

# Effectiveness of Structured Teaching Programme on Knowledge Regarding Millets and its Importance among Adolescents

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## Abstract

This study entitled "Study to evaluate the effectiveness of structured teaching programme on knowledge regarding millets and its importance among adolescents in selected community area at Salempur" submitted in the year 2024.

*Aims:* The objectives are to evaluate the pre-test knowledge regarding millets and its importance among adolescents; to evaluate the post-test knowledge regarding millets and its importance among adolescents; to evaluate the effectiveness of structured teaching programme on knowledge regarding millets and its importance among adolescents; to find out association between pre-test knowledge score with selected demographic variables among adolescents.

### *Hypothesis:*

H<sub>1</sub>: There will be a significant difference between mean pre-test knowledge score than their mean post-test knowledge score regarding millets and its importance among adolescents.

H<sub>2</sub>: There will be significant association between pre-test level of knowledge score and demographic variables.

*Design and Setting:* Quasi - experimental approach with one group pre-test post-test design was adopted.

*Methods and Materials:* 60 samples were selected by purposive sampling technique. A structured knowledge questionnaire was utilized to assess the knowledge of the samples.

*Results:* The mean pre-test knowledge score of samples regarding was 11.95, whereas mean post-test knowledge score was 20.90 with a mean difference of 9.95 and SD pretest was 2.80 and post-test was 2.65. The calculated 't' value 38.34 was greater than tabulated 't' = 1.98 which was statistically proved at 0.05 level of significance. It revealed that the Structured Teaching Programme was effective in increasing knowledge among the participants.

*Conclusion:* This indicates that the Structured Teaching Programme was effective to enhance the level of knowledge regarding millets and its importance among adolescents.

**Keywords:** Effectiveness; Structured Teaching Programme; Millets.

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## INTRODUCTION

One of the earliest known crops to be farmed is millets, which are grains belonging to the Poaceae grass family. Millet grain can be used for feed as well as food because it is rich in beneficial phenolic compounds and nutrients. The nutritional and phenolic component differences between finger

and pearl millet are compelling arguments for the importance of selecting the appropriate millet variety for use as food or feed. The phenolic components of millets include phenolic acids, tannins, and flavonoids, all of which are beneficial to human health. In addition, finger millet has a very different, abundant, and diversified phenolic profile from pearl millet. Research has demonstrated the potent antioxidant properties of millet's phenolic components. Millet grains are beneficial to human health because they lower cholesterol and phytate levels in the body since they contain phytochemicals. It is believed that millet is five times more nutrient dense than wheat and rice. Although millet produces 18 million tonnes of grain annually and makes up 10% of India's food grain basket, its consumption is not comparable to that of other cereals.

According to Shweta<sup>1</sup>, pearl millet is a good source of thiamine, niacin, and riboflavin<sup>2</sup> and has more energy than cereal grains like rice and wheat. Moreover, pearl millet has a similar mineral composition to other cereals, including calcium, iron, and phosphorus.<sup>3</sup> The primary polyphenols in millet, such as tannins and phenolic acids, are abundant in the grain and are thought to function as antioxidants and strengthen the immune system of the body.<sup>4</sup> Further more, phenols found in the coat of a finger millet seed have an antibacterial action on *Bacillus cereus*.<sup>5</sup> Additionally,<sup>6</sup> showed that millet phenolics can partially block complex carbohydrate enzymatic hydrolysis, which in turn blocks pancreatic amylase,  $\alpha$ -glucosidase, and malt amylase, lowering postprandial hyperglycemia. Similarly, it is thought that the presence of ferulic and p-coumaric acids in whole pearl millet can lower the number of tumor cells.<sup>7</sup> Furthermore, according to<sup>8</sup> studies, millets contain phenols that offer a variety of health advantages, including the ability to function as antivirals, anti-inflammatory, and antioxidants. Moreover, gluten ingestion causes celiac disease, a genetically predisposed condition. As the millets are gluten free, they help reduce celiac disease by reducing the irritation caused by common cereal grains that contain gluten.<sup>9</sup>

### ***Problem Statement***

Study to evaluate the effectiveness of structured teaching programme on knowledge regarding millets and its importance among adolescents in selected community area at Salempur.

### ***Objectives of Study***

1. To evaluate the pre-test knowledge regarding

millets and its importance among adolescents.

2. To evaluate the post-test knowledge regarding millets and its importance among adolescents.
3. To evaluate the effectiveness of structured teaching programme on knowledge regarding millets and its importance among adolescents.
4. To find out association between pre-test knowledge score with selected demographic variables among adolescents.

### ***Hypothesis***

$H_0$ : There will be no significant difference between mean pre-test knowledge score than their post-test knowledge score regarding millets and its importance among adolescents.

$H_1$ : There will be a significant difference between mean pre-test knowledge score than their mean post-test knowledge score regarding millets and its importance among adolescents.

$H_2$ : There will be significant association between pre-test level of knowledge score and demographic variables.

### ***Assumptions***

Adolescents may have inadequate knowledge about importance of millets.

## **MATERIAL METHOD**

### ***Sample size***

Sample size consisted of 60 adolescents

### ***Sampling Technique***

Non probability purposive sampling technique was adopted.

### ***Criteria for Sample Selection***

#### ***Inclusion Criteria***

1. Adolescents age between 12 to 19 years.
2. Subjects those who are willing to participate in this study.
3. Both male and female are included.

#### ***Exclusion Criteria***

1. Subjects those who are not willing to participate.

2. Subjects those who don't know Hindi and English language.

**Description of Tool**

**Section-A**

This section consists items pertinent to adolescents such as age, gender, diet pattern and source of information.

**Section-B**

Structured knowledge questionnaire consist of 30 items and the maximum score was 30. Every correct answer was given a score of one (1) and the wrong answer was given a score of zero (0). The response given by the samples is address by putting tick marks (√). Scores were calculated by summing the scores for the given items.

**Score Interpretation**

- 1-10 Poor
- 11-20 Average
- 21-30 Good

**Content Validity**

To obtain the content validity of the tool, a problem statement with objective, operational definition, hypothesis, lesson plan for data collection, demographic profile and structured knowledge questionnaire was submitted to experts. Experts were chosen based on their experience and interest in this area requested to give their opinions and suggestions regarding the tool.

**Reliability of the Tool**

The reliability of the structured knowledge questionnaire was determined by using the test and retest method of 'Karl Pearson's formula' to obtain the reliability of the tool. The intra class coefficient correlation of the structured knowledge Questionnaire was  $r=0.938$  which was more than  $r=0.70$ ; hence the structured knowledge questionnaire was found to be reliable.

**Procedure for Data Collection**

Data collection was carried out by taking formal permission from concerned authorities of a selected community area at Ahmedabad city. The data

collection was carried out from date 17/01/2023 to 24/01/2023. The researcher introduced herself to the participants and objectives were explained and informed consent was taken. The study group is selected and then a pre-test conducted with the help of a structured knowledge questionnaire regarding importance of millets was conducted. On the same day as an intervention, a structured teaching programme administered to the study group. Then after the 7th day post-test was conducted using the same structured knowledge questionnaire.

**RESULTS**

*Interpretation*

**DISCUSSION**

The findings of this study explained that there was a significant increase in the mean post-test knowledge score (20.90) as compared to the mean pre-test knowledge score (11.95) of samples after the administration of the Structured Teaching Programme. It also explained that there were no significant association between level of knowledge and selected socio demographic variable like age, gender, source of information. Diet pattern was associated with the level of knowledge on millets and its importance.

Table 1: Frequency and percentage distribution of socio demographic variables of adolescents.

Demographic Variables	Frequency	Percentage
(n=60)		
<b>Age</b>		
12-14 years	8	13
14-16 years	19	32
16-18 years	25	42
18-19 years	8	13
<b>Gender</b>		
Male	41	68
Female	19	32
<b>Diet Pattern</b>		
Vegetarian	44	73
Non-Vegetarian	4	7
Mixed	12	20
<b>Source of Information</b>		
Family, Friends	21	35
Mass Media	7	12
Health Professionals	32	53

The above table reveals that most of the employees age group between 16- 18 years, majority were males 41(68%) and many of them vegetarian and also they got information about millets from health professionals and family members

**Table 2:** Level of knowledge before and after administration of structured Teaching Programme.

Level of Knowledge	Pre Test		Post Test	
	Frequency	Percentage	Frequency	Percentage
Poor	18	30	0	0
Average	42	70	26	43
Good	0	0	34	57

The above table showed that the total 42 (70%) of the samples had Average, 18 (30%) of the sample had Poor and 0 (0%) sample had good knowledge in pre-test knowledge score. Whereas 26 (43%) samples had Average, 34 (57%) samples had Good, and 0 (0%) samples had poor knowledge in post-test knowledge score regarding importance of millets.

Similar investigation was carried out to assess the level of awareness among Indian women regarding millet grain and its nutritional benefits. The study was conducted in Bengaluru, in the Indian state of Karnataka. Convenience sampling, a nonprobability sampling technique, was used to approach a sample of 855 female respondents for the study. A self-administered structured questionnaire was used to collect the data. The study's conclusions show that the great majority of participants eat millet to maintain general health. The most important aspect, with 4.11 mean scores and a low standard deviation of 0.985, is strengthening one's own and one's family's immunity. The study's findings show that while 80.6% of the women participated knew about millet, only 62.7% of them actually ate the grain. The study also shows that millet intake is directly influenced by demographic variables including age, income, and qualification.<sup>10</sup>

## CONCLUSION

The findings of this study confirm that knowledge improvement with a moderate to high degree of awareness can be achieved through the implementation of an organized teaching program. In order to change the public's perception of millet as a staple grain, it is essential to educate the general public about this diet through persuasive messaging. Millet is a mainstay in rural India. To improve the population's incentive to consume millet, it is necessary to identify the most effective media tools, focused communication messages, and influencers, including opinion leaders, celebrity chefs, and peers. By enlisting the help of opinion leaders and influencers like chefs, food bloggers, doctors, and fitness instructors, it is also hoped to promote consumption.

## Recommendations

- The study can be conducted on more samples.
- The study can be done in various setting.
- The same study can be done with an experiment research approach having a control group.
- Comparative study can be done between rural and urban area.

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