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CHRONIC STRESS IN MEDICAL STUDENTS

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ქრონიკული სტრესი სამედიცინო უნივერსიტეტის სტუდენტებში

ეპიდემიოლოგიის და ბიოსტატისტიკის დეპარტამენტი, თბილისის სახელმწიფო სამედიცინო უნივერსიტეტი

რეზიუმე

თანამედროვე სამყაროში სტრესი ყოველი ადამიანის ცხოვრების განუყოფელი ნაწილია. ქრონიკული სტრესის მიმართ მაღალი მიდრეკილებით გამოირჩევიან სტუდენტები, მათ შორის კი ქრონიკული სტრესის გავრცელების მაღალი დონე ფიქსირდება სამედიცინო უნივერსიტეტის სტუდენტებს შორის. ამის მიზეზებია აკადემიური გადატვირთვა, წარუმატებლობის შიში, ფინანსური პრობლემები, მათ მიმართ დანესებული მაღალი მოლოდინები და სხვა.

ნაშრომის მიზანია ქრონიკული სტრესის დონის დადგენა თბილისის სახელმწიფო სამედიცინო უნივერსიტეტის სტუდენტებში. კვლევის ინსტრუმენტად შეირჩა თვითშეფასებითი კითხვარი - სტუდენტური სტრესის ჩამონათვალი (ქართულ და ინგლისურ ენებზე). შედგენილი კითხვარი შეიცავს 51 შეკითხვას 40 ნეგატიური ერთეულით და 4 ქვესკალით: ფიზიკური ფაქტორები, პირადი ურთიერთობები, აკადემიური საქმიანობა, გარემო ფაქტორები. სტუდენტებს სთხოვეს, შეეფასებინათ კითხვარში მოცემული მოვლენების სიხშირე ბოლო 6 თვის მანძილზე. სტრესის დონე დგინდებოდა ქულათა დაჯამებით. სულ გამოიკითხა 193 სტუდენტი. მათი უმრავლესობა, 69.95% გახლდათ ქალი, 29.5% - მამაკაცი. მედიცინის ფაკულტეტი (ინგლისურენოვანი) 23,32%, მედიცინის ფაკულტეტი (ქართულენოვანი) 56,48%, საზოგადოებრივი ჯანდაცვის ფაკულტეტი 20,21%. საშუალო ასაკი 22.45±1.3.

როგორც კვლევამ აჩვენა, ქრონიკული სტრესის გამომწვევი ფიზიკური ფაქტორებიდან ყველაზე მაღალი სიხშირით განმეორებითად დასახელდა მუდმივი დაღლილობის შეგრძნება (54,92%) და ძილის პრობლემა (43,00%). პირადი ურთიერთობებიდან - ცოდნა იმისა, რომ მშობლებს მხოლოდ მათი წარმატება სურთ (64,25%). აკადემიური ფაქტორებიდან მეტად სტრესულად სტუდენტთა 53,37%-მა გამოცდებით გამომწვეული ზენოლა დაასახელა. ხოლო გარემო ფაქტორებიდან ყველაზე ხელისშემშლელად კი 62,17%-მა ცხელი ამინდები დაასახელა.

კვლევის შედეგებმა აჩვენა, რომ სტუდენტებში ფსიქოლოგიური სიმპტომები მეტად არის გამოხატული, ვიდრე ფიზიკური. საშუალო და მძიმე ხარისხის სტრესის საერთო გავრცელება 60,62%-ია (ქართველები - 63,27%, უცხოელები - 51,11%). ქალ სტუდენტთა უმრავლესობას (63,70%) მეტად საშუალო დონის სტრესი დაუფიქსირდათ, მამაკაცების უმრავლესობას (56,14%) კი - მსუბუქი. მედიცინის ფაკულტეტის სტუდენტებს სტრესის უფრო მაღალი დონე დაუფიქსირდათ, ვიდრე საზოგადოებრივი ჯანდაცვის ფაკულტეტის სტუდენტებს. მიღებული შედეგები ზოგადად შეესაბამება საერთაშორისო მონაცემებს. სტრესის გამომწვევი მიზეზების უკეთ შესასწავლად სასურველი იქნებოდა თვისობრივი კვლევის ჩატარება.

Introduction. Stress is an integral part of everyone's life. Its causes may be both psychological and physical in nature and therefore have the ability to cause or exacerbate a wide range of psycho-somatic diseases [1]. The prevalence of chronic stress among students reaches alarming rates [2]. Compared to other young people of the same age and also to the general population, they have many more psychological problems [3]. Overload caused by academic stress is the main cause of student's mental problems [4]. Medical university students have the highest stress tendency [5].

Aim: To study indicators of chronic stress among Tbilisi State Medical University (TSMU) students.

Materials and Methods.

Questionnaire development. We conducted a quantitative cross-sectional study to identify chronic stress indicators among Tbilisi State Medical University students. As a research tool, we selected

a self-assessment questionnaire (n=51) – Student Stress Inventory [6], to which demographic questions (n=11) were added. Student Stress Inventory contained 40 negative items of 4 subscales: physical (10 items), personal relationships (10 items), academic (10 items), and environmental (10 items). Students had to estimate the frequency of the items given in the questionnaire during the last 6 months of their life. The assessment components were assigned the following points: 1 point for "Never", 2 points for "Sometimes", 3 points for "Often", 4 points for "Very often". The level of chronic stress among students was determined by summing points: 122-160 points – severe stress, 81-121 points – moderate stress, and 40-80 points - mild stress. The questionnaire was in Georgian and English languages and was approved by the Department of Epidemiology and Biostatistics.

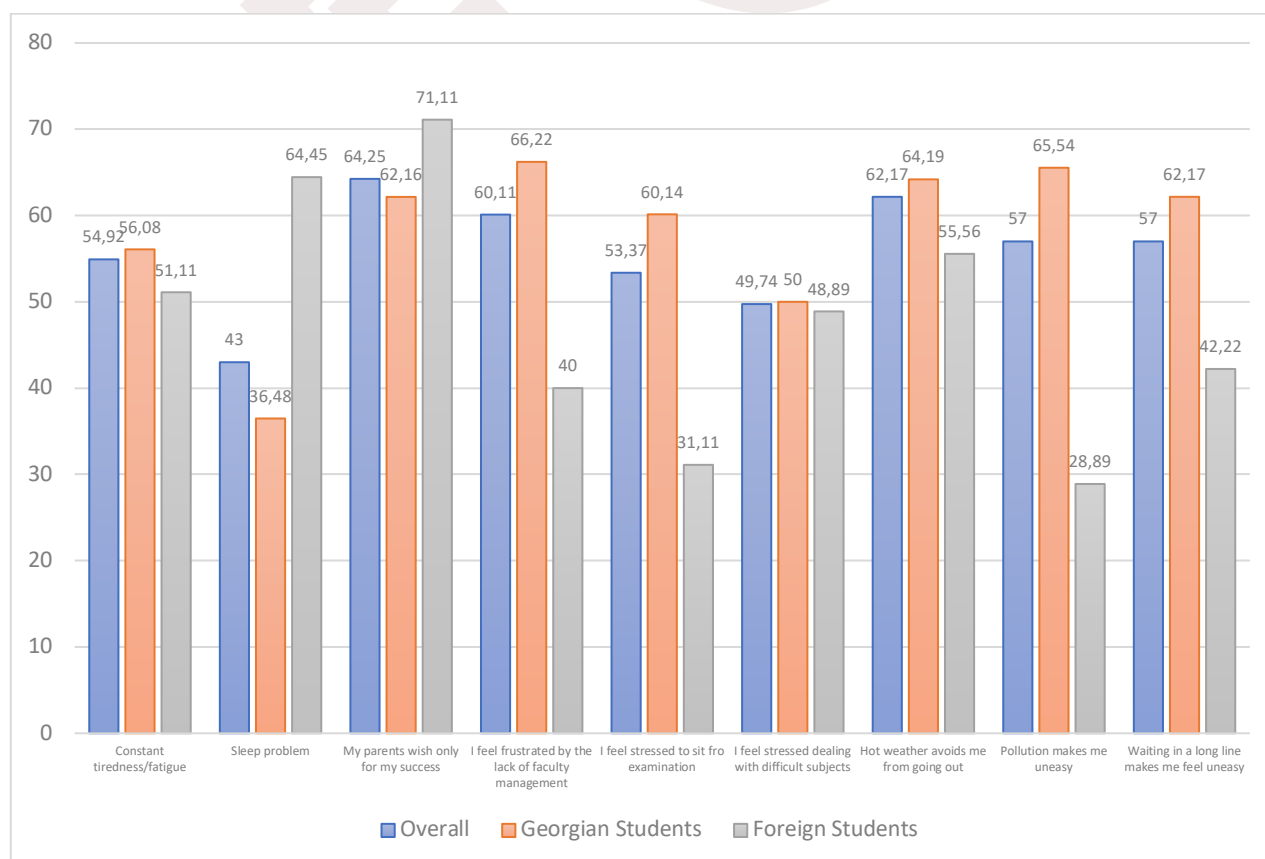
Sampling: The sample was selected from the students of Faculty of Medicine (Georgian and English-language) and Faculty of Public Health of the Tbilisi State Medical University by convenience sampling method.

Survey. Questionnaires in both languages were prepared in Google Forms. The answers were afterwards transferred to Epidata and analyzed in Stata 14.0. Descriptive and analytical statistical methods were used. The survey was anonymous and voluntary.

Demographics. The total number of respondents was 193, 69.95% women, 29.50% men; Faculty of Medicine (English) 23.32%, Faculty of Medicine (Georgian) 56.48%, Faculty of Public Health 20.21%; 1st year 1.04%, 2nd year 3.63%, 3rd year 4.66%, 4th year 40.41%, 5th year 33.68%, 6th year 16.58%. The mean age was 22.45±1.3 years. 41.15% of the respondent's work, and 58.85% do not work. There is a statistically significant difference between the faculties (p<0.001) (Georgian students working 52.0% vs 4.4% foreigners). 11.92% of students self-reported having a chronic disease.

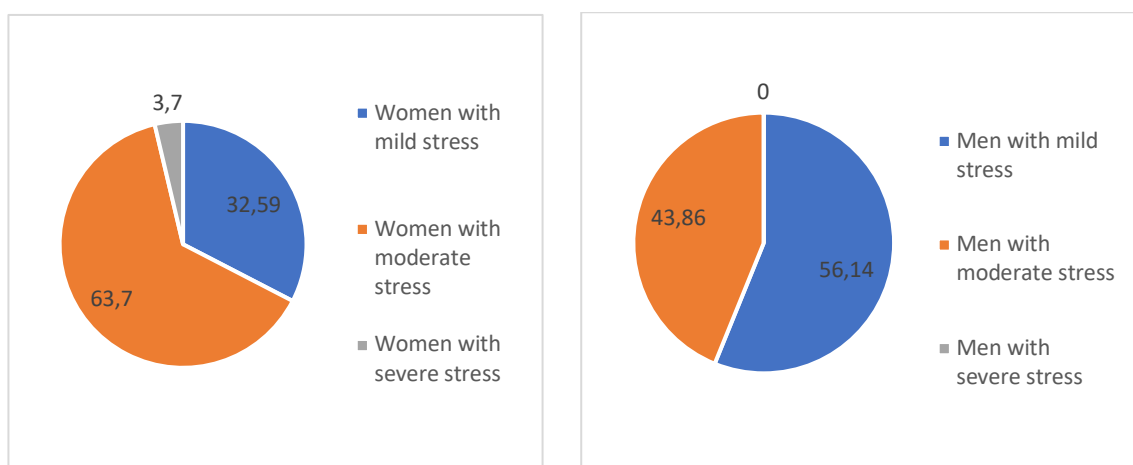
Results. Among physical components of chronic stress, the majority of interviewed students reported having the feeling of constant fatigue 54.92% and sleep problems 43.00% often and very often. In the domain of personal relationships, 64.25% of the total number of interviewees believe that parents want success for them. Among the academic factors, students reported stress caused by exams at 53.37%. Among the environmental factors, the majority - 62.17% of respondents mentioned the hot weather. Questions with highest frequency of occurrence (often and very often) are given on Figure 1.

Figure 1. The items mentioned with frequency often and very often (%)



The overall prevalence of moderate and severe chronic stress among medical university students are 60.62%. Most of the female students (63.70%) have moderate stress, while most of the male students (56.14%) have mild stress (Figure 2).

Figure 2. Chronic stress level by gender (%)



Analysis of the results of our study showed no statistically significant difference between stress levels and years of the study. Georgian students of the Faculty of Medicine had more moderate stress than mild stress. Students of Faculty of Public Health and all foreigner students had moderate and mild stress equally (Table 1).

Table 1. Stress level by Faculty

Stress level	Faculty of Medicine	Faculty of Public Health	Faculty of Medicine (English)
Mild stress	32.11%	48.72%	48.89%
Moderate stress	66.06%	48.72%	46.67%
Severe stress	1.83%	2.56%	4.44%

Discussion and Conclusion. According to the research, psychological symptoms (anxiety, feeling of constant fatigue, sleep problems) are more pronounced in students than physical symptoms (headache, back pain). Also, sleep problems and anxiety were more common among foreign students than Georgian students (Georgians – 36.48%, Foreigners – 64.45%). This may be due to being away from home and parents and to cultural differences.

The analysis of the results of the study showed that among the students of Tbilisi State Medical University, the moderate level of chronic stress is more common than mild and severe stress. Among the Georgian-speaking students, the students of the Faculty of Medicine had a higher level of stress than the students of the Public Health Faculty. Foreigner students compared to Georgians are more worried about financial problems caused by the university expenses (Georgians - 13.52%, foreigners - 40.00%). We can assume that one of the reasons for this is their high unemployment rate, only 4.40% of foreign students work in an office or at home, and 95.60% of them are unemployed. The findings in the domains of personal relationships and academic factors are close to the results of international research [7].

Among the environmental factors, the majority (62.17%), of respondents reported about hot weather, which might be due to the fact that the survey was conducted in the spring-summer period. Most of the female students (63.70%) have moderate stress, while most of the male students (56.14%) have mild stress. The data coincide with the results of global studies. According to a study conducted in Sudan, a higher level of stress is observed in female students: women – 65.32%, men 34.68% [7]. According to a study conducted in Saudi Arabia, the prevalence of stress among female medical university students was higher than among males (females – 75.70%, males – 57.00%) [8]. Also, students with families (with or without children) had a higher level of stress.

A statistically significant difference ($p < 0.0001$) was found between those who had and hadn't chronic disease. Those with chronic illness had more moderate than mild stress.

Our study found no correlation between stress levels and academic achievement. This may be due to the small sample size and the probability of beta error. It would be interesting to study this issue on a larger sample and/or with a qualitative study.

Due to the destructive effects of chronic stress on the body and psyche, studying its causes and consequences in students is very important from medical, educational and social points of view.

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SUMMARY

The prevalence and impact of chronic stress on the world's population are quite important. In the modern world, students have to deal with many stressors, and the medical students stand out with the highest stress level. The main causes of stress are academic overload, fear of failure, financial problems, high expectations from others, and many more.

Aim: To study indicators of chronic stress among Tbilisi State Medical University (TSMU) students. **Materials and Methods.** We conducted survey of the TSMU students using the Student Stress Inventory in Georgian and English. Total number of questions was 51 with 40 items in 4 subscales: physical factors, interpersonal relationships, academic activities, and environmental factors. Students were asked to rate how often these events happened in their lives. Stress level was determined based on the summary points. The total number of respondents was 193, 69.95% women, 29.50% men; Faculty of Medicine (English) 23.32%, Faculty of Medicine (Georgian) 56.48%, Faculty of Public Health 20.21%, the mean age 22.45 ± 1.3 years.

Results. Among physical components of chronic stress, the majority of interviewed students reported having the feeling of constant fatigue 54.92% and sleep problems 43.00% often and very often. In the domain of personal relationships, 64.25% of the total number of interviewees believe that parents

want success for them. Among the academic factors, students reported stress caused by exams at 53.37%. Among the environmental factors, the majority - 62.17% of respondents mentioned the hot weather.

Conclusion. In general, psychological symptoms are more pronounced among students than physical ones. The overall prevalence of moderate and severe chronic stress among medical university students is 60.62% (Georgians 63.27%, foreigners 51.11%). Most of the female students (63.70%) have moderate stress, while most of the male students (56.14%) have mild stress. Students of the Faculty of Medicine reported higher levels of stress than Public Health students. Obtained results are in line with the international data. It is desirable to conduct the qualitative study as well in order to find more information on the causes of the stress.

Keywords: chronic stress, medical students, study



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