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Prevalence AndAssociated Risk Factors Of Neck And Low Back Pains Among Students At Faculty Of Medicine, Zagazig University

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ABSTRACT

Background: Musculoskeletal pain (MSP) is a major cause of chronic pain, injury, illness, reduced educational attainment that may affect the quality of productivity, neck pain (NP) is a common condition affecting as much as two-thirds or more of the general population,low back pain (LBP) is social and economic health problem that affects population of all ages globally.

Objective: To assess prevalence and associated risk factors of neck and low back pains among students at Faculty of Medicine, Zagazig University.

Patients and methods: This study was a cross sectional study conducted on 382 students at Faculty of medicine, Zagazig University. From September, 2018 to April, 2019, they completed the questionnaires (self-administrated or online questionnaire) in the English language.

Results: The prevalence of neck pain and/or low back pain among the studied group of students was 81.1%. NP presented in 74.4% while LBP detected in 73.1% of all studied students where 66.4% of participants reported both NP & LBP, the significant predictors of NP & LBP were studying more than 6 h/d, ergonomic problems and poor psychological studying environment (p<0.005, <0.005, <0.001 respectively).

Conclusion: This study demonstrated high prevalence of NP &/ or LBP 81.1% among medical students at Faculty of medicine, Zagazig University, Students complaining from NP and/or LBP had longer studying and reading time, presented mostly in clinical years in addition they had ergonomic problems and poor psychological studying environments.

Key words: Musculoskeletal pain (MSP), neck pain (NP), low back pain (LBP)

1. INTRODUCTION

Musculoskeletal pain (MSP) is a major cause of chronic pain, injury, illness, reduced educational attainment that may affect the quality of productivity, and absenteeism from lectures which will affect students' future careers[(1)].

Neck pain (NP) is a common condition affecting as much as two-thirds or more of the general population at one point of time during their life. There is abundance of information regarding prevalence of NP among university students, many of whom are health professional students [(2)].

Low back pain (LBP) is social and economic health problem that affects population of all ages globally. Studies have reported that approximately 12-80% of younger population, mainly students` experience LBP. Functional disability associated with LBP might not be the main concern in a younger population, however, experiencing it earlier in life may lead to recurrent and chronic LBP in adulthood [(3)].

The purposes of a medical school are to produce competent, professional doctors and promote health care of society. But during the period of medical training, students are exposed to stress, study problems, long training hours in hospital wards and clinics in addition to the increasing use of computers in teaching and learning[(4)].

There are many risk factors that may increase the prevalence of MSP among medical students. Therefore, the relationship between pain and disability is not straight forward as these are subjective measures andmay therefore be influenced by physiological, psychosocial, and environmental factors[(5)].

LBP and NP were found to be most common causes of worldwide disability and may have a significant impact on student QOL.This condition not only impacts the individual, but also their families and their community, causing significant economic consequences which range from an increase in health care expenditure, more missed days from work, reduced work productivity, and a rise in insurance costs. Cost of treatment is increasing rapidly [(6)].

2. PATIENTS AND METHODS

After review and approval by the Institutional Review Board (IRB) Committee, this study was carried out on 382 students at Faculty of medicine, Zagazig University. From September, 2018 to April, 2019. Study method had been fully explained for the participants.Assuming that total number of students at Faculty of Medicine, Zagazig University is 6629 from all grades and prevalence of neck pain (NP) and low back pain (LBP) is 60.8% at confidence level 95%. So total sample size is 347 students calculated by Epi info7, and by adding the non-response rate (10%) =35 students, the study was carried out on 382 students divided by using a proportional allocation method selected from each grade by multistage technique as following:1st grade: 60 students, 2nd grade: 58 students, 3rd grade: 58 students, 4th grade: 70 students, 5th grade: 68 students and 6th grade: 68 students.Test-re-test reliability (Pilot study- Pre- test) of the questionnaire was applied to 40 students from 3rd grade to evaluate feasibility of questionnaire, time consuming & performance of participants.The results of test-retest reliability showed the following: Feasible clear questionnaire, time took 15-20 minutes and cooperative participants

*Our Inclusion criteria were:*Full-time academic students from all six grades in Faculty of Medicine, Zagazig University were be invited into the study

*Our exclusion criteria were:*Subjects with a known medical history of Idiopathic scoliosis or neck , back surgery, inflammatory low back pain (seronegativespondyloarthropathies), connective tissue disorders or other causes of LBP, students who had reported pregnancy, students who had been diagnosed with fibromyalgia and students who had systemic illness or infectious diseases.

3. METHODS:

Sample size was be determined according to previously mentioned inclusion and exclusion criteria then the students were be invited to become involved in the study during their classes. After accepting to participate in the study and signing the letter of consent, they completed the questionnaires (self-administrated or online questionnaire) in the English, all participants were subjected to data records for demographic data: age, sex, grade [pre-clinical; 1st, 2nd & 3rd grades, clinical; 4th, 5th & 6th grades, weight, height, body mass index (BMI), special habits (like smoking), life style factors (like time of reading), physical fitness consider when

student are regularly exercised in form of play sports, walking and swimming, carrying heavy back bags, faculty associated factors: ergonomic problems including non-comfortable furniture, psychological studying environment then assessment of presence or absence of neck pain and back pain by Standardized Nordic Musculoskeletal questionnaire (SNMQ) described by Kuorinka et al [7] , and assessment of pain intensity using visual analogue scale (VAS) then functional and disability assessment: Neck disability index (NDI), Oswestry disability index (ODI) for LBP and assesement of quality of life performed using RAND 36-Item Health Surveyfor quality of life measuring.

4. ETHICAL APPROVAL:

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national). Institutional Review Board (IRB) of the Faculty of Medicine, Zagazig University approved the study protocol. An informed consent was obtained from all participants or their first-degree relatives and they were told about the aim of the study, and were informed that the data would be used for scientific purposes only.

5. STATISTICAL ANALYSIS

Analyses were performed using SPSS version 12.0.1 (SPSS, Inc., Chicago, IL, USA). Descriptive statistics are presented as mean and standard deviation (SD) or median and range. Parametric data (normally distributed) were represented as mean and standard deviation, while non-parametric data were represented as median and range.

For qualitative data, Chi-Square (X2) tests and fisher exact were used to test of association between a factor and an outcome and used only for qualitative independent samples.

For quantitative data the test used to compare between two groups was t test (parametric, unpaired).

One way ANOVA (F test) was used to compare more than two groups, the ANOVA test was used (parametric).The significant level (P-value) of "F" was obtained from "F" tables. If the F value is significant, least significant difference (LSD) is calculated at different probability values. The Kruskal-Wallis test was used for non-parametric data.

A P value <0.05 was considered statistically significant, and P value < 0.001 was considered highly significant.

For risk assessment Odd's ratio and confidence interval (95%CI) were also calculated to determine the best model for prediction.

The data was analyzed using univariate and multivariate logistic regression analysis..

6. RESULTS

Male students were 26.6% and 73.3% females, their ages ranged from 18-25 years where 45% of them ≤ 20 years old & 55% of them > 20 years old. 43.3% of them had normal BMI and 31.9% of them were overweight. Most students were nonsmokers 95.5%, 42.7% of them were in pre-clinical years and 57.2% in clinical years. Students studied ≤ 6 hours/day were 41.9%, 43.6% of them read ≤ 3 hours/day. The ergonomic problems presented in 51.3%, poor psychological study environment presented in 61.6% students **(Table 1).**

The prevalence of neck pain and/or low back pain among the studied group of students was 81.1%. NP presented in 74.4% while LBP detected in 73.1% of all studied students where 66.4% of participants reported both NP & LBP. (**Table 2).**

Students complaining from NP and/or LBP significantly presented in clinical years ($p<0.001$), had significantly longer studying > 6 hours/day, reading time > 3 hours/day ($p=0.009$, 0.002 respectively). The ergonomic problems and psychological studying

environment were significantly frequent in students suffering from NP and/or LBP (p=0.01, p<0.001) **(Table 3).**

As regard NP severity by VAS; 50.4% of students had no to mild pain & 49.6% had moderate to severe pain. As regard LBP; 49.8% of them had no to mild pain & 50.2% had moderate to severe pain**(Table 4).**

There were statistical significance association between score of VAS and factors of NP where female students, ages >20 years old and clinical grades had high VAS score (p= 0.002, 0.04, 0.03 respectively).There were statistical significance association between low VAS score and students who had good physical fitness and correct posture (p= 0.04, 0.02 respectively). However students without ergonomic problems and did not carry heavy bags had low VAS (p=0.03, 0.04 respectively). **(Table 5).**

There were statistical significance association between score of VAS and factors of LBP where female students, aged >20 years, clinical grades had high VAS scores (p< 0.001, p=0.002, 0.004 respectively).There were statistical significance association between low VAS score and students with correct posture (p=0.03).Also, students without ergonomic problems, who did not carry heavy bags and students who had good psychological studying environment had low VAS score (p=0.02, 0.04, 0.01 respectively) **(Table 6).**

Through NDI; most of the students with NP 67.5% had minimal disability. There was significant association between intensity of NP and its disability index in studied students where students with mild NP had minimal disability (p= 0.002), while students with moderate to severe NP had severe disability (p= 0.002) **(Table 7).**

Through ODI; most of students with LBP 71.1% had minimal disability. There was significant statistical association between intensity of LBP and its disability index in the studied students with LBP where students with mild LBP had minimal disability (p< 0.001), while students with moderate to severe LBP had severe disability (p<0.001) **(Table 8).**

All domains of QOL were affected by NP & LBP where their scores were lower than half in all students with NP & or LBP where 58.9% of them had poor QOL. There were statistical significance Association between intensity of NP & LBP among the studied students and the QOL where students with mild NP & LBP hadgood QOL while students with moderate to severe NP & LBP had poor QOL (p= 0.004, 0.007 respectively) **(Table 9).**

The logistic regression analysis showed that the significant predictors of NP & LBP were studying more than 6 h/d, ergonomic problems and poor psychological studying environment (p<0.005, <0.005, <0.001 respectively) **(Table 10).**

Table (1) Descriptive data of students with neck pain & low back pain:

Variable	(*n*=292)	
	N	**%**
Age group:		
≤ 20	132	45.2
>20	160	54.8
BMI:		
Underweight	10	3.4
Normal	132	45.2
Overweight	95	32.5
Obese	55	18.8
Sex:		
Male	78	26.7
Female	214	73.3

Smoking:		
No	278	95.2
Yes	14	4.8
Grade:		
Preclinical	144	49.3
Clinical	148	50.7
Physical fitness:		
No	199	68.2
yes	93	31.8
Time of study:		
≤6 h/d	132	45.2
>6 h/d	160	54.8
Time of reading:		
≤3 h/d	139	47.6
>3 h/d	153	52.4
Correct posture:		
No	247	84.6
Yes	45	15.4
Forward head posture:		
No	130	44.5
Yes	162	55.5
Ergonomic problems:		
No	141	46.3
Yes	151	51.7
Heavy back bags:		
No	125	42.8
Yes	167	57.2
Psychological environment:		
Poor	192	58.1
good	100	41.9

Table (2): Frequency of Neck & low back pain among the studied students:

Variable	**Total students (*n*=360)**	
	No	**%**
Neck and/or LBP:	**292**	**81.1**
Neck pain:	**268**	**74.4**
Back pain:	**263**	**73.1**

Table (3): Association between demographic data & risk factors and neck & low back pain among the studied students:

Variable	**Total (360)**	**With pain (*n*=292)**		**Without pain (n=68)**		**P**	**OR (95%CI)**
	No	**No**	**%**	**No**	**%**		
Age group:							
≤ 20	162	132	81.5	30	18.5	0.81	0.96
>20	198	160	80.8	38	19.2	NS	(0.54-1.68)

BMI:							
Underweight	14	10	71.4	4	28.6		
Normal	156	132	84.6	24	15.4	0.12	NS
Overweight	115	95	82.6	20	17.4	NS	
Obese	75	55	73.3	20	26.7		
Sex:							
Male	96	78	81.3	18	18.7	0.96	1.01
Female	264	214	81.1	50	18.9	NS	(0.54-1.92)
Smoking:							
No	344	278	80.8	66	19.2	0.50	1.66
Yes	16	14	87.5	2	12.5	NS	(0.35-10.86)
Grade:							
Pre-clinical	154	144	93.5	10	6.5	**<0.001**	**0.64**
Clinical	206	148	71.8	58	28.2	**	**(2.66-12.26)**
Time of study:							
≤6 h/d	151	132	87.4	19	12.6	**0.009**	**2.13**
>6 h/d	209	160	76.6	49	23.4	**	**(1.15-3.95)**
Time of reading:							
≤3 h/d	157	139	88.5	18	11.5	**0.002**	**2.52**
>3 h/d	203	153	75.4	50	24.6	**	**(1.36-4.73)**
Ergonomic problems:							
No							
Yes	175	151	86.3	24	13.7	**0.01***	**1.96**
	185	141	76.2	44	23.8		**(1.1-3.52)**
Psychological environment:	222	192	86.5	30	13.5	**<0.001**	**2.43**
Poor	138	100	72.5	38	27.5	**	**(1.38-4.31)**
Good							

Table (4): Visual analogue scale score of the studied students:

VAS	**Neck pain (*n*=268)**		**Back pain (n=263)**	
Mean ± SD	3.78 ± 2.3		3.79 ± 2.39	
Median	3		4	
Range	0 - 10		0 - 10	
VAS	**No**	**%**	**No**	**%**
No to mild (≤ 3)	135	50.4	131	49.8
Moderate to severe (≥4)	133	49.6	132	50.2

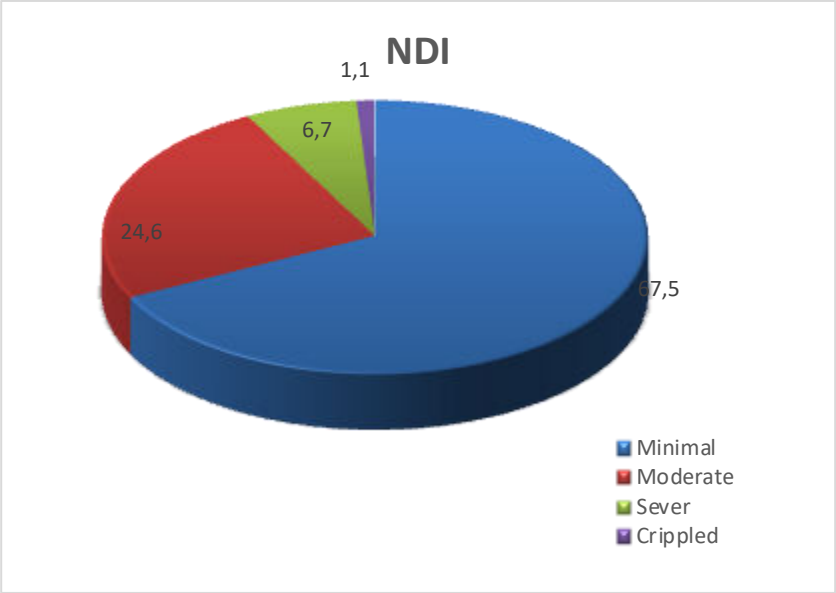

Figure (1): NDI results among the studied students.

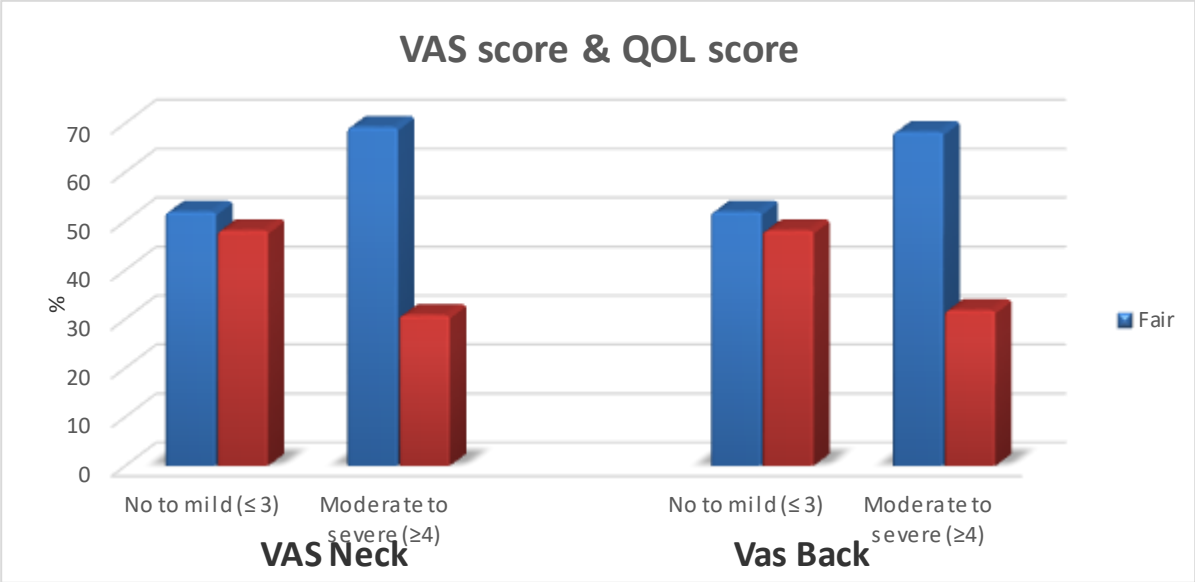

Figure (2): Association between intensity of NP & LBP among the studied students and QOL score.

Table (5): Association between intensity of neck pain and risk factors among the studied students:

Variable	Total (n=268)	No to mild ≤3 (*n*=135)		Moderate to severe (≥4) (n=133)		χ^2	P
		N	%	N	%		
Age group:							
≤ 20	120	69	57.5	51	42.5	**4.42**	**0.04**
>20	148	66	44.6	82	55.4		*

BMI:							
Underweight	9	7	77.8	2	22.2		
Normal	120	61	50.8	59	49.2	2.98	0.40
Overweight	89	43	48.3	46	51.7		NS
Obese	50	24	48	26	52		
Sex:							
Male	69	46	66.7	23	33.3	**9.87**	**0.002**
Female	199	89	44.7	110	55.3		**
Smoking:							
No	254	126	49.6	128	50.4	1.14	0.29
Yes	14	9	64.3	5	35.7		NS
Grade:							
Preclinical	133	76	57.1	57	42.9	**4.84**	**0.03***
Clinical	135	59	43.7	76	56.3		
Physical fitness:							
No	182	84	46.2	98	53.8	**4.04**	**0.04***
yes	86	51	59.3	35	40.7		
Duration of study:							
≤6 h/d	121	60	49.6	61	50.4	0.06	0.82
>6 h/d	147	75	51	72	49		NS
Duration of reading:							
≤3 h/d	125	64	51.2	62	48.8	0.06	0.80
>3 h/d	143	71	49.7	72	50.3		NS
Correct posture:							
No	164	73	44.5	91	55.5	**5.81**	**0.02***
Yes	104	62	59.6	42	40.4		
Forward head posture:	121	53	43.8	68	56.2	3.81	0.05
No	147	82	55.8	65	44.2		NS
Yes							
Ergonomic problems:							
No	129	74	57.4	55	42.6	**4.86**	**0.03***
Yes	139	61	43.9	78	56.1		
Heavy back bags:							
No	115	66	57.4	49	42.6	**3.97**	**0.04***
Yes	153	69	45.1	84	54.9		
Psychological environment:	178	84	47.2	94	52.8	2.15	0.14
Poor	90	51	56.7	39	43.3		NS
Good							

Table (6): Association between intensity of low back pain and risk factors among the studied students:

Variable	**Total (n=263)**	**No to mild ≤3 (*n*=131)**		**Moderate to severe (≥4) (n=132)**		χ^2	**P**
		N	**%**	**N**	**%**		
Age group:							
≤ 20	123	74	60.2	49	39.8	**9.91**	**0.002**

>20	140	57	40.7	83	59.3		**
BMI:							
Underweight	10	7	70	3	30		
Normal	117	61	52.1	56	47.9	3.81	0.28
Overweight	86	43	50	43	50		NS
Obese	50	20	40	30	60		
Sex:							
Male	69	47	68.1	22	31.9	**12.54**	**<0.001**
Female	194	84	43.3	110	56.7		**
Smoking:							
No	255	127	49.8	128	50.2	0.01	0.99
Yes	8	4	50	4	50		NS
Grade:							
Preclinical	126	51	40.5	75	59.5	**8.43**	**0.004**
Clinical	137	80	58.4	57	41.6		**
Physical fitness:							
No	184	86	46.7	98	53.3	2.31	0.13
yes	79	45	57	34	43		NS
Duration of study:							
≤6 h/d	118	57	48.3	61	51.7	0.19	0.66
>6 h/d	145	74	51	71	49		NS
Duration of reading:	138	68	50.4	62	49.6	0.03	0.86
≤3 h/d	125	63	49.3	70	50.7		NS
>3 h/d							
Correct posture:							
No	164	73	44.5	91	55.5	**4.89**	**0.03***
Yes	99	58	58.6	41	41.4		
Forward head posture:	36	24	66.7	12	33.3	**4.74**	**0.03***
No	227	107	47.1	120	52.9		
Yes							
Ergonomic problems:	56	36	64.3	20	35.7	**5.96**	**0.02***
No	207	95	45.9	112	54.1		
Yes							
Heavy back bags:							
No	110	63	57.3	47	42.7	**4.21**	**0.04***
Yes	153	68	44.4	85	55.6		
Psychological environment:	176	78	44.3	98	55.7	**6.42**	**0.01***
Poor	87	53	60.9	34	39.1		
Good							

Table (7): Analysis of neck disability index among studied students:

NDI score	**(*n*=268)**	
Mean ± SD	19.57 ± 14.14	
Median	15.8	
Range	4 - 75	
NDI class	**N**	**%**
Minimal	181	67.5
Moderate	66	24.6
Sever	18	6.7
Crippled	3	1.1

Table (8): Analysis of disability index among the studied students with low back pain:

ODI score	**(*n*=263)**	
Mean ± SD	18.91 ± 15.66	
Range	0 – 70	
ODI class	**N**	**%**
Minimal	187	71.1
Moderate	51	19.4
Sever	15	5.1
Crippled	10	3.8

Table (9): Analysis of quality of life among students with neck and low back pain:

Variable		**(*n*=292)**	
Physical function:	*Mean ± SD*	514.30 ± 266.02	
	Range	0 - 1000	
Physical problems:	*Mean ± SD*	163.36 ± 154.02	
	Range	0 - 400	
Emotional problems:	*Mean ± SD*	101.23 ± 123.25	
	Range	0 - 300	
Energy/fatigue	*Mean ± SD*	178.54 ± 57.24	
	Range	0 - 340	
Emotional well being	*Mean ± SD*	246.68 ± 67.28	
	Range	0 - 440	
Social function:	*Mean ± SD*	104.54 ± 47.97	
	Range	0 - 200	
Pain:	*Mean ± SD*	114.20 ± 38.58	
	Range	0 - 200	
General health:	*Mean ± SD*	235.85 ± 85.99	
	Range	0 – 500	
Health change:	*Mean ± SD*	44.86 ± 22.02	
	Range	0 - 100	
Total SF-36:	*Mean ± SD*	1703.56 ± 555.56	
	Range	290 - 3130	
	Variable	**N**	**%**
QOL:	*poor*	172	58.9
	Good	120	41.1

Table (10): Multiple regression analysis of factors associated with neck and low back pain among studied students:

Variable	*B*	*OR (95% CI)*	*P value*
Preclinical versus clinical: **-Preclinical** **-Clinical**	0.122	1.56 (0.83-2.92)	>0.005
Time of study: **≤6 h/d** **>6 h/d**	0.854	1.86 (1.01- 3.41)	<0.005*
Time of reading: **≤3 h/d** ***>3 h/d***	0.13	1.52 (0.83-2.8)	>0.005
Ergonomic problems: **No** **Yes**	0.651	2.01 (1.1- 3.7)	<0.005*
Psychological environment: **Poor** **Good**	0.985	2.79 (1.51-5.16)	<0.001**

7. DISCUSSION

The aim of this study was to assess the prevalence of NP & LBP, and associated risk factors and the disability level among medical students.

In this study 96 of the students were males (26.6%) and 264 were females (73.3%), their ages ranged from 18-25 years with a mean ± SD of 20.68 ± 1.92 years, where 162 students of them ≤ 20 (45%) & 198 of them > 20 years old (55%). This came in agreement with **Alshagga et al.** [4] who found that the mean age was 20.6 (± 2.2) years and the majority there were females (72.9%). Also **Algarni et al**. [8] found that mean age was 21.4±1.3 years and there were 185 (39.64%) males and 284 (60.6%) females, **Dighriri et al**. [2] also found two hundred-twenty (50.0%) were males, with a mean age of 22.4 ± 1.6 and Du et al., (2017) found mean age of study participants was 24.7 ± 4.3 years.

In this study, regarding to the body mass index (BMI) the mean ± SD of BMI was 25.70 ± 4.70 kg, where 14 students were underweight (3.8%), 156 of them had normal BMI (43.3%), 115 of them were overweight (31.9%) and 75 students were obese (20.8%). This was in agreement with **Algarni et al**. [8] where mean BMI was (24.3 ± 5.7) and Du et al., (2017) found mean of BMI (22.9 ± 2.9). Also Dighriri et al., (2019) found that thirty-nine (8.9%) of students had obesity grad-I (i.e. BMI = 25.0─29.9), 13 (3.0%) had obesity grade II (BMI = 35.0─39.9), and 7 (1.6%) had obesity grade III (BMI = 40 or more)

Arsh and Jan[9] assessed studying & reading hours among Peshawar`s physiotherapist students with LBP where 62.85 %(n=22) physical therapy students who use Laptops or computer more than 5 hours in a day report LBP. Only 20% (n=5) physical therapy students who use Laptops or computer less than 1 hour report LBP. [7].

Our study results came in agreement with study by **Dighriri et al**. [2] which found that the prevalence of NP & LBP was 83 % of medical students at Jazan University, Saudi Arabia [8]. Study done at University hospitals in Central Saudi Arabia is also close to this study where 85.3% rate reported for medical students of the. The prevalence of neck pain was 56.5%. The

prevalence of back pain was 67.0% [8]. A study done among Malaysian medical students showed that the prevalence of NP & LBP was 65.1%)[4].
The prevalence of NP and LBP was 54% in American medical students & this also a relatively high percent[10].
Aggarwal et al. [11].found that prevalence of LBP was 47.5% among undergraduate students of a medical college in Delhi. While in Austrian medical students the prevalence of LBP was 53.4%[12]. However, **Shehab and Al-Jarallah**[13] reported LBP prevalence of 57.8% among Kuwaiti adolescents.
In this study there was statistical significant association between clinical years versus preclinical years and NP & LBP (P< 0.001)[4]. Also there were statistical significant association between low intensity of NP & LBP and students at clinical grades (P=0.03, P=0.004 respectively)[8].
In this study; there was a significant association between intensity of neck pain and physical fitness (p=0.04). This came in agreement with **Du et al.**[10] who found that students with low physical fitness had moderate to severe VAS score in students with NP & LBP (p=0-003).
In the current study; there were a statistically significant association between NP & LBP and Ergonomic problems & non-comfortable furniture (p=0.01). There was significant relation between VAS score (pain intensity) of NP & LBP and ergonomics (P=0.03, P=0.02 respectively). These findings were in agreement with (**Watson et al**[14]; **Skoffer**[15]) in relation to the types or dimensions of the school furniture as we found in our study there was a significant association between low back pain and sitting on uncomfortable furniture. Also, our results were in agreement with **Ramadan** [16], who revealed too low or too high chair and table heights of Saudi school furniture relative to the students' body dimensions increased the stresses acting at L5/S1 as well as discomfort ratings.
In this results; there was significant association between intensity of neck pain and neck disability index in studied students where students with mild NP had minimal disability (p= 0.002), while students with moderate to severe NP had severe disability (p= 0.002). This clarify that the NP result in functional disability in medical students and this came in agreement with study by **Issa et al.** [16] who found that NP result in functional disability in medical students.
There were statistical significance Association between intensity of neck pain & low back pain among the studied students and the quality of life where students with mild NP & LBP had good QOL while students with moderate to severe NP & LBP had poor QOL (p= 0.004, 0.007 respectively). A study agreement with us reported an association of worsening NP with poorer physical health-related quality of life where adolescents with severe NP had poor QOL [17].
Alshagga et al. [4] reported that on multiple logistic regression analysis, factors associated with MSP during the past week were family history of MSP (p = 0.029) and increasing BMI (p = 0.03). Factors associated with MSP during the past year were being in the clinical years (p = 0.002), daily hours of computer use (p = 0.038) and history of physical trauma (p = 0.030).

8. CONCLUSION

This study demonstrated high prevalence of NP &/ or LBP 81.1% among medical students at Faculty of medicine, Zagazig University.Students complaining from NP and/or LBP had longer studying and reading time, presented mostly in clinical years in addition they had ergonomic problems and poor psychological studying environments.High frequency of disability and impaired QOL were detected in students who had moderate to severe NP & LBP. Studying more than 6 hours/day, ergonomics problem and poor psychological study environment are good predictors of NP & LBP.

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