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Nutritional Awareness Level and Effect of Dietary Habits on the Psychological State of Jordanian Athletes

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ABSTRACT— This study aims to identify nutritional awareness level and effect of dietary habits on the psychological state of Jordanian Athletes. The descriptive approach and questionnaire are used as a data collection tool. The questionnaire is divided into two parts. The first part contains 19 questions about the daily dietary practices, and the second one contains 25 items on the relationship between the food eaten during training and competition periods and the physiological state. The study sample consists of 278 male and female athletes exercising 23 different sports (team and individual sports) in the age group 18 and above. The number of male athletes is 194 by 69.8% of the sample, while the number of female athletes is 84 by 30.2% of the sample. Arithmetic means, standard deviations, percentages, T-test and Cronbach's alpha formula are used to analyze findings of the study. The findings show that the daily dietary practices and habits are different in variables of gender, educational level and age group. The findings show that there is a statistically significant relationship in effect of eating habits on the psychological state of athletes. As for the daily dietary practices and their effect on the psychological state, the breakfast and lunch have the most significant impact on improvement of psychological state and are statistically significant. The study recommends that athletes should be educated about effect of food on the psychological state through educational courses and seminars, and the types of food they have should be determined by their coaches.

KEYWORDS: Nutritional, Awareness, Dietary, Habits, Psychological, Athletes.

1. INTRODUCTION

Diet affects psychological state of athletes, and the nutritional balance is an essential factor in performance improvement. The nutritional balance plays a key and positive role in improving the psychological state of athletes. Nutritional imbalance might have negative impact on athletes' performance level, physical fitness and psychological state. Nutrient deficiency has an adverse impact on psychological state of athletes. Protein deficiency causes emotional stresses such as fear, anger and irritation, while magnesium deficiency causes cramps as a result of stimuli of nerve impulses and increased muscle contractions. On the other hand, vitamin deficiency, such as vitamin C, might cause tension and anxiety. Hence, an athlete who desires to improve his physical performance should follow a nutritional program that contains various nutrients in necessary amounts [4].

When following an integrated and balanced diet, some psychological states of an athlete decrease and it will positively affect his health, physical and psychological conditions. The integrated and balanced food has an important and optimal role in maintaining athletes' heath and protecting them from malnutrition, fatness and thinness. Thus, the balanced nutrition is one of the pillars of sports programs that helps achieve the best performance, where lack of some nutrients declines an athlete's performance [6].

2. Significance of the Study

Having reviewed the relevant literature and scientific references, the researcher found no study on defining the nutritional information and attitude of athletes at different levels, development of nutritional program for improvement of their dietary habits in order to arrive at better athletic achievement and performance, and defining the correct method for having balanced food in order to maintain a stable physiological state that help athletes to make progress and avoid negative impacts on their athletic performance. This study examines the nutritional status and its impact on the psychological state as one of the training aspects based on which the training process might be driven to the highest possible athletic levels. Hence, this study is an attempt to provide new knowledge with respect to role the food plays in improving performance level of the Jordanian athletes.

2.1 Problem of the Study

The athletes, at the national and international level, lack sufficient awareness of the impact of nutrition on the psychological state, which may have negative or positive impact on their performance. They also lack sufficient awareness of how to eat balanced and regular meals that may affect their psychological state. It has been noticed that coaches neglect the nutritional aspects in terms of their impact on the athletes' psychological state. Athletes always experience pressure and face challenges that might affect their decisions and achievement of goals. Having reviewed the studies on nutrition, diet and maintenance of weight for personal purposes, it is noticed that this topic has been rarely discussed. Hence, it has been decided to examine this topic to clarify impact of nutrition on the athletes' psychological state.

2.2 Objectives of the Study

This study aims at identifying:

1. Dietary habits of Jordanian athletes by variables of gender, educational level and age group, and
2. Impact of dietary habits on Jordanian athletes' psychological state.

2.3 Questions of the Study

1. Do the Jordanian athletes follow healthy dietary habits by variables of gender, educational level and age group?
2. Do the dietary habits affect the Jordanian athletes' psychological state?

2.4 Dimensions of the Study

Spatial dimension: sports federations, Jordan, Amman.
Temporal dimension: from 15.10.2021 to 13.12.2021
Human dimension: the athletes certified in the Jordanian sports federations.

2.5 Literature

Arabic Studies:

[8] the said study aimed to identify some dietary practices and their relevance to athletic performance level of players of Algerian professional league. The sample consisted of 30 football players of the second professional league, and the descriptive approach was used. The findings showed that the football players have positive practices with respect to dietary habits that influence the athletic performance level.

[13] the said study aimed to identify impact of diet on the psychological state and performance of athletes of national teams by variables of gender, age group and type of sports. The sample consisted of 97 athletes (59 males and 38 females) who play individual sports (swimming, tennis, squash, bodybuilding, boxing, taekwondo and gymnastics) and team sports (handball, basketball and volleyball). A questionnaire on the psychological aspects was used. The questionnaire consisted of 76 items that covered the areas of (health,

stress, anxiety, attention, focus and aggression). Further, food questionnaire consisting of three identical copies distributed over three separate days (3-d-record) was used. The food questionnaire was analyzed using (food processor) program in order to calculate the daily intake of energy and nutrients. Arithmetic means, standard deviations, T-test, one-way analysis of variance, Tukey test, and Pearson correlation coefficient test were used. Cronbach's alpha formula was used to define the reliability of the study tool and its fields. The findings showed that males, individual sports players and 11-17age group) have food at regular times, while females, individual sports players and 11-17 and 23-27 age groups focus on quality of food.

The findings also showed that there were statistically significant differences according to the gender variable in the field of health, attention and focus, and it was in favor of females, and that there were statistically significant differences according to the variable of the type of sports in the field of health, stress, anxiety, attention and focus, and it was in favor of females. Additionally, there were statistically significant differences according to the type of sports variable in the field of health, stress, anxiety, attention and focus in favor of team sports players. The results also showed that there are statistically significant differences according to the age group variable in all fields in favor of the 18-22 age groups.

The findings also showed that the percentages of nutrients eaten by athletes were lower than the requirements in terms of energy, vitamin A, pyridoxine (B6), (B12), vitamin E, calcium, vitamin C, magnesium and potassium. The highest percentages of nutrients that met the required needs were protein, niacin (B3) and iron.

Further, the findings showed that there was an inverse relationship between most nutrients and the aspects of health, stress and anxiety, while there was a direct relationship in the field of attention and focus. There was no relationship in the field of aggression. The study recommended that athletes should be educated about health aspects and the nutrients that result in to good mental health and better performance

[15] “Mood and Level of Neurotic Stress F and their Relationship to the Points of Matches among Judo Athletes”

The said study aimed to identify the mood and neurotic stress level and their relationship to points of judo matches. The sample consisted of 98 Judo athletes. The descriptive approach and the mood scale were used. As to the mood state and fatigue and their relationship to points of judge matches, the findings showed there was a statistically significant correlation between the excitement factor from the mood of the judo athletes, and a statistically significant correlation between the excitement factor and the level of judo athletes that indicates the ability to refrain from performing a certain movement, as well as patience, perseverance, and the ability to self-control, and impulse control. The findings also showed that there were differences between the winners and the losers in variable of dynamics of neural processes that indicates swift adaptability.

Foreign Studies:
[5] the said study aimed to identify the relationship between psychological stress on the one hand and eating, physical activity, sedentary behaviors and the body weight on the other hand. The sample consisted of 1382 women of ages of (18-46) from (80) most socially and economically disadvantaged neighborhoods in the state of Victoria-Australia. A questionnaire on the ability to eat and physical activity was used. The questionnaire contained questions about height, weight, social and demographic characteristics, food behaviors, leisure time and physical activity. There was also an intersection between increased stress on the

one hand and lack of free time and physical activity, increased consumption of fast food and an increase in the amount of television watching on the other. The findings showed an increase in body mass and an increase in possible obesity along with an increased psychological stress.

[7] the above study aimed to evaluate the effectiveness of nutritional supplements in reducing immunity and training stress among athletes. The sample consisted of (1603) male and female swimmers. The variables of gender and age were not taken into account. Randomized trials and controls were retrieved for athletes receiving nutritional support to minimize reduced immunity and training stress. Secondary measurements including cholesterol and plasma concentrations, and post-analyses were performed for direct comparisons. The findings showed that carbohydrate supplements reduced the increased cholesterol and neutrophils after training. Vitamin C decreased lymphocytes after training was attenuated. The other interactions were insignificant. From a psychological point of view, the findings showed that carbohydrate supplements and vitamin C positively reduced the athletes' stress after training.

[3] the said study aimed to identify role of macronutrients and micronutrients in influencing stress and the immune system. A sample of athletes from different sports was requested to perform intensive exercises. The findings showed that eating meals of balanced food and sufficient quantities of needed carbohydrates, proteins and energy by athletes during intense training increases stress hormones and restricts reduction in the immunity resulting from training, and that taking vitamins such as vitamins (A, E, and C) can reduce the training stress. Psychologically, the findings showed that eating a balanced food that contains all macronutrients and micronutrients improves performance, and that the deficiency of some nutrients, such as minerals including zinc, calcium, magnesium, and vitamins (B1, B3, B12, B6) can lead to psychological symptoms among athletes, including lethargy, tension, anxiety, mental stress and poor performance, etc.

[2] the above study aimed to examine the effects of weight loss resulting from dietary restrictions by restricting the percentage of energy intake and the percentage of fluids consumed on the physiological performance of judo athletes. 20 random judo athletes were examined. They were divided into two groups: group (A), nutrition group, contained 10 judo athletes. They were requested to lose 5 kg within the week preceding the competition using the methods they choose. Group B, control group, contained 10 judo athletes. They were requested to maintain their weight during the week preceding the competition. The tests were carried out during the specified period (T1), on the morning of the competition day (T 2), and ten minutes after the end of the competition (T 3). These tests included assessment of body composition, performance test, mood assessment, and determination of hormonal and metabolic responses. Nutritional data were collected by a 7-day food recall questionnaire.

The findings showed that dietary adherence has an effect on the metabolic and secretory indicators, and that it is associated with the poor performance after the competition. It was noticed that there was a decrease in the level of testosterone, T / C ratio, alkaline reserves, and fatty acid. This was observed in the two groups. However, there was an increase in the plasma concentrations of insulin, ammonia, urea, and boric acid. This indicates that group (A), which followed an intense exercise and lost weight before the competition, was adversely affected physiologically, and their performance was weak before competition. From a psychological point of view, the findings showed that group (A), which followed a severe exercise and food, had a decrease in body weight, and that attacks were limited to increased fatigue, tension and decreased enthusiasm.

[14] the said study aimed to identify the effect of vitamin supplements on athletic performance and psychological & metabolic aspects. The sample consisted of various sports, including swimming and

running. Gender and age variables were disregarded. The findings showed that the nutritional supplements had positive effect on the body so that it performs its functions well.

From a psychological point of view, the findings showed that the vitamin supplements, the most important of which (vitamins C, B1, and B6), improved athletic performance and reduced stress, fear, apathy and neurospasm.

2.6 Comments on Literature

Having reviewed the previous studies, it is noticed that some studies linked type of food to the psychological state. [13], [8] agreed that food improves the athletes' psychological and physical characteristics. [15] was an attempt to identify the mood and neurotic stress and their relationship to points of judo matches.

[3], [7] aimed to identify effect or nutrition and nutrients on the immune system and tension. [7] focused on athletes specifically. [2] aimed to examine effect of weight loss and percentage of consumed fluids on judo athletes' psychological performance. [14] dealt with effect of nutritional supplements on an athlete's performance. [5] was an attempt to examine the relationship between the physiological stress on the one hand and eating, physical activity and sedentary behaviors on the other hand.

Based on the said studies, the researcher has learnt about the psychological states experienced by a person as a result of nutrient deficiencies and about effect of nutrients on the athletic performance.

Some of the said studies were used to design the questionnaire.

This study differs from the previous studies in that in it has designed a questionnaire on the dietary and its impact on the psychological state and in that its population and sample were selected from the certified athletes in the Jordanian sports federations.

3. Procedures of the Study

3.1 Methodology of the Study

The descriptive approach and the questionnaire were used to collect data and information as the said approach is suitable to nature and objectives of the study.

3.2 Population of the study

The study population consists of 626 male and female athletes of 18 and above age group registered with the Jordanian national teams. They represent 27 Jordanian sports federations. According to records of the sports federations department of the Jordan Olympic Committee for July 2021, the males were 436 and the females were 190.

Table 1: Number of the Study Population

number of male and female national teams players whose names are registered on the records of the Jordanian sports federations			
#	Type of sport/Federation	Males	Females
1	Jordan Football Association	80	56
2	Jordan Basketball Federation	24	10

3	Jordan Judo Federation	14	9
4	Jordan Table Tennis Federation	6	5
5	Jordan Badminton Federation	6	6
6	Jordan Wrestling Federation	18	0
7	Jordan Tennis Federation	8	3
8	Jordan Taekwondo Federation	16	14
9	Jordan Karate Federation	25	16
10	Jordan Handball Federation	42	0
11	Basketball 3*3	11	4
12	Royal Jordan Equestrian Federation	4	1
13	Jordan Triathlon Association	6	2
14	Jordan Golf Federation	3	0
15	Jordan Swimming Federation	6	5
16	Jordan Volleyball Federation	6	16
17	Jordan Amateur Boxing Association	27	3
18	Jordan Cycling Federation	13	0
19	Jordan Rugby Federation	25	13
20	Jordanian Weightlifting Federation	18	2
21	Jordanian Athletics Federation	10	3
22	Royal Jordan Shooting Federation	16	6
23	Jordan Fencing Federation	6	8
24	Jordan Gymnastics Federation	4	2
25	Jordan Squash Federation	6	0
26	Jordan Kickboxing Federation	21	3
27	Jordan Jiu-Jitsu Federation	15	3
	Total	436	190
	Grand Total	626	

3.3 The Study Sample

Sample of this study consists of 278 male and female athletes from 23 various sports (group and individual) of 18 and above age group. The number of male athletes is 194, which represents 69.8% of the total number of the sample, while the number of female athletes is 84, which represents 30.2% of the total number of the sample, as shown in Table (2).

Table 2: Number of Respondents by Variables of the Study (N=278)

Variables	Variable levels	Number	Percentage
Gender	Male	194	69.8
	Female	84	30.2
	Total	278	100.0

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Age group	18 years old and below	118	42.4
	18 years old and above	160	57.5
	Total	278	100
Educational level	Diploma and lower	39	14.0
	Bachelor and higher	239	86
	Total	278	100.0

3.4 Variables of the Study

3.4.1 Independent Variables

The variables that affect other variables. The independent variables are therefore the dietary.

3.4.2 Dependent Variables

They are the variables that are affected by the independent variables. Therefore, the psychological state is the dependent variable in this study. The mediating variables of this study include gender, educational level, and age group.

3.4.3 The Study Tools

The study tool was prepared based on the relevant works and literature such as [15], [13]. The questionnaire (annex 1) was designed. Part 1 of the questionnaire includes questions on the athletes' dietary habits, while part 2 includes 25 items that measure effect of some foods on the psychological state. Answers to the said items include:

Very strongly agree, strongly agree, moderately agree, slightly agree, and very slightly agree.

Items of the questionnaire were divided into two groups. The positive items (16) and negative items (9). The weights of scores are (5, 4, 3, 2 and 1). The answers to positive items are placed in a descending order from the highest score (5) to the lowest one (1), while the answers to the negative items are placed in an ascending order from the lowest score (1) to the highest one (5).

3.4.4 Validity of the Tool

To ascertain validity of the scales, the content validity was approved, where the scales were presented to a set of experts and specialists (annex 2). The referees were asked to give their opinions on suitability of the questionnaire items (annex 3), and to adjust, add or delete any items as they deem appropriate. After that, answers of referees were dumped, where all additions, deletions and adjustments proposed by the referees were taken into account. Hence, content validity of the scales used in the study was adopted.

3.4.5 Reliability of Scales

Reliability of scales was calculated using Cronbach's alpha formula for internal consistency. The study tool was distributed to a pilot sample of 25 respondents of the study population where reliability was examined. Table 3 shows the scales reliability coefficient.

Table (3) Results of the scale reliability using Cronbach's alpha for internal consistency (N=15)

Number	**Scale**	**Number of items**	**Cronbach's alpha value**

1	Questions (daily dietary practices)	19	0.744
2	Items (food eaten during training times/competitions and its effect on the psychological state)	25	0.937

Table 3 shows results of reliability of scales. Cronbach's alpha value for the questions on the daily dietary practices is (0.744) and for the items on effect of food eaten during training times/competitions on the psychological state is (0.937). The said values are high where they are greater than 0.60. This indicates that the both scales are reliable and sufficient for purposes of this study.

2.5 Statistical treatments

In order to answer the questions of the study and achieve its objectives, the following statistical treatments were used:

1. Arithmetic means,
2. Standard deviations,
3. Percentages,
4. T-Test, and
5. Cronbach's alpha for internal consistency

Presentation and discussion of findings

This study aims to identify nutritional awareness level and effect of dietary habits on the psychological state of Jordanian Athletes. The objectives of this study are two and they are expressed through two questions. This chapter presents and discusses findings of the study based on the questions of the study.

Presentation and discussion of findings with respect to the first question:

Do the Jordanian athletes follow healthy dietary habits by variables of gender, educational level and age group?

To answer this question, the frequencies and percentages were calculated to identify how regularly the respondents follow the healthy dietary habits by the variables of gender, educational level and age group. The following tables show results of this question:

i. Distribution of the sample according to regularity and type of food eaten (N=278)

Table (3): Percentages of the questions on the athletes' dietary behavior (N= 278)

#	Question	Sample Number			
		Yes	**Percentage**	**No**	**Percentage**
15	Do you drink water during exercise?	268	96.36	10	3.64
16	Do you drink water after exercise?	268	96.36	10	3.64
12	Do you eat unhealthy snacks (sweets, chips, unnatural juices, biscuits, pastries?	253	90.91	25	9.09
14	Do you drink water before exercise?	253	90.91	25	90.09

2	Do you have lunch daily?	228	81.82	50	18.18
13	Do you eat fast food?	228	81.82	50	18.18
17	Do you drink milk and have dairy products?	228	81.82	50	18.18
3	Do you have dinner daily?	208	74.55	70	25.45
19	Do you drink stimulants (tea, Nescafe, coffee)?	208	74.55	70	25.45
1	Do you have breakfast daily?	188	67.27	90	32.37
18	Do you drink soft drinks?	182	65.45	96	34.55
5	Do you have snacks between the three main meals?	172	61.82	106	38.18
7	Do you have vegetables daily?	120	43.64	158	56.63
6	Do you have fruits daily?	101	36.36	177	63.64
11	Do you take vitamin pills?	97	34.55	181	65.45
4	Do you have your meals at regular times?	91	32.73	187	67.27
8	Do you take proteins recommended for athletes?	45	16.36	233	83.64
9	Do you have amino acid supplements?	41	14.55	237	85.45
10	Do you take fatty acids (omega 3)?	30	10.91	248	89.1

Table (3) shows that the items on dietary habits have varying percentages where values of frequencies and percentages are shown for each item. Having reviewed and analyzed the said percentages, it is noticed that question 15 “Do you drink water during exercise?” and question 16 “Do you drink water after exercise?” have regularity by (96.36%) and they have the highest percentage of regularity of the other dietary behaviors compared to irregularity of (3.64%). Further, question 10 “Do you take fatty acids (omega 3)? Has the lowest regularity value by (10.91%) compared to a high percentage of irregularity by (89.1%).

At large, the findings of the study show, with respect to the answer to this question, that there are many erroneous dietary practices such as eating unhealthy snacks (sweets, chips, unnatural juices, biscuits, and pastries) and erroneous dietary habits. This paper argues that the reason for this is unfamiliarity with the negative effects of eating such foods.

The percentages contained in table (3) shows that the main meals, especially the breakfast, are not eaten regularly. This paper argues that the reasons for non-compliance with the mean times and ignorance of breakfast is lack of knowledge of importance of the mean times, especially breakfast, and how not having breakfast effects the performance. The reason for not having the main meals on a regular basis might be having unhealthy snacks that inhibit appetite. It is also argued here that these reasons are linked to the reasons for taking stimulants, where many studies assert their role in increasing productivity, maintaining activity throughout the day, providing the body with necessary energy and maintaining the psychological state.

The percentage of the respondents who have healthy snacks is average by (61.82%). This study agrees with [11] which showed that irregular eating might cause negative psychological states such as stress, anxiety, lack of self-confidence and poor performance.

The findings also show lack of awareness of importance of having fruits, vegetables and vitamins, where the percentage of which is below average, though they have an effective role in maintaining the

psychological state. Lack of some minerals or vitamins might cause mental stress and fatigue, anger, nervous symptoms, sadness, boredom, etc.

According to [3], minerals deficiency such as Zinc, Magnesium and Vitamins (B1, B3) might cause psychological symptoms among athletes such as lethargy, mental fatigue, stress and poor performance.

The findings show that the percentage of athletes who drink soft drinks is not low, as the percentage is (65.45%). Though such drinks discourage their activity, they drink it heavily. This indicates the lack of sufficient awareness of healthy dietary habits among athletes.

The findings show that the percentage of athletes who have fast is high where it is (81.82%). This paper argues that this is attributed to lack of knowledge of the negative effects of such food and to athlete' busy life that drives him to have such food.

Additionally, the findings show importance of drinking water before, during and after exercise, where the percentage is high, and drinking water positively affects the psychological state. This is attributed to the athlete's awareness of importance of drinking water and its effect on the physiological and biological processes, where water maintains and regulates the body temperature, and prevents dehydration.

The percentage of having proteins recommended for athletes, amino acid supplements and omega 3 is low since these items are expensive.

ii. Analysis of the respondents' commitment to the dietary behavior by the variables of the study:

Table (4) shows the daily dietary practices by the gender variable.

Table 4: Frequencies and percentages of the questions on the Jordanian athletes' dietary behavior by variables of
gender (N=278)
males (N=194)
females (N=84)

#	Question	Males				Females			
		Yes		No		Yes		No	
		Number	%	Number	%	Number	%	Number	%
19	Do you drink stimulants (tea, Nescafe, coffee?(	153	78.95	41	21.05	54	64.71	30	35.29
18	Do you drink soft drinks?	138	71.05	56	28.95	45	52.94	39	47.06
17	Do you drink milk and have dairy products?	153	78.95	41	21.05	74	88.24	10	11.76
16	Do you drink water after exercise ?	189	97.37	5	2.63	79	94.12	5	5.88
15	Do you drink water during exercise?	184	94.74	10	5.26	84	100	0	0
14	Do you drink water before exercise?	179	92.11	15	7.89	74	88.24	10	11.76

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13	Do you eat fast food?	148	76.32	46	23.68	79	94.12	5	5.88
12	Do you eat unhealthy snacks (sweets, chips, unnatural juices, biscuits, pastries	168	86.84	26	13.16	84	100	0	0
11	Do you take vitamin pills?	87	44.74	107	55.26	10	11.76	74	88.24
10	Do you take fatty acids (omega 3?	26	13.16	168	86.84	5	5.88	79	94.12
9	Do you have amino acid supplements?	6	15.79	163	84.21	10	11.76	74	88.24
8	Do you take proteins recommended for athletes ?	36	18.42	158	81.58	10	11.76	74	88.24
7	Do you have vegetables daily?	92	47.37	102	52.63	30	35.29	54	64.71
6	Do you have fruits daily?	77	39.47	117	60.53	25	29.41	59	70.59
5	Do you have snacks between the three main meals?	92	47.37	102	52.63	79	94.12	5	5.88
4	Do you have your meals at regular times?	50	34.21	128	65.79	25	29.41	59	70.59
3	Do you have dinner daily ?	158	81.58	36	18.42	50	58.82	34	41.18
2	Do you have lunch daily?	169	86.84	25	13.16	59	70.59	25	29.41
1	Do you have breakfast daily ?	128	65.79	66	34.21	59	70.59	25	29.41

Table 4 shows the frequencies and percentages of the questions on the Jordanian athletes' commitment to the healthy dietary habits distributed by the gender variable. The table shows that the dietary habits items are of varying percentages, where values of frequencies and percentages are shown for each item. Having reviewed and analyzed the males' percentages, it is noticed that question 16 "Do you drink water after exercise?" has a commitment percentage of (97.37%), which is the highest of the other dietary behaviors, compared to (2.63%) of non-commitment. As to question 10 "Do you take fatty acids (omega 3)?", it has the lowest percentage of commitment to dietary behavior among males by (13.06%) compared to non-commitment by (86.84%).

Having analyzed the females' commitment percentages, it is noticed that question 12 "Do you eat unhealthy snacks (sweets, chips, unnatural juices, biscuits, pastries?" and question 15 "Do you drink water during exercise?" have one full percentage of commitment by (100.0%) among females. However, question 10 "Do you take fatty acids (omega 3)? has the lowest commitment percentage among females, where the commitment percentage is (5.88%) compared to (94.12%) of non-commitment.

Moreover, the table shows that there is no regularity in having the three meals among both genders. Regular eating of meals is higher among males, where the males' percentage is (34.21%) compared to (29.41%) for females.

The three meals are very important in providing sufficient quantities of the nutrients that the body needs, where each meal is important in its content of nutrients that the body needs. This paper argues that the reason why male athletes regularly eat meals is that males are more involved in the training process and exert more effort than females in exercising athletic activity, in addition to the fact that females are interested in maintaining their weight.

The findings also show that both males and females eat unhealthy snacks such as sweets, chips, unnatural juices, biscuits, pastries, where the percentage among females is higher. This is attributed to their unfamiliarity with negative effects of such foods and their belief that such snacks prevent gaining weight. It is noticed that the females have snacks more than males. Having some unhealthy snacks causes disorder, fatigue and a need for sleeping. This finding agrees with [12], [10], [16] that prevalence of nutritional disorders and unregulated eating trends among male and female judo athletes might causes anxiety, lack of self-confidence, poor performance.

Additionally, the findings show that drinking soft drinks and stimulants is greater among males than females. This might be attributed to their insufficient knowledge of their harmful effects and negative impact on their performance.

Taking proteins recommended for athletes, amino acid supplements, and omega 3 is greater among males than females. This might be attributed to the desire of a male to have the best performance and level in order to become a distinct athlete, where the difference of physical abilities might force an athlete to search for another means to build muscles. It is noticed that many male athletes try to build their muscles unlike females.

This finding agrees with [14] which indicates that nutritional supplements have a positive effect on metabolic and physiological processes in the human body, and with [1] which shows that that drinks that contain a large amount of carbohydrates reduce the concentration of glucose in the event of fatigue, while the concentration of cortisol in the plasma increases, which causes fatigue and mental stress.

Further, this study agrees with [13] that there are statistically significant differences by the gender variable.

As for drinking milk and having dairy products, the percentage is high and very close for males and females. The reasons for this is that milk and dairy products contain important nutrients that have a positive impact on the athlete's body. This applies to drinking water before, during and after exercise among athletes. This is attributed to the athlete's awareness of the importance of water intake and its impact on physiological and biological processes, which in turn has a positive effect on the psychological state.
Table 5 shows the daily dietary practices by the variable of age group.

Table 5: Frequencies and percentages of the questions on the Jordanian athletes' dietary behavior by variable of
age group (N=278)
(18 years and under) = 118
(18 years and above) = 160

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#	Question	18 and under				Above 18			
		Number				Number			
		Yes	%	No	%	Yes	%	No	%
1	Do you have breakfast daily?	75	63.64	43	36.36	111	69.70	49	30.3
2	Do you have lunch daily?	81	68.18	37	31.82	145	90.91	15	9.09
3	Do you have dinner daily?	70	59.09	48	40.91	135	84.85	52	15.15
4	Do you have your meals at regular times?	27	22.73	91	77.27	64	39.39	96	60.61
5	Do you have snacks between the three main meals?	97	81.82	21	18.18	88	48.48	92	51.52
6	Do you have fruits daily?	32	27.27	86	72.73	76	42.42	104	57.58
7	Do you have vegetables daily?	27	22.73	91	77.27	104	57.58	76	42.42
8	Do you take proteins recommended for athletes ?	16	13.64	102	86.36	38	18.18	142	81.82
9	Do you have amino acid supplements	5	4.55	113	95.45	39	21.21	141	78.79
10	Do you take fatty acids (omega 3?	5	4.55	113	95.45	28	15.15	152	84.85
11	Do you take vitamin pills?	38	31.82	80	68.18	66	36.36	114	63.64
12	Do you eat unhealthy snacks (sweets, chips, unnatural juices, biscuits, pastries)?	113	95.45	5	4.55	158	87.88	22	12.12
13	Do you eat fast food?	118	100.00	0	0	125	69.70	55	30.3
14	Do you drink water before exercise?	107	90.91	11	9.09	163	90.91	17	9.09
15	Do you drink water during exercise?	118	100.00	0	0	169	93.94	11	6.06
16	Do you drink water after exercise?	113	95.45	5	4.55	174	96.97	6	3.03
17	Do you drink milk and have dairy products	92	77.27	26	22.73	152	84.85	28	15.15
18	Do you drink soft drinks?	81	68.18	37	31.82	115	63.64	65	36.36
19	Do you drink stimulants (tea, Nescafe, coffee)?	70	59.09	48	40.91	152	84.85	28	15.15

Table 5 shows the frequencies and percentages of the questions on the Jordanian athletes' commitment to the healthy dietary habits distributed by the age group variable. The table shows that the dietary habits items are of varying percentages, where values of frequencies and percentages are shown for each item.

Having reviewed and analyzed the percentages related to the (18 and under) age group, it is noticed that

question 13 “Do you eat fast food?”, and question 15 “Do you drink water during exercise?” have 100% commitment among athletes of this group, which is the highest percentage of commitment among other dietary behaviors.

Question 9 “Do you have amino acid supplements?” and question 10 “Do you take fatty acids (omega 3)? Have the lowest commitment values among athletes of this group by (4.55%).

Having analyzed the percentages related to (18 and above) age group, it is noticed that question 16 “Do you drink water after exercise?” has a high commitment percentage by (96.97%), while question 10 “Do you take fatty acids (omega 3)? has the lowest percentage by (15.5%).

The findings show that the eating the three main meals is more committed to by the age group (18 years and above). This is attributed to the increased awareness among members of this group of the importance of regular eating the main meals on time. The same reason applies to eating vegetables and fruits, which has the highest percentage in this age group, though these foods are important in the stage of growth because the body needs elements such as minerals and vitamins, which the body does not produce, but we get them from eating these nutrients. Findings of this study do not agree with [13] which shows the people under 18 eat fruits and vegetables on a daily basis, and they have the main meals on a regular basis.

Taking proteins recommended for athletes, amino acid supplements, and omega 3 is greater among the 18 and above age group. This paper argues that it is dangerous for this group to have proteins recommended for athletes and amino acid supplements, which are used by athletes to build their bodies and muscles. Taking omega 3 and vitamins by the older age group is attributed to the increased awareness and health culture.

At large, the findings of the study show that there are many erroneous dietary practices among the (18 and under) age group such as eating unhealthy snacks (sweets, chips, unnatural juices, biscuits, and pastries) and erroneous dietary habits. This paper argues that the reason for this is unfamiliarity with the negative effects of eating such foods. The same applies to the high percentage of eating fast food, which is (100%) among this age group.

Additionally, the findings show drinking water before, during and after exercise is high and very close among both groups. This is attributed to their awareness of importance of drinking water and its effect on the biological processes, and to the fact that during exercise and matches, an athlete loses a lot of fluids, which makes him need to compensate the lost fluids to be able to continue playing.

Percentage of drinking stimulants is greater among the (18 and above) age group. This is since the freedom of (18 and under) age group is more restricted than the other group and since they are under supervision of parents who prevent them from drinking stimulants that are harmful to their health, especially at this age.
Table 6 shows the daily dietary practices by the variable of educational level.

Table 6: Frequencies and percentages of the questions on the Jordanian athletes’ dietary behavior by variable of the
Educational Level (N=278)
(Diploma and lower) = 39
Bachelor and higher = 239

#	Question	Diploma and lower	Bachelor and higher

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		Number				Number			
		Yes	%	No	%	Yes	%	No	%
1	Do you have breakfast daily?	4	10.26	35	89.74	60	25.00	179	75
2	Do you have lunch daily?	6	15.38	33	84.62	45	18.75	194	81.25
3	Do you have dinner daily?	15	38.46	24	61.54	60	25.00	179	75
4	Do you have your meals at regular times?	37	94.87	2	5.13	239	100.00	0	0
5	Do you have snacks between the three main meals?	24	61.54	15	38.46	150	62.50	89	37.5
6	Do you have fruits daily?	36	92.31	3	7.69	210	87.50	29	12.5
7	Do you have vegetables daily?	33	84.62	6	15.38	180	75.00	59	25
8	Do you take proteins recommended for athletes ?	31	79.49	8	20.51	210	87.50	29	12.5
9	Do you have amino acid supplements	27	69.23	12	30.77	135	56.25	104	43.75
10	Do you take fatty acids (omega 3?	29	74.36	10	25.64	180	75.00	59	25
11	Do you take vitamin pills?	38	97.44	1	2.56	223	93.75	16	6.25
12	Do you eat unhealthy snacks (sweets, chips, unnatural juices, biscuits, pastries)?	33	84.62	6	15.38	180	75.00	59	25
13	Do you eat fast food?	11	28.21	28	71.79	105	43.75	134	56.25
14	Do you drink water before exercise?	14	35.90	25	64.1	90	37.50	149	62.5
15	Do you drink water during exercise?	28	71.79	11	28.21	135	56.25	104	43.75
16	Do you drink water after exercise?	26	66.67	13	33.33	224	93.75	15	6.25
17	Do you drink milk and have dairy products	18	46.15	21	53.85	90	37.50	149	62.5
18	Do you drink soft drinks?	35	89.74	4	10.26	224	93.75	15	6.25
19	Do you drink stimulants (tea,	1	2.56	38	97.44	75	31.25	164	68.75

	Nescafe, coffee)?								

Table 6 shows the frequencies and percentages of the questions on the Jordanian athletes' commitment to the healthy dietary habits distributed by the educational level variable.

Having reviewed and analyzed the percentages related to diploma and lower, it is noticed that question 11 "Do you take vitamin pills?" has a commitment by (97.44%) among athletes of this group, while question 19 "Do you drink stimulants (tea, Nescafe, coffee)? has the lowest commitment percentage among this group by (2.56%).

Having analyzed the percentages related to bachelor and higher group, it is noticed that question 4 "Do you have your meals at regular times? has a high percentage of commitment (100%) among athletes of this group, while question 2 "Do you have lunch daily?" has the lowest percentage of commitment (18.75%) among athletes of this group.

The findings show close percentages in both groups with respect to the daily healthy habits. As to eating the three main means and having unhealthy snacks (sweets, chips, unnatural juices, biscuits, pastries) and drinking soft drinks, the percentages show that both groups are not committed and their practices are erroneous. This might be attributed to the fact that respondents of both groups might do not have knowledge of effect of food on their psychological state and performance, thought they have participated in a number of international competitions and tournaments, in which they are supposed to exchange information, experiences and knowledge. The respondents' educational level helps them to be educated about importance of food and its impact on their performance and physical activity (Douglas, 2004). Nutrition is such a dynamic area that athletes often ask their coaches, nutritionists and psychologists about to guide them about the foods, drinks and supplements they should eat.

On contrast, both groups follow healthy habits such as eating fruits, vegetables, vitamins, and omega 3, drinking water before, during and after exercises, and drinking milk and having dairy products. These foods play a key role in the biological processes and affect the psychological state and performance. This is attributed to the fact that an athlete loses a lot of fluids during exercises and matches, which makes him need to compensate the lost fluids to be able to continue playing.

iii. As for the second question "Do the dietary habits affect the Jordanian athletes' psychological state?, the items related to the dietary habits during training and competitions and their impact on the Jordanian athletes' psychological state were analyzed, and the following table shows answers to this question.

Table 7: Arithmetic means, standard deviations, and Test-T of items on the dietary habits during training and competitions and their impact on the Jordanian athletes' psychological state

	Item	Arithmetic mean	Standard deviation	Relative significance	Level	significance level-t	Ra
	Eating dates during training/competition time enables me to quickly recover my activity in intense competitions.	3.60	1.15	72.00	High	.000	9
	I perform better in tough training/competition times when I eat carbohydrate-rich foods	3.76	1.25	75.20	High	.000	6

It's easy to train for long hours without getting bored when I drink sports energy drinks	2.75	1.31	55.00	Average	.155	1
Having a small amount of coffee before training / competition makes my performance better.	2.69	1.49	53.80	Average	.130	1
I can quickly analyze the opposing team's game plans when I eat dark chocolate before training/competition.	2.75	1.27	55.00	Average	.100	1
Eating a lot of vegetables before training / competition makes me calmly accept criticism from the coach.	2.29	0.96	45.80	Low	.000	2
I can maintain my vitality during training/competition by drinking large amounts of water.	4.02	0.85	80.40	High	.000	2
Eating a banana after training/competition can restore my calmness.	3.87	1.09	77.40	High	.000	5
I can control my disorders during training/competition by consuming the recommended amounts of dairy products.	2.73	1.24	54.60	Average	.108	1
I can handle difficult playing situations when eating raw nuts during training/competition times.	2.73	1.39	54.60	Average	.143	1
Eating dried fruits during training/competition times reduces my stress during training/competition times.	2.53	1.27	50.60	Low	.008	2
I train for long hours without getting bored when I eat seafood that is rich in omega-3.	2.71	1.30	54.20	Average	.103	1
I can conserve my energy during training/competition by eating an apple a little before I start working out.	3.36	1.24	67.20	Average	.024	1
I can participate in consecutive competitions during short breaks when I take some supplements.	3.38	1.33	67.60	Average	.037	1
Eating protein-rich foods gives me better focus and attention during training/competition time.	3.96	0.88	79.20	High	.000	3
Having soothing drinks (kalyanise, chamomile, mint...) gives me peace of mind after the competition is over.	2.87	1.31	57.40	Average	.101	1
I have stomach upsets when I eat my meal shortly before the start of training/competition	3.95	1.27	79.00	High	.000	4
I am easily irritated during training/competition when I'm on large amounts of stimulants.	2.36	1.31	47.20	Low	.001	2
It's hard to stay energized during training/competition day when I skip a main meal	3.67	1.39	73.40	High	.001	8
I get upset before training/competition when I eat a fast food.	3.76	1.26	75.20	High	.000	6
It is difficult for me to control disorders during training/competition time when I have soft drinks.	3.07	1.27	61.40	Average	.101	1
It's hard to focus and pay attention to challenging gaming situations when consuming (non-sports) energy drinks.	2.67	1.16	53.40	Average	.040	2
Eating sweets negatively affects my emotions during training/competition.	2.24	1.25	44.80	Low	.000	2
It is difficult to stay active during	2.40	1.27	48.00	Low	.001	2

training/competition when eating a large amount of vitamin c-rich fruits.						
It's hard to maintain my vitality during training/competition when I'm losing a lot of fluid.	4.27	1.06	85.40	Very high	.000	
The effect of dietary habits on the psychological state	3.14	0.55	62.80	Average	.042	

Table 7 shows arithmetic means, standard deviations, and relative significance of items on the dietary habits during training and competitions and their impact on the Jordanian athletes' psychological state.

Having reviewed the said values, it is noticed that the level of items is between low and very high, the overall level of items is average, where values of arithmetic means are (2.24-4.27), where this case is estimated by an arithmetic mean (3.14), a standard deviation (0.55) and relevant significance (62.80). Item (25) "It's hard to maintain my vitality during training/competition when I'm losing a lot of fluid" ranks first with an arithmetic mean of (4.27), a standard deviation of "1.06) and a relevant significance of (85.40).

Item (23) "Eating sweets negatively affects my emotions during training/competition" ranks last, with an arithmetic mean of (2.24), a standard deviation of (1.25) and a relevant significance of (44.80).

Having reviewed the importance of estimating the respondents'' opinions on the impact of the dietary habits during training and competitions and their impact on the psychological state, through the values of the significance level of T-test, it is noticed 8 items (3, 4, 5, 9, 10, 12, 16 and 21), that reflect opinions on this relation, are not statistically significant, as the values of significance level calculated for these items are (.155), (0.130), (.100), (0.108), (.143), (0.103), (.101) and (0.101), respectively.

However, it is noticed that the respondents' estimation of the remaining items are statistically significant since values of significance level are less than (0.05). Having reviewed values of the arithmetic means of the items on which the respondents give their opinions that the relationship exists, it is noticed that the values of arithmetic means are high towards approval or low towards disapproval. This result is understood on the ground that the larger arithmetic means indicate impact of food eating during training and competition times on the athlete's psychological state, which is high.

The findings show that impact of the food eaten during training and competition on the psychological state is roughly average, which means that the level of items presented to athletes heads to middle, which helps interpret this concept to a higher degree. This paper argues that results of this scale did not reach an advanced level because of lack of awareness of some athletes of the role of the food that contains carbohydrates, proteins and vitamins in improving and upgrading various psychological health and physical aspects, where they eat unhealthy snacks believing that they give them energy instead of the more beneficial foods. It is argued here that the inner feelings experienced by an athlete and external factors such as the individuals surrounding him, and the customs and traditions that impose some kind of restrictions on an athlete affect his psychological state and his performance. This agrees with [7] that the Carbohydrate supplements and vitamin (C) positively reduce athletes' tension after training. Showed that following wrong dietary habits before the competition at a certain time can decrease the level of performance and cause psychological problems, including stress and mental fatigue.

It also agrees with [3] which shows that eating a balanced food that contains most of nutrients and minerals improves the athletic performance, and that that the deficiency of some nutrients such as vitamin B1, B2, B6 and B12 and minerals such as magnesium, calcium and zinc cause psychological symptoms among

athletes, including tension, lethargy and mental fatigue. Finally, it agrees with [8] that the positive practices related to dietary habits affect the athletic performance level, and with [9] that eating balanced foods affect level of attention.

4. Conclusions

This paper concludes that:

1. Athletes are not aware of negative impacts of some foods on the psychological state.
2. Athletes do not have meals at regular times and they ignore some main meals during the day.
3. Athletes do not have sufficient knowledge of type of foods that maintain a good physiological state.
4. Athletes are not overseen and followed up with respect to the foods they eat.
5. Food eaten during training and competition times affect the athletes' psychological state.
6. Breakfasts and lunches have a great impact on the athletes' physiological state with respect to the daily dietary practices and habits.

5. Recommendations

This paper recommends that:

1. Athletes should be educated, through educational courses and seminars, about effect of food on the psychological state.
2. Athletes should be followed up with respect eating the three meals at regular times.
3. Athletes should choose the healthy foods that positively affect their psychological and physical aspects.
4. The concerned bodies should monitor the food eaten by athletes through forming a team that oversees the nutritional aspects from the beginning to the final competitions.
5. Additional studies on athletes' nutrition and its impact on their psychological aspects and performance should be conducted.

6. References

[1] Bishop , Nc , Blannin, AK , and walsh , MG.(2001).carbohydrate bevecage ingestion and neutrophil deregulation responsecs following cycling to fatigue at 75% vo2 max . int j sport med ,22 :226-231.

[2] Degoutte, f.Jpuanel , p . , Begue, R.J , Colombier , M, Lac , C. , pequignot, J.M. and Filaire , E.(2004).food Restriction , performance, biochemical, psychological , and Endocrine changes in judo athletes. Int J sports Med; 27:9-18.

[3] Glesson,M. (2006),Can Nutrition limit Exercise- Induced Immumodepression ? Nut. Review, 64 (3) : 119- 131

[4] Hamai, Mohammad (2000), Nutrition, Health and Sports, 1st edition, Cairo, Egypt, The Book Center for Publication.

[5] Jennifer, M. Abbolt & Ball. (2013). Associations Between Psychological Stress , Eating ,Physical activity ,Sendentary , Behaviours and Body Weight Among Women : Alongitudinal Study ; BMC Public Health , v-13.

[6] Karkori, Hamd, and Masri, Khader (2001), Vitamins and Minerals in Food, 2nd edition, University of Jordan, Faculty of Agriculture, Amman, Jordan.

[7] Moreira, A.,Kekkonen , R.A.,Delgado ,L.,Fonseca,J.,Korpela ,R.& Haahte L.A,T.(2007).Nutritional Modulation of Exercise Induced Immunodebression in Athletes : A systematic Review and Meta – Analysis,European.J.Clin.Nut,61 ,433- 460.

[8] Musa Balbol, (2015) Dietary Practices and their Relevance to Athletic Performance Level of Players of Algerian Professional League, The 7th Yarmouk Conference, Volume (5), pp. 315-324.

[9] Rakha', Mirvat (1997), Rffect of Balanced Food on the Functional, Physical and Psychological Status of Female Students of the Faculty of Physical Education for Girls in Alexandria, Cairo Conference, 1, Dar Manzoma.

[10] Reinking, M,and Alexander,L,E.(2005) . prevalence of disordered-eating behaviors in undergraduate female collegiate athletes and nonethleless, journal of athletic training,40(1), 47-51.

[11] Reuveix, M,bouget,Mmpannafieux,C,charnpely,S,and filaire,E.(2005).Eating attitudes ,body Esteem , perfectionism and anxiety of judo athletes and nonathlets ,nutrition review , 25(2) :195-202.

[12] Reuveix, M,bouget,Mmpannafieux,C,charnpely,S,and filaire,E.(2005).Eating attitudes ,body Esteem , perfectionism and anxiety of judo athletes and nonathlets ,nutrition review , 25(2) :195-202.

[13] Sharari, Areen (2008), Diet and its Effect on Psychological Aspects of Athletes'' Performance, published master thesis, Yarmouk University, Irbid, Jordan.

[14] Williams,M.H.(2004). Dietary Supplements and Sports performance: introduction and Vitamins, Journal of the International Society of Sports Nutrition ,1(2), 1-6.

[15] Yahya, Halah (2006), Mood and Level of Neurotic Stress and their Relationship to the Points of Matches among Judo athletes, Theories and Applications Journal, 9 (5), pp.67-81.

[16] Ziegler, P,j., Jonnalaagadda S,S , Nelson , J,A ,. Lawrence ,C ,and Baciak ,L.(2002).Contribution of Maels and Snacks to Nutriton intaske of male and female Elite figure Skaters During Peak Cometitve Season , American Collge of Nutrition, 21(92) : 114-119.