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Impact of Stress Lightening Dietary Education on Knowledge and Stress Eating Attitude among Night Shift Working Nurses

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Abstract

Objective: To assess the effectiveness of stress lightening dietary education on knowledge and stress eating attitude among night shift working nurses at selected Hospitals in Thiruvarur district. **Methodology:** Quantitative approach. A quasi-experimental design was adopted to assess the effectiveness of stress lightening dietary education on knowledge and stress eating attitude among night shift working nurses (120 samples) at Thiruvarur Government Medical College, Kamakshi Hospital in Thiruvarur district. Purposive sampling technique was utilized to choose the samples. Stress-Lightening Dietary Education was administered, and the level of knowledge and stress eating attitude was assessed by using a self-structured knowledge questionnaire and a modified Salzburg stress eating attitude scale and contrasted with the pre-test and post-test levels of knowledge and stress eating attitude among night shift working nurses. **Results:** The research findings revealed that the post-test mean knowledge score of night shift nurses was 8.54 with an SD of 0.78, and their post-test mean stress eating attitude score was 32.12 with an SD of 3.67. The calculated paired "t" value (56.358 and 23.819) for knowledge and stress eating attitude shows that there was a high statistical difference at $p<0.001$. **Conclusion:** The results revealed that stress-lightening dietary education was an effective intervention tool in enhancing the knowledge and stress-eating attitude regarding stress-lightening dietary practices among night shift nurses.

Keywords: Knowledge and Stress Eating Attitude, Stress on Dietary Practices, Stress Lightening Dietary Education

1. Introduction

Health is a kingdom of whole physical, intellectual, and social well-being and is no longer simply the absence of any illnesses or infirmities (WHO). The expression "stress" alludes to processes including discernment, evaluation, and reaction to noxious events or improvements. Tentatively prompted stress has been displayed to expand admission of exceptionally tasteful, energy-dense food sources and to inhibit intake of high-fiber, low fat food sources in people. Over the beyond a quarter century, a lot of examination has explored the connection among stress and eating behavior and countless examinations have shown that stress is related with changes in food consumption in adults and youngsters.

In fact, it has been assessed that 35-40 % of individuals increment their food consumption while encountering stress, while the excess extent either decline or don't change their food consumption in response of stress, whilst the remaining proportion either decrease or do not change their food intake in response to stress. Negative health effects and poor health practices seem to more prevalent with those who regularly work the night shift.

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Dietary practices are defined as an observable actions or behavior of food habits, variety of foods, drinks and nutrients in diets and the frequency with which night shift working nurses are habitually consuming. Multivariate analyses discovered that extra pressure was associated with more fatty meals consumption, less fruits and vegetable intake, greater snacking, and a reduced probability of daily breakfast consumption. Working at some point of night time impacts fitness because it disrupts circadian rhythms and eating conduct, compromise cognitive capacity, purpose fatigue, loss of sleep and digestive problems.

Night shift working nurses are not complying with a right diet at the night time. Nurses face a lot of health-related stress. The reason of this studies is to look at the effect of stress on nutritional practices among night shift work and the Stress Lightening dietary practices for nurses. To enhance the pressure lightening nutritional practices among night time shift operating nurses at decided on clinic.

1.1 Objectives

- To assess and compare the pre-test and post-test level of knowledge and stress eating attitude regarding stress lightening dietary practices among night shift working nurses.
- To assess the effectiveness of stress lightening dietary education on knowledge and stress eating attitude among night working nurses working at selected Hospitals in Thiruvarur district.
- To correlate the mean differed level of knowledge score with the mean differed level of stress eating attitude score among night shift nurses working at selected Hospitals in Thiruvarur district.
- To associate the selected demographic variables, lifestyle and behavioral pattern, dietary pattern, anthropometric assessment, with the mean differed level of knowledge and stress eating attitude score.

1.2 Statement of the Problem

"A Quasi-Experimental study to assess the impact of stress on dietary practices and to assess the effectiveness of stress lightening dietary education on knowledge and stress eating attitude among night shift working nurses at selected Hospitals in Thiruvarur district".

1.3 Null Hypotheses

NH_1: There is no significant difference between pre-test and post-test level of knowledge score and stress eating attitude score among night shift working nurses at selected Hospitals in Thiruvarur district at $p<0.05$ level.

NH_2: There is no significant effectiveness of stress lightening dietary education on knowledge and stress eating attitude among night shift working nurses at selected hospitals in Thiruvarur district at $p<0.05$ level.

NH_3: There is no significant correlation in the mean differed level of knowledge score with the mean differed level of stress eating attitude score among night shift nurses working at selected Hospitals in Thiruvarur district at $p<0.05$ level.

NH_4: There is no significant association between the selected demographic variables, lifestyle and behavioral pattern, dietary pattern, anthropometric assessment, with the mean differed level of knowledge and stress eating attitude.

2. Methodology

A quasi-experimental research design was adopted in order to assess the impact of stress on dietary practices and the effectiveness of stress-lightening dietary education on knowledge and stress eating attitudes among night shift nurses at selected hospitals in Thiruvarur district. The independent variable of this study was Stress Lightening Dietary Education. The dependent variables were knowledge and stress eating attitude. The study was conducted at Thiruvarur Government Medical College, Kamakshi Hospital in Thiruvarur district. The study samples included were night shift working nurses at selected Hospitals in Thiruvarur district and the study sample size consisted of 120 night shift working nurses selected by purposive sampling technique.

The tool consisted of two parts i.e., data collection tool and intervention tool. The data collection tool used in this study was a self-structured knowledge questionnaire

Table 1. Assessment Of Knowledge

Content	No. of Questions
Concept of stress on food behavioral pattern.	10

Table 2. Scoring and interpretations of knowledge

Scores	Level of knowledge
≤ 50%	Inadequate knowledge
51-74 %	Moderately adequate knowledge
75-100 %	Adequate knowledge

Table 3. Assessment of the modified salzburg stress eating attitude scale

Statements	I eat much than usual	I eat less than eat	I eat more than eat	I eat much more than usual
Score	1	2	3	4

Table 4. Scoring and Interpretations of Stress eating attitude (Modified Salzburg stress eating attitude scale)

Score	Level of stress eating attitude
≤ 50%	Unfavorable stress eating attitude
51-74 %	Moderately favorable stress eating attitude
75-100 %	Favorable stress eating attitude

and modified Salzburg stress eating attitude scale. After a brief introduction about self and study, collected the filled demographic variables, life style and behaviour pattern, dietary pattern, assessed nutritional status and administered pretest assessment tools. The intervention tool (Stress Lightening Dietary Education) was administered which lasted for 10 minutes, demonstration of Body Mass Index (BMI) calculation which took about 10 minutes.

Part B – The Interventional tool (Stress Lightening Dietary Education) was administered which included multimedia video teaching towards the concept of stress lightening dietary practices covered the meaning of stress, how we can overcome the stress, physical signs and symptoms, how to lighten the stress by using dietary modification, the link between junk foods and stress, which lasted for 20 minutes.

After the intervention, a post-test assessment on the level of knowledge and stress eating attitude among night shift nurses on the 7th was done. The data collected was analyzed and compared to identify the effectiveness of Stress Lightening Dietary Education among night shift working nurses.

The findings proved that the Stress lightening dietary education effectively improved the knowledge and stress eating attitude of night shift working nurses towards the concept of stress lighting dietary practices with improvement in the mean level of knowledge and stress eating attitude among night shift working nurses.

2.1 Ethical Consideration

Ethical approval was obtained from the ethical clearance board, the head of the institution, and the dean and vice principal of Thiruvarur Government Medical College, Kamakshi Hospital, Thiruvarur District, to conduct the study in the hospitals. The researcher has followed fundamental ethical principles.

2.2 Statistical Analysis

Descriptive statistical were used to describe demographic variables. The paired 't' test was used to compare the pre-test and post-test levels of knowledge and stress eating attitude. Coefficient correlation was used to correlate knowledge and stress eating attitude. ANOVA was used to find out the association of knowledge and stress eating attitude with selected demographic variables and lifestyle behaviors, dietary pattern among night shift working nurses.

3. Results

Most of the night shift nurses, 64 (53.4%), were in the age group of 25–35 years, with regard to the gender of the night shift nurses 111 (92.5%) of them were women. With regard to marital status of the night shift nurses, 79(65.8%) of them were married, 45 (37.5%) participants had bachelor's degree education and 42 (35%) of them had work experience of 1-3 years, and 92(76.7%) belongs to the Hindu religion, 87(72.5%) were living in a rural area, 81(67.5%) are staff nurses and 62 (51.6%) participants were fixed night shift pattern.

44 (36.7%) had done 11–20 weeks in the past one year, 52 (43.3%) living in a joint family. 94 (78.3%) of them have more than 3 members in their family, and 51 (42.5%) had a monthly income of Rs. 15000 and Rs. 25000; 51 (42.5%) had a monthly income of above Rs. 25000, with regards to health problems 103 (85.8%) of them don't have any health-related problems. 51 (42.5%) night shift nurses working more than 10 hours, 64 (53.3%) taking 1-2 hours rest per day, 101 (84.2%) would not have any leisure time activity, 59 (49.5%) had sufficient amount of sleep, and 64 (53.3%) would have a sleep of 4 to 5 hours per day.

102 (85.0%) were non-vegetarian and 67 (55.8%) participants would consume meals at regular intervals, 67 (55.8%) of them skip meals rarely, 74 (61.7%) participants would skip meals at dinner and 46 (38.3%) would skip meals at breakfast, 97 (80.8%) of them have a good appetite; 98 (81.8%) participants have not follow any diet

restriction, 66 (55.0%) of them have the habit of eating snacks at night; 64 (53.3%) participants would consume biscuits, bread, and crackers at night and 41 (34.2%) participants drinking coffee between meals.

Median, mean, and standard deviation values of weight were 60.0, 59.74, and 9.78; median, mean, and standard deviation values of height were 158.50, 158.18, and 10.92; median, mean, and standard deviation values of the waist-hip ratio were 0.90, 0.89, and 0.05; median, mean, and standard deviation. Regarding the BMI range of night shift nurses, 58 (48.3%) of them were normal body weight, 30 (25.0%) of them were obese, 21 (17.5%) of them were normal weight, and 11 (9.2%) of them were underweight.

Table 5. Food frequency pattern among night shift nurses

Food items	Daily	Weekly once	Weekly twice	Monthly once	Monthly twice	occasionally	Rarely	Never
Cereals and cereal products	Rice 120 (100.0%)	Brown rice 30 (25.0%) Wheat 66 (55.0%)	-	Ragi 31 (25.8%)	-	-	Oatmeal 33 (27.5%) Varagu (kodo millet) 45 (37.5%)	-
Pulses	Black gram dhal 47 (39.2%)	Green gram dhal 40 (33.3%) Soya bean 43 (35.8%)	-	Red gram dhal 34 (28.3%)	-	-	-	-
Fruits	Banana 36 (30.0%) Tomato 114 (95.0%)	Apple 50 (41.7%) Cucumber 35 (29.2%) Lemon 55 (45.8%)	Orange 30 (25.0%)	Guava 44 (36.7%)	Blue berries 33(27.5%) Grapes 39(32.5%)	-	-	-
Green leafy vegetables	Curry leaves 102 (85.0%) Coriander 95 (79.2%) Mint 86 (71.7%)	Spinach 36 (30.0%)	Drumstick leaves 33 (27.5%)	-	-	-	-	-
Roots and tubers	Onion 120 (100.0%)	potato 49 (40.8%) Carrot 76 (63.3%) Beetroot 74 (61.7%) Ginger 60 (50.0%)	-	-	-	-	-	-
Nuts, dry fruits and seeds	Almond 71 (59.2%)	Raisins 32 (26.7%) Groundnut 27 (22.5%)	-	-	-	Walnut 39 (32.5%)	Cashew 31 (25.8%)	-
Fats and oils	Coconut oil 92 (76.7%) Sunflower oil 60 (50.0%)	Groundnut oil 50 (41.7%) Ghee 25 (20.8%)	-	-	-	-	Butter 41 (34.2%)	-
Meat and poultry		Egg 44 (36.7%) Salmon fish 44 (36.7%) Broiler chicken 51 (42.5%) Mutton 44.(36.7%)			-			
Milk and milk products	Milk 97 (80.8%)	Butter milk 34(28.3%) Curd 31 (25.8%)	-	-	-	Paneer 42(35.0%) cheese 25(20.8%)	Yogurt 34 (28.3%)	-
Beverages	Tea 98(81.7%) Coffee 80 (66.7%)	Carbonated drinks 24 (20.0%)	Fruit beverages 24 (20.0%)	-	-	-	-	-

The median, mean, and standard deviation of energy intake were 1672.0 kcal/day, 1639.65 kcal/day, and 232.72; the median, mean, and S.D. of CHO intake were 121.94 g/day, 127.47 g/day, and 37.46; the median, mean, and S.D. of protein intake were 33.45 g/day, 34.07 g/day, and 11.97; the median, mean, and S.D of fat intake was 1672.0 kcal/day, 1639.65 kcal/day and 232.72; median, mean and S.D. of CHO intake was 121.94 g/day, 127.47 g/day and 37.46; median, mean and S.D. of Protein intake was 33.45 g/day, 34.07 g/day and 11.97; median, mean and S.D. of Fat intake was 41.88 g/day, 42.11 g/day, and 12.60; the median, mean, and S.D. of fibre intake were 16.01 g/day, 15.19 g/day, and 3.18; the median, mean, and S.D. of calcium were 654.0 mg/day, 672.74 mg/day, and 0.78.

Figures 1, 2 and Table 6 depict the assessment and comparison of pretest and post-test level of knowledge and stress eating attitude regarding stress lightening dietary practices among night shift working nurses with paired 't' test and inferred high level significant differences pertaining to knowledge and stress eating attitude at $p<0.001$. Thus the Stress lightening dietary education regarding stress lightening dietary practices was proved

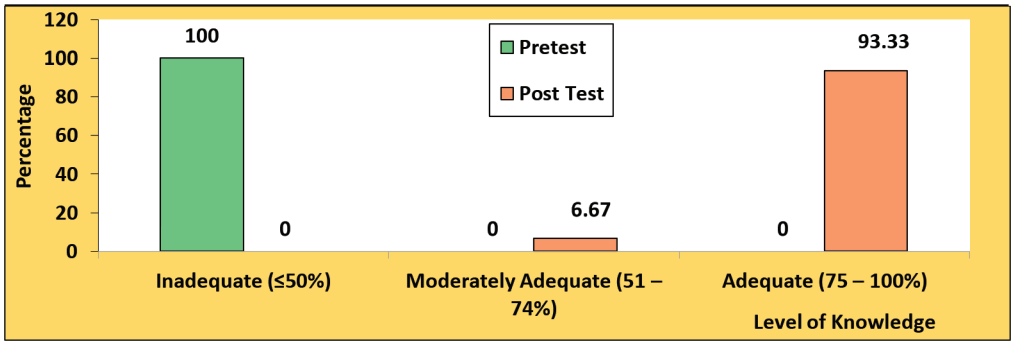

Figure 1. Assessment and comparison of pretest and post-test level of knowledge regarding stress lightening dietary practices among night shift working nurses.

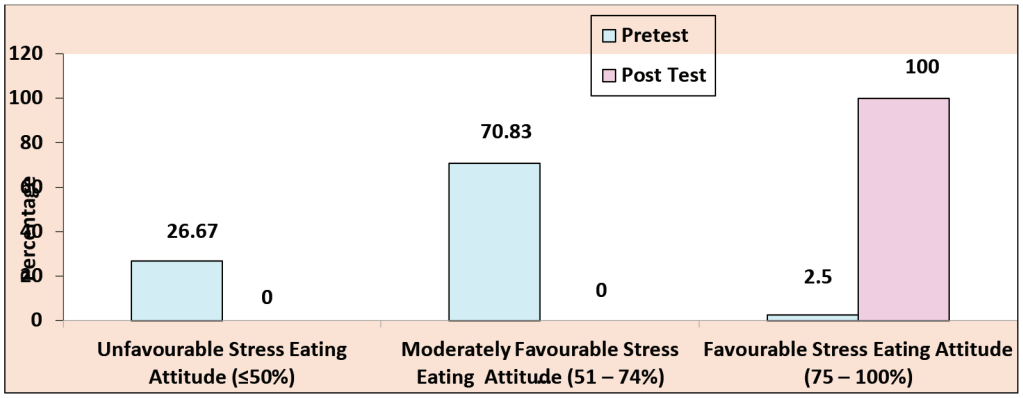

Figure 2. Assessment and comparison of Pre-test and post-test level of stress eating attitude regarding stress lightening dietary practices among night shift working nurses.

Table 6. Effectiveness of stress lightening dietary education on knowledge and stress eating attitude among night shift working nurses N = 120

Variable	Test	Mean	S. D	Mean Difference	Paired 't' Test and p-value
Knowledge	Pretest	2.48	0.81	6.06	**t = 56.358 p = 0.0001, S*** **
	Post Test	8.54	0.78		
Stress Eating Attitude	Pretest	22.67	3.01	9.45	**t = 23.819 p = 0.0001, S*** **
	Post Test	32.12	3.67		

***p<0.001, S – Significant

highly effective in improving the knowledge and stress eating attitude among night shift working nurses.

The above the Figure 3 depicts the association of selected demographic variables with the mean differed knowledge core of night shift working nurses towards the concept of stress- lightening dietary practices. The findings revealed that there was a significant association in the mean improved knowledge score to gender with "t" a value of 2.761, which showed statistical significance at $p<0.05$ and an association in the family type 'f' value 3.533, which showed statistical significance at $p<0.05$, association in the family size 'f' value 3.381, which showed statistical significance at $p<0.05$. The other demographic variables did not show any significant association with knowledge scores.

The above Figure 4 depicts the association of selected demographic variable with the mean differed stress eating attitude score of night shift working nurses towards the concept of stress-lightening dietary practices. The findings revealed that there was a significant association

Table 7. Correlation of mean differed knowledge and stress eating attitude regarding stress lightening dietary practices N = 120

Test	Mean	S.D	Karl Pearson's Correlation 'r' value	Inference
Knowledge	6.07	1.18	**r = 0.305 p = 0.001, S****	Moderate positive correlation between knowledge and stress eating attitude score
Eating Attitude	9.45	4.24		

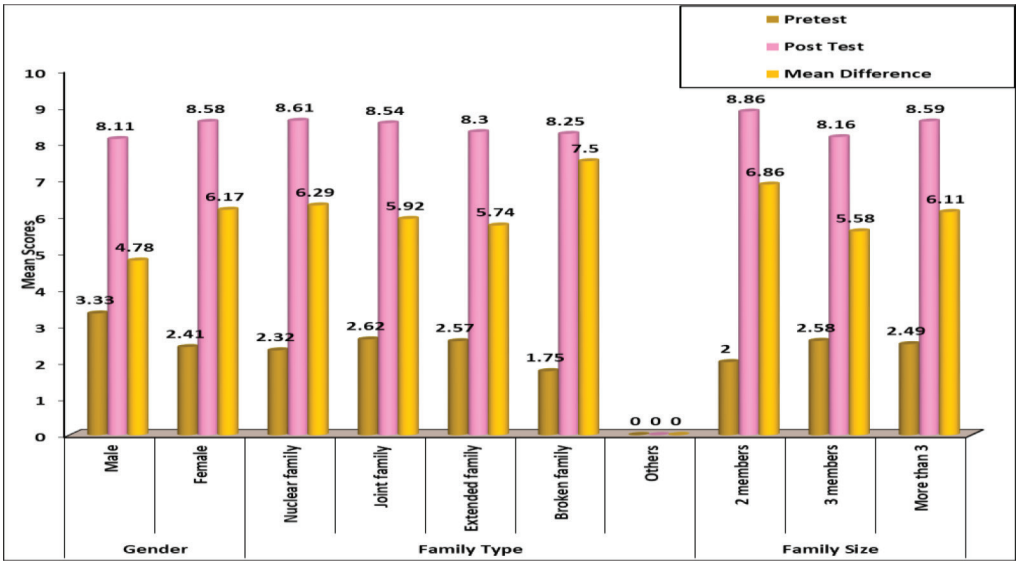

Figure 3. Association of mean differed knowledge scores regarding stress lightening dietary practices with selected demographic variable among night shift working nurses.

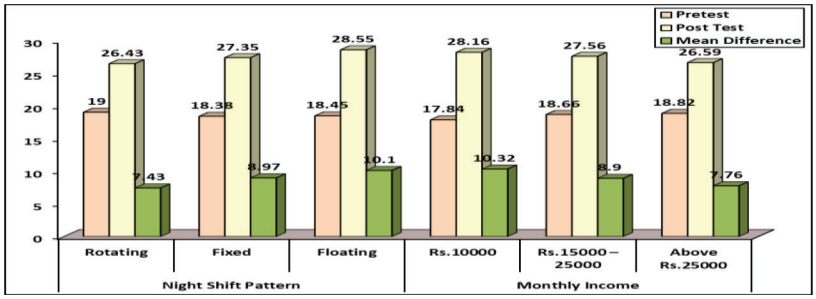

Figure 4. Association of mean differed stress eating attitude scores regarding stress lightening dietary practices with selected demographic variables.

in the mean improved attitude score to the night shift pattern with a 'f' value of **3.569**, which showed statistical significance at p<0.05, and an association in the monthly income with a 'f' value **3.142,** which showed statistical significance at p<0.05. The other demographic variables did not show any significant association with the stress eating attitude score.

The above Figure 5 depicts the association of selected lifestyle variables and dietary pattern with the mean differed knowledge score of night shift working nurses towards the concept of stress-lightening dietary practices. The findings revealed that there was a significant association in the mean improved knowledge score to type of snacks, mainly consumers, with a 't' value of **2.752,** which showed statistical significance at p<0.05 The other selected lifestyle variables and dietary patternsdid not show any significant association with knowledge scores.

The above Figure 6 depicts the association of selected lifestyle variables and dietary patterns with the mean differed stress eating attitude score of night shift working nurses towards the concept of stress-lightening dietary practices. The findings revealed that there was a significant association in the mean improved stress eating attitude score to follow any diet restrictions with a 'f' value of **2.426**, which showed statistical significance at p<0.05, and an association in type of snacks mainly consumed by consumers with a 'f' value of **2.468,** which showed statistical significance at p<0.05, and an association in beverages you usually consume between meals with a 'f' value of **2.757**. The other lifestyle variables and dietary patterns did not show any significant association with the stress eating attitude score.

4. Discussion

The correlation of the mean differed knowledge and stress eating attitude score was done using Karl Pearson's coefficient correlation and revealed that there was a

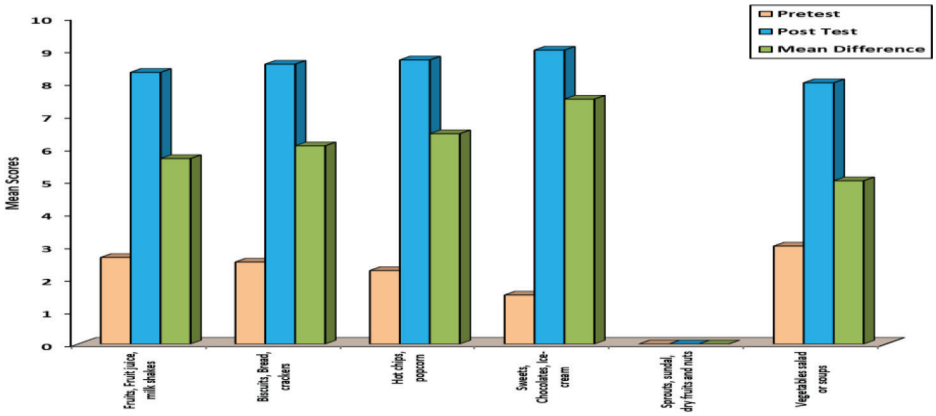

Figure 5. Association of mean differed knowledge scores regarding stress lightening dietary practices with selected lifestyle variables and dietary pattern of night shift nurses.

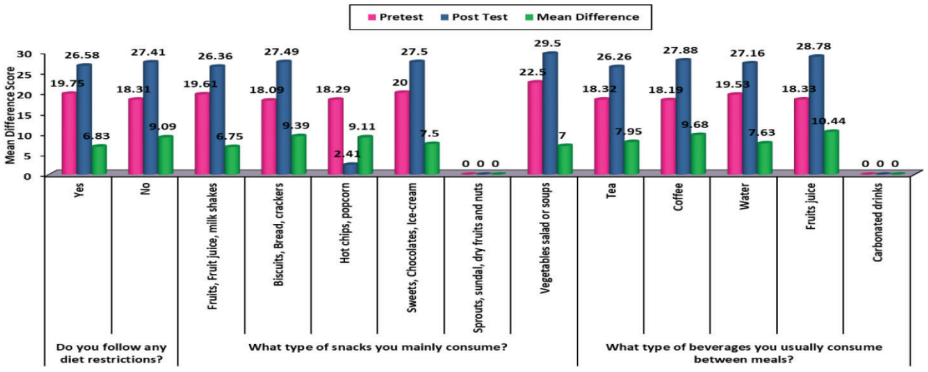

Figure 6. Association of mean differed stress eating attitude scores regarding stress lightening dietary practices with selected lifestyle variables and dietary pattern of night shift nurses.

moderately positive correlation between the knowledge and stress eating attitude scores of night shift working nurses. Thus, the stress lightening dietary education has depicted that the improvement in the knowledge affected the enhancement of stress eating attitude regarding stress lightening dietary practices.

The post-test analysis on the level of knowledge of night shift working nurses revealed that the mean difference in the level of knowledge was 6.06 with a paired "t" value of 56.358 and a p value of 0.0001, and the mean difference in stress eating attitude was 9.45 with a paired "t" value of 23.819 and a p value 0.0001, which shows the level of knowledge and stress eating attitude score in the post-test were found to be statistically highly significant. This value indicates the effectiveness of Stress lightening dietary education on the level of knowledge and stress eating attitude towards the concept of stress lightening dietary education.

4.1 Limitations

The investigator has found little complexity in obtaining setting permission. The present study was conducted only in Thiruvarur district. Hence the findings may not apply to night shift working nurses of other districts. The investigator found difficulty in collecting data from the night shift working nurses in morning as they urge to go home after the working hours.

5. Conclusion

The study aimed at assessing the effectiveness of stress-lightening dietary education on knowledge and stress-eating attitudes among night shift nurses. The findings of the study revealed that the mean improvement in knowledge and stress-eating attitude scores within night shift working nurses.

Thus, the study findings provide enriched evidence that Stress-Lightening Dietary Education was an effective intervention tool in enhancing the knowledge and stress-eating attitude regarding stress lightening dietary practices among night shift nurses.

6. Acknowledgement

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7. Contributors

SD: conceptualization of the study, data collection, data analysis of the data, writing the manuscript, finalized the manuscript and will act as the guarantor of the paper; **NG, PP:** Edited and critically evaluated the manuscript.

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