

Effect of examination anxiety of (theoretical and practice studies) on hematology of pharmacy seconded students in al-qadisiyah university iraq

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Abstract

This is the first study was carried to physiological investigations have shown that stress can alter the characteristics of blood cells in healthy people. We looked into whether pharmacy students through exams are stressful enough to cause such changes. Methods: A random sample of female and male second stages of students from the pharmacy College in Al-Qadisiyah university was taken to investigate. Blood samples were taken before second mid-course examine and during the exams of mid-course determination. Students who had vaccinated with covid-19 or high blood pressure or have operation at the outset of the trial were ruled out. In the end, from 150 student 75 student were chosen. Red blood cell, hematocrit, neutrophils, lymphocytes, eosinophils, monocytes, basophils, and platelet counts were estimated. The result were showed blood samples taken during tests indicated a substantial drop in eosinophil, basophil, lymphocyte, and monocyte count as compared to pre-examination data analyzed. There was also an significant rise in platelet and neutrophil counts. The red blood cell and hematocrit values showed no significant changes. In the end it is strong-minded that pharmacy college tests are stressful plus negative effect on healthy life of students this affected be enough to cause modification in blood cell parameters, including an significant high in neutrophils and platelets, as well as a decline in eosinophils, monocytes, basophils, and lymphocytes.

Keywords

Physiology• Microbiology• Pharmacy• Clinical immunity

Introduction

Exams are something that we all dread. It doesn't matter if it's a driving test or an annual promotion exam that causes us to lose sleep. Exam anxiety is a natural and unavoidable occurrence that motivates and encourages students to study hard, as well as mobilizes their psychological and mental forces to focus on that danger in order to prepare for it, confront it, and achieve the desired result or come up with the fewest losses for the student and the teacher, but in the case of excessive anxiety, it becomes a problem. If the learner was not aware of the dangers of dread and tension and did not keep it under control, the known natural may turn into a calamity. According to some study numbers, the percentage of people who are afraid of tests has risen in Western countries in recent years (1). These facts and figures are accurate. The results of some study statistics indicate that the percentage of fear of exams

has increased in recent successive years in Western countries. These data and statistics are absent in the Arab countries, especially in Iraq, if the Center for Therapeutic and Psychological Counseling in Germany indicated that the percentage of students looking for achievement anxiety is 49%, 27, 2% due to the lack of regard to their professional future and 18% due to hesitation and confusion from taking the exam, while in In 1996, the percentage of people seeking advice was 73%(2). Stress has been demonstrated to impact the characteristics of hematological cells in physiological researcher. The percentage of red blood cells, platelets, and neutrophils has elevated, whereas the number of eosinophils, lymphocytes, and monocytes have declines. As a consequence, we devised a study to verify this in our collegous students.

Methods and materials

The study enrolled program 150 male and female students from pharmacy College at second stage Before the blood parameter calculated, firstly: questionnaire form about the type of anxiety, what

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are its causes, what kind of medication is taken before the exam, and what are the most important symptoms associated with exam anxiety.

Secondly Collecting the results of the questionnaire and knowing the percentages of students with anxiety through statistical analysis of these percentages (Figure 1).

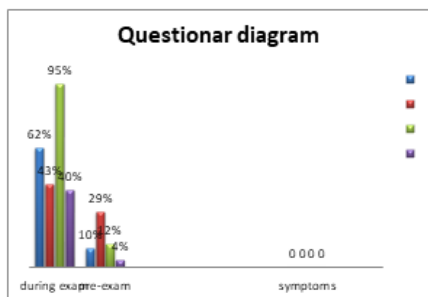


Figure 1. students with anxiety through statistical analysis of these percentages.

Symptoms were included Anxiety, fear and loss of concentration, insomnia, forgetting course materials. High percentage related with anxiety 95% compare with 12% pre-exam , then forgetting 62%, compare with10 % pre-exam, fear 43% compare 29% pre-exam, insomnia 40% compare with 4%, the result indicated to elevated the stress and nervous anxiety in student. The student were chosen one week before to the second mid examination, with no knowledge of the upcoming assessment. They were given a mid-second course pharmacy examination, thirdly: measure their blood pressure and temperature. But the blood was collected from 75 students and 20 student out due to acute respiratory infection, Covid -19 vaccinated,

test	Neutrophils Cell/cu.mm	Eosinophil Cell/cu.mm	Basiophilis Cell/cu.mm	Pcv%	RBCs millions cell/cu.mm from blood	WBCs Millions cell/cu.mm From blood	Lymphocyte	Monocyte
Before examin	560±0.09/♂	200±0.08/♂	80±0.02/♂	0.43	4.5±0.01/♂	7230±0.01/♂	4120±0.09/♂	210±0.01/♂
	370±0.01/♀	230±0.03/♀	50±0.01/♀	0.37	3.9±0.05/♀	5150±0.05/♀	2780±0.03/♀	120±0.03/♀
Through examin	670±0.04/♂	410±0.01/♂	130±0.05/♂	0.5	6.5±0.03/♂	9321±0.05/♂	6200±0.02/♂	535±0.06/♂
	521±0.08/♀	372±0.04/♀	79±0.04/♀	0.42	5.2±0.01/♀	8200±0.07/♀	3670±0.03/♀	302±0.01/♀
Vibrations	110±0.05/♂	210±0.07/♂	50±0.03/♂	0.13	2.00±0.02/♂	1080±0.04/♂	2120±0.01/♂	325±0.05/♂
	261±0.07/♀	162±0.01/♀	29±0.03/♀	0.15	2.7±0.02/♀	3150±0.02/♀	1110±0.04/♀	222±0.02/♀

Values are expressed as mean ± S.E.M, Significant p<0.01

Discussion

Stress is defined as a state of anxiety or fear. Anxiety is a mood that is characterized by emotions of impending danger, tension, and distress, as well as tendencies to avoid or flee. Anxiety of many forms in danger, chronic burdens, life transitions, and difficulties are all part of the human experience. If our needs could always be met, life would be a lot easier. However, as we all know, there are several obstacles, both external and internal, that obstruct the satisfaction of our wants and complicate our efforts to achieve our objectives. We are all buffeted by delays, lacks, failures, losses, constraints, disputes, and pressures. Such circumstances put us under a lot of pressure to adjust. The stress of examinations in our college students was significant enough to cause changes in blood cell parameters, according to this study, which used a real-life stress event of acute

and high blood pressure, some of them have surgical chest operation, in addition to, students who had chronic diseases with long-term treatment like hormones ,vitamins, hematinics were excluded correspondingly. Seventy-five student specimens' were analyzed in the study. They were between the ages of 20- 22y.

Blood was collected from the cubital vein of the humerus of students in the Pharmaceutical Laboratory of the Faculty of Medicine, then it was analyzed in the Istanbul Specialized Laboratory in Diwaniyah. After that, the results were analyzed, interpreted and discussed. Finally during the transfer of blood from the syringe to the bottle, no foaming of the blood was seen. Using an enhanced Neubauer counting chamber, red blood cells, total leucocytes, and platelets were counted visually. A 1:200 dilution of blood in formal sodium citrate solution was used to RBCs . A 1:20 dilution in Turk solution was used to count WBCs. Platelets were counted using a 1:20 dilution of a 1 percent ammonium oxalate solution. Blood films were stained with Leishman's stain, which is intermediate in Romanowsky stain, for differential leucocyte counts. Throughout the research, compound microscopes were used. Specially prepared tables were used to keep track of the various blood cells. Seventy-five blood samples were collected a week before the exam and during the week of theoretical and practical exam.

Results

In 90-95% from 75 of the students, have a 13-15mm Hg high in systolic blood pressure was found when compared to pre-examination values with tachycardia reach to ≤100 beat/min of 40-50% cases.

nature, namely an examination. Our investigation confirmed the frequent finding of a temporary elevation in systolic blood pressured stress from any source, according to physiological research, can affect the endocrine, hemopoietic, and immunological systems.

The communication between these systems appears to be aided by cytokines and cortisol. The increase in erythrocytes, neutrophils, and platelets is well known, while lymphocytes, eosinophils, and monocytes decrease in quantity. In adrenalectomized rats, the magnitude of stress induced alterations is greatly decreased. Endocrine hormones generated during stress are thought to affect leucocyte trafficking and cause leucocyte redistribution between the blood and other immunological compartments. Sympathomimetic stimulation uring stress. The sympathetic nervous system's activation could possibly play a role. Several stress hormones, including norepinephrine and epinephrine, have receptors on lymphocytes and monocytes. As a result, stressful situations may affect immunological function. The subjects of this study had a change in immune function

due to a decrease in lymphocytes and basophils, validating the stress-related changes documented in the literature. Academic examination stress has a considerable impact on erythron factors. Increased hemoglobin causes a rise in the number of big red blood cells, which cannot be explained by fluid movements out of the intravascular space, concentrating blood components that are diffusible. Furthermore, stress-induced pro-inflammatory cytokine production has been linked to increased hemopoietic cell proliferation.

In stressed volunteers, studies have shown a considerable rise in hemoglobin and mean corpuscular volumes. Interestingly, after the stress produced by academic examinations, a similar phenomenon was recently recorded on a high number of students. After short bouts of intense activity, an increase in erythrocyte volume has been seen, which has been attributed to an increase in lactate uptake. Significant changes in red blood cells or hematocrit were seen in our investigation. This conclusion could be explained by male and female physiological characteristics and effect of adrenalin hormone secretion during stress cause elevation in red blood cell count, among others. We've all experienced the anxiety that comes with tests. The severity of the stress might range from minor to severe. The degree of tension we experience is determined by the importance of that particular exam. Exams in pharmacy colleges are difficult since they require extensive study and the outcomes have an impact on the student's future studies or training. No one has yet devised a miracle shortcut or substitute for appropriate study preparation. Of course, mastery of the material isn't always adequate if the learner is experiencing emotional distress.

Conclusion

Is overtired, or has his knowledge structured in a way that prevents speedy recall. Exams place a premium on students' ability to comprehend, organize, and recall knowledge. The student is expected to demonstrate his knowledge's depth and breadth. All of these can be influenced by the situation's stress. The fear of failure or poor performance can be crippling. It's typical to hear things like "I forgot," "I studied but didn't remember," and "I just got confused." All of this is attributable to the exam's stress on the student. Exams are currently the only means of judging pupils' knowledge in this competitive society. Things do not appear to be changing in the near future. In immune cells, implying a function for social support in preventing immunological deterioration during stressful times(6).

Students will be better able to cope with exam stress and perform better as a result of this. Our college conducted a research that focused solely on second stage students. The idea that second stage students are more prone to stress could be another factor contributing to these shifts may be related with metabolism or neurological elements. This discovery may be made with the help of a study that included other pharmacy students. One such study is being considered.

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