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وقائع المؤتمر الدولي الاول والعلمي الثالث
كلية العلوم - جامعة تكريت



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Examination anxiety effect on some parameters of physiological and biochemical for student of Second class Department of Pathological Analysis AL-Dour technical Institute.

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ABSTRACT

The study aimed to study some of physiological and biochemical parameters, changes pre and post examination in some students of Al-Dour technical institute. the study includes blood and lipids profiles 30 blood samples were taken from 15 male students and 15 female students, Pre and post the examination. Blood was collected five minutes before the examination. Blood pressure measurement were taken pre and post the examination. Results showed significant increase in serum Glucose and blood pressure ($P < 0.05$) before the exam as compared to students after the exam. Significant decrease ($P \leq 0.05$) in the level of in serum cholesterol and triglyceride concentrations before examination, compared with the levels after examination, and no significant differences in Hb, PCV before and after the examination.

Introduction

The word anxiety came from the Latin word "Anxietes", which means disorder in the mind, a psychological state known in the past cases of fear and anguish that hurt the human psychologically and physically [1,2].

It is difficult to distinguish between anxiety and fear in many cases, because of similarities between them, each is an emotional state of stress and internal tension, each of them consulted the feeling of the person is threatened, And anxiety during and pre examination is a temporary emotional state of the student passes, accompanied by severe psychological reactions and may be unusual behavior as a result of the fear from expected failure in the exam or poor performance, fear of blaming reactions of parents, to the weakness of self-confidence and desire to excel at others, or perhaps For health constraints [3, 4].

Anxiety is an unhealthy condition concern, may leads to other disorders in the individual's behavior, and this concern continues in the event of a real danger and if the danger also disappears [5,6]. This study aimed to anxiety effect on some parameters of physiological and biochemical for student.

Materials and Methods

Blood samples were collected from 30 students by venous puncture of Al- Dour Technical Institute.

Physiological and biochemical analysis were performed at pathological analysis department, five minutes before the examination and after the exam. 15 samples were collected pre the examination and 15 post the examination. Systolic and diastolic blood pressure was measured. 5 ml blood were collected in anticoagulant free plastic tubes to obtained blood serum for biochemical analysis. The blood serum samples were kept in freezer at -20°C for further analysis. Blood Hemoglobin (Hb) packed cell volume (PCV), Glucose, Cholesterol, and triglyceride according to the patches processed by the company biolabo.

Statistical Analysis:

The results were analyzed using the General Linear Model (SAS) method Duncun test (1955) was used to determine the significance of the differences between the mean factors affecting the studied traits at the probability level ($P < 0.05$).

Result and Discussion

Table 1 : shows Some hematological and chemical variables among the technical institute AL-Dour Students. There were no significant differences in the concentration of Hemoglobin, PCV, serum glucose, in students pre and post examination.

There was a significant increase level of cholesterol ($P \leq 0.05$) and levels of triglycerides ($P \leq 0.05$) in the students after the exam compared to the students before the exam. There was a significant increase in the level of glucose and level of blood pressure ($P \leq 0.05$) in students before the exam as compared with the post examination.

The increases in the concentration of triglycerides in the blood may be due to several reasons, including oxidative stress [6].

The level of cholesterol in the blood is not affected by what we eat only but also affected by the ability of the body to speed the production of cholesterol and the speed of disposal. In fact, the body produces the necessary cholesterol, so it is not necessary to take extra cholesterol through food [7].

Henry *et al.* (2002) [6] and Engstrom *et al.* (2002) [7], pointed out that increasing the level of cholesterol in the blood increases the incidence of coronary heart diseases.

Triglyceride is the basic form of energy storage in the body, a type of fat found in the blood and is a source of energy for the body [8]. In a healthy person, the three lipid levels of glyceride remain normal and balanced, but the amount of triglycerides is often increased due to inactivity and weight gain, alcohol consumption, diabetes, thyroid dysfunction. Triglycerides may also rise as a side effect of some drugs, including birth control drugs, corticosteroids, Beta blockers [8].

Anxiety works to stimulate autonomic nervous system, which leads to many physiological alteration, [9], the results of this study was in agreements with these results obtained by Maimanee (2010) [9] who found changes in triglycerides levels in female students as an impact of during the periodical tests. Pastorio *et al.* (2011) [10] concluded that Lipid metabolism and autonomic functioning seem to be related to the discussed psychiatric disorders.

Ban *et al.* (2015) [11] have suggested a relationship between anxiety and increased risk of high blood pressure.

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The intense emotions and pressures on the human being, such as fear and anger, which leads secretion of adrenaline which leads to physiological and biochemical changes. The adrenal gland also secrete adrenal cortices Hormone "cortisone to prepare the body to defend biological psychological fatigue in various forms. [12].

The increase of the adrenaline hormone in the blood accelerates the heart rate, which is what a person feels when the emotion, which causes the heart, raises blood pressure by clogging the arteries and small veins [13,14]. A sudden increase in pressure can lead to brain bleeding and may be a stroke or stroke. Sudden death, may affect blood vessels in the eye causing sudden blindness [15,16]. Anxiety, anger and fear increase the secretion of cortisol from the adrenal cortex, leading to increased blood fat at the expense of protein. Cortisol dissolves the lymphatic tissue, leading to immune deficiency [17,18].

Table (1) Some hematological and biochemical parameters variation between students before and after examination among the technical institute Al-Dour students

Variables	Before the exam	After the exam
Hb(g/dl)	13.9 ± 1.90 a	13.0 ± 2.10 a
PCV(%)	46 ± 2.64 a	43 ± 3.1 a
Glucose mg/dl	154.1 ± 1.80 a	143.0 ± 2.00 b
Cholesterol mg/dl	156.7 ± 2.60 b	166.2 ± 2.10 a
Triglycerids mg/dl	63.4 ± 3.00 b	78.6 ± 2.20 a
Blood pressure	130/80 ± 1.00 a	120/60 ± 1.00 b

❖ Similar letters no significant differences.

❖ Different letters mean presence of significant differences at significance concentration ($p \leq 0.05$).

❖ Number of students 30

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تأثير القلق الامتحاني على بعض المعايير الفسلجية والكيموحيوية لطلبة المرحلة الثانية قسم التحليلات المرضية المعهد التقني الدور

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الملخص

هدفت الدراسة الى دراسة تأثير القلق الامتحاني على بعض المتغيرات الدموية والكيموحيوية . وتم قياس المتغيرات الدموية حجم خلايا الدم المتراصة PCV وتركيز الهيمكلوبين Hb والمتغيرات الكيموحيوية تركيز الدهون في مصل الدم وتركيز السكر في الدم على طلبة المعهد التقني الدور /قسم التحليلات المرضية ومدى التباين في النتائج حيث جمعت عينات الدم من طلبة المعهد التقني الدور بلغت العينات (30) عينة 15 طالب و 15 طالبة . وتم جمع الدم قبل الامتحان بخمس دقائق وقياس ضغط الدم . وجمع الدم مرة اخرى بعد الامتحان وقياس ضغط الدم . حيث كان هناك ارتفاع معنوي عند مستوى احتمالية (P≤0.05) في تركيز Glucose في مصل الدم و مستوى ضغط الدم في طلبة قبل الامتحان مقارنة مع طلبة بعد الامتحان . وانخفاض معنوي عند مستوى احتمالية (P≤0.05) في تركيز Cholesterol و Triglycerids في مصل الدم في طلبة قبل الامتحان بالمقارنة مع طلبة بعد الامتحان . وعدم وجود فروق معنوية في Hb و PCV في طلبة قبل الامتحان وبعد الامتحان .