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Evaluation of Effects of Nutrition Training Provided for the Male Prisoners and Convicted on Their Behaviours and Attitudes

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Abstract

The Purpose of the Study: This research was planned and carried out for evaluation of the effect of nutrition education, given to the male prisoners who are in Amasya E Type Closed Prison, on nutrition attitudes and behaviors and we wanted to investigate the effectiveness of training for giving right eating habits to the prisoners. Method: Research has developed around 600 prisoners of Amasya E Type Closed Prison. The prisoners and convicted, who participated in the study, were divided into four groups as training + brochures, brochures and control. The pre-prepared survey was conducted on the prisoners and convicted and the test, which had been prepared for determining the impact of nutrition behaviour and manner, was repeated in the beginning of the study (pre-test), at the end of the training (post-test) and one month later in order to evaluate the sustainability of nutrition training (monitoring test). Oral and visual training was given by the researcher. The survey form, which had been prepared by the researcher in accordance with the literature, The draft survey form that had been prepared was submitted to the opinions of the experts for face validity-content validity [7]. The draft survey was re-organized in accordance with the opinion of the experts and made ready for pre-application. The prepared survey form was applied to 30 prisoners and convicted, who did not participate in the study, and the clarity and validity of the form was confirmed. Statistical analysis of the data was made with SPSS for Windows (Statistical Package for Social Sciences for Windows) 13.0 software and their figures and percentages were taken. Findings and Results: It was determined that in pre-test 16 % of prisoners, in post-test 64 % of prisoners, in monitoring test 62 % prisoners have breakfast. It was understood that the proportion of having regular breakfast is higher than the other groups in education post-test and in education monitoring

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groups, the proportion of who do not have regular breakfast is higher than the other groups in education pre-test and brochure +education pre-test group, the proportion of who sometimes have regular breakfast is higher than the other groups in education post-test and education monitoring test group. In this research it was observed that after the training the majority of the prisoners have gained regular breakfast habits, at the same time there was a reduction in the monitoring test. The training is given on the eating habits shows us that training was effective. But if we want a permanent education, it must be effective and continuously. We analyzed the causes of skipping main meals. The test of at the beginning of research (46.0 %), in the final test at the end of the research (49.0 %) and in the monitoring test one month after education (56.3 %) it was shown that the most causes of skipping meal is "unwilling to eating". This was followed in pre-test "fall asleep" rate (38.0 %), in post test "fall asleep" rate (42.9 %) and in monitoring test "fall asleep" rate (33.3 %). It is seen that the percentage of those who read the articles on the nutrition on the newspapers was 15.6% before the training, where it increased to 38.5% after the training and the percentage of those who stated that they sometimes read before the training increased from 26.4% to 31.8% after the training. That percentage dropped to 37.7% during monitoring test.

Keywords: Prisoning, prison, nutrition, nutrition education, adult education.

1. Introduction

It is necessary to turn nutrition into a lifestyle by increasing the nutrition awareness of all individuals and society in order to achieve the expected life quality in globalization process. Healthy living and economic development of the individual and the society depends on the healthiness of the individual that forms the society. The basis of health is adequate and balanced nutrition. Adequate and balanced nutrition is also defined as healthy nutrition. In that sense, we need to target to protect, improve and develop the health of all individuals during their lifetime, increase their life quality and have them adopt healthy lifestyles (healthy nutrition and physical activity habits, prevention of tobacco use).

The problems related to inadequate and unbalanced nutrition can be seen all over the world and at every age group. However, illnesses that are related to the inadequate and unbalanced nutrition, which is especially observed in undeveloped and developing countries, are seen more intensely. For example, while the inadequate nutrition is shown as the most important reason of infant mortality especially in undeveloped countries, health problems such as cardiovascular diseases that are observed in elderly age group emerge as the result of unbalanced and wrong nutrition especially in developing countries [1].

According to the 2008 data, 63% (36 million people) of the mortality in the world resulted from non-communicable diseases. Although hypertension was the basic risk factor with 13% in the mortalities resulting from those diseases, 9% of those mortalities resulted from smoking, 6% resulted from Diabetes Mellitus, 6% resulted from lack of physical activity, and 5% resulted from being overweight and obesity (WHO, 2003). It is expected that the mortality rate resulting from those illnesses would increase in an important amount all over the world, especially in the countries with low and middle income levels. The reasons for the expected increase in the frequency are: increase in the lifetime and increase in the population of elderly people, population growth rate, changes in the behavioural, professional, environmental risk factors and the economical changes. When the risk factors of non-communicable diseases are considered, they are mostly preventable risk factors. Those factors are use of tobacco, lack of mobility, unhealthy nutrition and alcohol abuse [3].

As in most countries in the world, inadequate and unbalanced nutrition has become an important problem in Turkey as well. The facts that fast-food has become widespread and physical activities decreased and a more sedentary life has become more popular are considered as the reasons in the increase of fatness prevalence, which is the most important result of especially unbalanced nutrition [15]. The prevalence of fatness as the result of unbalanced nutrition and chronic illnesses

(cardiovascular diseases, cancer, diabetes, osteoporosis, etc.) that are based on unbalanced nutrition are increasing. Cardiovascular diseases come at the top with 47.7% as the reason of all mortality in Turkey. The prevalence of hypertension among adults has been found as 29.0-31.8% (Males: 27.5%; Females: 36.1%). Cancer is the second reason of mortality among adults with 13.1%. In the studies conducted based on society among individuals over 20 years of age the prevalence of diabetes was found out as 7.2% and 8.4%. The prevalence changed according to the regions and gender. It was observed that there was an important increase in the occurrence prevalence in the course of the years [13].

World Health Organization states that the prevalence of chronic diseases in developed and developing countries would be decreased through changing diet and lifestyle [32]. Healthy nutrition applications should certainly be included in the public education approaches in order to prevent chronic diseases.

Individuals should have nutrition knowledge at adequate level for healthy eating behaviours, choice of correct nutrients and to lead their lives in a healthy manner. Gaining nutrition knowledge can only be achieved through nutrition training. It is stated that nutrition training programmes have direct effects on nutrition knowledge and dietary behaviours [24].

Being healthy and prevented from diseases is not only important for all individuals but also for prisoners and convicted. It is necessary to protect and improve the health of prisoners and convicted in a country. The duties regarding protecting and improving the health are clearly defined in the national legislation of Ministry of Justice General Directorate of Prisons and Detention Houses [26].

This study was planned and conducted in order to examine the impact of the nutrition training provided for the prisoners and convicted on nutrition knowledge, behaviour and habits and the effectiveness of the that training on gaining correct nutrition habits for prisoners and convicted.

2. Material and Method

2.1. Research Model

This study was planned and conducted determine the impact of nutrition training provided for the prisoners and convicted in Amasya E Type Closed Prison Institution on their nutrition behaviours and habits and to enable them gain correct nutrition habits.

The population for the study was composed of 600 prisoners and convicted from Amasya E Type Closed Prison Institution. Theoretical sample size table was used for the population on different sizes in order to determine the size of the sample. The size of sample for prisoners and convicted were determined from that table. When the size of the population was taken into consideration for 5% deviation for 95% trust line, it is seen that 250 people can represent the sub-population for 600 prisoners and convicted [7]. 250 prisoners and convicted were selected through random selection. However, 46 prisoners or convicted were excluded from the study for reasons such as some prisoners or convicted did not want to participate in the study. The study was conducted with 204 prisoners or convicted.

The prisoners and convicted, who participated in the study, were divided into four groups as training + brochures, brochures and control. The pre-prepared survey was conducted on the prisoners and convicted and the test, which had been prepared for determining the impact of nutrition behaviour and manner, was repeated in the beginning of the study (pre-test), at the end of the training (post-test) and one month later in order to evaluate the sustainability of nutrition training (monitoring test). Oral and visual training was given by the researcher.

The prisoners and convicted, who participated in the study, were divided into four groups as training + brochures, brochures and control. The training was given by the researcher orally to the brochure + training groups as two course hours (40 minutes) per week for two weeks. 54 prisoners

and convicted in the 1st group were given “brochure”, 50 prisoners and convicted in the 2nd group were given “training”, 50 prisoners and convicted in the 3rd group were given “brochures and training” and 50 prisoners and convicted in the 4th group were formed as control group. Research data was collected with the help of a survey form by using face-to-face interview technique. Permission of the institution was obtained before the study and oral approval of the prisoners and convicted obtained after explaining the purpose of the study. Then, the information regarding the content of the study was given to all the prisoners and convicted. Educational brochures were prepared. In addition, the fact that personal information would not be disclosed to third parties and compliance with the principle of “Privacy and Protection of Privacy” ensured.

2.2. Data Collection Tool

The survey form, which had been prepared by the researcher in accordance with the literature, was used for collecting the data [22, 16, 21]. The draft survey form that had been prepared was submitted to the opinions of the experts for face validity-content validity [7]. The draft survey was re-organized in accordance with the opinion of the experts and made ready for pre-application. The prepared survey form was applied to 30 prisoners and convicted, who did not participate in the study, and the clarity and validity of the form was confirmed.

There are questions regarding the socio-demographic information of the prisoners and convicted in the first part of the survey form. In the second part, there are questions regarding the nutrition behaviours and nutrition manners of the prisoners and convicted. The survey was applied to the prisoners and convicted, who had been included in the sample, between April 2014 and January 2015 through face-to-face interview method.

3. Analysis of the Data

Statistical analysis of the data was made with SPSS for Windows (Statistical Package for Social Sciences for Windows) 13.0 software and their figures and percentages were taken.

4. Findings

Table 1. Demographic Information of Prisoners and Convicted (N=204)

Variant	Group	f	%
Gender	Male	204	100,0
Age	25 or less	46	22,5
	26-30	48	23,5
	31-40	49	24,0
	41-50	50	24,5
	41 or over	11	5,4
Occupation	Public Servant	6	2,9
	Worker	59	28,9
	Self Employed	99	48,5
	Retired	17	8,3
Duration in the Prison	Not Working	20	9,8
	1 year or less	84	41,2
	2-5 years	82	40,2
	6-10 years	30	14,7
Any training taken in the prison	10 years or over	4	2,0
	YES	48	23,5
	NO	154	75,5

On which subject the training was taken?	About Health	7	14,6
	Out Of Health	41	85,4
Education Status	Illiterate	4	2,0
	Literate	3	1,5
	Primary School	97	47,5
	Secondary School	63	30,9
	High School	25	12,3
	University	12	5,9

When the socio-demographic features of the prisoners and convicted are examined in Table 1, it is seen that all of them (100%) are males, 24.5% of them are in 41-50 age group, 48.5% of them are self-employed, around 81.4% of them are in the prison for 5 years or less, 75.5% did not receive any training while they were in prison, 85.4 of those who received training received it out of health subject, 47.5% of them were primary school graduates, 30.9% of them were secondary school graduates, 12.3% of them were high school graduates and 18 (5.9%) of them were university graduates.

Table 2. Daily Number of Meals of Prisoners and Convicted

		Brochure Pre- test	Brochure Post Test	Brochure Monitoring	Training Pre Test	Training Post Test	Training Monitoring	Brochure + Training Pre- test	Brochure + Training Post-test	Brochure + Training Monitoring	Control
1	f	5	3	4	4	2	3	2	0	4	1
MEAL	%	17,9	10,7	14,3	14,3	7,1	10,7	7,1	0,0	14,3	3,6
2	f	20	18	18	14	10	13	23	2	12	9
MEALS	%	14,4	12,9	12,9	10,1	7,2	9,4	16,5	1,4	8,6	6,5
3	f	23	23	21	22	34	30	17	43	29	29
MEALS	%	8,5	8,5	7,7	8,1	12,5	11,1	6,3	15,9	10,7	10,7
4	f	8	9	6	9	5	3	8	4	4	10
MEALS	%	12,1	13,6	9,1	13,6	7,6	4,5	12,1	6,1	6,1	15,2

It was determined that 22.7% of the prisoners and convicted, who were included in the study, had three meals and 66.0% of them had two meals and 10.7% of the control group had three meals a day during pre-test period. It was found out that the number of the prisoners and convicted who had three meals a day increased while the number of those who had two meals a day decreased during post-test period. According to those results, 36.9% of the prisoners and convicted had three meals a day, 21.5% of them had two meals and 27.3% of them had four or more meals a day during the post-test period. During the monitoring test, which was conducted one month after the training, it was observed that the percentage of the prisoners, who had three meals a day, decreased (Monitoring Test: 25.1%).

Table 3. Skipping Main Meals Situation of Prisoners and Convicted

	Yes		No		Sometimes	
	f	%	f	%	f	%
Brochure – Pre-test	32	59,3	9	16,7	10	18,5
Brochure – Post-test	31	57,4	12	22,2	14	25,9

Brochure – Monitoring	24	48,0	7	14,0	19	38,0
Training- Pre-Test	23	46,0	7	14,0	16	32,0
Training- Post-Test	12	24,0	11	22,0	31	62,0
Training- Monitoring	8	16,0	24	48,0	18	36,0
Brochure +Training – Pre-Test	29	58,0	8	16,0	14	28,6
Brochure +Training – Post-Test	2	4,1	33	67,3	13	26,0
Brochure +Training – Monitoring	7	14,9	10	21,3	30	63,8
Control	10	20,0	20	40,0	20	40,0

When we examine whether the prisoners and convicted skipped main meals or not at Table 3, it is determined that 84 individuals skipped main meals, 42 individuals sometimes skipped main meals and 24 individuals did not skip main meals when the pre-test was conducted. During the post-test period, it was determined that 45 prisoners and convicted skipped the main meals, 56 prisoners and convicted did not skip a main meal. It was found out that the percentage of skipping meals decreased and the percentage of those, who did not skip a meal, increased during the post-test period compared to the pre-test. During the monitoring test, which was conducted after the training, it was found out that the percentage of those who did not skip a meal decreased compared to the last test. The group which skipped the meals the least was the brochure + training group during the post-test period. The group which skipped the meals most was the brochure pre-test group.

Table 4. Reasons of Prisoners and Convicted for Skipping Main Meals

	I Do Not Want		I Cannot Wake Up		I Do Not Have Time		Other	
	f	%	f	%	f	%	f	%
Brochure – Pre-test	23	46,0	19	38,0	8	16,0	0	0,0
Brochure – Post-test	24	49,0	21	42,9	4	8,2	0	0,0
Brochure – Monitoring	27	56,3	16	33,3	5	10,4	0	0,0
Training- Pre-Test	20	55,6	11	30,6	5	13,9	0	0,0
Training- Post-Test	27	61,4	11	25,0	6	13,6	0	0,0
Training- Monitoring	17	56,7	8	26,7	5	16,7	0	0,0
Brochure +Training – Pre-Test	19	43,2	17	38,6	8	18,2	0	0,0
Brochure +Training – Post-Test	10	58,8	6	35,3	1	5,9	0	0,0
Brochure +Training – Monitoring	16	48,5	10	30,3	6	18,2	1	3,0
Control	14	45,2	14	45,2	3	9,7	0	0,0

When Table 4 is examined, it is seen that in the pre- test, which was conducted in the beginning of the study, the reasons for skipping meals of the prisoners and convicted appeared to be “I Do Not Want” for 62 individuals, while it was 61 individuals during the post-test period and 60 individuals during the monitoring test, which was conducted one month after the training. It was followed by “I Cannot Wake Up” (52 prisoners and convicted) during pre-test and “I Do Not Have Time” (47 prisoners and convicted) during the post-test.

Table 5. Having Regular Daily Breakfast Situation of Prisoners and Convicted

	Yes	No	Sometimes
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	f	%	f	%	f	%
Brochure – Pre-test	10	18.5	31	57.4	13	24,1
Brochure – Post-test	18	36.0	28	53.7	13	24,1
Brochure – Monitoring	12	22.2	21	42,0	11	22,0
Training- Pre-Test	8	16,0	31	62,0	11	22,0
Training- Post-Test	32	64,0	10	20,0	8	16,0
Training- Monitoring	31	62,0	6	12,0	13	26,0
Brochure +Training – Pre-Test	6	12,0	33	66,0	11	22,0
Brochure +Training – Post-Test	24	49,0	6	12,2	19	38,8
Brochure +Training – Monitoring	23	46,0	11	22,0	16	32,0
Control	17	34,0	18	36,0	15	30,0

When Table 5 is examined, it is seen that the behaviour of having regular breakfast in trained groups increased in the post-test period. The percentage of those who had regular breakfast was 64.0% in the training group during post-test period after training, 36.0% in the brochure group and 49.0% in the brochure + training group. The percentage of those who had regular breakfast in control group was 34.0%. There was a decrease in the percentage of those who had regular breakfast during the monitoring test compared to the post-test (Post-Test: 68 individuals; Monitoring Test: 66 individuals). Those who stated that they sometimes had breakfast during the pre-test were 68.1% while it was 78.9% during the post-test. It was determined that the percentage of those who had regular breakfast was higher in the training post-test and training monitoring groups than the other groups and the percentage of those who stated that they did not have regular breakfast was higher in the training pre-test and brochure + training pre-test groups than the other groups and the percentage of those who had regular breakfast was higher in the training post-test and training monitoring groups than the other groups.

Table 6. Situation of prisoners and Convicted for Buying the Advertised Nutrients

	Brochure Pre-test	Brochure Post Test	Brochure Monitoring	Training Pre Test	Training Post Test	Training Monitoring	Brochure + Training Pre-test	Brochure + Training Post-test	Brochure + Training Monitoring	Control
YES	f 28	30	23	24	6	8	28	5	3	11
	% 16,9	18,1	13,9	14,5	3,6	4,8	16,9	3,0	1,8	6,6
NO	f 12	12	14	24	18	14	18	12	27	20
	% 7,0	7,0	8,2	14,0	10,5	8,2	10,5	7,0	15,8	11,7
SOMETIMES	f 14	12	13	11	20	23	8	26	18	17
	% 8,6	7,4	8,0	6,8	12,3	14,2	4,9	16,0	11,1	10,5

When the situation of prisoners and convicted for buying the nutrients they saw on television is evaluated in Table 6, 48.3% of the prisoners and convicted during the pre-test, 24.7% of them during the post-test and 20.5% of them during the monitoring test stated that they bought nutrients by being affected by the advertisements. There was a decrease in the percentage of the prisoners, who stated that “we would buy nutrients by being affected from the advertisements” in the post-test compared to the pre-test. There was a decrease in the monitoring test compared to the pre-test.

Table 7. Situation of Prisoners and Convicted for Following the Programmes Regarding Health on Radio and Television

	Brochure Pre-test	Brochure Post Test	Brochure Monitoring	Training Pre Test	Training Post Test	Training Monitoring	Brochure + Training Pre-test	Brochure + Training Post-test	Brochure + Training Monitoring	Control
YES	f 6	11	9	3	10	15	9	18	12	10

	%	5,8	10,7	8,7	2,9	9,7	14,6	8,7	17,5	11,7	9,7
NO	f	28	35	29	31	15	7	30	9	17	26
	%	12,3	15,4	12,8	13,7	6,6	3,1	13,2	4,0	7,5	11,5
SOMETIMES	f	15	13	12	16	25	27	11	23	20	14
	%	8,5	7,4	6,8	9,1	14,2	15,3	6,3	13,1	11,4	8,0

When Table 7 is examined, it is seen that the percentage of the prisoners and convicted, who followed the programmes regarding nutrition on television and radio, was 17.4% before the training and 39.2% of those who did not follow, where the percentage of the prisoners and convicted, who follow those programmes, increased to 37.9% after the training where the percentage of those who did not follow decreased to 26.0%. the percentage of the prisoners and convicted, who followed the programmes regarding nutrition on television and radio, increased (pre-test: 17.4%, post-test: 37.9%, monitoring test: 35%). It is seen that the percentage of the individuals who responded as yes or sometimes to the test conducted after the training increased where the percentage of the individuals who responded as no decreased.

Table 8. Situation of the Prisoners and Convicted for Reading the Articles Regarding Nutrition on Newspapers

		Brochure Pre-test	Brochure Post-Test	Brochure Monitoring	Training Pre-Test	Training Post-Test	Training Monitoring	Brochure + Training Pre-test	Brochure + Training Post-test	Brochure + Training Monitoring	Control
YES	f	7	10	9	4	10	22	8	27	15	10
	%	5,7	8,2	7,4	3,3	8,2	18,0	6,6	22,1	12,3	8,2
NO	f	32	28	27	31	18	11	27	8	13	22
	%	14,7	12,9	12,4	14,3	8,3	5,1	12,4	3,7	6,0	10,1
SOMETIMES	f	15	16	14	15	22	17	14	15	21	18
	%	9,0	9,6	8,4	9,0	13,2	10,2	8,4	9,0	12,6	10,8

When Table 8 is examined, it is seen that the percentage of those who read the articles on the nutrition on the newspapers was 15.6% before the training, where it increased to 38.5% after the training and the percentage of those who stated that they sometimes read before the training increased from 26.4% to 31.8% after the training. That percentage dropped to 37.7% during monitoring test. It is seen that there was an increase in the number of individuals who responded as “sometimes” and “yes” while there is a decrease in the number of those who responded as “no” after the training.

Table 9. Situation of the Prisoners and Convicted for Consuming Fast-food and Beverages

		Brochure Pre-test	Brochure Post-Test	Brochure Monitoring	Training Pre-Test	Training Post-Test	Training Monitoring	Brochure + Training Pre-test	Brochure + Training Post-test	Brochure + Training Monitoring	Control
YES	f	25	23	17	23	11	12	33	14	11	16
	%	13,5	12,4	9,2	12,4	5,9	6,5	17,8	7,6	5,9	8,6
NO	f	16	18	20	16	14	21	12	13	19	18
	%	9,6	10,8	12,0	9,6	8,4	12,6	7,2	7,8	11,4	10,8
SOMETIMES	f	13	13	13	25	17	11	21	20	4	16
	%	8,5	8,5	8,5	16,3	11,1	7,2	13,7	13,1	2,6	10,5

When the preference points of the prisoners and convicted for fast food in Table 9 is taken into consideration, it is seen that it was 43.7% before training and it decreased to 25.9% after training, and the percentage of those who stated that they sometimes preferred fast food dropped from 38.5% before training to 32.7% after training. It is seen that there is a decrease in the percentage of those who responded as “yes” after training and there is an increase in the percentage of those who responded as “sometimes” after training.

5. Discussion

Nutrient consumption frequency together with the amounts of energy and nutritional ingredients per meal and their percentage compared to each other play an effective role in achieving the balance of the body and protecting the organs. That fact provides protection especially in terms of preparing the individual for the constraints of daily life, relaxing after tiredness, enabling healthy thinking and protection from illnesses. At least three meals should be consumed per day in order to be nourished in a balanced and adequate way [4].

It was found out that 22.7% of the prisoners and the convicted, who were included in the study, had two main meals where 66.0% of them had two main meals during the pre-test period. It was determined that the number of those who had three main meals increased and the number of those who had two main meals decreased during the post-test period. It was found out that more than half of the prisoners and convicted had three main meals after the training. That proves that the training given on the nutrition habits was effective. However, the training should be effective and permanent in order that they are permanent. It is known that consumption of three main meals per day is a correct behaviour in terms of nutritional principles.

Aytekin (1999) [6], stated that 55.5% of the university students consumed three main meals per day before the training and 56.0% of them consumed three main meals per day after the training where 35.0% of them consumed two main meals and 35.5% of them consumed two main meals per day after the training while 6.5% of the students consumed four main meals before training and 7.0% of them consumed four main meals per day after the training [6].

It is known that consuming main meals regularly in healthy nutrition has a very important role especially in wishfully beginning the day, continuing the activities adequately and on learning together with the breakfast. Behaviours on consuming the daily main meals and having breakfast are important subjects, on which the researchers put emphasis [12].

It is seen that the percentage of skipping meal of the prisoners and the convicted decreased during the post-test. It is observed that the percentage of those who did not skip the meal decreased as well during the monitoring test that was conducted after the training. Brochure + training post-test group is the group that skipped the main meal the least. It was the brochure pre-test group which skipped the main meal most. That proves that the training given on the nutrition habits was effective. However, the training should be effective and permanent in order that they are permanent.

It was found out with the study conducted by Guler (2003) [12] that most of the participants (52.5%) sometimes skipped the main meal and 35.0% did not skip the main meal. In a study that was conducted by Ulas (2008), only 42.6% of the participants stated that they had not skipped a main meal.

When the reasons for skipping the main meal of the prisoners and the convicted were examined in this study, the most common reason for skipping the meal was given as “I Do Not Want” during the pre-test (54.2%) that was conducted in the beginning of the study, (37.5%) during the post-test that was conducted at the end of the study and (56.0%) during the monitoring test that was conducted one

month after the training. It was followed by "I Do Not Want" (23.1%) during the pre-test, "I Cannot Wake Up" (23.9%) during the post-test. In their studies, Sagun (1987) [23], Oktar and Sanlier (1999) [19], Guler (2003) [12], Unsal (2007) [30] found out that the most common reason at the highest level for skipping the main meals of the participants was that they did not want to eat. It is seen that the results of this study have similarities with the previously conducted studies. Heseminia et al. (2002) [14], found out in the study that 49.9% of the participants skipped main meal because they did not have time, 22.7% of them skipped meal because they did not have the habit and 16.6% because they did not have enough money. 33.1% of the workers stated that they skipped the meals because they did not have time, 28.5% of them stated that they did not have appetite or they did not want to eat [31]. In the study of Arıcı, 45.0% of the participants stated that they skipped the meal because they did not have time where 32.0% of them stated that they skipped the meal because they did not want to eat [29]. And in the study conducted by Isıkoglu, the most common reason for skipping the meal was that the participant did not have time (Isıkoglu, 1986, 422). The findings that were obtained from the study have the nature to support the literature information.

Our body continues to work even when we are sleeping. There is approximately 12 hours between dinner and breakfast. During that period the body uses all the nutrients. There will not be enough energy in the brain if we do not have breakfast. In that case, problems such as tiredness, headache, distraction and lack of perception occur. The body will use its own tissues when individuals do not have breakfast and their resistance against illnesses will decrease. Tiredness, exhaustion generally comes with the hungriness and tiredness and exhaustion would disappear with the feeling of saturation [4]. It is reported that the working hours of the individuals, who have breakfast, increase and their memories become stronger [18, 8]. In their study, Birer and Ersoy (1987) [9] reported that having breakfast increased the continuity of learning activities.

In a study that was conducted by Faydaoglu, et al. [11], the relation between Body Mass Index and having breakfast habits was evaluated and it was found out that 35.3% of the individuals, who were accepted as thin according to Mass Index, had breakfast every day where 29.6% of the individuals, who were accepted as normal according to Mass Index, had breakfast 3-4 days a week, 33.3% of the individuals, who were accepted as slightly fat according to Mass Index, had breakfast 3-4 and 5-6 days a week [11].

In this study, it was found out that the percentage of those who had regular breakfast was higher in training post-test and training monitoring groups than the other groups; the percentage of those who did not have regular breakfast was higher in training pre-test and brochure + training pre-test groups than the other groups and the percentage of those that sometimes had regular breakfast was higher in training post-test and training monitoring groups than the other groups. While an increase in having regular breakfast habits was observed among the participants after the training during this study, there was a decrease in monitoring test. That proves that the training given on the nutrition habits was effective. However, the training should be effective and permanent in order that they are permanent.

In a study that was conducted by Sabbag (2009) [22], it is seen that the percentage of those with habit of having regular breakfast increased during the post-test in the groups that received training. The percentage of those who had regular breakfast was 64.6% in training group during the test conducted after the training, 61.5% in the brochure group and 64.0% in the brochure + training group. The percentage of those, who had regular breakfast, decreased during the post-test period in the control group compared to the pre-test period. There was a decrease of 2.3% in the percentage of those who had breakfast during monitoring test compared to the post-test (post- test: 56.1%, monitoring test: 53.8%). In a study that was conducted by Akar (2002) [2], it was found out that the percentage of the participants, who had regular breakfast, was 40.0% during the pre-test and there was no student who did not have breakfast during the post-test. Similar values were found in this study with the results of previous studies and it is thought that the studies on this subject should be more common in order to contribute to the literature.

It was found out in this study that 48.3% of the prisoners and convicted bought nutrient by being affected by from the advertisements during the pre-test, while the percentage was 24.7% during the post-test and 20.5% during the monitoring test. There was a decrease in the percentage of the prisoners, who stated that “We Buy Nutrients by Being Affected from the Advertisements” during the post-test compared to the pre-test. That proves that the training given on the nutrition habits was effective. However, the training should be effective and permanent in order that they are permanent.

In a study conducted by Sabbag (2009) [22], it was found out that the differences between pre-test, post-test and monitoring test in brochure group in terms of following the programmes on television and radio of the participants were insignificant ($p>0.05$), and in control group ($p<0.05$), training and training + brochure groups they were significant ($p<0.01$). In a study that was conducted by Tasdemir (1990) [27] in order to determine the behaviours and habits on nutrition of primary school teachers and students, mid-wives, who were working at primary care health services, it was found out that teachers, mid-wives and students were significantly affected from the advertisements regarding the nutrients on mass media and according to that, 73% of the students, 55% of the mid-wives and 55% of the teachers made changes in their nutrition by being affected from the advertisements. These results seem to be supporting the findings of the study.

While the percentage of the prisoners and convicted, who read the articles regarding nutrition on the newspapers, was 15.6% before the training in this study, it increased to 38.5% after the training. While the percentage of those, who stated that they sometimes read, was 26.4% before the training, it increased to 31.8% after the training. That proves that the training given on the nutrition habits was effective. However, the training should be effective and permanent in order that they are permanent.

In a study that was conducted by Sabbag (2009) [22], it was found out that the differences between the pre-test, post-test and monitoring test in terms of the situation of participants for reading the articles on the newspapers was found significant in all groups ($p<0.01$). These results seem to be supporting the findings of the study.

Although there are different percentages in the societies in terms of obesity rates in the literature, it is generally observed that obesity has become widespread and increased compared to the previous years [10, 20]. It is possible that wrong nutrition habits, especially fast-food type nutrients, cause this increase. Fast-food type nutrients, junk food and cola drinks are rich in terms of carbohydrates, fat and energy. This fact causes more energy intake and overweight. Again, consumption of those kinds of nutrients during main meals cause less consumption of main nutrient groups during main meals [5, 28].

In a study that was conducted by Koon *et al.* (2006) [17] on students in Malaysia, it was determined that there had been important changes in nutrition habits of the students, who had had nutrition training. They observed that there had been decrease in significant rates in the consumption of fast-food and junk food of the students.

When the fast-food consumption rates of the prisoners and convicted were examined in this study, it was found out that it decreased to 25.9% after training while it was 43.7% before the training; the percentage of those, who stated that they sometimes preferred fast-food, decreased to 32.7% after the training while it was 38.5% before the training. During the test that was conducted after the training, the number of the participants that responded as “yes” decreased while the number of the participants, who responded as “sometimes”, increased. That proves that the training given on the nutrition habits was effective. However, the training should be effective and permanent in order that they are permanent. The findings that were obtained from the study were parallel with the findings in the literature.

6. Results

A total of 204 prisoners and convicted participated in the study. 50 of them were in training, 50 of them were in brochure, 54 of them were in brochure + training and 50 of them were in control group.

All of the prisoners and convicted (100%) were males, 24.5% of them were in 41-50 age group, 48.5% of them were self occupied and 81.4% of them were in prison for 5 years or less. 75.5% of them stated that they did not have any training on any subject while they had been in the prison. 85.4% of those, who stated that they had training, stated that they had training on subjects else than health. 47.5% of them were primary school graduates, 30.9% of them were secondary school graduates, 12.3% of them were high school graduates and 18 (5.9%) of them were university graduates.

8.1% of the prisoners and convicted had three main meals before the training, 12.5% of them after the training and 11.1% of them during the monitoring period. It was found out that during the pre-test period 84 prisoners and convicted, during the post-test period 45 prisoners and convicted and during the monitoring test period 37 prisoners and convicted skipped meals. It was seen that there was a decrease in the number of those who skipped breakfast during the post-test in training and training + brochure groups. The most common reason for skipping meals during the tests conducted before and after the training that they did not want to eat.

It was seen that the habits of having regular breakfast increased during the post-test in the groups that received training (pre-test 16.0%, post-test 64.0%, monitoring test 62.0%)

Among the prisoners and convicted, 48.3% of them before training, 24.7% of them after the training and 20.5% of them during the monitoring period were affected from the advertisements.

Among the students, 174.4% of them during the pre-test, 37.9% during the post-test followed the programmes regarding nutrition on television and radio and 15.6% of them during the pre-test and 38.5% of them during the post-test period read the articles on the newspapers.

Among the prisoners and convicted, 43.7% before the training, 25.9% after the training and 15.6% during the monitoring period preferred fast food and beverages.

The results of the study show that the given training had positive effects on nutrition behaviours and habits. It was also found out that the training should be repeated in certain intervals in order to be permanent.

7. Suggestions

The recent developments in nutrition science prove the importance of nutrition in protection and improvement of health. Programmes that would enable behavioural changes in the improvement of healthy nutrition behaviours should be developed.

With the training to be provided the following objectives should be achieved: nutrients which we need in all stages of our lives and their adequate and balanced intake by our bodies, adopting correct nutrition behaviours and habits instead of wrong behaviours and bad habits, malnutrition as the result of inadequate and unbalanced nutrition, preference of nutrients and beverages with high nutrient values by the prisoners and convicted instead of fast food and beverages with junk calorie content that are consumed by them in vast amounts.

In line with the principle that “nutrition is the basis of health”, studies should be conducted in order to increase the information level of all the individuals in the society. Nutrition training should be supported by mass media, such as radio, television and newspapers in order to strengthen those studies.

In addition, necessary precautions should be taken regarding fast food nutrition. Some of those precautions may be preventing sale of those nutrients in the canteens, prevention of advertisement of those nutrients on visual and audio media or regulation of airing time of the advertisements.

The sustainability of the positive effects of the training on knowledge, behaviours and habits, adoption of important information in daily life should be made by using effective and adequate equipment. Thus, the training should not be alone, but with the help of visual and audio tools [25].

There is a need for more through studies regarding the healthy nutrition of prisoners and convicted.

It is thought that preparing awareness programmes that cover all aspects of the society in the prevention of obesity, which occur as the result of wrong nutrition behaviours, would be helpful.

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