



# **Theme: Nutrition Education**

**Poster title: Impact of nutrition education on hemoglobin level of anemic pregnant women in rural areas of Odisha**

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**Introduction**

- Pregnant women have been widely recognized as a vulnerable group from the health point of view.
- Considerable amount of attention has to be paid to for the dietary intake and nutritional status of pregnant women.
- The field of nutrition of pregnant women in rural area is sadly a much-neglected are of research.
- Anaemia during pregnancy is a serious public health issue worldwide, with several reasons including insufficient food intake.

**Aim**

- To find out the impact of nutrition education on food consumption pattern, hemoglobin level and nutrition knowledge of anemic pregnant women.

**Methodology**

An observational study was conducted on 100 mild to moderately anemic pregnant women who came to the AaganWadi Centre (AWC) of Raghunathpur Block of Cuttack District. Pregnant women were randomly selected and divided into two groups: Control group (n=50) and Experimental group (n=50). The experimental group were provided nutrition education along with iron-rich diet plan while the control group was given only general education. Individual nutrition education was provided to pregnant women at the time of visit, and follow-ups were conducted via biweekly phone calls and every four weeks at AWC visits for vaccination. Data were assessed by personal interview method through a semi-structured questionnaire, and hemoglobin levels were also tested. Following a 10-week nutrition education intervention, data were gathered to compare differences between the two groups using t-test.

**Results**

The study found that after the nutrition education intervention, the hemoglobin level of the anemic pregnant women increased significantly in the experimental group than control group ( $0.45 \pm 0.20 \text{ gm/dl}$  vs.  $0.08 \pm 0.53 \text{ gm/dl}$ ,  $p = 0.005$ ). The experimental group had a substantially higher change in mother nutritional knowledge score on anemia and iron rich foods than the control group ( $6.54 \pm 3.86$  vs.  $2.30 \pm 4.84$ ,  $p < 0.005$ ). Iron rich food consumption was considerably more among the pregnant women in the experimental group.

**Conclusion**

Nutrition education and an iron-rich diet plan were significantly related with higher hemoglobin levels, dietary consumption, and nutritional awareness on anemia and iron-rich foods.

**References**

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**Acknowledgement**

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# PREVENTION OF DIABETES MELLITUS IN ADULTS OF AGE GROUP 30-55

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## Introduction

Ø Diabetes Mellitus is a chronic metabolic disorder that prevents the body to utilize glucose completely or partially.

Ø The metabolism of people with DM is almost identical to the metabolism of people without DM, the only difference is the volume and/ or effectiveness of the insulin produced by the body.

## Aim

§ To identify the current level of awareness about Diabetes Mellitus and To create awareness among low socio-economic group of society.

§ To educate people about the diet to be followed to prevent and treat Diabetes Mellitus.

## Methodology

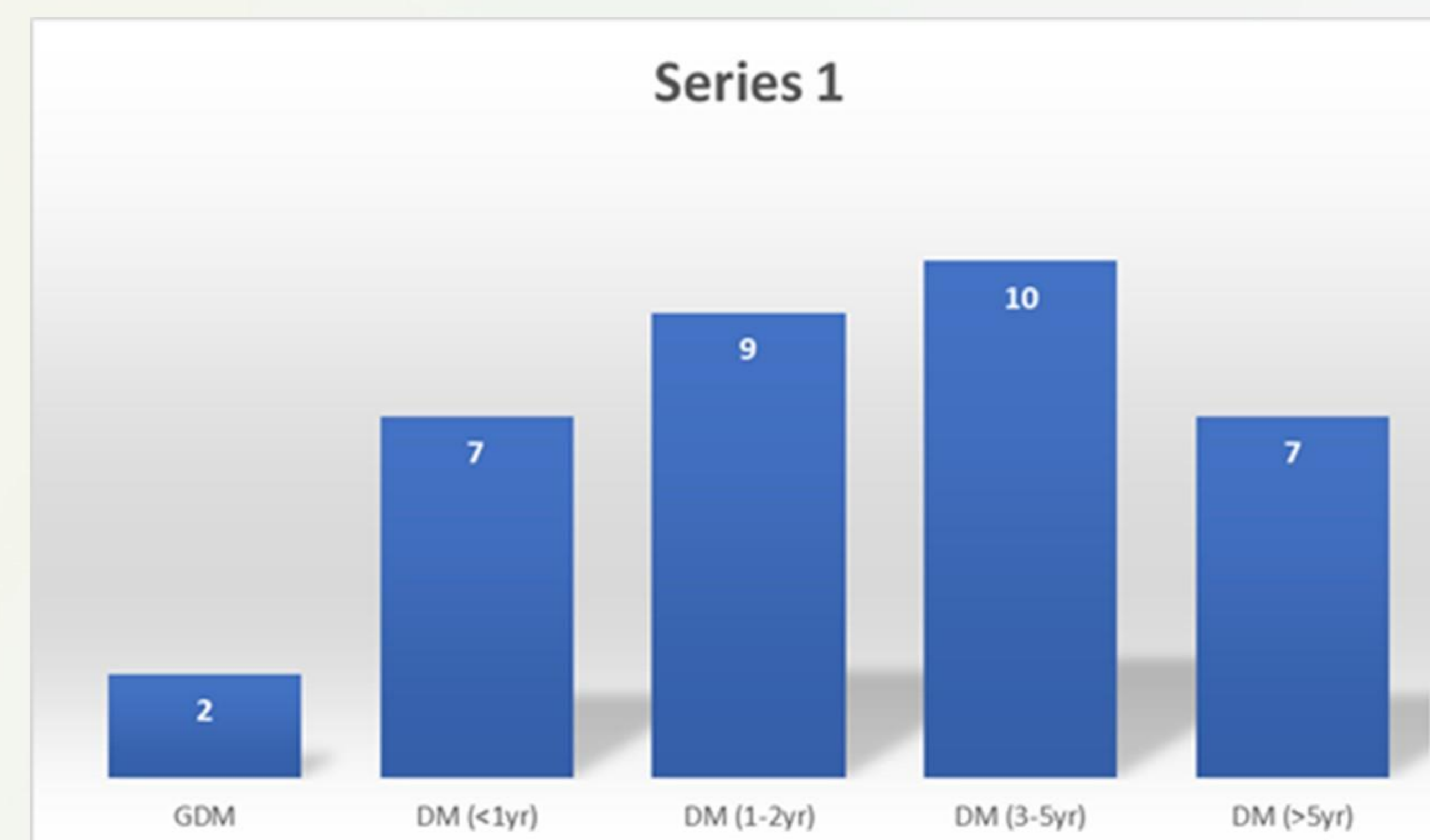
The study was conducted in Ettrai Village, Tiruchirappalli District, Tamil Nadu- 639 103. From the crowd of 50-60, 35 samples were selected to undergo further processes (pre-test, activities, post-test).

Here for mode of communication I used non-machine media posters as they are the most versatile aids to make the nutrition and health education effective.

## Results

### SERIES 1

It shows samples with different types of Diabetes Mellitus.



### SERIES 2

It shows samples and the type of work they do.



## Conclusion

Alarmingly, nowadays Diabetes is occurring at a relatively younger age due to life-style changes, lack of physical activities, etc..., Therefore, it can be prevented by diet control, life-style modifications and by taking medications under Doctor's advice. All these managements should be tailored to improve the quality of life of individuals with Type 2 Diabetes Mellitus.

## References

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Srilakshmi B. Dietetics Book (8<sup>th</sup> edition). 2019.

## Acknowledgement

I, here by further declare that all information of this document has been obtained and presented in accordance with academic rules. And my special thanks to my parents, staffs and friends for support and guidance to complete this project.

# NUTRITION LITERACY ABOUT MILLETS AND ITS CONSUMPTION PATTERN IN URBAN HOUSEHOLDS OF VADODARA- GUJARAT

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## Introduction

- International millets year 2023 is approaching fast. We need to take stock of nutrition literacy about millets and its consumption level in urban areas to plan health promotion activities using millets.
- Region specific data is scarce on knowledge and consumption pattern of millets.

## Aim

- To assess knowledge and consumption pattern of millets in urban Vadodara.

## Methodology

- To assess nutrition literacy about millets and its consumption pattern, 100 adult female respondents of households from four different zones of Vadodara were surveyed with pre tested semi structured questionnaire Background information, consumption pattern of millets, frequency of millet consumption was taken for all the 100 households. .

## Results

- Respondents were aware about commonly consumed millet - Bajra
- Nutrition literacy in terms of benefits of consuming millets and its nutrients was found to be poor.
- Regarding millet consumption in urban Vadodara, it was found that none of the households consumed millets on daily basis.
- Only 30% of respondents consumed bajra once a week whereas only 23% consumed Jowar once a month.
- Consumption of no other millets was reported except moriyo during fasting days.
- With regards to age, years of education and occupation status did not show much difference in consumption of millets

## Conclusion

- Regular consumption of variety of millets among urban households was not reported.
- Respondents having family members with co-morbidities like high blood pressure and diabetes consumed millets.

## Recommendation

There is a need for health promotion activities to promote consumption of millets on regular basis by the community to achieve targets of SDG goal 3.

## Acknowledgement

To all the female respondents for participating in the study

## Personalized Nutrition Education For Triple Burden Of Malnutrition

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### Introduction

- Malnutrition: A condition when your body does not receive **required amount of nutrients**.
- Triple Burden covers **under-nutrition, over-nutrition and micro-nutrient deficiency**.
- Personalized nutrition is **the concept of adapting food to individual needs**.
- Nutrition education is one of the most effective way of providing **health education program**.

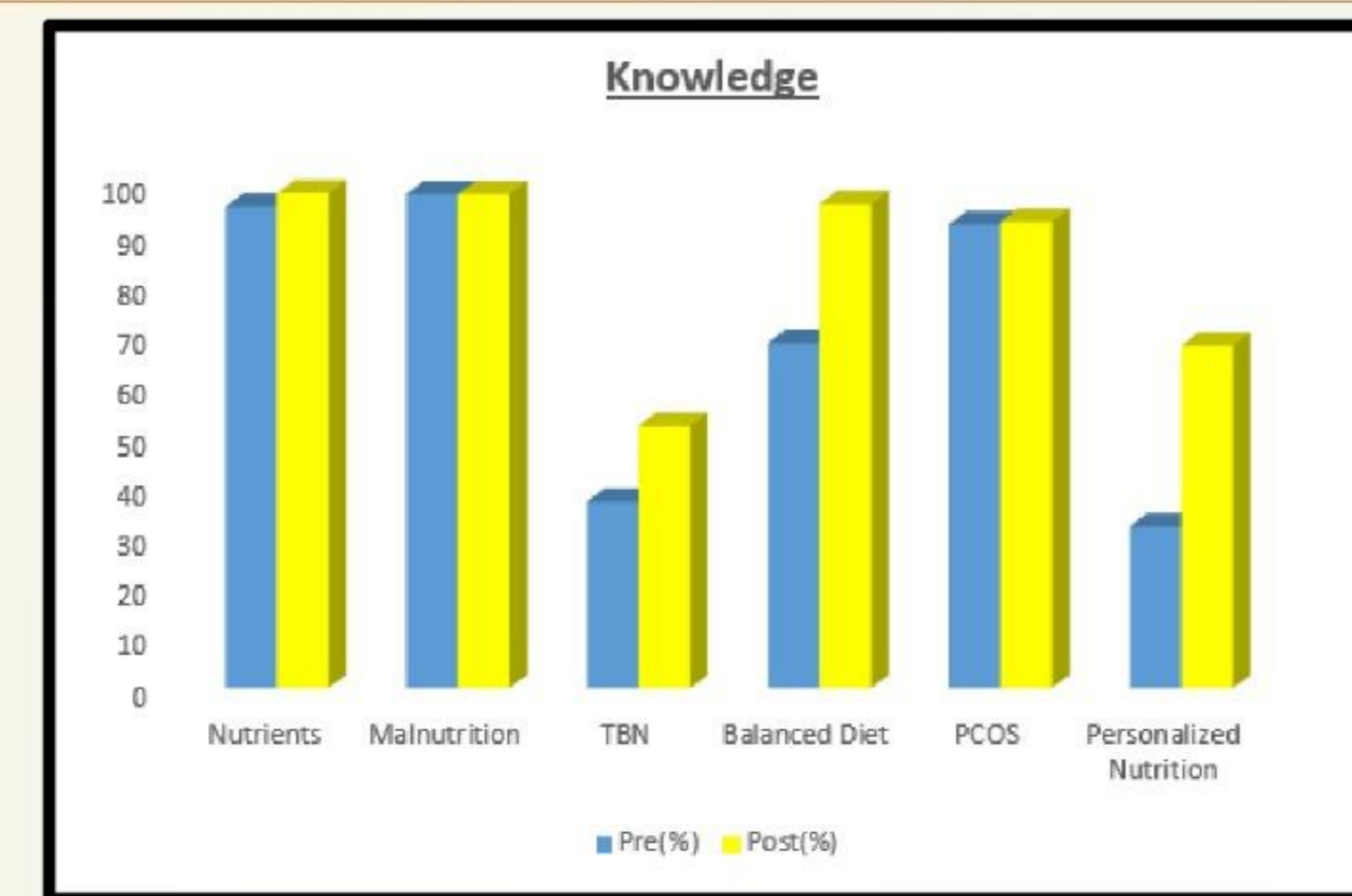
### Aim

- Assess the nutritional status of selected young adult women.
- Develop a personalized education package and evaluate the impact of personalized education on nutritional knowledge and promotion of health status.
- Determine the incidence and identify the causative factor for the triple burden of malnutrition.

### Methodology

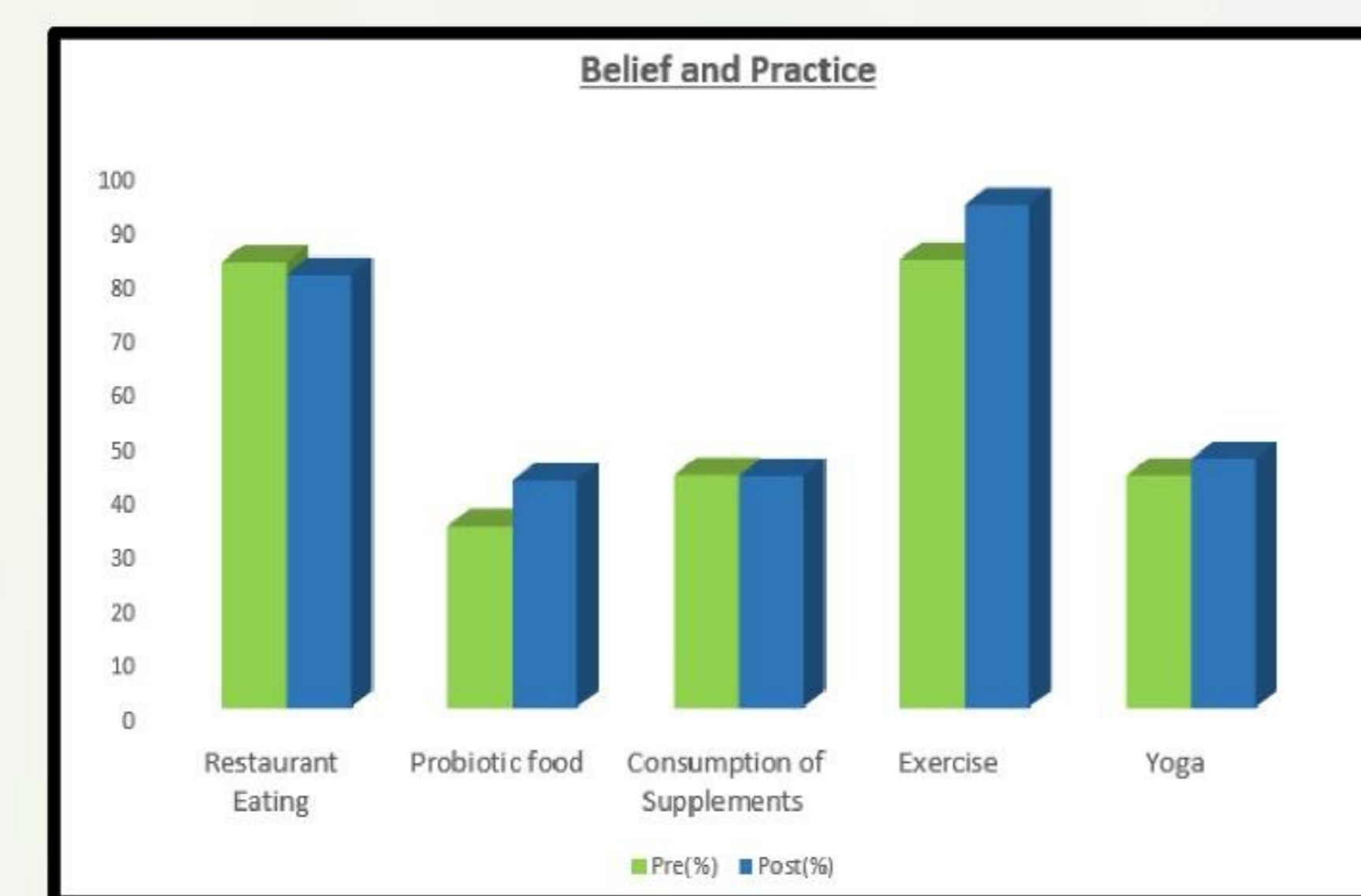
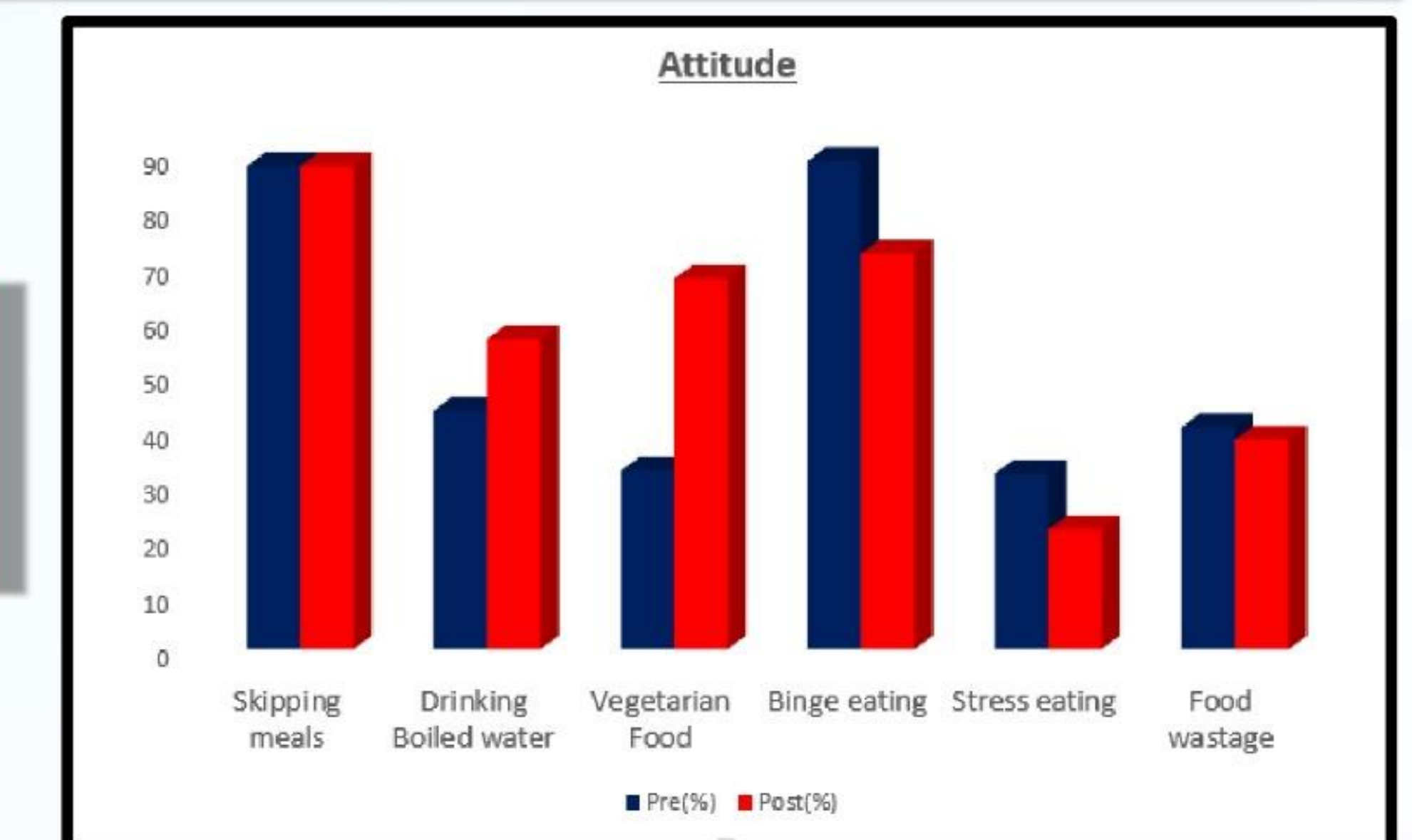
- Videos
- Booklet-Triple Burden of Malnutrition
- Bookmarks- Foods rich in various nutrients
- Diet plans

### Results



- ❖ The subjects' knowledge of nutrition increased significantly..
- ❖ The subjects learned about the triple burden of malnutrition and personalized nutrition, both of which were unaccustomed concepts to them.
- ❖ The subjects received a comprehensive knowledge on diet and its effect on their health.
- ❖ They were also provided with diet suggestions according to individual need for nutrient.

- ❖ The subjects were acquainted with the different types of diet.
- ❖ They were made aware of the eating disorders and its consequences.
- ❖ Their approach towards skipping meals and food wastage changed to a noteworthy level.



- ❖ This study brought out a changes in practice of consumption of unhealthy food and supplements .
- ❖ The practice of yoga and other mode of exercise were improved in a significant way.
- ❖ The subjects were provided with knowledge on probiotics and food products rich with it available in market.

### Conclusion

The current study brought out different causative factor for triple burden of malnutrition and importance of tailored nutrition.

### References

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### Acknowledgement

- Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.
- Mercy College, Palakkad

**Poster title: (Impact of Nutritional Education on Nutritional Status of Reproductive Aged Women (15-49) Years)**

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**Introduction**

- The World Health Report identifies the top ten risks, globally and regionally, in terms of the burden of disease they cause.
- In India, only 52% of adult women and 57% of adult men are at a normal weight for their height.
- 36% of women and 34% of men are undernourished with a BMI less than 18.5, indicating a high prevalence of nutritional deficiency

**Aim**

- Nutrition education is an important measure to improve dietary habits and food choices, since poor dietary habits are the main reason for poor nutritional status of reproductive aged women (15-49) years.
- In this context, the purpose of assess the impact of nutrition education on the nutritional status of reproductive aged women (15-49) years.

**Methodology**

An experimental design was employed and the research was a cross-sectional study. From three stratified areas of Prayagraj city, three villages were selected by random sampling. The reproductive aged women (15-49) years were selected, amounting to 560 respondents. Nutrition education was imparted after initial nutritional assessment of weekly intervals.

**Results**

**Table 1.1 FOOD CONSUMPTION FREQUENCY OF REPRODUCTIVE AGED WOMEN (15-49 YEARS)**

Food groups	Daily		4-6t/w		2-4t/w		1-2t/w		Occasionally		Never	
	N	%	N	%	N	%	N	%	N	%	N	%
Cereals	560	100	-	-	-	-	-	-	-	-	-	-
Pulses	377	67.3	98	17.5	85	15.2	-	-	-	-	-	-
Green Leafy vegetables	320	75.2	85	15.2	59	10.5	48	8.6	48	8.5	-	-
Roots and Tubers	361	64.5	199	35.5	-	-	-	-	-	-	-	-
Fruits	88	15.7	92	16.4	68	12.2	86	15.4	226	40.3	-	-
Milk and milk products	310	55.4	48	8.6	78	13.9	-	-	66	11.7	58	10.4
Meat and poultry	-	-	-	-	85	15.2	-	-	378	67.5	97	17.3
Fats & oils	560	100	-	-	-	-	-	-	-	-	-	-
Sugar	560	100	-	-	-	-	-	-	-	-	-	-
Jaggery	74	13.2	88	15.7	398	71.1	-	-	-	-	-	-

%= Percent, 4-6t/w=4-6 times per week, 2-4w/t=2-4 times per week, 1-2w/t=1-2 times per week

**Conclusion**

Majority of subjects 55.4 (310) percent consumed milk and milk products daily while 8.6 (48) percent were consumed it 4-6 times per week. However, 13.9 (78) percent respondents were consumed milk and milk products 2-4 times per week, 11.7 (66) percent were consumed occasionally, and 10.4 (58) percent never consumed milk and milk products.

**References**

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**Acknowledgement**

Our acknowledgement and thanks to the Department of Food and Nutrition and Public Health, Ethelind College of Home Science, SHUATS, Prayagraj (U.P.), India, for the support, encouragement and guidance in completing the research.

## Limited Knowledge of Diabetes in University Students: A challenge For Diabetes Prevention

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### Introduction

- In 2021, globally, 537 million individuals aged 20 to 79 years were reported to have diabetes. This number is slated to increase to 783 million by 2045.
- India was home to 74 million individuals with diabetes in 2021. Unfortunately more than 53% of diabetes cases remain undiagnosed (IDF, 2021).

### Aim

The purpose of the study was to evaluate the level of diabetes knowledge in university students.

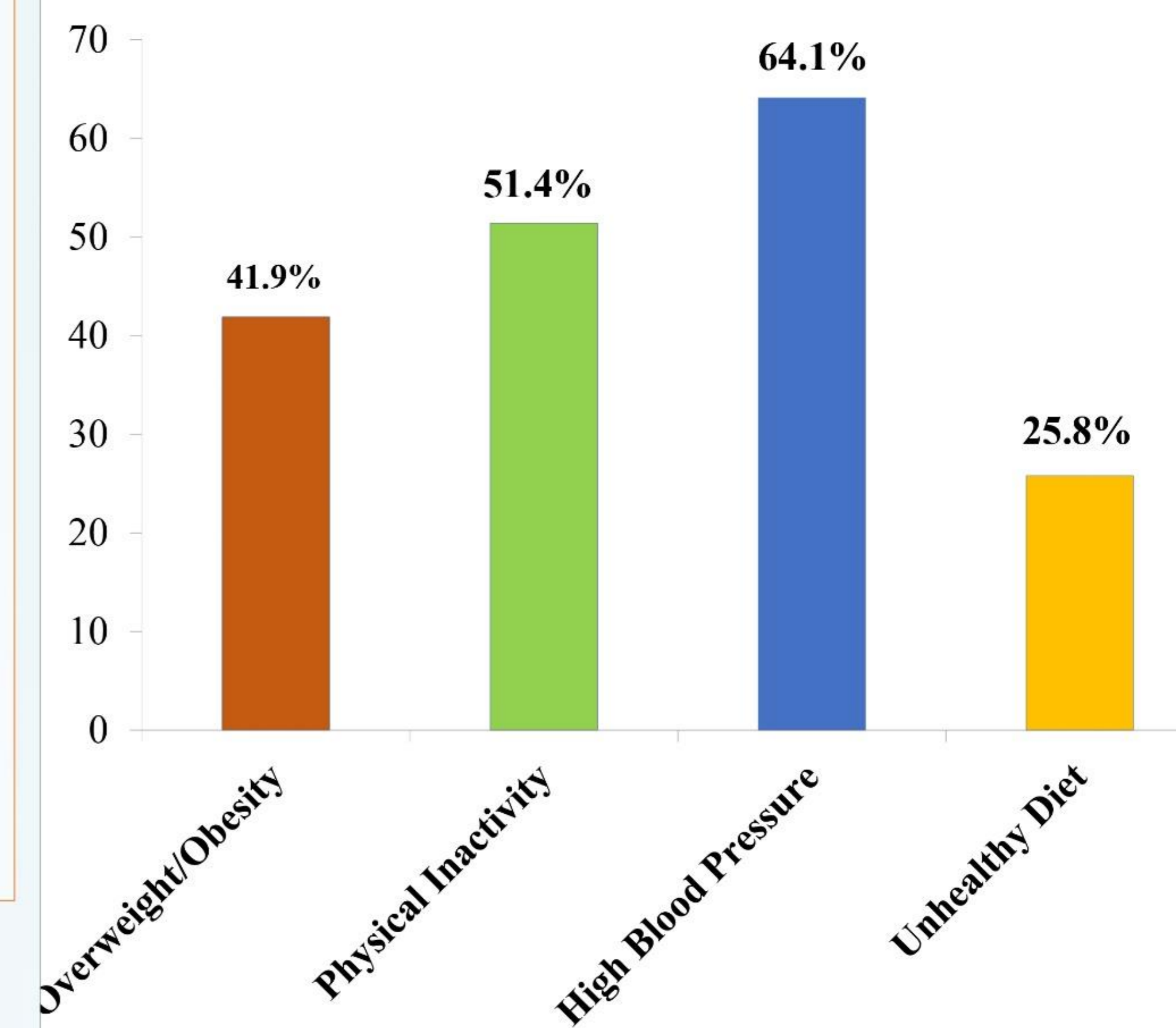
### Methodology

The link to a self-administered pretested questionnaire prepared using Google forms was shared with all students from a university faculty in Vadodara, Gujarat, India.

### Results

Around 31% of the respondents were overweight/obese. Of the respondents 36% were physically inactive and only 26% consumed fruits daily. Frequent consumption of fried and junk food was reported by 25.4% of the respondents. Majority of the respondents (62.2%) received poor knowledge scores (<60%). Around 41.9%, 51.4%, 64.1% and 25.8% subjects respectively were not aware that overweight/obesity, physical inactivity, high blood pressure and unhealthy diet are risk factors for diabetes. Awareness about complications associated with diabetes like foot problems, heart disease, kidney disease, eye disease, hypertension and stroke was lacking in 59%, 50%, 48.6%, 49%, 59% and 96.8% of the respondents respectively. About 46.5% of the subjects were not aware that avoiding overweight/obesity could reduce the risk of developing diabetes.

Percent Subjects Unaware about Risk Factors for Diabetes



### Conclusion

There is an urgent need to create awareness about diabetes in the general population which could promote better perception of diabetes development risk. Nutrition and health education to sensitise people about making healthy lifestyle choices needs to be imparted which could go a long way in preventing the development of diabetes and its complications.

### References

- International Diabetes Federation. IDF Diabetes Atlas 10th Edition, 2021

## Knowledge, Attitude And Practices (KAP) Towards Vitamin D Among South Indian Collegiate Athletes

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### Introduction

- Farrokhyar et al., reported that the prevalence of hypovitaminosis D is high, even among athletes.
- Despite being a country that falls <40°, Gupta et al. noted 83.7% North Indian athletes have lower vitamin D levels.
- Hence an increasing need to assess the knowledge, attitude, and practices regarding Vitamin D amongst the athletic population.

### Aim

To understand the knowledge, attitude, and practices regarding vitamin D among South Indian collegiate athletes.

### Methodology

Institutional Ethics Committee clearance was obtained from Sri Ramachandra Institute of Higher Education and Research. 91 collegiate athletes (19.26±1.5years) were recruited. Informed consent, demographic details and anthropometric measures were recorded. Serum 25(OH)D samples were measured and newly designed and piloted KAP Questionnaire was employed.

### Results

- Ninety-one athletes (19.32 ±1.45 years) (Table 1. Vitamin D status) participating in various sports were recruited.

**Table 1: Vitamin D status**

Mean Vitamin D (ng/ml)	25.65 ± 6.97
Hypovitaminosis D (%)	76.92
Sufficient (%)	23.07

- The knowledge section, attitude section and practice section contained 12, 9 and 10 questions respectively.
- The mean **knowledge scores** were 4.51 ± 2.32 (min 0 and max 9) and only **26 athletes** scored more than 50%.
- The **knowledge scores** were significantly different

among the vitamin D classifications (Table 2).

Table 2. KNOWLEDGE SCORE	Vitamin D status	Mean ± SD	p-value
	Deficient	6.06±1.88	<b>0.008</b>
	Insufficient	4.21±2.34	
	Sufficient	4.00±2.16	

- The mean **attitude score** was 30.88 ± 3.183 (min 24 and max 44). 50 athletes scored between the range of 31-45 which was considered as good attitude.
- Information obtained via practice question regarding vitamin D is mentioned in Table 3.

**Table 3. Practices related to Vitamin D**

98.9% athletes preferred practicing before 10am or after 4pm.  
25.3% spent less than 30 minutes in sun between 10 am to 3 pm.  
50.5% avoids sun exposure due to concerns regarding tanning and skin health (26.4%), dehydration(22%) and health conditions (2.2%)  
60.4% athletes never used sunscreen and 44% never used any protective gear like umbrella, cap/hat, scarf or dupatta while stepping out in the sun  
92.3% athletes have never tested their vitamin D levels and have not consumed vitamin D supplements in the past one year.

### Conclusion

- Poor knowledge scores and practices that did not support vitamin D enhancement were prevalent.
- Combined with the significantly prevalent hypovitaminosis D, it is imperative to impart nutritional education sessions to athletes with a focus on micronutrient intake and safe sun exposure.

### References

1. Farrokhyar, F, et al., (2015). Prevalence of vitamin D inadequacy in athletes: a systematic-review and meta-analysis. *Sports medicine*, 45(3), 365–378.
2. Gupta, R., et al. (2021). High Prevalence of Vitamin D Deficiency among North Indian Athletes. *IJCM*, 46(3), 559–561.

### Acknowledgement

BSc Sports and Exercise Science student interns and the multi disciplinary team at the Sri Ramachandra Centre for Sports Science, SRIHER, Chennai and all participants.



## ASSESSMENT OF NUTRITION-RELATED KNOWLEDGE LEVELS IN SCHOOL GOING ADOLESCENT GIRLS AND VALIDATION OF KNOWLEDGE ASSESSMENT QUESTIONNAIRE

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### Introduction

- India has the largest adolescent population worldwide.<sup>[1]</sup>
- Adolescents have increased nutritional requirements. They need a diet specifically rich in protein, vitamins, calcium, iodine, phosphorus, and iron due to their rapid growth spurt and increased physical activity.<sup>[2]</sup>
- Habits learned during adolescence tend to be maintained throughout one's life. At the same time, adolescents have the most erratic food habits.<sup>[3]</sup>

### Aim

- To assess the knowledge gap regarding balanced diet among adolescent girls in Prayagraj, India.
- To validate Knowledge Assessment Questionnaire

### Methodology

- School-based descriptive cross-sectional study among 71 10-19-year-olds.
- Tool: A self-structured and validated questionnaire.
- The quantitative data collected demographic details, questions about balanced diet, major macro, and micronutrients, vitamins and minerals, and rich sources of various macro and micronutrients.

### Results

The Questionnaire showed moderate reliability (Cronbach's  $\alpha = 0.7$ ).<sup>[4]</sup> The mean age was  $13.87 \pm 2.82$ . These results imply below average Knowledge Levels among respondents.

Age	Knowledge Levels			$\chi^2$	P
	Poor (%)	Average (%)	Good (%)		
10-13	18 (66.7)	3 (8.1)	0 (0)	36.76 df= 4	0.000 S*
14-16	8 (29.6)	16 (43.2)	1 (14.3)		
17-19	1 (3.7)	18 (48.6)	6 (85.7)		
<b>Total</b>	27 (100)	37 (100)	7 (100)		

**Co-relation between age and Knowledge Levels of adolescents related to balanced diet questions**

	Test value= 6.5				95% Confidence Interval of the Difference	
	t	df	Sig (2 tailed)	Mean Difference	Lower	Upper
<b>Knowledge Score</b>	3.5	70	0.001	1.06	1.67	0.46

**One Sample t-test between expected mean score and actual Knowledge Score**

### Conclusion

- Below average Nutrition Knowledge Levels among school going girls attributed to inadequate school curriculum.<sup>[5]</sup>
- Better scores were associated with an educated family background, higher income status and later adolescence.
- **Suggestion-** Intervention and literacy campaigns in schools.

### References

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### Acknowledgement

I would like to thank the respondents who took out the time to fill the questionnaires, and the school authorities who allowed me to conduct the study. I would also thank my advisor and University for supporting me throughout research.

## Effectiveness of Educational Intervention on Kitchen Gardening to Improve the Nutritional Status Among Maternal Aged Group Women (18-45 Years)

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### Introduction

- Triple burden of malnutrition is a continuing alarming issue in developing nations today. In India, improving maternal and child nutrition is currently the main goal of government oriented nutrition programmes. Lack of education, hygiene and sanitization, poor economical status and low availability of food is the root cause of maternal malnutrition. Therefore, ensuring food security through kitchen gardening proved beneficial in previous studies.
- In particular, the importance of modern information technology (IT) in health education is discussed in this study along with the most efficient ways to improve eating habits, availability of healthy food and status of well being.

### Aim

- An educational programme that employs a pre- and post-testing strategy is more likely to be successful. The goal of this study was to gather and analyse information on ICT tool based nutritional interventions on kitchen gardening for maternal aged group women (age 18-45 years).

### Methodology

- The research was conducted from October 2019 to April 2021 by using analytical-observation method, in which 250 maternal aged group women (18-45 years) were selected from the Prayagraj District.
- Based on the recorded data through questionnaire, Out of the 250 respondents, 100 respondents were selected and divided into the control group (n=50) and experimental group (n=50) involved in the intervention study. Experimental group which consist of 50 respondents were grouped into two groups E1 (n=25) and E2 (n=25) and educated separately (due to COVID restriction on mass gathering) for three times in a month at 15 days interval.
- Interactive video was developed as part of the ICT intervention in Hindi language for creating nutritional awareness among maternal aged women. Both the control group (not given educational intervention) and the interventions' group women's, which was at risk for malnutrition, were examined for the intervention's effects.

### Results

#### Gain in knowledge at different stages through the exposure of Interactive Video

Table shows the knowledge level of control and experimental groups at different stages just prior and after the intervention.

##### (i) Pre-exposure knowledge level Examination

Just prior the education intervention, 5 respondents (10 %) from the control group shows positive responses among the 50 respondents whereas 7 (14 %) and 10 (20 %) respondents among the Experimental group E1 (n-25) and E2 (n-25) respectively.

##### (ii) Post exposure Knowledge level Examination

Table have shown that Knowledge had increased 46 % from the pre exposure mean of 18 % in experimental group E1 and 40 % from the pre exposure mean of 22% in experimental group E2. Among the total experimental group, 19 respondents were gain knowledge from the educational intervention by interactive video about kitchen gardening and its benefits for rural population.

Results indicated that the interactive videos based nutrition education sessions including importance and process of kitchen gardening have a considerable advantage in terms of enhancing maternal aged group dietary practices. The rural women get empowered through the kitchen gardening tips and precautions so that they can apply it on free space around their locality and make the availability if food better which indirectly or directly affected their well being and health status.

### Conclusion

This discovery might point to the need for new methodological and evaluative methods to the creation and evaluation of applications for new scientific and evaluative approaches to the development and assessment of ICT tools and field training about the kitchen gardening through expert or organization.

### References

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- The author would like to thank University Grant Commission for the immense help related to funding throughout the research.

Groups	Mean knowledge Scores								Gain in knowledge		Actual gain in knowledge	Total Gain in Knowledge
	Pre Exposure		Post Exposure		Post Exposure After 15 Days		Post Exposure After 30 Days		(N=50)	Percentage (%)		
	(N=50)	Percentage (%)	(N=50)	Percentage (%)	(N=50)	Percentage (%)	(N=50)	Percentage (%)				
Control Group (n=50)	5	10	11	22	8	16	10	20	5	10	-	
Experimental Group E1 (n=25)	7	14	13	26	18	36	20	40	13	26*	8	15
Experimental Group (n=25)	10	20	14	28	20	40	22	44	12	24	7	

**Table 1: Gain in knowledge through the exposure of Interactive Video**

## Impact Of Nutritional Education On Knowledge, Attitude And Practice Regarding Anemia Among School Dropout Adolescent Girls In Koppal District, India

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### Introduction

- Anemia is a common public health problem throughout the globe with its main effect not only on health of people but also impact on socioeconomic development.
- A high prevalence of anemia among school dropout adolescent girls is an indication of a severe problem highlighting the necessity of proper action to prevent further deterioration.

### Aim

- To study the impact of nutritional education on knowledge, attitude, and practice regarding anemia among school dropout adolescent girls.

### Methodology

- The study was conducted in randomly selected six villages of Koppal district. About 100 girls were selected, among 50 girls were experimental and remaining were control.
- Structured and self-administered questionnaires were used to know the knowledge, attitude and practice of adolescent girls regarding anemia.
- Nutrition education was imparted by trainings, picture show and demonstrations.

### Results

**Table. 1. Knowledge, attitude and practice towards anemia among school dropout adolescent girls (n(%))**

Sl.no	Details	Experiment group		P
		Pre test	Post test	
<b>I Knowledge regarding anemia</b>				
a	Have you heard of anemia	20 (40)	40 (80)	<0.005
b	The nutrient deficient in anemia	17 (34)	38(76)	
c	Causes of anemia	16(32)	35 (70)	
d	Signs and symptoms of anemia	13(26)	38 (76)	
e	Preventive measures of anemia	15(30)	36 (72)	
f	Iron-rich foods	18 (36)	41 (82)	
g	Anemia is a serious health issue	12 (24)	38 (76)	
<b>II Attitude towards anemia</b>				
a	Iron-rich food should be a part of the daily diet	14 (28)	31 (62)	<0.005
b	Feels good to prepare meals with iron-rich foods	13(26)	39 (78)	
c	Finds it difficult to prepare meals with iron-rich foods	17 (34)	35 (70)	
d	Feels confident in preparing meals with iron-rich foods	16(32)	40(80)	
e	Like the taste of iron-rich food	20 (40)	39 (78)	
<b>III Practices towards anemia</b>				
a	Do you wash your hands with soap before food?	20 (40)	43 (86)	<0.005
b	Do you wash fruits and vegetables before consuming them?	18 (36)	45 (90)	
c	Consumption of vitamin c rich fruits	17 (34)	40(80)	
d	Have you taken deworming tablets in the recent past?	16 (32)	36 (72)	
e	Deworming is taken once in 6 months	10(20)	31(62)	

**Table.2. Consumption of iron rich sources of foods**

Sl.no	Food	Experiment group		Increased percentage (%)
		Pre test	Post test	
1	Meat ,fish and egg	20 (40)	48 (96)	46
2	Vitamin C rich fruits	19 (38)	40 (80)	42
3	Oil seeds	16 (32)	39 (78)	46
4	Millet (Bajra and ragi)	20(40)	40 (80)	40
5	Sweet prepared with jaggery	18 (36)	41 (82)	46
6	Green leafy vegetables	21 (42)	43 (86)	44
7	Sprouted grains	16 (32)	40 (80)	48

- There is no change in control group. The study found that, there was significant increment in the mean knowledge and attitude scores of the school's dropout adolescent girls at the post-test evaluation.
- Overall increase of 51.2% in mean score of knowledge and overall increase of 20.7% in mean score of attitudes was found (P < 0.05). Increase in frequency of consumption pattern of iron rich foods especially ragi, jaggery, green leafy vegetables and sprouted grains was reported.

### Conclusion

- The nutritional education resulted in improvement of knowledge and change in attitude regarding anemia as well as increase in consumption of foods rich in Iron.
- Therefore, nutritional education is one of the cost-effective and sustainable method for lowering the cases of anemia.

**Reference:-** Abu-Barker,N.N., Eyadat.A.M.& Khamaisch.A.M.(2021). The impact of nutrition education on knowledge, attitude and practice regarding iron deficiency anemia among female adolescent students, *Heliyon* (7), 1-7.

**Acknowledgement:-** University of Agricultural Sciences,Raichur, Karnataka

# NUTRITION EDUCATION FOR DOCTORS- A WAY TO BETTER HEALTHCARE?

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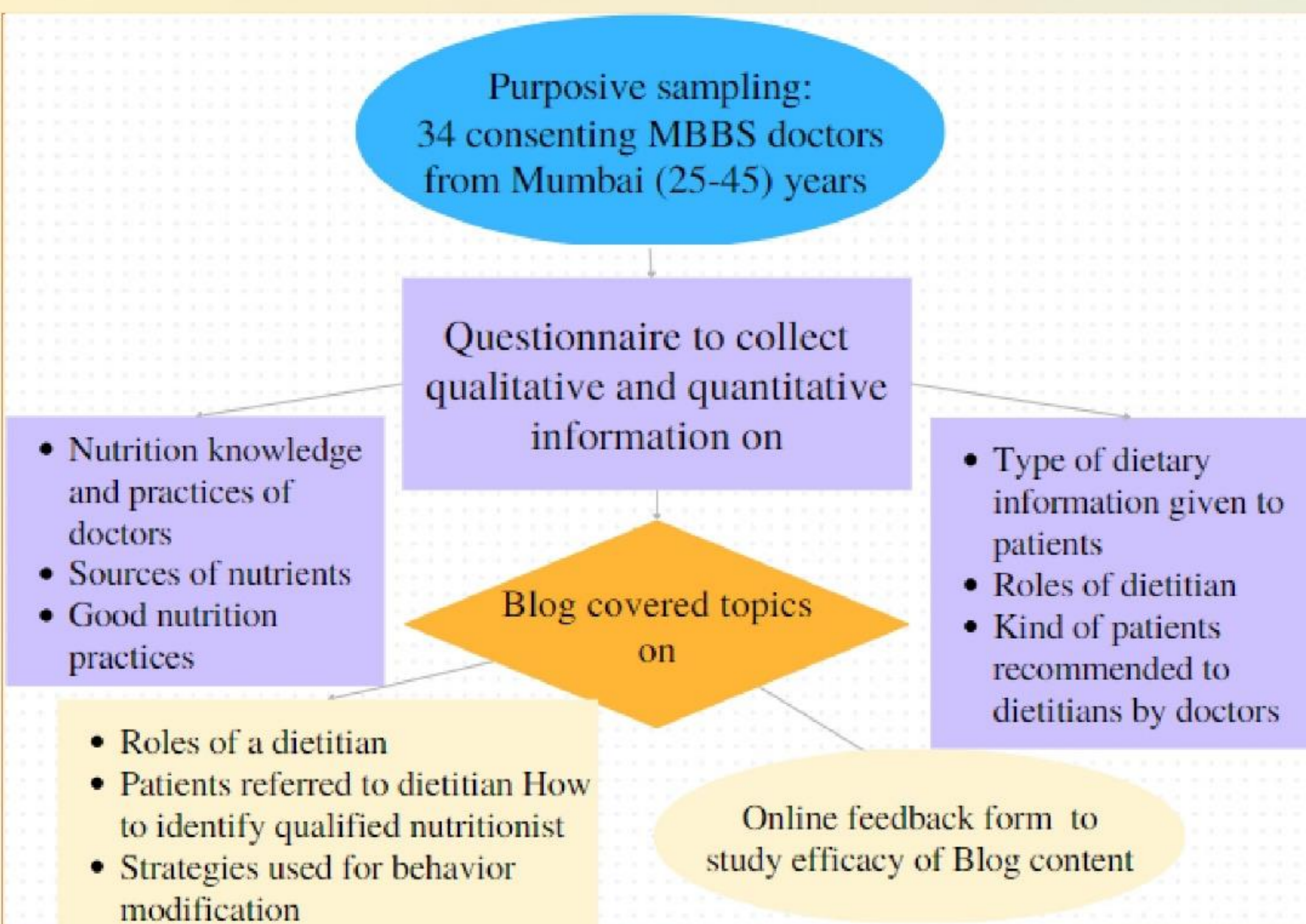
## Introduction

- Quite a number of patients rely on doctors for advice on nutrition as they are first touch point to healthcare.
- Studies have demonstrated that doctors felt inadequate in their confidence to provide nutrition care [1], [2], [3]
- Improving Doctor-Dietitian collaborations can provide holistic management of patients.
- This is a pilot study done with a small sample size aimed at increasing doctor-dietitian collaborations.

## Aim

To study Knowledge and Practices of Doctors in nutrition, Dietary advice given to patients, develop digital nutrition education tools and study its efficacy

## Methodology



## Results

- 26% participants were able to identify all sources of nutrients. 67% were able to identify best form of consuming foods. 56 % followed good cooking practices. Responses on dietary advice given to patients were general.
- No application of strategies, theories and models to bring about behaviour change was mentioned. They were not aware of all conditions in which patients should be referred to dietitian.
- The respondents for feedback on self-developed tools were limited (n=10), though this is not a statistically significant number still it shows a positive trend towards the acceptance and application of the material and that's why it was reported.

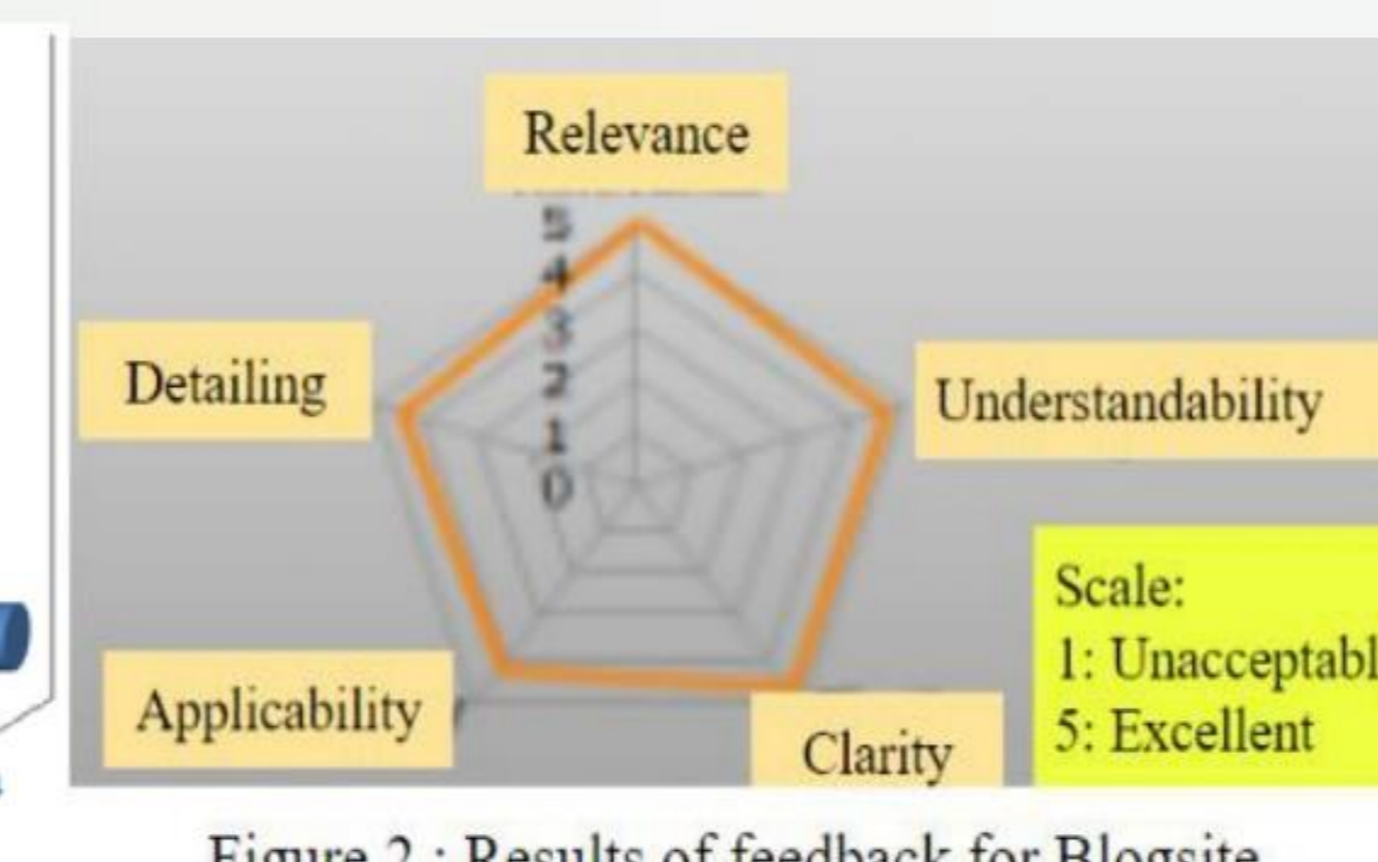
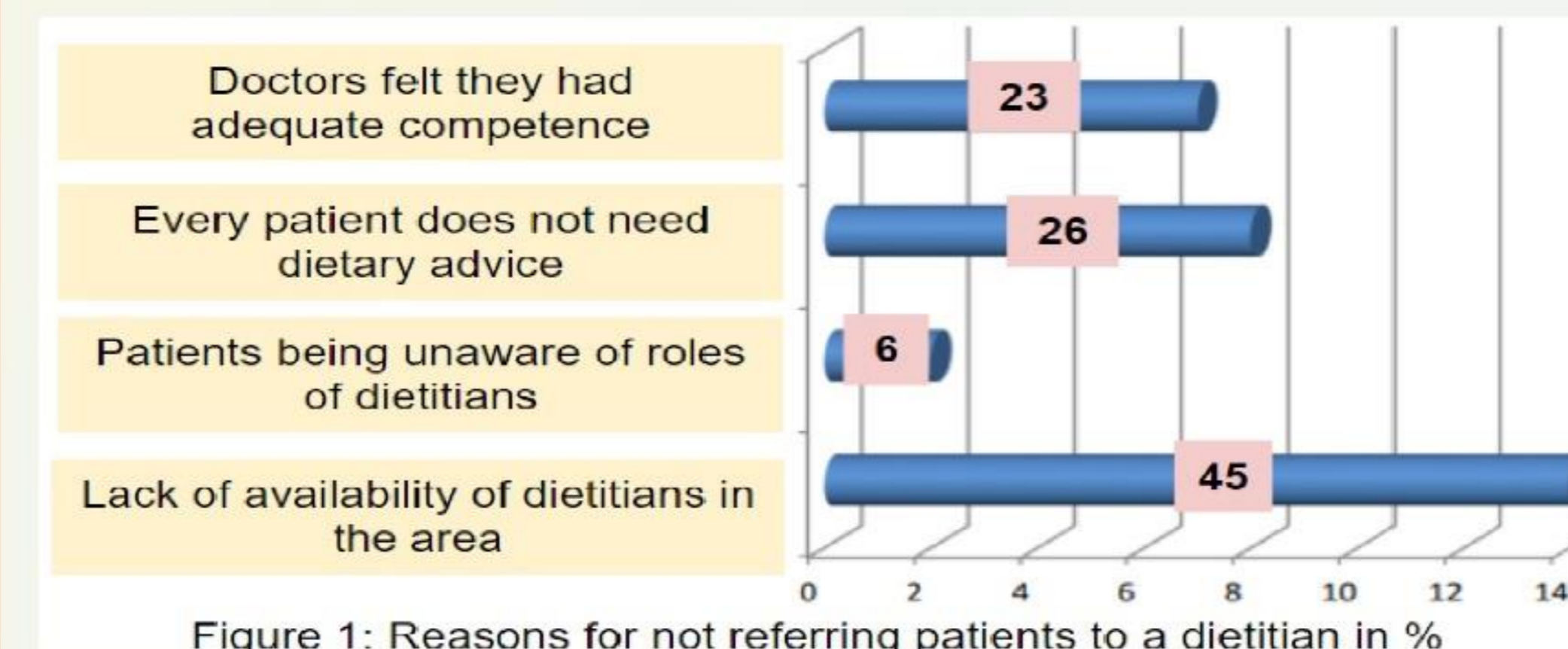


Figure 1: Reasons for not referring patients to a dietitian in %

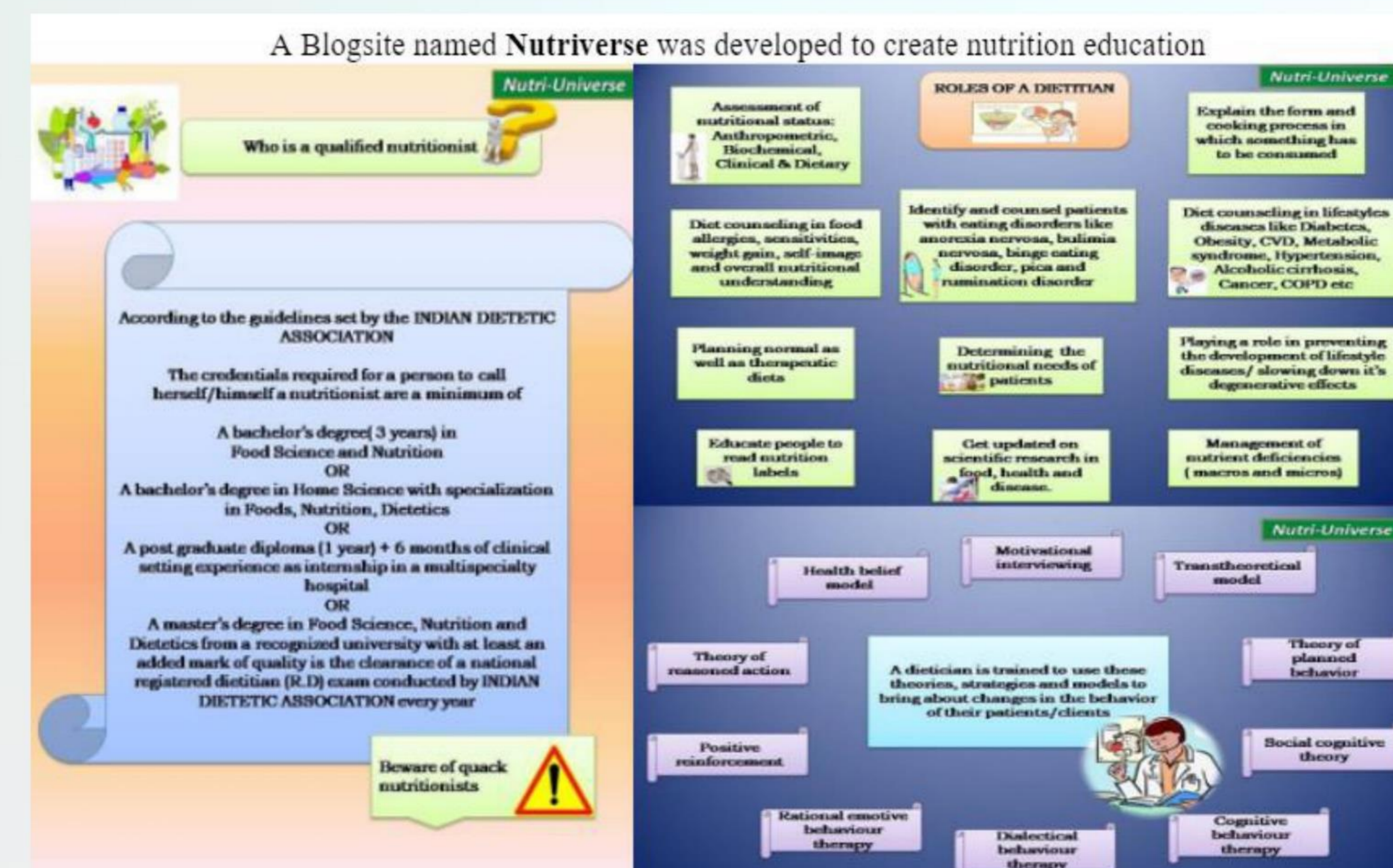
Figure 2: Results of feedback for Blogsite

## Conclusion

This study shows the need for providing nutrition education to participants as they were unaware of conditions requiring referrals to dietitian and roles of dietitian.

Such nutrition education tools with greater outreach can improve Doctor-Dietitian collaborations thus improving health and wellbeing of the population which is in line with United Nations Third Sustainable Development Goal : Ensuring healthy lives and promoting well being

## Blog content



A Blogsite named **Nutri-Verse** was developed to create nutrition education

**Who is a qualified nutritionist?**

According to the guidelines set by the INDIAN DIETETIC ASSOCIATION

The credentials required for a person to call herself/himself a nutritionist are a minimum of

- A bachelor's degree (3 years) in Food Science and Nutrition
- OR
- A bachelor's degree in Home Science with specialization in Foods, Nutrition, Dietetics
- OR
- A post graduate diploma (1 year) + 6 months of clinical setting experience as an internship in a multispecialty hospital
- OR
- A master's degree in Food Science, Nutrition and Dietetics from a recognized university with at least an added mark of quality in the clearance of a national registered dietitian (R.D) exam conducted by INDIAN DIETETIC ASSOCIATION every year

**Beware of quack nutritionists!**

**ROLES OF A DIETITIAN**

- Assessment of nutritional status: Anthropometric, Biochemical, Clinical & Dietary
- Identify and counsel patients with eating disorders like anorexia nervosa, bulimia nervosa, binge eating disorder, pica and rumination disorder
- Plan and counsel on food allergies, sensitization, weight gain, self-image and overall nutritional understanding
- Planning overall as well as therapeutic diets
- Educate people to read nutrition labels
- Get updated on scientific research in food, health and disease.
- Explain the form and cooking process in which something has to be consumed
- Diet counseling in lifestyle diseases like Diabetes, Obesity, CVD, Metabolic syndrome, Hypertension, Alcoholic cirrhosis, Cancer, COPD etc
- Playing a role in preventing the development of lifestyle diseases/ slowing down its degenerative effects
- Management of nutrient deficiencies (macro and micro)

**Theoretical models:** Health belief model, Motivational interviewing, Transtheoretical model, Theory of reasoned action, Theory of planned behavior, Positive reinforcement, Social cognitive theory, Rational emotive behavioural therapy, Diodelectical behaviour therapy, Cognitive behavioural therapy.

A dietitian is trained to use these theories, strategies and models to bring about changes in the behavior of their patients/clients

## Recommendations

Further research on the intervention tools can be done to improve :

- The referral of dietitians by doctors
- The understanding of the roles of a dietitian
- The kind of patients to be referred to a dietitian in order to bring about holistic management of the patients by looking at doctor-dietitian collaborations with a preventive approach.

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## STUDY ON THE IMPACT OF CURRICULUM BASED NUTRITION EDUCATION ON KNOWLEDGE, ATTITUDE AND PRACTICES OF GOVERNMENT SCHOOL CHILDREN OF CLASS 1 TO 3

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### Introduction

- Students from government schools need to be sensitized about appropriate nutrition practices for making healthier food choices from limited resources rather than depending on mid-day meals<sup>1</sup>
- Nutrition education in curriculum not only inculcates correct dietary & hygiene practices but also ensures adherence to these practices for better lifestyle and quality of life even in adulthood.<sup>2</sup>

### Aim

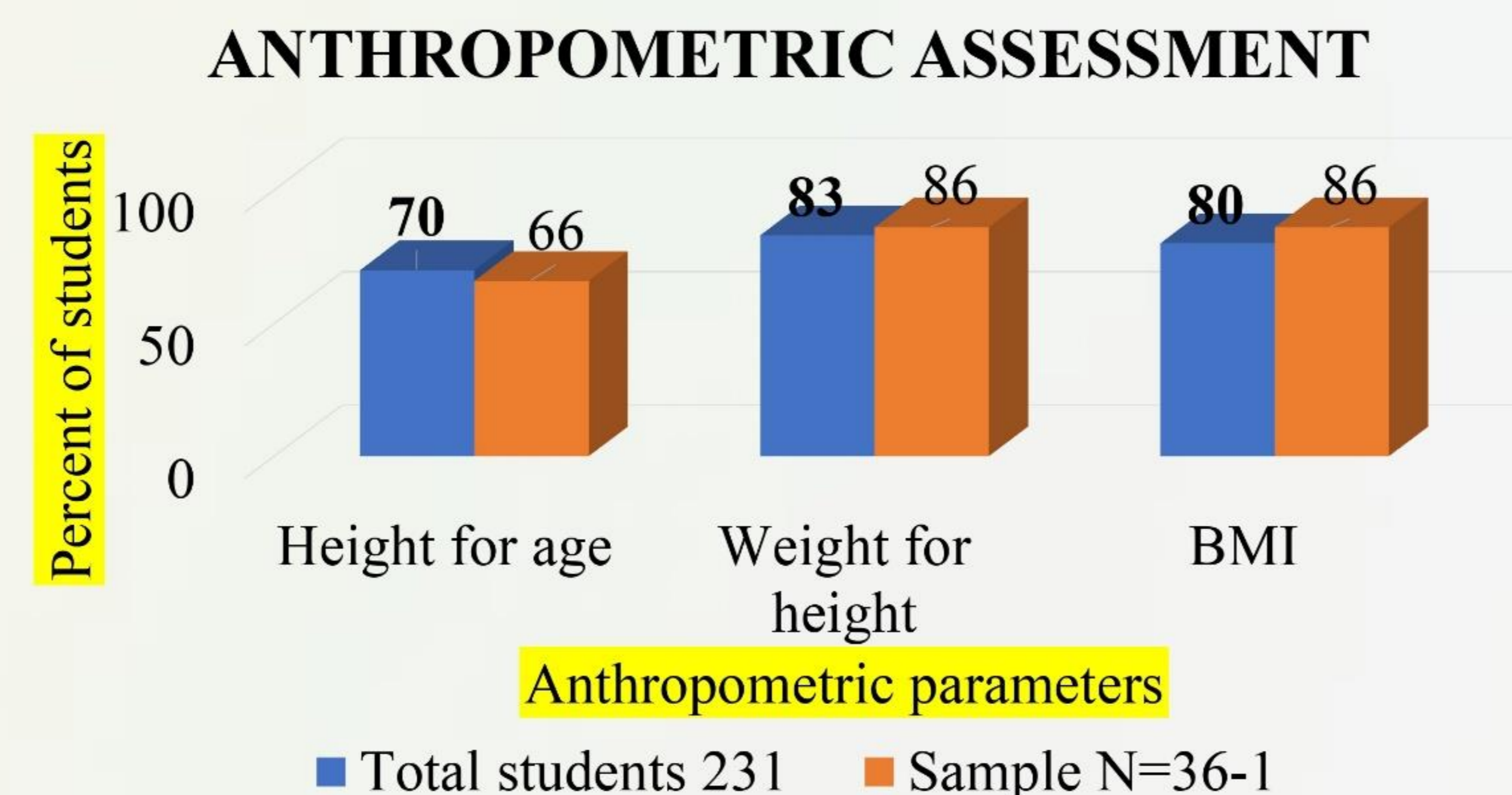
- To assess growth status of children pre-implementation of nutrition education programme (NEP) against standard values
- To assess the impact of curriculum based NEP on knowledge, attitude and practices (KAP)

### Methodology

- 1) Anthropometric assessment (Height, Weight, BMI) (Total students of Grade 1-3= 231)
- 2) Stratified, random sampling: 36 (n=36-1)
- 3) Interview method: Standardized questionnaire on food awareness & frequency, health, hygiene & curriculum based nutrition content for pre and post-test KAP analysis P
- 4) Intervention: 4 sessions on nutrition, hygiene & health
- 5) Data analysis: using SPSS

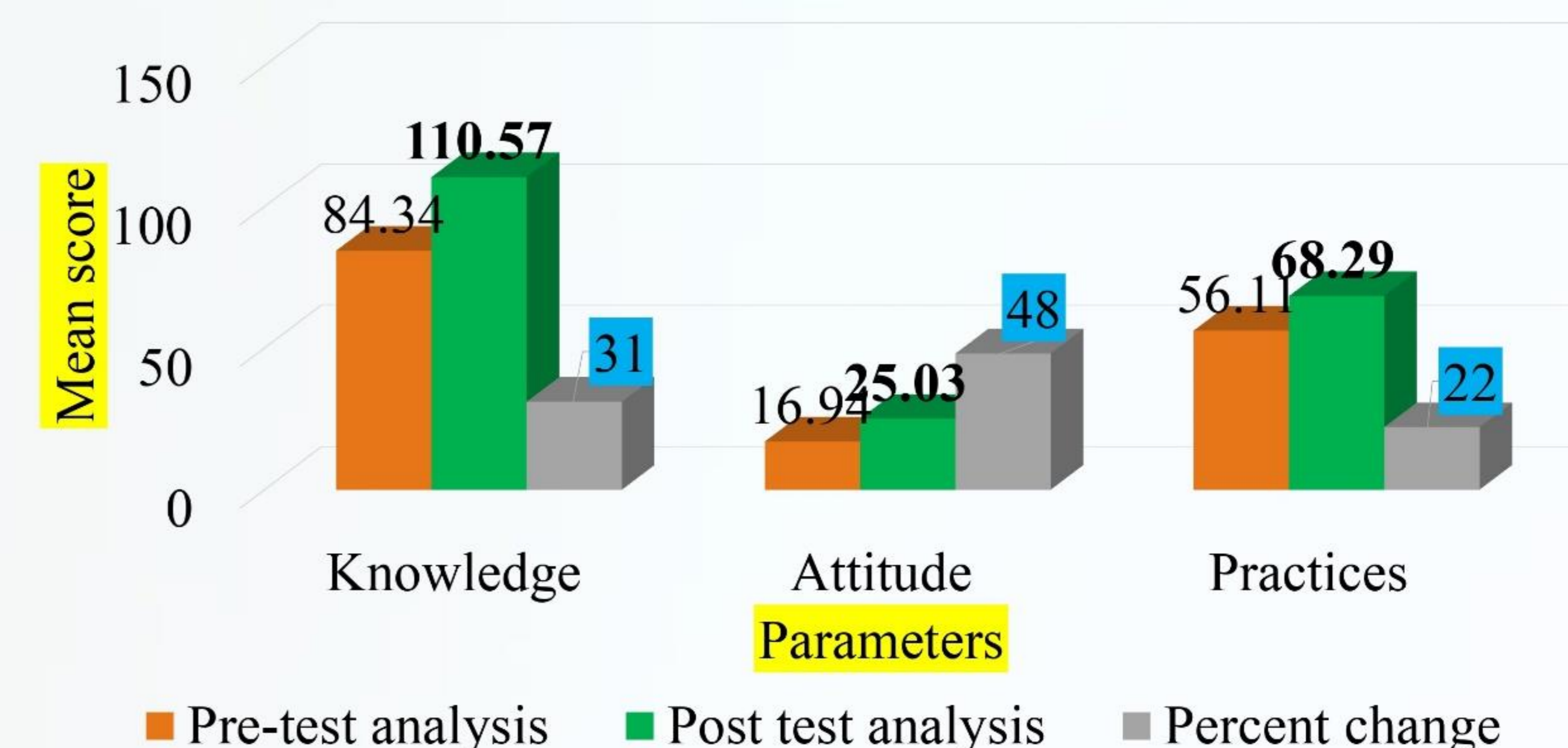
### Results

1) Anthropometric assessment data assessment indicates significant undernutrition among the total number of students as well as sample selected



2) There is a significant change in pre & post test KAP score

**PRE & POST TEST KAP SCORE (N=36-1)**



### Conclusion

A significant change in KAP of nutrition, health and hygiene was observed post implementation of curriculum based nutrition education. However, implementation of these activities for a longer duration and at regular intervals will impact the primary school children for long term.

### References

- 1) Poonam kumari & Chahal, 2020, A Study of children enrollment in Government Elementary School in relation to socio-economic status, International Journal of Scientific & Technology Research, Volume 9, Issue 02, 4875-4880
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# Efficacy Of Nutrition Education Regarding Gut Health – A Pilot Study

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## Introduction

- The gut microbiota has been the subject of research, and we now have understanding of its importance in sustaining a healthy lifestyle.
- The repercussions of a dysbiotic gut, ways to maintain a healthy gut, must be emphasized. { (Aziz, R. (2009)) }
- Individuals must be educated on how to achieve gut health through dietary and lifestyle modifications.

## Aim

To evaluate the Knowledge, Attitude, and Practices of the general population regarding the gut microbiome and good gut health followed by educating the public regarding the same.

## Methodology

- This is an exploratory experimental research design using the Convenient Sampling Technique with the Inclusion Criteria of all genders over 18 years.
- Data collection tool - a self-developed KAP survey was used both before and after the intervention to assess the effectiveness
- Intervention: a 50-minute nutrition education webinar with 45 participants covering various topics such as **Introduction to gut microbiota and its role in disease management, Gut-brain axis, Gut and nutrient absorption, and Foods to maintain good gut health.**
- An intervention acceptability tool was developed to test whether participants found the educational webinar relevant.

## Results

The questionnaire consisting of 10 questions to understand the knowledge, aptitude and practises of the general population pre and post-webinar revealed:

- A 17.4 percent increase in Gut and disease management expertise.
- A 15.5% increase in understanding of how the gut works.
- A 18.5% increase in comprehension of the gut-brain axis.
- A 23.8% increase in understanding of foods that promote gut health and
- A 23.4% increase in understanding of foods that contain prebiotics and probiotics.

The intervention acceptability tool revealed that the webinar was well-received by the general audience, who described it as instructive, simple to follow, and well-executed.

## Conclusion

Despite the fact that numerous studies show that a healthy gut can improve quality of life, nutrition education is an effective method of translating these findings into the community and its practices. The general population's knowledge of gut health has improved as a result of this nutrition education webinar, as evidenced by the questionnaire.

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## Future Aspects

- Although this pilot study was conducted online, an in-person session would be more engaging.
- This study can advance by covering more subjects maintaining well-being through gut health.
- By becoming global, it will be possible to assist a bigger audience in achieving gut health

