

ABSTRACT A study to assess the effectiveness of structured teaching programme on knowledge regarding hazards of beverages toxicity among students in a selected Nursing college at Chennai. The pre experimental research design was selected as research design. The sample comprised of 40 students who were selected by purposive sampling technique. The structured questionnaire was prepared and validated by Medical and Nursing experts. It comprises of demographic profile and 25 multiple choice questionnaire. Reliability of the tool was checked by using test retest technique. The reliability score was 0.981. It indicates positive correlation of the tool. After the pilot study the data collection procedure was done. The study was conducted for 4 weeks. The pre-test was conducted by administering structured questionnaire. The structured teaching programme was given by using LCD projector for 45 minutes. On the 15th day following the teaching investigator conducted the post-test by using same questionnaire. The data was analyzed by using descriptive and inferential statistics. The significant findings regarding knowledge in pre-test among 40 samples, majority of the samples 30(75%) had moderately adequate knowledge 9(22.5%) had inadequate knowledge and 1(2.5%) had adequate knowledge. In post-test majority of the samples 34(85%) gained adequate knowledge on hazards of beverages toxicity. The findings shows that overall mean score in pre-test was 10.9 and in post-test was 19.7 and overall mean difference was 8.8. Regarding the overall mean knowledge score the 't' value was 2.478, the 'p' value was p>0.05, which shows that highly significant. Hence the research hypothesis was accepted at 0.05 level of significance. The association of pre and post-test level of knowledge with selected demographic variables showed that there was no significant association between the level of knowledge and the selected demographic variables. The findings of the study concluded that structured teaching programme was very effective in improving the knowledge of the samples on hazards of beverages toxicity.

KEYWORDS : Knowledge, Effectiveness, Hazards, Beverages Toxicity, Nursing Students

INTRODUCTION

A toxic substance is the substance that can be poisonous or cause injurious to health. People are generally concerned about chemical like polychlorinated biphenyls (PCBs) and digoxin which can be found at some hazardous waste sites. Drinking gasoline can cause burns, vomiting, diarrhea and in very large amounts, drowsiness or death it is toxic some chemical are hazardous because of their physical properties. They can explode, gasoline is also hazardous, a chemical can be toxic or hazardous or both.

Exposure to a substance can occur by inhalation, ingestion or direct contact, inhalation (breathing) of gases, vapors, dusts or mists is a common route of exposure. Chemical enter and irritate the nose, air passages and lungs. They can become deposed through lungs into the blood stream. The blood can then carry these substances to the rest of the body. Ingestion (swallowing) of food drink or other substances is another route of exposure. Chemical that get in or on food, cigarettes utensil or hands can be swallowed. In 2012, 3.3 million deaths, or 5.9 percent of all global death (7.6 percent for men and 4.1 percent for women), were attribute to alcohol consumption. In 2014, the world organization reported that alcohol contributed to more than 200 diseases and injury related health conditions, most notably DSM – IV alcohol dependence, liver cirrhosis, cancers and injuries. In 2015, 5.1 percent of the burden of disease and injury worldwide (139 million disability adjusted life years) was attributed to alcohol consumption.

In 2017 the global energy drinks market topped \$ 55 billion. With bright packaging and provocative names, teens say they drink these beverages for energy, as a study aide, to improve sports performance, (friends drink them) it "feels cool", to lose weight and taste, and while driving(2).Naren gunja 2010 conducted a retrospective study on energy drink -health risk and toxicity describe the epidemiology and toxicity of caffeinated energy drink exposure in Australia. The study concluded that from calls regarding energy drink exposure recorded in the data base of on an Australian poisons information centre over 7 year to 2010. Type of exposure co- ingestants symptoms reported and reported hospitalizations. Callers reported 297 exposure to energy drink which showed an increasing annual trend from 12 in 2004 to 65 in 2010. Median age for the 217 subjects with recreational exposure was 17 years. The most common symptoms were palpitation, agitation, tremor and gastrointestinal upset, 21 subject had signs of serious cardiac or neurological toxicity including hallucinations seizures arrhythmias or cardiac ischemia. At least 128 subjects (57 with no co- ingestants) required hospitalization. Reports of caffeine toxicity from energy drink consumption are increasing, particularly among adolescents, warranting review and regulation of the labeling

and sale of these drinks. Educating adolescents and increasing the community awareness of the hazards from energy drinks is of paramount importance.

Potential risk associated with energy drink consumption includes caffeine overdose which can lead to a number of symptoms, including palpitations, high blood pressure, nausea and vomiting, convulsions and in some cases, even death and type 2 diabetes – as high consumption of caffeine reduce insulin sensitivity3.

The World Health Organization (WHO) just released a warning letter concerning the dangers energy drink pose to young people, especially since the found 68% of adolescence consume them.

The study commissioned by the top health ministry body, the drugs technical advisory board (DTAB), found that these toxins leached into five cold drink samples picked up for the study- Pepsi, coca cola, mountain dew, sprite and 7Up – from the PET (Polyethylene terephthalate) bottles they were in. mountain Dew and 7 up are owned by pepsico, while sprite is owned by coca cola.

Different chemical causes different effects. For example chemical may cause vomiting but not cancer. Chemical may have no noticeable effects during exposure but may cause cancer years later. Potency (strength) is a measure of a chemical toxicity. A more potent chemical is more toxic for example sodium cyanide is more toxic (table salt). Since swallowing a smaller amount of cyanide can poison the person or individual the potency and there fire the toxicity of a chemical can be affected by its breakdown with in the human body. When a substance is absorbed into the body its chemical structure may be changed or metabolized to a substance that is more toxins or less toxic for example carboterachloride, chemical can cause health effects only when its contact or enters into body.

In British Journal of Medicine (2007) stated that a man who experienced non-viral hepatitis from B3 toxicity believed to have been from consuming too many drinks during a period of three weeks. According to the Centre for disease control and presentation (CDC) around half of the population drinks surgery beverages on any given day with consumption of there during highest among teenage and young adults.

British Pharmacist Nirajnaik one of the research report stated that health writes wade Meredish shows the damage a 330 ml can of coca cola can do the body within one hours of consumption. Hence the investigator aimed to conduct a study to assess the effectiveness of structured teaching programme on knowledge regarding hazards beverages toxicity among college students; thereby it can bring awareness among the students on hazards of beverages toxicity.

MATERIALS AND METHODS

In order to accomplish the main objective of evaluating the effectiveness of structured teaching programme on knowledge regarding hazards of beverages toxicity among students in a selected nursing college, at Chennai. A pre- experimental research research with one group pre- test post- test only design was adopted for the study. Purposive sampling technique was adapted to select 40 samples for the study . After obtaining consent from the participant, pre-test was conducted by administering structured questionnaire. Then, structured teaching programme on knowledge regarding hazards of beverages toxicity was conducted with the help of Liquid Crystal Display projector with projecting facility for 45 minutes. And after 15 days post test was conducted by using the same questionnaire in a selected nursing college students. The difference between pre and post-test knowledge regarding hazards of beverages toxicity was measured by using descriptive statistics (frequency, mean, standard deviation) and inferential statistics (chi square and 't' test).

DESCRIPTION OF RESEARCH TOOLS

The instrument used for the data consist of two parts.

PART-I

It consist of demographic characteristic such as age, gender, place of residence, type of family, parent's education, parent's occupation, daily packet money, parent's monthly income ,source of health information, about hazards of beverages toxicity.

PART-II

This part consist of 25 self structure questionnaires includes definition, causes, hazards, health effects and prevention.

SCORING AND INTERPRETATION

The minimum score a sample would get on knowledge would be 0 and maximum of 25.

Score Interpretation	Percentage	Level of knowledge
1 - 7	0 - 33%	Inadequate Knowledge
8 - 17	34 -67%	Moderately adequate Knowledge
18 - 25	68 - 100%	Adequate Knowledge

RESULTS

TABLE– I Shows the level of the pre-test knowledge of students regarding beverages toxicity. In pre-test majority of the samples 30 (75%) had moderately adequate knowledge.

TABLE– II Shows the level of the post-test knowledge of students regarding beverages toxicity. In post-test majority of the samples 34 (85%) had adequate knowledge.

TABLE–III Shows the comparison of mean value standard deviation and't' value of pre test and post test knowledge on hazards of beverages toxicity among students. In pre test the mean and standard deviation were 10.9 and 3.64 respectively. In post test mean and standard deviation were 19.7 and 2.9 respectively and the pre test value was 2.478 and the 'p' value was p>0.05. Hence hypothesis was accepted which shows that there was a significant difference in pretest and post test level of knowledge on hazards of beverages toxicity among samples.

Table-I Frequency And Percentage Distribution Of The Samples In Level Of Knowledge On Hazards Of Beverages Toxicity In Pretest N=40

S NO	LEVEL OF KNOWLEDGE	FREQUENCY	PERCENTAGE
		(N)	(%)
1	Inadequate knowledge (0-13%)	9	22.5%
2	Moderately adequate knowledge (13-27%)	30	75%
3	Adequate knowledge (28-40%)	1	2.5%

Table-II Frequency and percentage distribution of the samples in level of knowledge on hazards of beverages toxicity in post test N=40

S NO	LEVEL OF KNOWLEDGE	FREQUENCY (n)	PERCENTAGE (%)
1	Inadequate knowledge (0-33%)	-	-
2			
	Moderately adequate	6	15%
3	knowledge (34-67%)		
		34	85%
	Adequate knowledge (68-100%)		

Table-III Comparison of mean, standard deviation of pre test and post test knowledge of students regarding hazards of beverages toxicity N=40

S NO	KNOWLEDGE ON HAZARDS OF BEVERAGES TOXICITY	MEAN SCORE	STANDARD DEVIATION	't' VALUE	'p' VALUE
1	Pre test	10.9	3.64	2.478	p>0.05
2	Post test	19.7	2.9		







COMPARISON OF LEVEL OF KNOWLEDGE IN PRETEST AND POSTTEST



DISCUSSION

Regarding distribution of the samples according to the demographic variables. Among 40 samples the majority of the samples 35(87.5%) belong to 18-19 years, 5(12.5%) belong to 20-21 years of age group. Majority of the samples 43(85%) were females, 6(15%) were males. Majority of the samples 33(82.5%) were from urban, 7(17.5%) were from rural. Majority of the samples 25(62.5%) obtained information from Television, 1(2.5%) obtained information from Radio, 14(35%) obtained information from Relevision, 1(2.5%) obtained information from Relevision, 1(2.5%) were from samples 23(57.5%) were from joint family. Regarding parents education 23(57.5%) were educated, 17(42.5%) were from illiteracy. Majority of the samples parents occupation 24(60%) were from coolie, 11(27.5%) of the parents were working in private sector, 5(12.5%) of working in public sector. 21(52.5%) of the parents monthly income belong Rs.5000-10000, 10(25%) belong to Rs.10001-15000 and 9(22.5%) belong Rs.15000-20000. Majority of

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the samples daily pocket money 33(82.5%) were from Rs.50-100, 5(12.5%) were from Rs.101-150, 2(5%) of the samples packet money was Rs.201-300.

In pretest level of knowledge of samples regarding hazards of beverages toxicity. In pre test majority of the samples 30(75%) had in moderately adequate knowledge, 9(22.5%) had in inadequate knowledge and 1(2.5%) had in adequate knowledge.

The study was supported by the study conducted by Dhirani, et al (2010) to assess the effectiveness of structured teaching programme on knowledge regarding hazards of beverages toxicity among student of selected College at Chennai. By using convenient sampling technique 400 samples were selected. The study reveals that the mean knowledge score of the pre test was 10.9 and post test was 19.7 and the study concluded the majority add the gross adequate knowledge after structured teaching programme in post test.

According to the overall level of knowledge in post test. The majority of samples 34(85%) had adequate knowledge and 6(15%) had moderately adequate knowledge in post test.

The comparison of mean value standard deviation and 't' value of pre test and post test knowledge on hazards of beverages toxicity among samples. In pre test the mean and standard deviation were 10.9 and 3.64 respectively. In post test mean and standard deviation were 19.7 and 2.9 respectively and the 't' test value was 2.478 and the 'p' value was p>0.05. Hence hypothesis was accepted which shows that there was a non significant.

Regarding the association of hazards of beverages toxicity in pre test and post test level of knowledge with demographic variable, the chi square value shows that there was no association between the selected demographic variables (age, sex, place of residence, previous source of health information, type of family, parents education, parents occupation, parents income, daily pocket money) with knowledge on hazards of beverages toxicity in pre test and post test.

CONCLUSION

Ingestion of energy drinks has increased in recent years, reservations in the scientific community and the public about the health effects of these products continue to be raised. Energy drinks are non- alcoholic beverages that contain caffeine, vitamins and other ingredients. Some of the risk of energy drinks are attributable to their high level of caffeine, an excess of which can initiate heart palpitations, nausea and vomiting, convulsions, psychosis and in exceptional cases , death. There was potential for a substantial public health problem in the future. The study was suggested by the minimize the risk of harm from heavy and long term energy drink conception .

The conclusion of the study was that regular ingestion of sugar sweetened sodas could affect metabolic disease development through accelerated cell aging.

Therefore it was concluded that the structured teaching programme on hazards of beverages toxicity was effective. It is conformed that post test score of group was higher than in the pre test score. The gain in knowledge helps them to practice/prevent the health effects of beverages toxicity.

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