccupation	Governmentemployee	2	3.3
		Private employee	8	13.3
		Self-employee	11	18.3
		Others	39	65
10	Previous knowledge regarding plastics	Yes	33	55
		No	27	45

TABLE-2 Frequency and percentage distribution of overall assessment of level of knowledge of respondents regarding toxic effects of plastic on human health. N=60

Knowledge Level	Category	Frequency	Percentage
Inadequate	<50%	31	51.66
Moderate	76-100%	7	11.66
Adequate	51-75%	22	36.66
Total		60	100

TABLE 3
Association of knowledge score with selected demographic variables.

Demographicvariable	Category	Sample	Below the Median	Above the Median	DF	Chi square	P value
Age in year	16	3	2	1		1.443 ^{NS}	NS
	17	41	25	16			
	18	16	7	9			
Gender	Male	24	8	16	1	8.85*	S
	Female	36	26	10			
Religion	Hindu	14	9	5	2	0.761 ^{NS}	NS
	Muslim	41	21	20			
	Christian	5	3	2			

Father's Education	No formal Education	18	10	8	3	1.7961 ^{NS}	NS
	Primary	12	6	6			
	Secondary	19	13	6			
	Graduate/post	11	5	6			
Mother's Education	No formal Education	16	9	7	3	2.47 ^{NS}	NS
	Primary	13	7	6			
	Secondary	23	12	11			
	Graduate/post	8	6	2			
Residential area	Urban	41	24	17	1	0.184 ^{NS}	NS
	Rural	19	10	9			
Food habits	Street	4	2	2	3	0.88 ^{NS}	NS
	Packed	2	1	1			
	Home made	32	22	10			
	All of the Above	22	9	13			
Father's occupation	Government	4	3	1	3	2.44 ^{NS}	NS
	Private	15	9	6			
	Self	26	16	10			
	Other	15	6	9			
Mother's occupation	Government	2	2	0	3	22.95*	S
	Private	8	4	4			
	Self	11	6	5			
	Other	39	22	11			
Previous knowledge	Yes	34	23	11	1	3.97*	S
	No	26	11	15			

NOTE: * - Significant at 5% Level, NS- Not significant

5. INTERPRETATION AND CONCLUSION:

The present study assessed the level of knowledge regarding toxic effects of plastic on human health among adolescents found that majority (51.66%) of the adolescents had inadequate knowledge (11.66%) moderate knowledge and (36.66%) had adequate knowledgescore. The information booklet was helpful to understand the adolescent about introduction, types of plastic, effect of plastic, uses of plastic, advantage and disadvantage of plastic along with prevention.

IMPLICATION NURSING PRACTICE:

At community level the nurses should provide awareness regarding toxic effects of plastics on human health among adolescents. Nurses need to have knowledge on toxic effects of plastics on human health among adolescents.

NURSING EDUCATION

The head personnel should be aware of toxic effects of plastic on human health. The community nursing curriculum should provide knowledge for adolescents with inadequate information responding to toxic effects of plastic on human health. The knowledge should be frequently updated in the curriculum. Active participation of the community nurses by providing information booklet.

NURSING ADMINISTRATION

Community nursing administration can be collaborating with public health workers and community nurse to disseminate information regarding toxic effects of plastic on human health.

NURSING RESEARCH

Nursing research plays an important role in the field of community nursing. Nursing research improves community expertise personnel knowledge help to implement changes to provide excellence in community nursing care and help locate additional resources. Therefore nurses must be vigilant and should adopt skills based on new scientific base. It is essential to identify present lack of knowledge regarding toxic effects of plastics to identify extent of information to be given.

REFERENCES:

1. K Park. Concept of health and diseases. Textbook of preventive and social medicine. 24th edition. M/s Banarsidas Bhano., India. pg.14.
2. New York state department of health center for environmental health canaberra:new York state .October 2013. URL:https://www.health.ny.gov/environmental/chemicals/toxic_substances.htm
3. Life cycle of a plastic product. Americanchemistry.com retrieved 2011-07-01 URL:<https://en.wikipedia.org/wiki/Plastic>
4. Sara and ovi. serious effects of plastic pollution on human health. green tumble. June 29.2018.URL: <https://greentumble.com/serious-effects-of-plastic-pollution-on-human-health/>