Comparative study of nutritional knowledge, attitude and practice of educated and uneducated students of secondary schools in Mazandaran province

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Abstract: The aim of this study was to evaluate and compare the knowledge, attitude and nutritional practice of educated and uneducated students of secondary schools in Mazandaran province. This study is applied and the method of semi-test and post-test design with a control group. The population of all school students Mazandaran province, 78,879 people were due to quasi-experimental study, the number of 856 students (428 students of experimental groups and 428 control group students) with random sampling - were chosen as the cluster. To collect data, a questionnaire with 40 questions was used. Contextual validity of the instrument was confirmed by experts and its reliability by using Cronbach's alpha coefficient was 0.8, which is statistically significant and approved. To analyze the data descriptive statistics of frequency, frequency percentage, mean and standard deviation and inferential statistics, independent t-test was used. The results showed that: the score of knowledge, attitude and nutritional practice of students trained without more training and the knowledge and nutritional practice of the experimental group was significantly higher than the control group.
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1. Introduction

According to the latest statistics young population is 28.1 percent of the total population. This powerful and constructive force big population requires special attention to remain safe from physical and psychological risks and etc. Healthy adolescents and benefits and lifetime health and culture are nation's greatest asset. So any attempt to pay attention to adolescents and best step to create the social fabric in the future is important. According to the normal growth and development during childhood and adolescence, good nutrition and health support continuous and sustained by effective investment in health represents their future. The rapid changes in lifestyle altered dietary patterns and physical activity for children, and they put at risk of overweight and obesity.

According to nutritional status because one of the most critical and important period of growth and development is essential to spend. Studies conducted on adolescents in our country represent a poor nutritional status in this age group. Therefore, it seems necessary training programs for this group. Because the teaching nutrition and healthy food supply and compensate for possible food shortages as a teenager while teens for healthy adulthood is ready passage of success, due to their impact on the intellectual and cognitive activities, as well as enhancing the efficiency of school education. So during this study the knowledge, attitude and nutritional practice of students trained and no training schools in Mazandaran province is studied.

Nutrition as an important factor in determining health can affect a student's academic success. Research in this area has shown that students who are malnourished have less precision and concentration and academic failure are considerable. The lack of breakfast in a relatively long period could have an adverse effect on the behavior and health. Based on the results of the study in Tehran, many nutritional factors, predictors of cardiovascular disease in the sample size of the city were considered.

The importance and necessity of research

Proper nutrition is one of the most important issues related to puberty. The increase in height and weight during adolescence is quite considerable, so that 20% of final height and final weight of 50%, the growth in this period. The main goal of programs and nutritional plans, access to enough food to live healthy, fitness and wellness area is increasing, so for health promotion in the community, knowledge and

attitudes of the community should be considered place.

Research objectives

1- Determine and compare the nutritional knowledge of educated and uneducated students of secondary schools in Mazandaran province

2- Determine and compare the nutritional attitude of educated and uneducated students of secondary schools in Mazandaran province

3- Determine and compare the nutritional practice of educated and uneducated students of secondary schools in Mazandaran province

4- Comparative study of knowledge, attitude and nutritional practice of educated and uneducated students of secondary schools in Mazandaran province, based on sexuality

Research Hypothesis

1. Points of nutritional knowledge in educated students are higher than uneducated students.
2. Points of nutritional attitude in educated students are higher than uneducated students.
3. Points of nutritional practice in educated students are higher than uneducated students.
4. Points of nutritional knowledge, attitude and practice in educated and uneducated students are different, based on sexuality.

Research literature

Yarmohammadi et al. in a study entitled "The impact of educational programs on Basnef on practice of female students in secondary school" conducted on 160 students, the results achieved; components of the model mean knowledge and behaviors between the intervention and control groups there was a significant relationship between eating behaviors after training.

Vafaei Najar et al., in a study entitled "Effect of nutrition education during adolescence, the knowledge and practice of junior school students" did help out on 120 high school students, to the results achieved; mean score knowledge and practice in the intervention group increased after training. The mean score of knowledge between the intervention and control groups after training was a significant difference, but the difference between the mean performances of the two groups, there was no significant difference.

Amini et al., in a study entitled "The impact of health education on nutritional preventive behaviors of osteoporosis among adolescent girls" based on two groups of 45 patients (testing and control) were carried out, the results found that, the differences between the means scores in the two groups. After the intervention showed significant differences in the mean scores of knowledge, attitude, behavior and risk behaviors were observed between the two groups.

Shahbazi et al. in a study entitled "Evaluation of nutrition and health behavior in high school students" based on 320 students from public high schools in Yazd carried out; the results found that more than 18% of students do not always ate breakfast. More than 48 percent of at least one of the carbonated beverages consumed per day, more than 64 percent during the seven days preceding the foods they consume. Only 14 percent of students always wash your hands before eating. Less than 8 percent of students in the study of nutritional health and hygiene in various fields during his classes were trained.

Alizadeh sivaky et al. in a study entitled "The effect of education on knowledge and practice of elementary school students in the city of Torbat" with quasi-experimental research was conducted on 180 students, the results found that, before the education, the groups were not significantly different, but after the intervention level of knowledge and practice in the study group were significantly increased.

Safavi et al. in a study entitled "Effect of nutritional education and physical activity behaviors junior school students' self-efficacy" of 120 students from first to third did the results achieved, nutritional behavior training students' self-efficacy and physical activity has a positive effect, so that educational interventions to improve self-efficacy in various fields of hygiene and prevention is necessary.

Tvafiyan, in a study entitled "The impact of training programs on dietary behaviors of female students' tips" on 115 students (55 students in the experimental group and 60 students in the control group), the results found that, after the intervention, mean scores of knowledge, attitude and practice in the experimental group was significantly increased. In other words, a program designed positive effects of education on nutritional behavior and their nutrition plays an important role in improving the pattern.

Rubin et al., in a study entitled "The impact of counseling on healthy eating habits of students and elementary school students" showed that counseling programs on healthy eating habits and nutrition knowledge and behavior of students.

Mogre et al., in a study entitled "Evaluation of the level of knowledge in the nutritional management of diabetes," showed that a nurse in diabetes nutrition management was poor. This raises questions about the adequacy of knowledge in the nutritional management of diabetes and therefore training programs for nurses in this area.

Ioana Roman, in a study entitled "The Psychology of nutrition education in child nutrition behavior and" demonstrated that healthy food plays an important role in the eating habits of young

people. Given this situation, the increasing rates of childhood obesity can be worrisome.

Nurcan et al., in a study titled "Effects of maternal nutrition on children's attitudes and behaviors about nutrition," showed that many mothers who had higher levels of nutrition knowledge, has had normal weight children. Mothers' with higher levels of nutrition knowledge, in feeding their children more vegetables, fruits, cereals, and beverages was used. Mothers' higher level of knowledge of nutrition, artificial foods to avoid their children and believe that knowledge about nutrition in mothers affects children's eating habits.

Schindler in a study entitled "The impact of educational programs on knowledge and nutritional practice» indicated that training increased the knowledge and practice of students.

Shariff et al., in a study entitled "The impact of educational program on knowledge and attitude of students" showed that significant changes in knowledge and attitudes of students.

O'Dea et al., in a study showed that 85 percent of men and 87 percent of women who are overweight, dieting for weight loss are selected. 13% of men and 20% women refrain from eating breakfast. Students also education and information about methods of weight control, nutritional and dietary needs.

Material and Methods:

This study is practical, in terms of data, quantitative and according to the nature and purpose of the study, the research is experimental with posttest control group. The study used two groups (control and test) have been established. The population of the study, all school students Mazandaran province, 78879 students (39034 males and 40845 females).

Using random sampling method - cluster 856 of the city of Mazandaran province between boys and girls secondary schools (428 students and 428 student test control) were selected as sample. That city was the city of Mazandaran province 14 and from each city as well as a secondary school for girls and boys randomly to control and experimental groups were selected from each school was selected as a class.

To analyze the data, descriptive and inferential statistical procedures were performed with the software SPSS19.

Results and discussion:

Hypothesis number one: scores of groups of students trained nutritional knowledge without learning more. To investigate the hypothesis by observing the condition of equality of the variances of the two groups using independent t test that results is provided in Table 1.

Table 1. Results of independent t test for hypothesis number one

Variable	Group	Number	Average	S.D.	Level of statistical significance F (Homogeneity of variances)	t value	*d.f.*	Significance level
Nutritional knowledge	educated	428	12.67	1.868	0.196	6.196	854	0.000
	uneducated	428	11.89	1.805				

As shown in Table 1, confidence level of 95% and measurement error was 0.05 and *df* was 854 significance level calculated <0.05 and average nutritional knowledge trained group (12.67) and the group without training is (11.89), the null hypothesis is rejected and research hypothesis is confirmed. So it can be concluded with 95% confidence that "students trained Points nutritional knowledge is significantly greater than in those without education."

Hypothesis two: Points attitude of the students' trained nutritional education is higher than in those without education.

To investigate the hypothesis by observing the condition of equality of the variances of the two groups using independent t-test, which results in Table 2 is presented.

Table 2. Results of t-test for the hypothesis number two

Variable	Group	Number	Average	S.D.	Level of statistical significance F (Homogeneity of variances)	t value	*d.f.*	Significance level
Nutritional knowledge	educated	428	27.02	4.533	0.427	1.748	854	0.081
	uneducated	428	26.49	4.3				

As shown in Table 2, confidence level of 95% and measurement error was 0.05 and *df* was 854 significance level calculated <0.05 and average nutritional knowledge trained group (27.02) and the group without training is (26.49), the null hypothesis is rejected and research hypothesis is confirmed. So it can be concluded with 95% confidence that "Points nutritional attitudes of the students trained the group without education, but this difference was not significant given that more."

Hypothesis three: Points feeding behavior of students trained without further training.

To investigate the hypothesis by observing the condition of equality of the variances of the two groups using independent t-test, which results in Table 3 is provided.

Table 3. Results of independent t test for hypothesis number three

Variable	Group	Number	Average	S.D.	Level of statistical significance F (Homogeneity of variances)	t value	*d.f.*	Significance level
Nutritional knowledge	educated	428	23.63	5.263	0.767	2.4	854	0.017
	uneducated	428	22.76	5.303				

As shown in Table 3, confidence level of 95% and measurement error was 0.05 and *df* was 854 significance level calculated <0.05 and average nutritional knowledge trained group (23.63) and the group without training is (22.76), the null hypothesis is rejected and research hypothesis is confirmed. So it can be concluded with 95% confidence that "Points nutritional attitudes of the students trained the group without education, but this difference was not significant given that more."

Hypothesis four: the score of knowledge, attitude and behavior of students trained nutrition and education of girls and boys are different.

To investigate the hypothesis by observing the condition of equality of the variances of the two groups using independent t-test, which results in Table 4 is provided.

Table 4. Results of independent t test for hypothesis number four

Group	Variable	Sexuality	No.	Ave.	S.D.	Level of statistical significance F (Homogeneity of variances)	t value	*d.f.*	Significance level
Educated	Nutritional knowledge	Girl	214	12.71	1.88	0.901	0.388	426	0.689
		Boy	214	12.69	1.861				
	Nutritional attitude	Girl	214	27.59	4.36	0.9	2.619	426	0.009
		Boy	214	26.45	4.641				
	Nutritional behavior	Girl	214	22.91	5.052	0.462	-2.852	426	0.005
		Boy	214	24.35	5.382				
Uneducated	Nutritional knowledge	Girl	214	11.94	1.628	0.05	0.535	426	0.593
		Boy	214	11.85	1.969				
	Nutritional attitude	Girl	214	26.67	3.986	0.168	0.854	426	0.394
		Boy	214	26.31	4.595				
	Nutritional behavior	Girl	214	22.14	5.019	0.154	-2.429	426	0.016
		Boy	214	23.38	5.516				

As shown in Table 4, confidence level of 95% and measurement error was 0.05 and *df* was 854 the group trained significance level for attitude and feeding behavior significance level calculated <0.05, the null hypothesis is rejected and research hypothesis is confirmed. So with 95% confidence it can be concluded that: Points attitude and feeding behavior of the students trained boys and girls are different. Nutrition attitudes in girls than in boys, but feeding behavior of male students were higher than female. Also significant to the variable level of nutritional knowledge in the group trained Sig<0.05 calculated the nutritional knowledge, so there is no significant difference between male and female students.

As shown in Table 4, confidence level of 95% and measurement error was 0.05 and *df* was 854, in the group without education is a significant level of nutritional knowledge and attitude variables

significance level calculated <0.05. Therefore, the nutritional knowledge and attitude scores of girls and boys but no significant difference in feeding behavior variables such as level of significance Sig < 0.05 was calculated, the feeding behavior of girls and boys between the ratings and there was no significant difference in nutritional behavior in male students than female students is significantly higher.

A number of hypotheses have shown that students trained Points nutritional knowledge is significantly greater than in those without education. This results in desertion by Vafaei Najar et al., Amini et al., Ferhadlu et al., Alizadeh Sivaki et al., Shahnazi et al., Pirzadeh et al., Rasouli et al., Vakili et al., Rubin et al., Schindler et al. and Shariff et al., showed that the mean score of nutritional knowledge of participants after training significantly increased were consistent.

Hypothesis has been revealed, the attitude scores of students trained nutrition without considering that higher education, but this difference was not significant. Amini et al., Ferhadlu et al., Shahnazi et al., Rasouli et al. and Vakili et al. and Shariff et al. are aligned. However, the researchers showed that the mean nutritional attitude of participants after training significantly increased, but this increase is not significant in the present study.

The hypothesis number three showed that the feeding behavior of the students trained rates significantly higher than in those without education. This finding is consistent with results of Yarmohamadi et al., Amini et al., Ferhadlu et al., Alizadeh Sivaki et al., Shahnazi et al., Pirzadeh et al., Rasouli et al., Tvafiyan, Schindler et al., Vafaei Najar et al. and Vakili et al.

There was number four in the experimental group (trained) Points attitude and feeding behavior of girls and boys are different. And nutrition attitudes in girls than in boys, but the nutritional behavior of male students was higher than female. In the test group, there were significant differences between male and female students nutritional knowledge. In the control group (without training) between the rates of male and female students nutritional knowledge and attitude there is no significant difference between the rates but there is a significant difference between male and female students nutritional behavior and nutritional behavior the male students than female students is significantly higher.

Conclusion:

The aim of this study was to evaluate and compare the knowledge, attitude and nutritional practice of educated and uneducated students of secondary schools in Mazandaran province. This study is applied and the method is experimental with posttest control group. The population of all school students Mazandaran province, 78879 persons (39034 males and 40845 females). Because of the quasi-experimental study, 856 people (428 students and 428 students in the experimental group and control group) with random sampling - were chosen as the cluster. To collect data, a questionnaire with 40 questions in three dimensions (knowledge, attitude and feeding behavior of students) is used. Content validity of the instrument was confirmed by experts and its reliability by using Cranach's alpha coefficients were 0.80, which is statistically significant and approved. To analyze the data descriptive statistics of frequency, frequency percentage, mean and standard deviation and inferential statistics, independent t-test was used.

Research proposals

A) Recommendations based on findings

1. On the basis of a number of hypotheses, the students trained Points nutritional knowledge is significantly greater than in those without education, it is suggested that, managers and directors of education with the inclusion of educational content related to healthy nutrition in textbooks students, the students improve nutritional knowledge.

2. Based on the assumption number two, scores of students trained nutritional approach without further training, but this difference was not significant, it is suggested that teachers in classrooms to healthy nutrition in earnest pay. Education officials distributed brochures with nutritional information as well as between students increase their nutritional attitudes.

3. According to the hypothesis number three, the feeding behavior of the students trained rates significantly higher than in those without education. Therefore, it is suggested that; nutrition education programs for students in schools to be run continuously. It also creates buffet with healthy food distribution in schools to be created.

B) Offers based on research experiences

- Engage parents and especially mothers operations in order to improve students' nutrition knowledge, attitude and behavior modification.
- Educational programs to increase knowledge, attitude and practice of students.
- Nutritional information brochures distributed among the students.
- Through mass media such as television nutritional education to be healthy.
- Nutrition education workshops and seminars for students and parents.
- Nutritional information on school site.
- Nutrition education programs in schools are emphasized more than ever to the formation of healthy eating habits in childhood and adolescence promote the well-being of future generations is also more secure.

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