European Journal of Sports Science Technology (EJSST)
DOI prefix: 10.58305
ISSN: (**Print**) 2958-2571, (**Online**) 2409-2908
https://ej.ejsst.com

Insomnia Severity Index and the relationship to nutritional and physical status in light of e-learning among the physical education faculty students of An-Najah National University

Bashar saleh[1], Hasan joudallah[2], Rafe Abu Salameh[3], Walaa khader[4]

Department of Physical Education, An-Najah National University, Nablus, Palestine

bashar.saleh@najah.edu, hasan.joudallah@najah.edu, rafe.slameh@najah.edu, w.khader@najah.edu

Research submission date: 12/04/2024 **Publication date: 25/08/2024**

Abstract

The study aims at identifying the general level of anxiety, the level of severity of insomnia and its relation with the physical aspects and the nutritional status for the physical education student at An-Najah National University during the online teaching. The sample size was 286 male students among which 54% is male and 45.8% is female. The official electronic platform of An-Najah National University was utilized for data collection where questionnaires were distributed. These questionnaires, consists of demographical information, physical aspects, nutritional status and the severity index of the anxiety as well as that of the insomnia, (Bastien, et al. 2001)

The most significant result shows that 26.2% of the females has high degree of anxiety whereas 16.8 of the males have that degree of anxiety. Furthermore, 10.2% of the countryside population has high degree of anxiety and 9.1% of the city inhabitants has that degree of anxiety. Moreover, both freshmen and seniors suffer from high degree of anxiety, 7.4% and 11.5%, respectively. The results indicate also that the index of insomnia for women is 11.2% higher than that for men. Additionally, 11.2% of people who live in the city, 2.8% of those who live in the rural areas and 1% who live-in live-in refugee camps suffer from high degree of insomnia. Apart from that, freshmen and seniors suffer also from high degree of insomnia, i.e. 8.4% and 14.3%, respectively.

The results demonstrated also that the feeling lazy and unwillingness to move are among the most important physical side effect during the electronic education during the online teaching for sports education student's at An-Najah National University with an average of 2.67 and standard deviation of 0.88. Furthermore, the nutritional status of the students was affected in a way such that students eat large amount of food with an average of 2.61 and they could not follow a healthy diet with an average of 2.59. In addition to that, 88.5% of the students of the sports education faculty at An-Najah National University has a change in their weight during the online teaching, i.e. 83.2% has a weight increase, 5.3% has a decrease in their weight and the rest has no weight change. This study suggests the existence of a correlation with ≤ 0.05 α among the total index of anxiety and the index of insomnia and the all the physical aspects and the nutritional status for the students of sports education faculty of An-Najah National University during the electronic education in the period of the online teaching.

Keywords: anxiety, insomnia, physical education, online teaching, e-learning.

https://doi.org/ 10.58305/ejsst.v14i53.507

INTRODUCTION

The world has been living abnormal circumstances for about two years due to the pandemic of the online teaching and that has affected all ways of the life and changed many situations. the online teaching has caused a unique-in-history emergency in the situation of health, economy, culture and science. Indeed, the the online teaching caused the world longest disruption in the education such that it had a semi-inclusive effect on the educational process all around the world; from the kindergarten up to high school, including the technical education and vocational training and other types of educational institutions.

(AL-AJLOUNI, Y.A et al ,2020) insured that the dropping out the education has huge effects that go beyond the educational process. Indeed, closing of the educational institutions hindered providing the basic services for the children and the local communities, such as the ability to obtain nutrition, ability to move and the ability to work for most parents.

The pandemic has shown variation in the educational systems in most of the countries and that has increased the psychological stress factor on both the parent and students (BALORAN, E. T. 2020). Education has not available in an equitable manner anymore. In addition to that, the absence of any program at the official level in some countries has been noticed and specially the one dedicated for learner with learning difficulties and special needs. In fact, the e-learning has been a major concern for many parties of the educational process; starting by the teachers and students, passing through parents and eventually towards school administrations.

Although the e learning allowed us continuing the educational process and prevent its interruption, many drawbacks were reported about the use of e learning. BARKLEY, J. E., et al 2020 and CAO, W. et al, 2020 indicated that e learning has increased the lack of physical activities of the parties of the educational process. NAKHOSTIN-ANSARI, A., et al, 2020 highlighted that that e learning leads to many problems and muscles pain, joints pain and decrease physical activities in general in addition to some physiological effects such as feeling sad, irritations, frustration, anger and other feelings.

In the light of increasing the talk about the negative effects of e learning as a result of the poor educational process and poor capabilities, which lie in the weakness of the internet network and its frequent disruption, electricity cut off, the increase of students number in one class, Augmentation of e learning users in one house, the unavailability of advanced electronic devices to all students and the inefficiency of effectiveness of the utilized application in the e learning, all the before mentioned circumstances have increased the negative effects associated with the e learning.

PURPOSE OF STUDY

The study aims at identifying the general level of anxiety, the level of severity of insomnia and its relation with the physical aspects and the nutritional status for the physical education student at An-Najah National University during the online teaching.

METHODOLOGY

Participants

As shown in Table 1, the study participants were male and female from An-Najah National University B.A students. A stratified sample was selected which reached (315), male (155) and female (131) students, A percentage of (90.8%), of the total population.

Table 1. Participants' Demographic Characteristics (N=286).

Demographics	Variable Level	Account	%
Sex	Male	155	54.2
	Female	131	45.8
BMI	underweight	47	16.4
	Normal	161	56.3
	Overweight	55	19.2
	obese	23	8
Academic year	1st	56	19.6
	2nd	63	22
	3rd	88	30.8
	4th	79	27.6
Address	village	173	60.5
	camp	46	16.1
	city	67	23.4

ETHICAL CLEARANCE

The present study **" Insomnia Severity Index and the relationship to nutritional and physical status in light of e-learning during the Covid-19 pandemic among the physical education faculty students of An-Najah National University"** viewed by An-Najah National University IRB committee and was approved on 4th May 2021.

MEASURING INSTRUMENTS

For the purpose of collection information, researchers have used questionnaires to measure some of the physical and nutritional situation for the sample. They have used also the insomnia severity index (Bastien, C. et al. 2001) where this index has 0.74 as a validity coefficient of the internal consistency factor.

PROCEDURE

Electronic questionnaires were distributed on all students of the Physical Education faculty at An-Najah National University. The total number of students was 315 male and female students among which 286, i.e. 90.8%, students have filled the questionnaires. The official electronic platform of An-Najah National University was utilized to collect data where the questionnaires were distributed. These questionnaires consisted of demographical information of the sample, physical aspects, nutritional status in additional to the general anxiety scale and insomnia severity index, Bastien, et al. 2001. In order to interpret the results of the anxiety severity the researchers adopted the classifications of (Bastien, C. et al. 2001) which consists of four levels; 0-4 minimal, 5-9 mild, 10-14 moderate, 15-21 severe. In order to interpret the severity of insomnia researchers adopted also the classification of (Bastien, C. et al. 2001) as follows: 0-7 no clinically significant insomnia, 8-14 subthreshold insomnia, 15-21 moderate severity of insomnia, 22-28 severe clinical insomnia.

As shown in Table 3 the values of arithmetic means shall be treated regarding to the quintuple gradation as follows: 1.66- and below low, 2.33-167 medium, 2.34 and above high. Following the objective variables, i.e. gender, residence and educational level.

For the interpretation of the nutritional level for the students of the Physical Education faculty at An-Najah National University during the e-learning period, the arithmetic means of Likert scale are adopted as shown in Table 3.

Pearson correlation matrix was used to understand and insure the relation between the general anxiety index, insomnia index as well as nutritional and physical status for the Physical Education students at An-Najah National University during the e-learning.

Table 3: Standard three-point rating scale

Arithmetic mean period	Likert scale general rating
1-1.66	High
1.67-2.33	Medium
2.34-3	Low

STATISTICAL ANALYSIS

The data collected in this study was analyzed using Statistical Package for the Social Sciences (SPSS v.22.0, SPSS Inc., Chicago, IL, USA).

RESULT

First: results of the first question

What is the level of anxiety index for the students of Physical Education faculty at An-Najah National University during e learning?

In order to answer this question frequencies and percentages of general anxiety index were used. According to the independent variables, i.e. gender, academic year in addition to the place of residence

and to interpret the results of the sever of anxiety, the researchers use the classification of Bastien, C. et al. 2001 as follows:

- 0-4 minimal,
- 5-9 mild,
- 10-14 moderate,
- 15-21 severe

Table 2. frequency and percentage of the anxiety index for the Physical Education students of An-Najah National University during the e learning (N=286)

Level of severity of anxiety	Rep	%
Minimal	34	11.9
Mild	52	18.2
Moderate	77	26.9
Severe	123	43
Total	**286**	**%100**

According to the independent variables, the anxiety index was as follows:

1- Gender variable:

Table 3. frequency and percentage of the anxiety index for the Physical Education students of An-Najah National University during the e learning according to the gender variable (N=286)

SEX / Severity of anxiety	Male		Female		Total	
	Rep	%	Rep	%	Rep	%
Minimal	28	9.8	6	2.1	34	11.9
Mild	27	9.4	25	8.7	52	18.2
Moderate	52	18.2	25	8.4	77	26.9
Severe	48	16.8	75	26.2	123	43
Total	**155**	**54.2%**	**131**	**45.8%**	**286**	**%100**

2- Place of residence variable:

Table 4. frequency and percentage of the anxiety index for the Physical Education students of An-Najah National University during the e learning according the place of residence variable (N=286)

Place / Severity of anxiety	Village		Camp		City		Total	
	Rep	%	Rep	%	Rep	%	Rep	%
Minimal	86	30.1	15	5.2	6	2.1	107	37.4
Mild	33	11.5	10	3.5	13	4.5	56	19.6
Moderate	25	8.7	9	3.2	22	7.7	56	19.6
Severe	29	10.2	12	4.2	26	9.1	67	23.4
Total	**173**	**60.5%**	**46**	**16.1%**	**67**	**23.4**	**286**	**%100**

Table 4 shows that the highest percentage of the village residents, that is 30.1%, have a low degree of anxiety whereas the percentage of the students who suffer from severe degree of anxiety is 10.2%. The table shows also that 4.2% of student of the refugee camps have severe degree of anxiety whereas 5.2% of them have minimal degree of anxiety. Regarding to city residents 9.1% suffer from severe anxiety and 2.1% have minimal level of anxiety.

3- Educational level variable:

Table 5. frequency and percentage of the anxiety index for the Physical Education students of An-Najah National University during the e learning according to the variable of educational level (N=286)

Academic level / Severity of anxiety	1st		2nd		3rd		4th		Total	
	Rep	%	Rep	%	Rep	%	Rep	%	Rep	%
Minimal	16	5.6	24	8.4	34	11.9	24	8.4	84	29.4
Mild	8	2.8	11	3.8	16	5.6	10	3.5	45	15.7
Moderate	11	3.8	9	3.1	13	4.6	12	4.2	45	15.7
Severe	21	7.4	19	6.7	25	8.7	33	11.5	112	39.2
Total	**56**	**19.6%**	**63**	**22%**	**88**	**30.8**	79	**27.6**	**286**	**%100**

Results of the second question:

What is the level of anxiety index for the Physical Education students at An-Najah National University during the online teaching?

In order to answer this question frequencies and percentages of general anxiety index were used. According to the independent variables, i.e. gender, academic year in addition to the place of residence and to interpret the results of the sever of anxiety, the researchers use the classification of Bastien, C. et al. 2001 as follows:

0-7: No clinically significant insomnia

8-14: Sub-threshold insomnia

15-21: Clinical insomnia - moderate severity

22-28: Clinical insomnia - severe

Table 6. frequency and percentage of the anxiety index for the Physical Education students of An-Najah National University during the e learning according to the variable of educational level (N=286)

The level Severity of Insomnia	Rep	**%**
No clinically significant insomnia-	31	10.8
Subthreshold insomnia	98	34.3
Clinical insomnia (moderate severity)	112	39.2
Clinical insomnia (severe	45	15.7
Total	286	%100

The results of Table 6 indicate that 10.8% of the students of Physical Education faculty at An-Najah National University have no insomnia during the e learning. They indicate also that 34.3% of the students suffer from sub-threshold insomnia and 39.2% suffer from a moderate severity degree of insomnia while 15.7% of the students suffer from high degree. In this context, researchers confirm that insomnia is considered as one of the most important effects of e learning, as Taquet, M, et al. 2021 confirms that insomnia is one of the most important psychological consequences of COVID-19.

As far as the independent variables are concerned, insomnia severity index is as follows:

Gender variable:

Table 7. frequency and percentage of the insomnia index for the Physical Education students of An-Najah National University during the e learning according to the gender variable (N=286)

Sex / **Severity of Insomnia**	**Male**		**Female**		**Total**	
	Rep	**%**	**Rep**	**%**	**Rep**	**%**
No clinically significant insomnia	21	7.3	10	3.5	31	10.8
Subthreshold insomnia	73	25.5	25	8.7	98	34.3
Clinical insomnia (moderate severity)	48	16.8	64	22.4	112	39.2
Clinical insomnia (severe)	13	4.5	32	11.2	45	15.7
Total	**155**	**54.2%**	**131**	**45.8%**	**286**	**%100**

From Table 7 it is clear that the percentage of males who do not have insomnia is 7.3% while it is 3.5% for females. About the sub-threshold level, it is 25.5% for males and 8.7% of females. While the

moderate level of insomnia for males is 16.8%, the percentage of that for demales is 22.4%. Finally, the 4.5% of males suffer from sever degree of insomnia whereas 11.2% of females suffer from this sever degree.

Place of residence variable:

Table 8. frequency and percentage of the insomnia index for the Physical Education students of An-Najah National University during the e learning according the place of residence variable (N=286)

Place / Severity of Insomnia	Village		Camp		City		Total	
	Rep	%	Rep	%	Rep	%	Rep	%
No clinically significant insomnia	106	37.1	21	7.3	4	1.4	131	45.8
Subthreshold insomnia	46	16.1	14	4.9	8	2.8	68	23.8
Clinical insomnia (moderate severity)	13	4.5	8	2.8	23	8	44	15.4
Clinical insomnia (severe)	8	2.8	3	1	32	11.2	43	15
Total	**173**	**60.5%**	**46**	**16.1%**	**67**	**23.4**	**286**	**%100**

Table 8 exhibits that the highest percentage of village residents do not have insomnia, i.e. 37.1%, whereas that the percentage of the village residents suffer from sever degree of insomnia reaches 2.8%. The results also show that 1% of camp residents suffer from sever degree of insomnia whilst 7.3% of camp residents do now have insomnia.

Educational level variable:

Table 9. frequency and percentage of the insomnia index for the Physical Education students of An-Najah National University during the e learning according to the variable of educational level (N=286)

Academic level / Severity of Insomnia	1st		2nd		3rd		4th		Total	
	Rep	%	Rep	%	Rep	%	Rep	%	Rep	%
No clinically significant insomnia	6	2.1	33	11.5	43	15	6	2.1	84	29.4
Subthreshold insomnia	12	4.2	13	4.5	26	9.1	9	3.2	45	15.7
Clinical insomnia (moderate severity)	14	4.9	10	3.5	11	3.9	23	8	45	15.7
Clinical insomnia (severe)	24	8.4	7	2.5	8	2.8	41	14.3	112	39.2
Total	**56**	**19.6%**	**63**	**22%**	**88**	**30.8**	**79**	**27.6**	**286**	**%100**

In Table 9 the results indicate that insomnia severity has the highest percentages for students of first and fourth year, i.e. 8.4% and 14.3%, respectively. However, the highest percentages of students who do not suffer from insomnia among the second and third year is 8.4% and 11.9%, respectively.

Results of the thirds question:

What are the physical effects of e learning for the students of Physical Education faculty students at An Najah National University during the e learning?

In order to answer this question, the mean and standard deviation was calculated for each فقرة and each physıcal aspect. The results of Table 10 illustrate that and arithmetic means of the triple Likert scale were used to interpret the results as follows:

1-1.66: low

1.67-2.33: medium

2.34-3: High

Table 10. the arithmetic means and standard deviations for the paragraphs of physical aspects of the Physical Education Faculty students at An Najah National University during the e learning (N=286).

No.	paragraphs	mean*	SD	Dgree
1	Feeling of headache and head pain	2.13	0.73	medium
2	Feeling neck and shoulder pain	2.48	0.93	High
3	Feeling lower back pain	2.18	.840	medium
4	Feeling tired in the eyes	2.62	.670	High
5	Feeling lazy and unwilling to move	2.67	.880	High
6	Feeling of physical fatigue	2.45	.710	High
Total Score for Physical status		**2.42**	**0.79**	High

* Maximum responsive degree: 3 degrees.

As Table 10 depicts the total degree of side effect of the physical aspects during the e learning throughout for the students of Physical Education students at An Najah National University is high with a arithmetic mean 2.42. Paragraph 5, Feeling lazy and unwilling to move, has the highest degree of response with an arithmetic mean of 2.67.

Results of the fourth question:

What is the level of nutritional situation for Physical Education Faculty students at An Najah National University during the e learning?

To answer this question, the arithmetic mean and standard deviation are calculated for each paragraph and total degree of the physical aspects. The results of table 10 demonstrates that.

Arithmetic means of the triple Likert scale were used to interpret the results as follows:

1-1.66: low

1.67-2.33: medium

2.34-3: High

Table 11. the arithmetic means and standard deviations for the paragraphs of nutritional aspects of the Physical Education Faculty students at A Najah National University during the e learning (N=286).

No.	paragraphs	mean*	SD	Degree
1	Difficulty following a healthy diet	2.59	0.52	High
2	follow a healthy diet	1.58	0.77	Low
3	Eat more food	2.61	0.82	High
4	The number of snacks "Punches"	2.44	0.77	High
5	Avoid meals	1.98	.0.91	medium

* Maximum responsive degree: 3 degrees.

The results of Table 11 indicate that response of students of paragraph 3 has high degree with an arithmetic mean of 2.61. Students were unable to follow a healthy diet which demonstrated by the high degree of response with an arithmetic mean of 2.59. On the other hand, the results show a low degree of students' ability to follow a healthy diet during the e learning. This resulted in diet imbalance for students and an increase in the meals quantity and number, which in turns increased students' weights as depicted in Table 12.

Table 12. the frequency and percentages for the weights of the students of Physical Education Faculty at A Najah National University during the e learning (N=286).

Answer's	change of weight	No.	%
There has been a change in my weight	Increase	238	83.2
	Decrease	15	5.3
	Total	253	88.5
No change in my weight		33	11.5

Table 12 shows that 88.5% of the Physical Education Students at An Najah National University experienced a change in their weight during the e learning among which 82.2% gained weight, whereas 5.3% lost weight and 11.5% had no change in their weights as shown in Table 13.

Table 13. the frequency and percentages for the weight change of the students of Physical Education Faculty at A Najah National University during the e learning (N=286).

Sex / change of weight	Male		Female		Total	
	Rep	%	Rep	%	Rep	%
Increase	114	47.9	124	52.1	238	83.2
Decrease	12	80	3	20	15	5.3
No change	29	87.9	4	12.1	33	11.5
Total	**155**	**54.2%**	**131**	**45.8 %**	**286**	**%100**

The results of Table 13 indicate that the number of students who gained weight is 238 students among which 114 is male students, i.e. 47.9%, and 124 female students, i.e. 52.1%. The number of students who lost weight is 15 students among which 12 is male students, i.e. 80%, and 3 female students, i.e. 20%. Additionally, the number of students who has no change in weight is 33 among which 29 students is male, i.e. 87.9%, and 4 female students, i.e. 12.1%.

The results of the fifth question:

Is there a statistical relation at the ($\alpha \geq 0.05$) between the general anxiety index, insomnia index, nutritional and physical situations of the Physical Education Faculty students at An- Najah National University during the e learning? In order to identify the relationship among them Pearson correlation matrix was utilized.

Table 14. the relationship between general anxiety index, insomnia index, nutritional and physical situations of the students of Physical Education Faculty and the employees at An Najah National University during the e learning (N=286).

Variable's	anxiety	physical status	Nutritional status
anxiety		**0.48	78. 0**
physical status			**0.20
Nutritional status			

**statistical function ($\alpha \leq 0.05$)

The results of Table 14 show the existence of statistical relationship at $\alpha \leq 0.05$ between the general degree of anxiety and all aspects of nutritional and physical situations of the Physical Education Faculty students at An Najah National University during the e learning with factors of Pearson correlation of 0.48 and 0.78, respectively.

Regarding to the relation between the insomnia index and the nutritional situation as well as the physical aspects the researchers have used the Pearson correlation matric as shown in Table 15.

Table 15. the relationship between insomnia index, nutritional situation and physical aspects of the students of Physical Education Faculty and the employees at An Najah National University during the e learning (N=286).

Variable's	Insomnia	physical status	Nutritional status
Insomnia		0.53**	0.71**
physical status			**0.20
Nutritional status			

**statistical function (α≤0.05)

The results of Table15 indicate that there is a statistical correlation at α≤0.05 between the general degree if anxiety, the physical aspects and the nutritional situation of the Physical Education Faculty students at a Najah National University during the e learning.

DISCUSSION

The results of Table 2 highlight that among the students of Physical Education faculty at An Najah National University, 43% suffer from high degree of anxiety during the e learning. The results show also that 26.9% of the students suffer from intermediate level of anxiety and 18.2% of them suffer from mild anxiety and lastly 11.9% suffer from minimal level of anxiety.

The researchers indicate that the high rate of anxiety during the pandemic among students is natural especially it coincided with the lockdown. HUSKY, M. M, et al. 2020 assures that the lockdown during the pandemic of COVID19 increases the rate of anxiety among students in France.

Table 3 indicates that the highest percentage of males, 18.2%, suffer from intermediate level of anxiety whereas the lowest percentage, 9.8%, suffer from low degree of anxiety. As far as females are concerned, the highest percentage, 26.2, suffer from high degree of anxiety whereas the lowest percentage, 2.1%, suffer from low degree of anxiety. Regarding to the anxiety index for the sample as a whole the percentage of females are higher than that for males at the same severity of anxiety, however males have higher percentage for low and intermediate levels of anxiety severity.

The researchers suggest that this result is due to the interest of female students in the academic achievement more than that for male students. In fact, female students in the Physical Education faculty double the effort to achieve higher degrees as compared to male students. Furthermore, female students consider that the e learning decreases the interaction and communication between the student and the teacher which in terns affect the education efficiency, academic achievement for students and increase the anxiety severity for female students.

When we look at Table 4 we find that, on one hand, the residents of villages and refugee camps have the highest percentages of anxiety severity at low severity degrees, i.e. 30.1% and 5.2%, for village residents and refugee camps residents, respectively. On the other hand, the highest percentages of anxiety severity is for city residents. Researchers attribute this result to the high interest in education and its quality and the level of achievement of students and their families in cities in addition to the high compliance to the public safety in cities than that for villages and refugee camps, which in terns

increase the anxiety levels in the abnormal circumstances. From Table 5 we notice that the sever degree of anxiety is the highest for first year and fourth year students, i.e. 7.4 and 11.5, respectively, where the low degree of anxiety is the first for the second- and third-year students, i.e. 8.4 and 11.9, respectively. Researchers attribute the high percentage of sever degree of anxiety for first year students to the fact that they just started their university life without communication and face-to-face interaction in the educational process. This increases the students' concern about the possibility to succeed and achieve good grades. Researchers attribute the high level of anxiety for fourth year students to the students' fear of not being able to accomplish all their classes and consequently delaying their graduation as well as the students' concern of failure and not passing successfully courses and the graduation requirements.

From Tables 6 and 7 we notice that the high severity of insomnia for females than that for males. The researchers suggest that female students make double efforts as compared to males as far as academic achievement is concerned. Indeed, the females' level of physical activities and practical courses are less than that for male students. All that affect the level of achievement for female students and increase the level of insomnia.

This agrees with MARELLI, S,et al. 2021 such that they suggest that the psychological anxiety during the pandemic is higher for females in Italy. The highest percentage of city residents, 11.2%, have severe degree of insomnia, whereas 1.4% of the city residents have no insomnia. When we look at Table 8 we notice that the highest percentage of the residents of both village and refugee camps have no insomnia, i.e. 37.1% and 7.3% for villages residents and refugee camps residents, respectively. The highest percentages of severe insomnia is among the city residents. The researchers find that a normal result as far as the high levels of general anxiety among the students who live in cities.

The researchers attribute the high intensity of insomnia for the students of first and fourth year to the high level of anxiety, as depicted in Table 9. In fact, first year students are afraid of the new e learning academic year where there is no interactive ambient with teachers and subsequently, they are afraid from the low academic achievement in the first academic year. Furthermore, the feeling of insomnia increases for the fourth-year students since it is the last year that determines their graduation.

The total degree of side effect of the physical aspects during the e learning for the Physical Education faculty students at An Najah National University was very high, as shown in Table 10.

The researchers attribute this result to the high number of hours that students spend in front of their computers or smart phones, which leads to lack of movement leads to feeling of lethargy and laziness. The lower response on paragraph 1, i.e. feeling of headache and head pain, with an intermediate level and an arithmetic mean of 2.13. SINGH, H. K.et al, 2021 assures that the e learning in India increases the eyestrain, neck pain, back pain and headache.

The students are unable to follow a healthy diet. Indeed, the results show that this paragraph has a high degree of responsiveness with arithmetic mean 2.59. The results also that the students have low ability to follow healthy diet during the e learning. The researchers confirm that the e learning during the pandemic creates new reality and new system for the students, which obliges them to stay in front of

screens for long periods. This disrupts the diet system of students, increase the quantity and number of meals, which in lead to the increase of the students' weights and that is confirmed by the results shown in Table 12. In fact, 88.5% of the Physical Education faculty students at An Najah National University has a change in their weights during the e learning among which 83.2% have an increase in their weights whereas 5.3% have a loss in their weights and 11.5% have no change in their weights. Regarding to the number of students, 238 male and female students have increase in their weight among which 114 are males, i.e. 47%, and 124 females, i.e. 52.1%. However, the number of students who have loss in their weights is 15 male and female students among which 12 are males, i.e. 80%, and 3 are females, i.e. 20%. The number of students who have no change in their weights is 33 students among which 29 males, i.e. 87.9%, and 4 females, i.e. 12.1%. the researchers attribute the higher increase of weight for females than that for males to the fact that females loose the chance for moving and leave their homes to the university during the e learning, which reduce their movement, and above all in our eastern society where the women have less chance to go out of the home than males. Regarding to the relationship between the overall degree of anxiety and all the physical aspects and nutritional situation for the students of Physical Education faculty at An Najah National University during the e learning, the Pearson correlation value is found to be 0.48 and 0.78, consequently. The researchers confirm the effect of the physiological factor and the insomnia on the physical aspects of the students as well as on their nutritional situation. In addition to that, the results indicated the existence of a statistical relationship between the physical aspects and the nutritional situation, where the Pearson correlation value is 0.2. The researchers confirm that the irregular nutritional situation for students certainly affect the physical aspects.

As far as the relationship between the insomnia index and the nutritional situation as well as the physical aspects is concerned, the factor of Pearson correlation matrix is used. The results in Table 15 indicate the existence of a statistical relationship at ($0.05 \geq \alpha$) between the total degree of insomnia and the physical aspects as well as the nutritional situation for the students of Physical Education Faculty at An Najah National University during the e learning. The values of Pearson correlation factors are 0.53 and 0.71 for relation with physical aspects and nutritional situation, respectively. This is an indication that the affecting of the psychological status of students affects, in turn, both the nutritional and physical status of students. The results indicate also to the existence of statistical relationship between physical aspects and nutritional status where the value of Pearson correlation factor is 0.2.

PRACTICAL APPLICATION

In the present study, electronic questionnaires were distributed on all students of the Physical Education faculty at An-Najah National University. The total number of students was 315 male and female students among which 286, i.e. 90.8%, students have filled the questionnaires. The official electronic platform of An-Najah National University was utilized to collect data where the questionnaires were distributed. In order to interpret the results of the anxiety severity the researchers adopted the classifications of (Bastien, C. et al. 2001). For the interpretation of the nutritional level for the students of the Physical Education faculty at An-Najah National University during the e-learning period, the arithmetic means of Likert scale are adopted as shown in Table 3. Pearson correlation matrix was used to understand and insure the relation between the general anxiety index, insomnia index as well as nutritional and physical status for the Physical Education students at An-Najah National University during the e-learning.

CONCLUSIONS

Highlight that among the students of Physical Education faculty at An Najah National University, 43% suffer from high degree of anxiety during the e learning. The results show also that 26.9% of the students suffer from intermediate level of anxiety and 18.2% of them suffer from mild anxiety and lastly 11.9% suffer from minimal level of anxiety. Regarding to the anxiety index for the sample as a whole the percentage of females are higher than that for males at the same severity of anxiety. Female students in the Physical Education faculty double the effort to achieve higher degrees as compared to male students. Furthermore, female students consider that the e learning decreases the interaction and communication between the student and the teacher which in terns affect the education efficiency, academic achievement for students and increase the anxiety severity for female students.

References

AL-AJLOUNI, Y. A., PARK, S. H., ALAWA, J., SHAMAILEH, G., BAWAB, A., EL-SADR, W. M. & DUNCAN, D. T. 2020. Anxiety and depressive symptoms are associated with poor sleep health during a period of COVID-19-induced nationwide lockdown: a cross-sectional analysis of adults in Jordan. *BMJ open,* 10**,** e041995.

Bastien, C. H., Vallières, A., & Morin, C. M. (2001). Validation of the insomnia severity index as an outcome measure for insomnia research. *Sleep Medicine, 2*, 297–307.

BALORAN, E. T. 2020. Knowledge, attitudes, anxiety, and coping strategies of students during COVID-19 pandemic. *Journal of loss and trauma,* 25**,** 635-642.

BARKLEY, J. E., LEPP, A., GLICKMAN, E., FARNELL, G., BEITING, J., WIET, R. & DOWDELL, B. 2020. The acute effects of the COVID-19 pandemic on physical activity and sedentary behavior in university students and employees. *International journal of exercise science,* 13**,** 1326.

CAO, W., FANG, Z., HOU, G., HAN, M., XU, X., DONG, J. & ZHENG, J. 2020. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research,* 287**,** 112934.

HUSKY, M. M., KOVESS-MASFETY, V. & SWENDSEN, J. D. 2020. Stress and anxiety among university students in France during Covid-19 mandatory confinement. *Comprehensive Psychiatry,* 102**,** 152191.

MAIA, B. R. & DIAS, P. C. 2020. Anxiety, depression and stress in university students: the impact of COVID-19. *Estudos de Psicologia (Campinas),* 37.

MAO, Y., ZHANG, N., LIU, J., ZHU, B., HE, R. & WANG, X. 2019. A systematic review of depression and anxiety in medical students in China. *BMC medical education,* 19**,** 1-13.

MARELLI, S., CASTELNUOVO, A., SOMMA, A., CASTRONOVO, V., MOMBELLI, S., BOTTONI, D., LEITNER, C., FOSSATI, A. & FERINI-STRAMBI, L. 2021. Impact of COVID-19 lockdown on sleep quality in university students and administration staff. *Journal of Neurology,* 268**,** 8-15.

NAKHOSTIN-ANSARI, A., SHERAFATI, A., AGHAJANI, F., KHONJI, M. S., AGHAJANI, R. & SHAHMANSOURI, N. 2020. Depression and anxiety among Iranian Medical Students during COVID-19 pandemic. *Iranian journal of psychiatry,* 15**,** 228.

SINGH, H. K., JOSHI, A., MALEPATI, R. N., NAJEEB, S., BALAKRISHNA, P., PANNERSELVAM, N. K., SINGH, Y. K. & GANNE, P. 2021. A survey of E-learning methods in nursing and medical education during COVID-19 pandemic in India. *Nurse education today,* 99**,** 104796.

TAQUET, M., GEDDES, J. R., HUSAIN, M., LUCIANO, S. & HARRISON, P. J. 2021. 6-month neurological and psychiatric outcomes in 236 379 survivors of COVID-19: a retrospective cohort study using electronic health records. *The Lancet Psychiatry,* 8**,** 416-427.

ZHAI, Y. & DU, X. 2020. Mental health care for international Chinese students affected by the COVID-19 outbreak. *The Lancet. Psychiatry,* 7**,** e22.