SIGNIFICANCE OF SEASONAL CHANGES BETWEEN LOCAL AND FOREIGN STUDENTS OF GRODNO STATE MEDICAL UNIVERSITY, BELARUS: A CROSS-SECTIONAL STUDY

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Relevance. Reports of humans being subjected to seasonal changes with regard to mood and behaviour, date back to classical times [1]. Changes in the mood, behaviour, sleep, appetite, and activity that is influenced by the length of the daylight hours is known as seasonal affective disorder (SAD). This is a type of recurring depression with multiple remissions throughout the lifetime.

SAD can have a winter onset with decreasing daylight hours. Winter SAD (W-SAD) is more common, appearing during late autumn or early winter, and disappearing during the months of spring and summer. Less often symptoms appear in spring or early summer, known as summer SAD (S-SAD) and resolve by autumn or winter months [2].

Studies show that SAD is more prevalent in populations living in higher or northern latitudes. Prevalence of W-SAD has been found to be higher in temperate countries in North America and Europe. A significant number of people are living with the debilitating effects of SAD and are not functioning to their full potential [3].

DSM-5 criteria for depression with seasonal patterns include having depression during a specific season each year, either in winter or summer with full remittance during other seasons for at least two years, and having more seasons with depressive episodes than seasons without depression over a lifetime [4].

Sunlight plays a critical role for the presentation of W-SAD symptoms. Literature suggests this could be due to a decrease in serotonin activity, an increase in melatonin production, disrupted circadian rhythms, and/or a low level of Vitamin D [2].

Object. To raise awareness about changes that come simultaneously with seasonal changes which may sometimes bear significant hindrance to a person's daily activities.

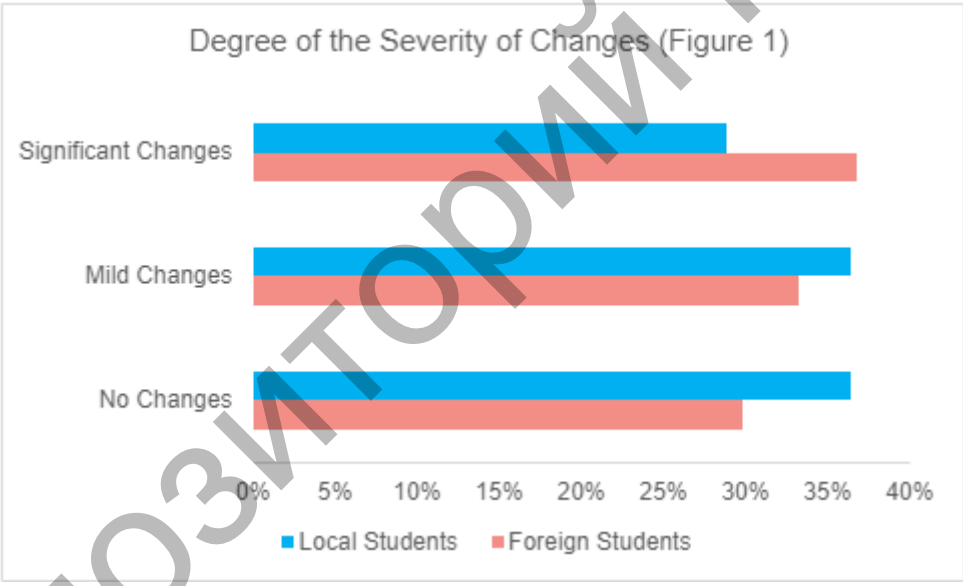
Research methods. A cross sectional study was conducted between the months of December 2022 and February 2023 in Grodno State Medical University, Belarus. A Google Form questionnaire was filled with voluntary participation and initial consent by the students. The questionnaire was adapted from Raymond W. Lam 1998 (modified from the Rosenthal, Bradt and Wehr 1987) namely, Seasonal Pattern Assessment Questionnaire [5]. The online survey received 100 responses from local and 121 responses from foreign students and was filtered. The responses were

filtered to all students above 18 years and who have resided in this region for at least 2 years. Further, the students that were diagnosed previously with a major depressive disorder, and/or currently on medication for any mental disorder were excluded. The foreign students category included students from tropical countries who had not experienced any apparent seasonal changes. Valid data records after voiding incomplete entries included 66 and 57 responses respectively, which were then analysed in par with SPAQ guidelines.

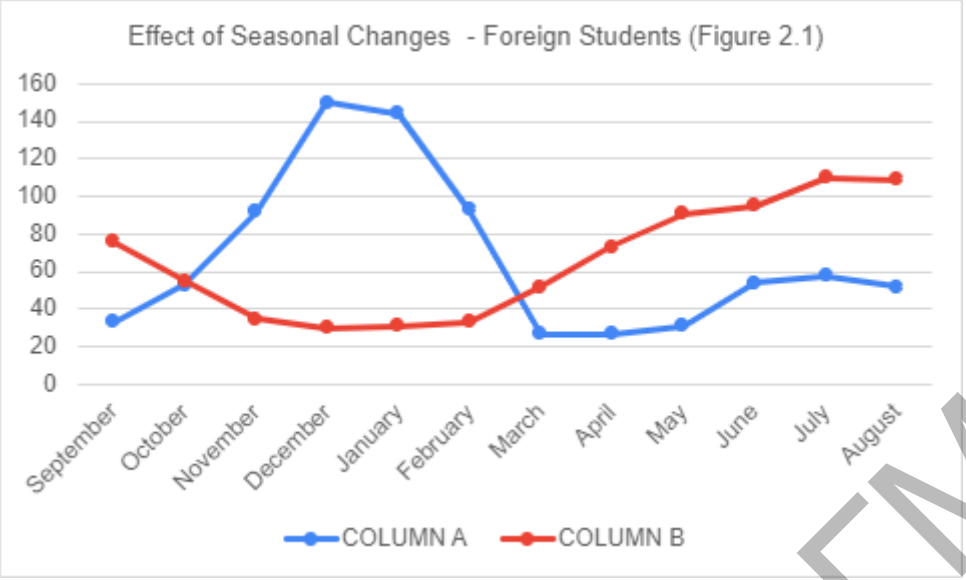
SPAQ evaluates retrospectively the degree of seasonal variation in mood and behaviour. It describes months of the year when subjects would feel worst and feel best. This is relative to six parameters namely sleep length, appetite, weight changes, energy level, mood (overall feeling of well-being), and social activity.

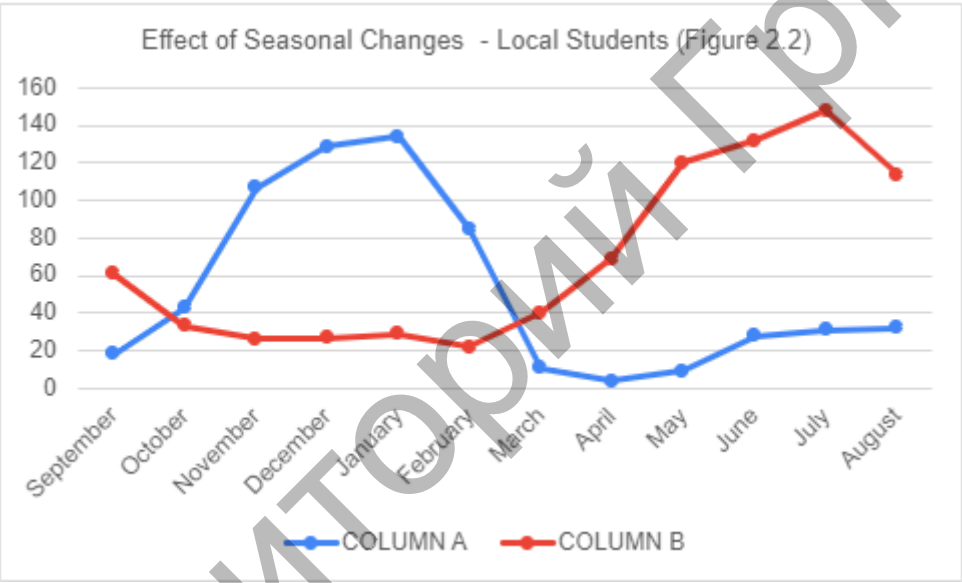
W-SAD subjects tend to score higher on characteristics that resemble decreased mood during the months between September and January (in a series of 3-5 months) [5]. Data obtained in Google forms were processed into Microsoft Excel.

Results and discussion. According to SPAQ guidelines, we were able to identify that both groups of students showed effects of seasonal changes in mild and significant nature while others did not show any seasonal changes [Figure 1].



The students that experienced seasonal changes out of the valid responses included 70.2% (40) foreign, and 65.2% (43) local students. Out of the participants who experienced seasonal changes, foreign students that experienced mild and significant changes were 33.3% (19) and 36.4% (21) respectively [Figure 2.1]. On the other hand, local students that experienced mild and significant changes were 36.4% (24) and 28.8% (19) respectively [Figure 2.2]. This highlights the fact that the seasonal changes have a degree of influence on both study groups. In spite of the fact when referring to the prevalence of W-SAD, it prevails more in foreign students at 21.1% (12) in contrast to 6% (4) in local students.





Parameters used to measure variation of mood and behaviour due to changes in seasons [5]

- *Column A: tend to feel the worst in, tend to eat most in, tend to gain most weight in, tend to sleep most in, tend to have least energy in, tend to have the lowest level of social activity in*
- *Column B: tend to feel the best in, tend to eat most in, tend to lose most weight in, tend to sleep least in, tend to have most energy in, tend to have the highest level of social activity in*

Conclusions. It can be concluded that change of seasons has a similar and significant impact on both groups. Further, as described by the result it can be deduced that the migration of students to temperate countries from tropical countries increases the likelihood of them experiencing seasonal changes which could lead to W-SAD in contrast to their counterparts. Information on this topic is still inadequate to raise awareness in society, therefore more research should be conducted to fill the gap in scientific literature.

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TUBERCULOSIS OF METATARSALS (TUBERCULOSIS DACTYLITIS): A RARE CASE OF EXTRAPULMONARY LOCALIZATION

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Relevance. While tuberculosis (TB) mostly affects the respiratory system, 10% of TB patients have extrapulmonary localizations [1]. Metatarsal tuberculosis is extremely rare and causes a delay in diagnosis and treatment due to its uncommon location, lack of knowledge, capacity to mimic a variety of acute and chronic diseases conditions like, inflammatory arthritis, pyogenic osteomyelitis. Metatarsal TB due to a delay diagnosis may lead to bone destruction [2]. About 85% of metatarsal TB is in children under the age of 6 yrs. Only sporadic cases of adult cases are described. Here, a rare case of metatarsal TB is described [1].мWhile tuberculosis (TB) mostly affects the respiratory system, 10% of TB patients have extrapulmonary localizations [1]. Metatarsal tuberculosis is extremely rare and causes a delay in diagnosis and treatment due to its uncommon location, lack of knowledge, capacity to mimic a variety of acute and chronic diseases conditions like, inflammatory arthritis, pyogenic osteomyelitis. Metatarsal TB due to a delay diagnosis may lead to bone destruction