



## A Cross Sectional Study of Stress and Anxiety among Dental Students at Ajman University

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### Abstract

This study was conducted to investigate and analyze the level of stress & anxiety among dental clinical students in Ajman University of both campuses. A descriptive cross sectional study, questionnaire based study performed on students of both campuses of dental college in Ajman University. The study was conducted on dental students of 4<sup>th</sup> & 5<sup>th</sup> year, a total number of 307 participants with collected answered questionnaires. A high level of stress is mainly scored in both 4<sup>th</sup> & 5<sup>th</sup> years due to examinations & assigned work. Medical & dental clinical students are expressed with high stress & anxiety levels due to the environment of the work & study of these colleges & the psychology of the students attending to these colleges.

**Key words:** Stress, anxiety, dental student, dentistry, 4th year, 5th year, female, male, student.

### Introduction:

Dental education programs should make every effort to balance the demands of academic and clinical training of students, provide a reasonable quality of life and adequately prepare them for the continuing stress involved in the profession; this challenge has led to considerable interest in identifying sources of stress for students in dental education programs <sup>(1)</sup>. Stress is a subjective sensation with a varied degree of perception, stress is influenced by the person's system of beliefs and attitudes, the stressors may lower academic performance due to different results, such as performance anxiety during both practical and theoretical examinations, gloominess, and lack of confidence <sup>(2)</sup>.

### REVIEW OF THE LITERATURE:

Professional dentistry is stressful and dental schools are among stressful educational environments, in addition to the stresses of clinical environment originating from the nature of dentistry field

students are exposed to stressors related to educational environment <sup>(3)</sup>. Symptoms associated with stress can lead to mental or physical illness, drug abuse and decrease learning efficiency <sup>(4)</sup>. In addition, signs and symptoms such as sweating, psychological distress, anxiety, tension, losing self-confidence, nervousness, crying, irritability, feeling of guilt, shame, weight loss, physical complaints and tiredness were reported <sup>(5)</sup>. Stress has different causes among dentistry students <sup>(6)</sup> however, in different researches different stressors were mentioned, five major groups of stressors include life condition, personal properties, educational environment conditions, academic environment and clinical factors <sup>(7)</sup>. Pressure caused by stressors in any job has an undesirable effect on individual and organization, low motivation, job satisfaction and early fatigue are natural consequences of workplace stressors <sup>(8)</sup>. The practice of medical and dental profession has long been associated with high levels of occupational stress. The stress of professional training can be a motivator for some, for others it can have serious consequences <sup>(9)</sup>. The act of rendering treatment under supervision, which is

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significantly different from procedures on phantom heads and fulfillment of clinical requirements pose great challenges to dental students, the phenomenon occurs almost across all years of dental education training and is prevalent indifferent countries with a different education system, evaluating the factors influence student perception, might allow programmatic changes designed to enhance students' psychosocial well-being and academic performance<sup>(10)</sup>. Rahele et al<sup>(11)</sup> reported in a study there is a gender difference among dental students, in which the girls show a significant reaction toward the educational life than boys. Lakshmi et al<sup>(12)</sup> stated high levels of anxiety in clinical students during examinations in teaching clinic & due to learning requirements. In another survey, it was clarified that dental students of both sexes show a variable degree of anxiety in inability to pass the exams & or to complete the clinical requirements<sup>(13)</sup>. Also it has been reported in a study in which the major stressors for the fifth year students were: stress of not completing the clinical requirements, patients being late to appointments, examinations & amount of assigned work<sup>(14)</sup>. The aim of this study is to investigate the different levels of stress & anxiety among dental students & to evaluate their causes in Ajman University.

### **Materials and methods:**

This questionnaire study was conducted among clinical dental students in Ajman University in both campuses: the main Ajman campus & Fujairah campus.

#### **Study design:**

A questionnaire cross-sectional study based on a modified version of Dental Environment Stress Questionnaire was used among the undergraduate dental students at AUST in both campuses (Ajman and Fujairah). The survey was performed after obtaining the ethical

approval from the committee in Ajman University. The study was based on distributing questionnaires to the dental students of 4<sup>th</sup> & 5<sup>th</sup> year stages, both males and females were included, ranging from 21-29 year of age, it was conducted during March 2016. All the participants were informed about the objective and course of this survey, a questionnaire containing 20 questions were provided to the participating students in English and collected within 40 minutes. The Questionnaire used was a modified version of Dental Environment Stress, in which was consisted of two main parts: the first part including socio-demographic questions such as gender, year of study, age, and why are students interred to Dentistry College. The second part consisted of three factors: questions related to the college environment, education, friendship, & educational training work.

#### **Data analysis:**

The data collected was expressed by descriptive percentage statistics.

### **Results:**

This study was take place in Ajman University of both campuses, the total number of students participated in this study was (307), 204 from Ajman campus and 103 from Fujairah campus, the participated in both campuses was (194) Female and (113) Male .as revealed in Table (1). Table (2) Shows the number of questions marked as (very stressful) and ( stressful ) that represents more than 30% of participated students in Ajman campus, In Which : The most scored question (very stressful ) was Q{7} : Unavailability of patients , that represents (36%) of the total number of students in Ajman campus , as seen in the Fig. (1). The Second most marked question scored as (very stressful) was Q {3}: Fear of being unable to continue the requirements, which was (69) students out of 204 that made up (35%) of the students, as shown in the Fig.(2). While the third and fourth question that scored as (very stressful) wore Q{1} and Q{2} : Stress due to examinations &

grades , and Anxiety due to amount of assigned work& requirements, that represent 28% for both questions , as clarified in the Fig. (3). For Ajman campus the question which were marked as (stressful) were:-

The first question that scored as (stressful) was Q {17}: Inability of patient to continue or to complete the prescribed care plan in which 134 out of 204 students which represents 66% of students, as seen in the Fig. (4) & clarified in Table (2). The Second questions scored (stressful ) was Q{19} : Stress due overloaded dental specialist subjects in which 120 students out of 204 marked on (stressful) that constitute 59% of students , as seen in Fig. (5) & as shown in Table (2). Lack of confidence to be a successful professional Question number {16} that had been scored as (stressful) by (109) students which constitute (53%) of Ajman students, as described in Table (2). The Fifth question marked as (stressful) was availability of certain materials for a critical clinical case Q {18} that represents (53%) of students, as clarified in Table (2). Table (3) expresses the top marked questions as (very stressful) & (stressful) for students of Fujairah campus. In which : The most questions that scored as (very stressful) wore :- Q{1} : Stress due to examinations& grades , Q{2} : Anxiety due to amount of assigned work& requirements , Q{17} : Inability of patient to continue or to complete the prescribed care plan , that constitute (52%) , (49%) , and (50%) respectively , that were 54 , 52 , and 51 out of 103 of the 4<sup>th</sup> and 5<sup>th</sup> year in Fujairah students, as seen in Fig. (6). While the questions that marked as ( stressful ) were :- the first question was Q{19} : Stress due overloaded dental specialist subjects , in which 56 out of 103 express stress for this question that represent 55% of total students in Fujairah campus , as revealed in Fig. (7). Unavailability of patients Q {7} was the second question scored as (stressful) that constitute (48%) of students, as seen in Fig. (8). Fig. (9) expresses the percentage of both questions {3} and {16}: Fear of being unable to continue the requirements, and Lack of confidence to be a successful professional, scored as (stressful)

represent (45%) and (42%) from the total Fujairah student respectively. In Fujairah campus students: question {1}: Stress due to examinations& grades was (very stressful) and question {2}: Anxiety due to amount of assigned work& requirements was (very stressful) in compared to Ajman campus, as expressed in Fig. (10). While Unavailability of patients question {7} was (very stressful) in Ajman that represents (36%) of the students and (27%) in Fujairah campus, as seen in Fig. (11). Also the inability of patient to continue or to complete the prescribed care plan question {17}, scored as (very stressful) in Fujairah in compared to Ajman, it was in Fujairah (50%) while in Ajman was (8%). In this study scoring was calculated for the female of the 4<sup>th</sup> year stage in both campuses as expressed in Table (4). The first scored (very stressful) answered question was Q {7}: Unavailability of patients, that constitute (39%) of these students. Also the second scored very stressful was question {3}: Fear of being unable to continue the requirements that constituted 35%. While the questions that scored stressful for female 4<sup>th</sup> year were: Firstly was question {19}: Stress due overloaded dental specialist subjects that constitute 61% of the total female student which was 114. Second was question {17}: Inability of patient to continue or to complete the prescribed care plan that is equal 59%. Question {16} in scored stressful 63 of 4<sup>th</sup> year female student's lack of confidence that represents 55% of the total number. Which is the most question that marked as stressful with Q {17}, in which both of these two questions represents 41% and 48% respectively. Table (5) Shows the total number of the Male student 4th year 56 of both campuses, and their answers, the most (very stressful) scored question was Q {2} : Anxiety due to amount of assigned work & requirements , that made up (45%) of the total number . Table (6) Shows the scoring answers of the 5<sup>th</sup> year female students, clarifies the most very stressful and stressful marked questions, in which: - the first question that was scored very stressful was question {3}: Fear of being unable to continue the requirements, that constitute 30% of the total number, in

which the total number of the 5<sup>th</sup> year female students in both campuses was 80. While question {2}: Anxiety due to amount of assigned work & requirements, which represents (66%) of the total number. Question {1}: Stress due to examinations & grades and Question {18}: Availability of certain materials for a critical clinical case, both questions are marked as (60%) and (62%) respectively. Table (7) Shows the number of the 5<sup>th</sup> year Male students and their most (very stressful) and (stressful) marked questions, in which the total number of the students in both campuses was (57). The first Question {1}: Stress due to examinations & grades, has been marked as (very stressful) that constitute (35%) of the students, and the second question that scored (very stressful) were questions {3}, {17} that represents (51%) and (53%) respectively.

### **Discussion:**

Stress is defined as beliefs and attitudes which one feels frequently. When someone exposes to a challenging environment, a wide range of psychological and emotional responses are triggered according to its severity and type. Stress is a double edged sword which can lead to stimulation and encouragement of students for gaining the maximum capability or decreasing their efficiency<sup>(15)</sup>. It was informed in previous studies that the Dental education has long been recognized as a complex and highly demanding training and hence can be one of the reasons for stress that can also persist in professional life<sup>(16)</sup>. The purpose of study was to assess the main sources of stress and anxiety among dental undergraduate students in AUST. As well, it aimed to see if any certain stressors were related to specific gender. In this study, the highest stressful factors were found to be examinations, inadequate time to complete work & clinical requirement, and

students ensuring they get good grades, these results are in agreement with other studies as Obarisiagbon et al<sup>(13)</sup> & a study performed by Abu ghazaleh et al<sup>(14)</sup>. Fear of not completing clinical requirements was higher among female dental student than male dental student, females students noticed higher stress than males due to clinical atmosphere such results are agreed with a study conducted by Nabila A. Sedky<sup>(17)</sup>. This study clarifies the difference in answering (Q2): the amount of assigned work & requirements, it was very stressful for Ajman campus students (29%) which is scored less than the students of Fujairah campus (54%), & as a stressful answer for 55% for Ajman & 44% for Fujairah, that is brought in parallel or accordance with the scoring of Q7 for the unavailability of patients which had been marked as very stressful for Ajman campus students, this scoring might be due to large number of clinical students in Ajman in compared to Fujairah campus. As a consequence of patient availability & attendance it is clear that attendance of patient in Ajman campus is not a serious stress impact for the students their because of their limited number of patients in comparing to Fujairah, due to less number of students & increased number of patients it is scored as very stressful 50% for Fujairah students in comparing with 8% of Ajman campus, which may be due to inadequate administrative procedure & scheduling of patients appointments.

### **Conclusions:**

Stress is experienced in dental students, and is affecting both male and female student. The findings of this study suggest that academic and clinical requirement work, examination, & compact concentrated courses are the primary sources of stress among dental students in Ajman University.

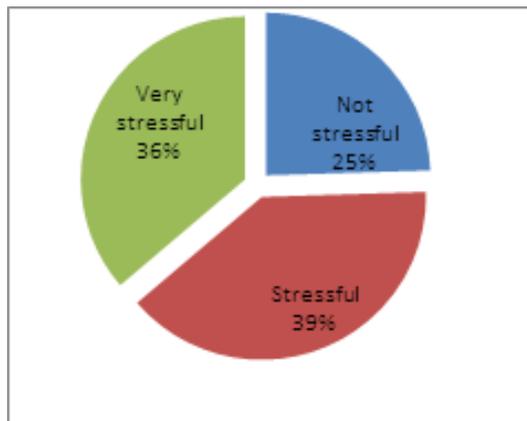


Fig. (1): Shows the percentage of scoring for Q 7 for unavailability of patients in Ajman campus.

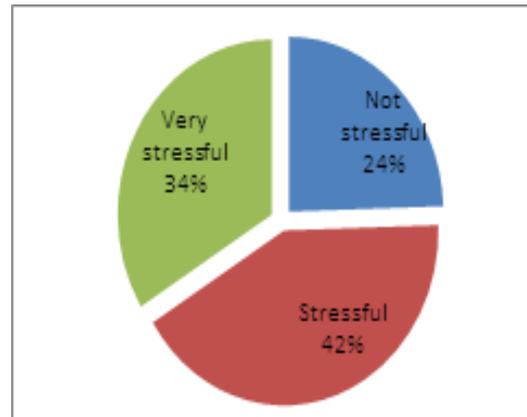


Fig.(2): Represents percentage for answering question {3}.

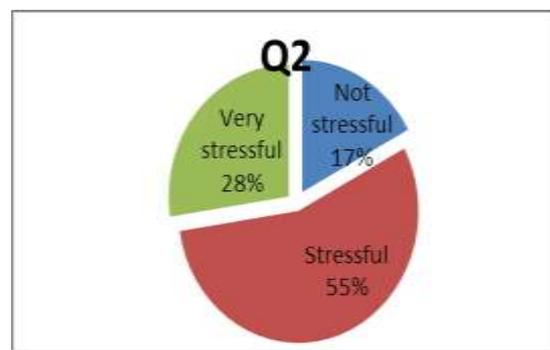
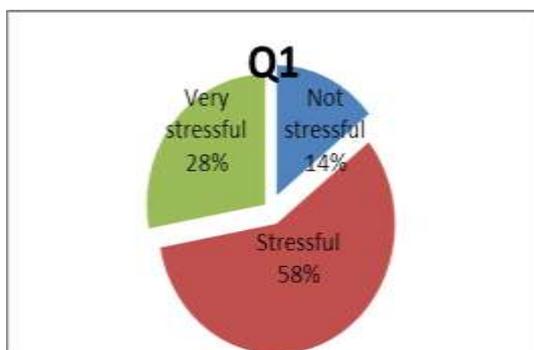


Fig. (3): Showing the percentage of answering questions {1} & {2}.

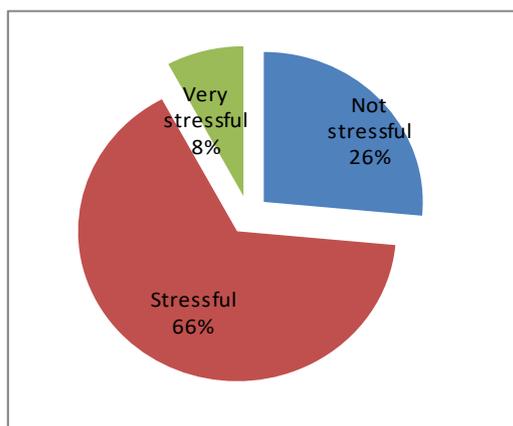


Fig. (4): Reveals answering for question {7} in Ajman campus.

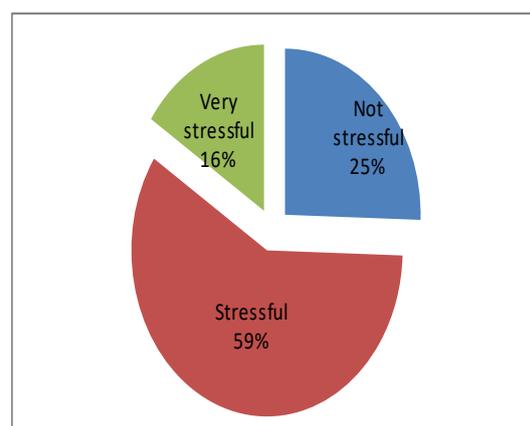


Fig. (5): Expresses the percentage for answering question {19}.

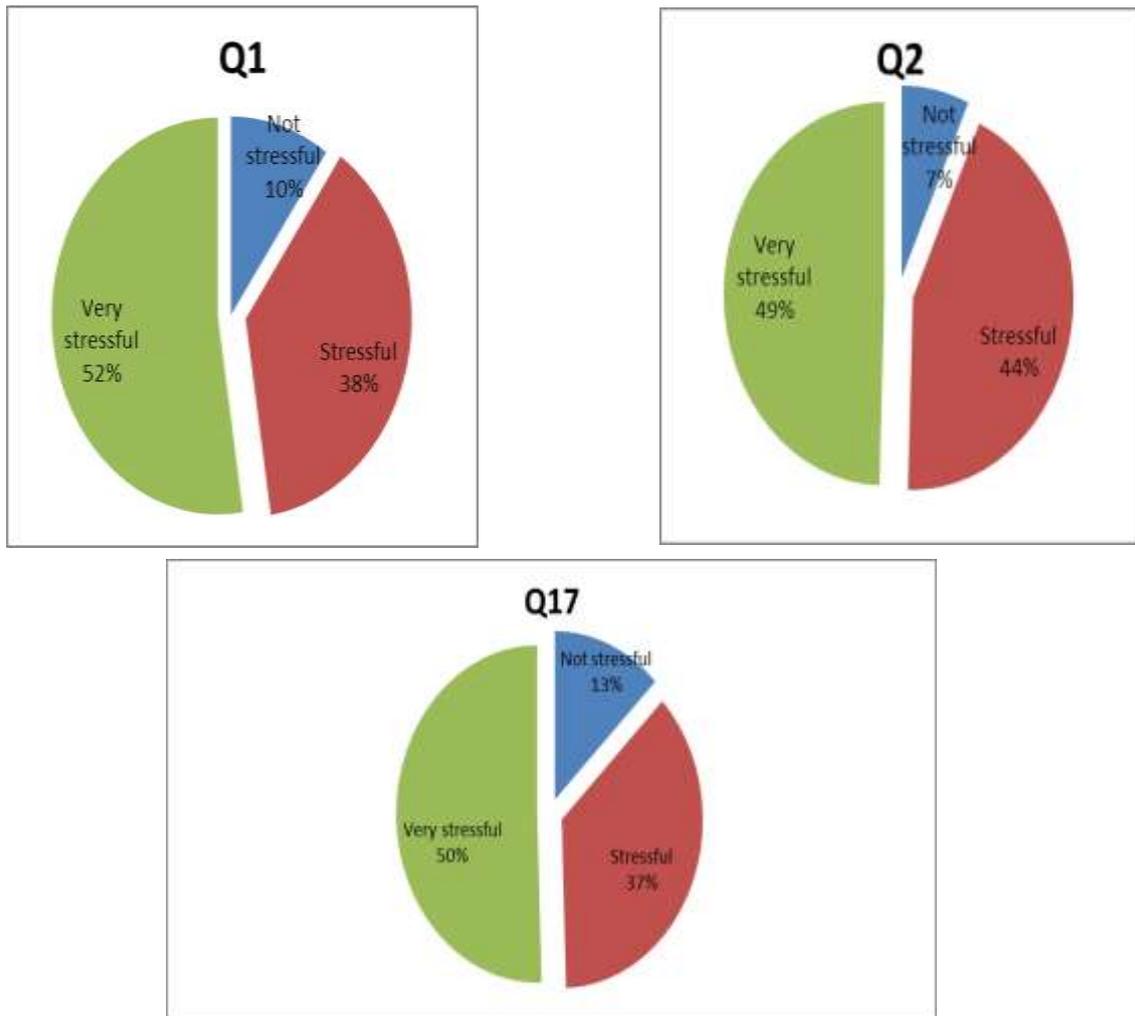


Fig. (6): Represents percentage for answering questions {1}, {2}, & {17} in Fujairah campus.

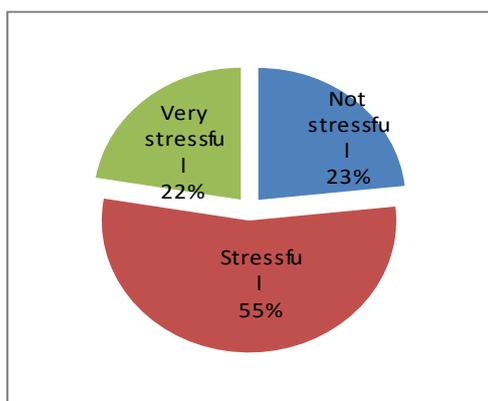


Fig. (7): Shows the ratio for answering Q {19} in Fujairah campus.

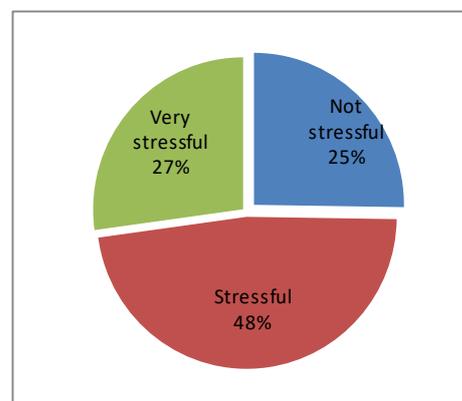


Fig. (8): Shows the proportions for answering Q {7} for students of Fujairah campus.

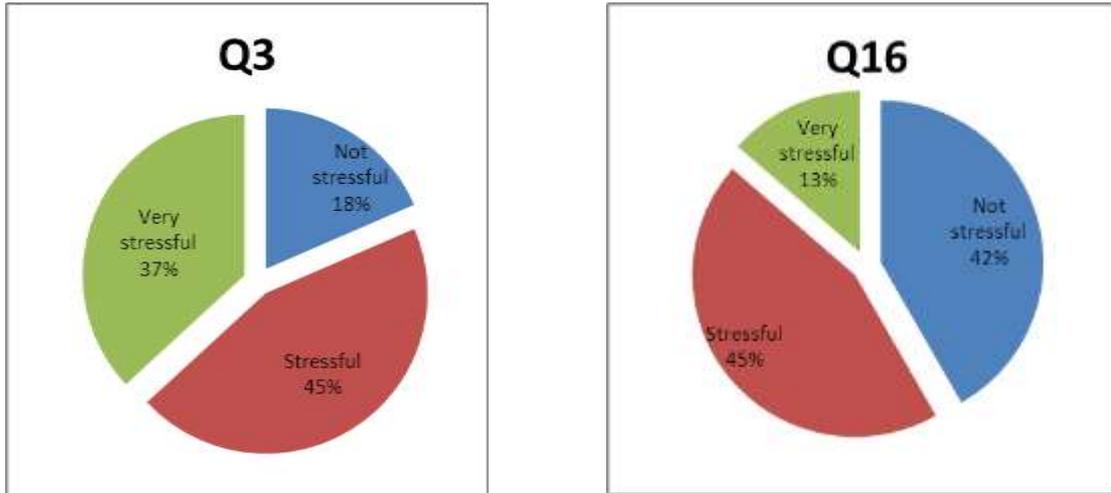


Fig. (9): Shows the ratio for answering Q {3} & {16} for Fujairah campus.

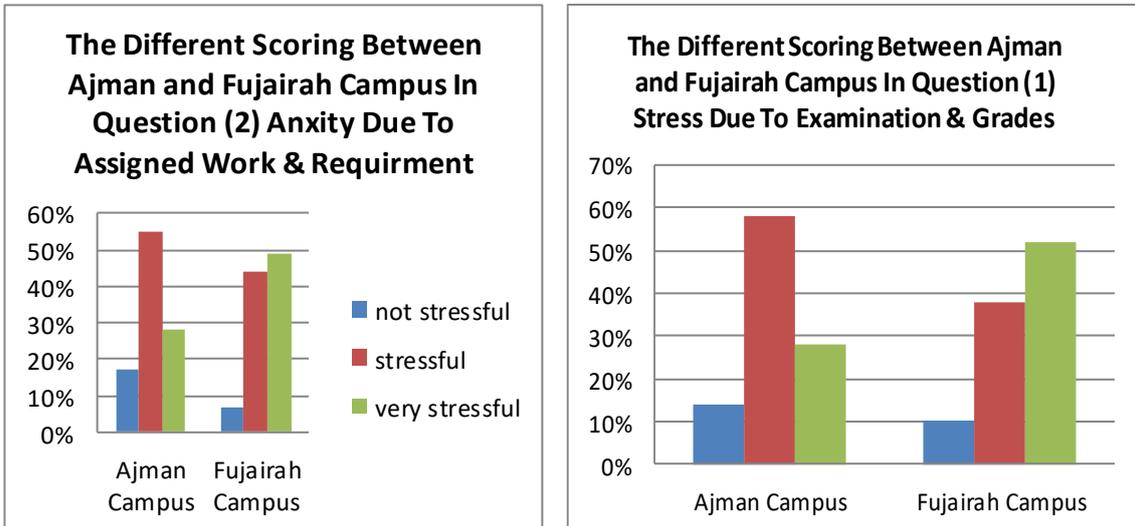


Fig. (10): Shows the different proportions in answering questions {1&2} in both campuses.

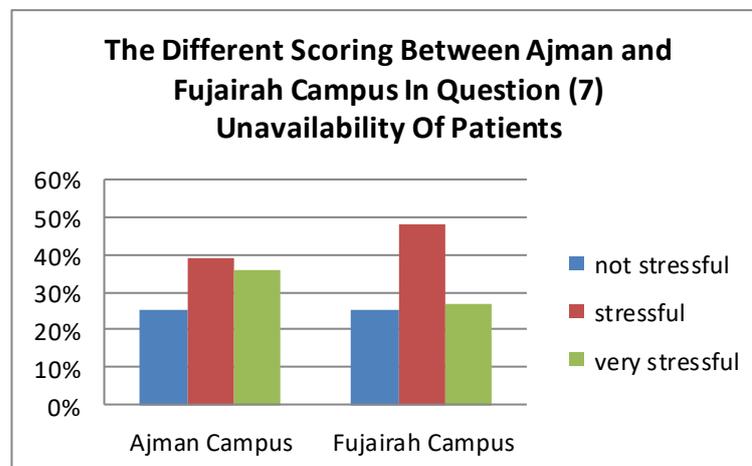


Fig. (11): Clarifies the ratios in answering Q {7} in both campuses.

Table (1): Shows the total number of students in Ajman University in both Campuses.

Ajman University							
Fujairah campus				Ajman campus			
5 <sup>th</sup> Year		4 <sup>th</sup> Year		5 <sup>th</sup> Year		4 <sup>th</sup> Year	
Male	Female	Male	Female	Male	Female	Male	Female
11	28	17	47	46	52	39	67
39		64		98		106	
103				204			
307							

Table (2): Reveals the number of marked questions as very stressful and stressful in Ajman campus:

	Questions	Scores		
		Not stressful	stressful	Very stressful
1	Stress due to examinations& grades	29	118	57
2	Anxiety due to amount of assigned work& requirements	35	113	56
3	Fear of being unable to continue the requirements	50	85	69
7	Unavailability of patients	50	80	74
16	Lack of confidence to be a successful professional	73	109	22
17	Inability of patient to continue or to complete the prescribed care plan	54	134	16
18	unavailability of certain materials for a critical clinical case	76	107	21
19	Stress due overloaded dental specialist subjects	52	120	32

Table (3): Reveals the students of Fujairah campus& their scoring answers

	Questions	Scores		
		Not stressful	Stressful	Very stressful
1	Stress due to examinations& grades	10	39	54
2	Anxiety due to amount of assigned work& requirements	7	45	51
3	Fear of being unable to continue the requirements	19	46	38
7	Unavailability of patients	26	49	28
16	Lack of confidence to be a successful professional	43	46	14
17	Inability of patient to continue or to complete the prescribed care plan	13	38	52
18	Unavailability of certain materials for a critical clinical case	8	66	29
19	Stress due overloaded dental specialist subjects	24	56	23

Table (4): Describes the answers of the 4<sup>th</sup> year female student in both Campuses

	Questions	Scores		
		Not stressful	stressful	Very stressful
1	Stress due to examinations& grades	13	56	45
2	Anxiety due to amount of assigned work& requirements	16	62	36
3	Fear of being unable to continue the requirements	18	49	47
7	Unavailability of patients	19	45	50
16	Lack of confidence to be a successful professional	37	63	14
17	Inability of patient to continue or to complete the prescribed care plan	23	67	24
18	Availability of certain materials for a critical clinical case	42	59	13
19	Stress due overloaded dental specialist subjects	23	70	21

Table (5): Shows the answers of 4<sup>th</sup> year stage male students in both campuses

	Questions	Scores		
		Not stressful	stressful	Very stressful
1	Stress due to examinations& grades	11	23	22
2	Anxiety due to amount of assigned work& requirements	7	24	25
3	Fear of being unable to continue the requirements	11	24	21
7	Unavailability of patients	15	20	21
16	Lack of confidence to be a successful professional	23	26	7
17	Inability of patient to continue or to complete the prescribed care plan	15	27	14
18	Availability of certain materials for a critical clinical case	14	26	16
19	Stress due overloaded dental specialist subjects	16	23	17

Table (6): Shows the scoring answers of the 5<sup>th</sup> year female students in both Campuses.

	Questions	Scores		
		Not stressful	stressful	Very stressful
1	Stress due to examinations& grades	8	48	24
2	Anxiety due to amount of assigned work& requirements	6	52	21
3	Fear of being unable to continue the requirements	17	36	27
7	Unavailability of patients	17	40	23
16	Lack of confidence to be a successful professional	30	38	12
17	Inability of patient to continue or to complete the prescribed care plan	15	48	17
18	Availability of certain materials for a critical clinical case	16	50	14
19	Stress due overloaded dental specialist subjects	16	54	10

. Table (7): Expresses the numbers of the 5<sup>th</sup> year Male students and their answers in both Campuses.

	Questions	Scores		
		Not stressful	stressful	Very stressful
1	Stress due to examinations& grades	7	30	20
2	Anxiety due to amount of assigned work& requirements	12	34	11
3	Fear of being unable to continue the requirements	23	22	12
7	Unavailability of patients	25	24	8
16	Lack of confidence to be a successful professional	26	28	3
17	Inability of patient to continue or to complete the prescribed care plan	14	30	13
18	Availability of certain materials for a critical clinical case	12	38	7
19	Stress due overloaded dental specialist subjects	21	29	7

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