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ВЛИЯНИЕ ПРЕЭКЗАМЕНАЦИОННОГО СТРЕССА НА АРТЕРИАЛЬНОЕ ДАВЛЕНИЕ СТУДЕНТОВ МЕДИЦИНСКИХ ВУЗОВ

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EFFECT OF PRE-EXAMINATION STRESS ON BLOOD PRESSURE OF UNDERGRADUATE MEDICAL STUDENTS

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Аннотация: стресс является частью жизни человека. Стресс является неотъемлемой характеристикой студенческой жизни, особенно в дни экзаменов. Экзаменационный стресс является распространенным состоянием, с которым сталкиваются студенты перед экзаменами и довольно заметным среди студентов-медиков. Артериальное давление является первым симптомом наблюдения стресса, чтобы понять его уровень. Поэтому для понимания стрессового воздействия студентов вуза в течение экзаменационных недель был разработан условный эксперимент. Все показатели артериального давления измерялись с помощью aneroidного сфигмоманометра в разные периоды времени. Перед экзаменами показатели артериального давления были значительно выше по сравнению с обычным режимом.

Ключевые слова: систолическое артериальное давление, диастолическое артериальное давление, стресс, статистические наблюдения, студенты-медики.

Abstract: Stress is a part of human life. Stress is inseparable characteristics of student life, especially during exam days. Examination stress is a common condition faced by the students prior to exams and is quite prominent among the medical students. Blood pressure is the first stress observation symptom to understand its level. Therefore, to understand the stress impact of university students during the exam weeks, a conditional experiment has been designed. All the blood pressure readings were measured with the help of aneroid sphygmomanometer at different time periods. Before exams the blood pressure rates were quiet higher as compared to the normal routine.

Keywords: systolic blood pressure, diastolic blood pressure stress, statistical observations, stress, medical students.

Introduction

Blood pressure measures the pressure of circulating blood in blood vessels. The inner walls of the blood vessels are affected by the pressure and it is measured by sphygmomanometer. If the

diastolic pressure is more than 140 mm/Hg and systolic pressure is more than 80 mm/Hg, it is considered to be an abnormal blood pressure [1]. Physiological problems and unbalanced nourishment may disrupt the homeostasis of the blood. In addition to that, stress is another main source of high blood pressure. It is quite obvious that any form of stress is defined to produce mental and physiological reactions in the body and alternate the heart rate and blood pressure [2]. Although to some extent stress is helpful in coping with problems, too much of it can affect the performance negatively [3]. The basic definition of stress is anxiety which lets the brain prepares the body for defensive actions the fight or flight response by releasing of cortisone and adrenaline hormones [4]. Stress of any form is known to produce definable mental and physiological reactions in the body like alterations in different biological functions especially the heart rate and blood pressure [5,6].

The curriculum studied by the medical students is vast and time in which they have to complete their studies is short, therefore medical students are thought to be under stress, especially before their examinations.

Materials and research methods

The present study was carried out at Institute of International School of Medicine, Bishkek, Kyrgyzstan. About 60 students blood pressure we have measured in this experiment. The BP of the students were recorded using mercury Sphygmomanometer and Stethoscope. Out of 60 students 66.7% were boys and 33.3% were girls.

From the figure 1,2 given below it was observed that before exams the blood pressure rates were quiet higher as compared to the normal routine. This increase may be due to the higher stress level of exams.

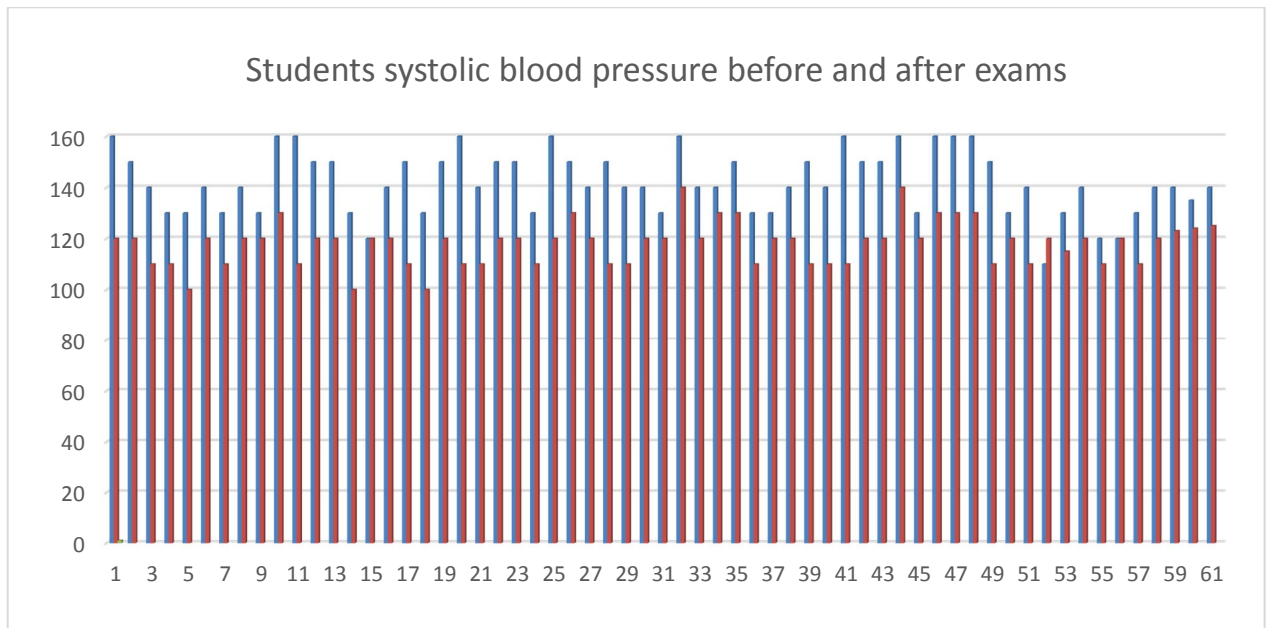


Fig.1. Students Systolic Pressure graph before and after the exam.

The systolic blood pressure for all individuals after the exam was 110-140 mm of Hg which is a normal blood pressure while before the exam it increases to 120-160 mm of Hg.

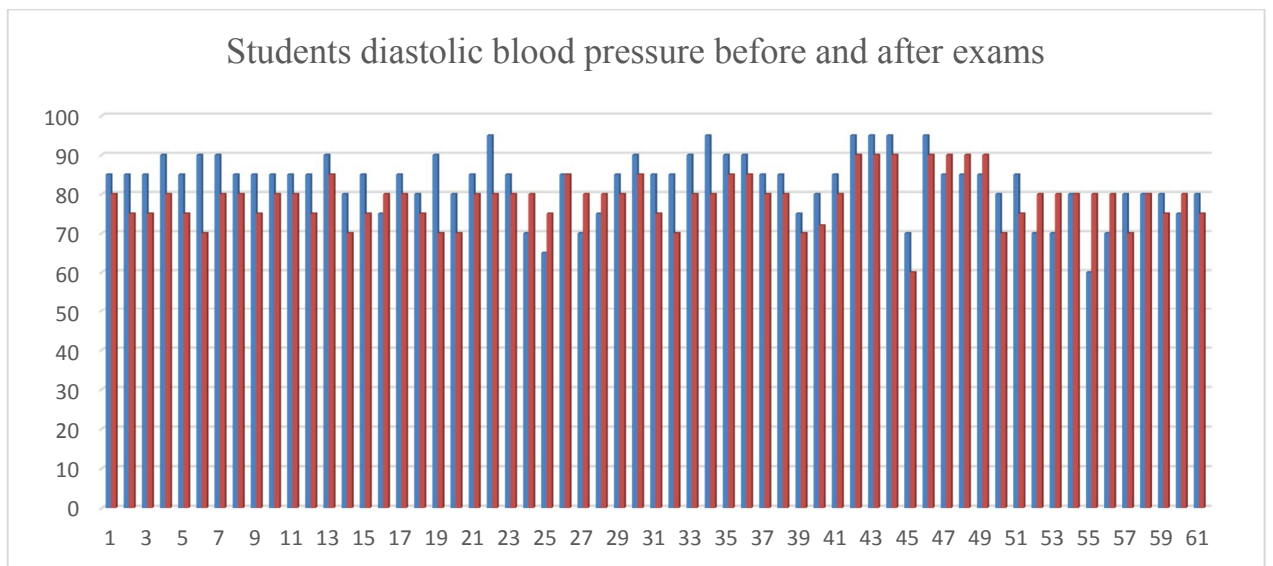


Fig. 2. Students Diastolic Pressure before and after the exams.

The diastolic blood pressure for all individuals after the exam was 70-90 mm of Hg which is a normal blood pressure while before the exam it increases to 70 -95 mm of Hg.

Table 1.

Systolic blood pressure, Diastolic blood pressure records in students

Parameter		Mean \pm SD	Parameter		Mean \pm SD
S.B.P	Before exam	142.05 \pm 12.3mmHg	D.B.P	Before exam	83.033 \pm 7.76 mmHg
	After exam	117.98 \pm 8.5mmHg		After exam	78.80 \pm 6.2 mmHg

The systolic blood pressure for all individual before exam was 142.05 \pm 12.3 mmHg, after examination, it 117.98 \pm 8.5 mmHg (Table 1.) The diastolic blood pressure for all individual before exam was 83.033 \pm 7.76 mmHg, after examination, it 78.80 \pm 6.2 mmHg (Table 1.).

Results

According to the B.P measurements we observed the systolic and diastolic readings of every student. Stress produced a significant elevation in the systolic blood pressure of the students. We observed that before exams students felt a stress due to exams and study. Studies suggest that inability to adapt to stress is associated with the onset of depression or anxiety. Certainly, stress diminishes the quality of life reducing the feeling of pleasure and accomplishment and relationship are often threatened.

Conclusion

Review of academics and exam schedules, more leisure time activities, better interaction with the faculty and proper guidance, advisory services and peer counselling at the campus could do a lot to reduce the stress.

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