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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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THE IMPACT OF SLEEP ON PHYSICAL AND MENTAL HEALTH: IMPORTANCE OF HEALTHY SLEEP HABITS

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Abstract.

Sleep is an important part of health, and when you go to sleep, how long you sleep, and how well you sleep all have a big impact on your health. Sleep may be required for regulating the body's metabolism, feelings, function, memory storage, brain recovery, and learning. Because of how important these processes are, sleep should be seen as just as important to health as what you eat and how much you exercise. Adults' sleep generally gets shorter and less restful, their sleep starts later and is more broken up, they have more sleep problems, and their rest-activity rhythms get weaker. In addition to receiving enough sleep (quality), healthy sleep habits also include maintaining a consistent sleep schedule. Ninety male college students with varying sleep schedules were analyzed for their physical and emotional well-being. By using factor analysis to categorize individuals' sleeping patterns across three dimensions regularity, quality, and quantity. We were able to develop sleep-habit measures. Clustering identified four distinct patterns of sleep behavior: good sleep was defined by regular, high-quality sleep despite being of comparatively brief duration; long sleep was predictable, fairly lengthy, but of minimal quality; short sleep was of excellent quality despite being short and irregular; and poor sleep was erratic, low-quality, and relatively long. The excellent sleepers also had reduced diastolic and systolic and a smaller means waist measurement. In addition, the poor sleepers had the lowest average MCS scores of all of the study groups. Poor sleepers also had the lowest mean scores on the Subjective Depression Scale (SDS). Issues involving glucose or lipid absorption were also more common in the short-term and long poor-sleep categories. Without restful sleep and a regular bedtime routine, it is impossible to maintain excellent mental and physical wellness, even if time and sleep are maintained constantly. Therefore, to produce suitable sleep recommendations for enhanced mental and physical health, we evaluated not only the quantity of sleep but also its consistency and high quality.

Key words. Sleep habits, physical health, mental health, and college students.

Introduction.

Sleep is a big part of how healthy a person is, and getting enough good sleep is essential for a healthy age. In an earlier joint statement from the American Academy of Sleep Sciences and the Sleep Studies Society, "healthy sleep" was described as "sleep that is long enough, of excellent quality, at the right time, and on a regular schedule, with no sleep disruptions or illnesses [1]".The number of people who have trouble sleeping and other sleep problems goes up a lot as they get older. There is more and more proof that sleep problems may speed up age and add to an extensive variety of long-term illnesses. Even though sleep issues can hurt your health, they are often misdiagnosed and not fixed, especially in older people [2]. Numerous adolescents' first taste of independence comes during their time at college. When entering higher education, many young people make adjustments to their daily routines, including the amount of sleep they get. Many university students select an inconsistent sleep schedule, maybe because of social pressures from school. The sleep patterns of those who deliberately keep odd hours are more variable than those of people who don't work nights or in clinical settings [3]. As a consequence, pupils in college offer individuals in whom varied sleep patterns may be investigated without the direct effect of more clinical issues, such as sleep deprivation or shift patterns. The connection among sleep patterns and subjective evaluations of wellness, health, and drowsiness is one area of sleep research that has been understudied among college pupils and other nonclinical groups [4]. Both metabolic disorders and despair are being studied extensively at the moment. Diet, physical activity, and psychological stress are only some of the lifestyle variables that have been linked to these illnesses. The Japanese have a reputation for not getting enough shut-eye due to their country's emphasis on hard labor. Furthermore, in Japan, 24-hour work processes are the norm, and working extra is revered. Many young individuals work late at night, and 24-hour businesses are commonplace. Time spent sleeping is less significant than time spent working or relaxing for them [5]. Sleep disruptions and insufficiencies have been linked to impaired achievement, decreased standard of life, and excessive daytime sleepiness. If, for instance, chronic sleep deprivation has already negatively impacted achievement, it will be difficult to fully recover even if three nights of sufficient sleep are achieved. Even if a person doesn't feel sleepy, their efficiency will be negatively affected by the cumulative effects of persistent sleep deprivation. Insomnia and sleep deprivation are also linked to mental illness [6]. Adults found that both too little sleep and too much sleep were linked to signs of depression. Lack of sleep may have serious consequences for your physical well-being. participants who slept for just three to four hours the night before reported having

elevated blood pressure during the day, and those participants were 73% more likely to be fat than those who slept for over 7 hours [7]. Reduced insulin sensitivity throughout per week of sleep deprivation led to reduced tolerance for glucose. So, getting a decent night's rest is crucial not only for your physical and mental well-being but also for your ability to function normally throughout the day [8]. Students' unpredictable schedules frequently result in disturbed sleep habits. Students who have trouble getting to bed at a consistent hour may not get enough quality sleep. Furthermore, pupils may find themselves trapped in a vicious cycle of poor sleep hygiene that they cannot break on their own [9]. The amount of sleep (i.e., the number of hours) is often emphasized when assessing sleep quality. On the other hand, getting enough quality sleep consistently is also crucial. There are three parameters in which one's sleeping habits may be evaluated: consistency, quality, and duration. TMIN-LHI's three sleep components, and categorized people's sleeping patterns accordingly [10-15].

The influence of sleep on the immune system and its importance for both physical and mental health are particularly pertinent in the context of COVID-19. A strong immune system depends on getting enough sleep. The body makes and excretes cytokines as you sleep, which are immune system-regulating proteins. Lack of sleep can compromise immune function, leaving people more prone to infections, such as COVID-19 respiratory illnesses. For the body, slumber is a time of rest and restoration. It enables the body to recover from disease or damage and repair tissues and renew cells. Getting enough sleep aids in healing and improves the body's ability to fight off illnesses. For the brain to operate at its best, sleep is essential. It improves one's capacity for focus, attention, memory, and decision-making. Lack of sleep can affect cognitive function, making it more difficult to think critically and solve problems, which can affect one's general mental health. Sleep and mental wellness go hand in hand. The capacity to control and maintain emotions is influenced by getting enough sleep. Sleep deprivation can cause mood swings, heightened irritation, anxiety, and even despair. Sleep habits may be further disrupted by the pandemic's increased stress and anxiety, producing a vicious cycle. Sleep is essential for stress management. Cortisol, one of the stress hormones, is controlled by getting enough sleep. Chronic sleep deprivation can worsen mental health, raise stress levels, and impair the body's capacity to handle stress. The objective of this research is to forecast sleeping and mental health issues during COVID-19 [16-25].

Materials and methods.

The diastolic and systolic blood pressure of the exceptional sleepers was lower, and their mean waist measurements were smaller. Additionally, of all the research groups, the poor sleepers had the lowest average MCS scores. Additionally, those with poor sleep had the lowest mean Subjective Depression Scale (SDS) ratings. The short-term and long poor-sleep groups also had higher rates of problems with glucose or fat absorption.

Subjects:

Male graduates from Kurume University (ranging in age from 18 to 29; mean SD, 19.4 1.8 years) served as participants in this research. None of the participants were chronically ill or on any kind of medicine for their mental or physical health. Furthermore, sleep apnea disorder is a secondary reason behind sleep disruptions associated with obesity. This research thus only included participants with a body mass index among 18.5 and 24.9. Ninety students participated overall. There were no stressful factors, such as exams or lengthy breaks leading up to or subsequent to the assessment day.

Heart and metabolic health during sleep:

Sleep is an important part of many bodily functions, such as regulating metabolism, hormones, and immune system activity, which are all important for cardiometabolic wellness. Studies have linked sleep issues and problems to cardiometabolic conditions like obesity, high blood pressure, high cholesterol, diabetes, and heart disease.

Sleep duration:

Young people and kids with sleep deficits are more likely to be overweight, but the link between short sleep and overweight in older individuals is less well established. The high frequency of chronic illnesses among the elderly may account for some of the contradictory results observed when examining the relationship between sleep and body mass index in this demographic. Self-reported short sleep at the start was associated with significant weight gain and risk of acquiring fat during ten years of follow-up in a sample of over eighty thousand healthier males and females aged 51 to 72 years.

There are other cardiometabolic effects linked to insufficient sleep. Short periods of sleep were related to a 23% higher risk of hypertension, a 48% higher risk of CHD, and a 15% higher risk of stroke, according to two meta-analyses, with the relationships being larger in women. A second meta-analysis found that the chance of developing type 2 diabetes increased by 9% for every hour of sleep lost.

Long sleep time has also been linked to an increased chance of developing diabetes and cardiovascular disease, as well as an increased risk of death from these conditions. Stone and co-workers observed that in contrast to persons who indicated 8 to 9 hours of sleep per night, those who claimed 10 or extra hours of sleep per 24-hour period had a 77 percent rise in the risk of cardiovascular-related death. Multiple pieces of data point to comorbidity as a possible explanation for the links between lengthy sleep duration and worse health conditions.

Analysis of factors:

Principal component analysis was used to extract variables, and a Promax rotation was performed. Scree plots were used to narrow the selection down to three variables. The sum of the individual percentages was 33.6%, whereas the individual numbers were 6.121, 3.031, and 2.592. The total contributions rate was 46.0%, and the capacity for explanation was 53.4%.

The first component has a reliability factor (α) of 0.878, the subsequent factor 0.683, and the final variable 0.670.

An overview of the three investigated factors and their respective load factors are depicted in Table 1. Eight elements made up the first factor: typical night-time routine, typical morning routine, ME result, typical sleep duration, typical breakfast routine, and typical exercise routine. The associated Sleep Smoothness scale was designated after this regularity component and its

components. The second component included 5 sub-factors: sleep latency difficulties, sleep onset latency, early mood upon awakening, sleep duration, and insomnia. The associated Sleep Quality aspect and its associated components have been given the term Sleep Quality scale. The third variable included the following five components: average sleep time, desired sleep time, typical wake-up time, the importance of sleep, and average commute time. The associated Sleep Quantity scale evolved after this quantity element and its components.

Analyzing principal components:

The analysis of principal components was used to calculate average scores for each of the three factors, each of which had eight items. By using the initial value as an index score, we were able to develop a scale for rating sleep patterns. The standard score started at 0. A higher score on the associated Sleep Routine scale indicates more frequent sleep patterns, whereas a lower score indicates more irregular sleep patterns. A higher score on the associated Sleep hygiene scale corresponded to a more restful night's sleep, whereas a lower score suggested a more disrupted night's rest. A higher score on the associated Sleep Quantity scale was indicative of a prolonged period of sleep and more proactivity in acquiring sleep, whereas a lower score suggested a shorter amount of sleep and less proactivity.

Physical variables:

The participants were tasked with taking their measurements of size and weight. Participants of the same research team also assessed waist size where the umbilical cord would be. Using an automated gauge while seated, the individuals also recorded their own resting BP and pulse rates. Subjects remeasured their BP if either their systolic or diastolic readings were outside of the normal range (130 mmHg or 85 mmHg, respectively). If the second reading of the sphygmomanometer was also unsatisfactory, the research team switched to using a mercurial columnar manometer.

Mental health:

All goods are rated on a scale, with higher ratings indicating a greater standard of living. The SF-36 was broken down into its physical and mental components, which were then summarized into the "physical component summary (PCS)" and "mental component summary (MCS)", respectively. Both the PCS and MCS may be directly contrasted to the national standard value of 50. In addition, we may get a holistic assessment of one's QOL by combining data on one's physical and mental health using PCS and MCS.

Blood samples:

Fasting blood sugar, immunoreactive insulin amounts, HDL-C, LDL-C, leptin hormone, des-acyl ghrelin, and high molecular mass adiposity were all analyzed from collected blood specimens. In addition, data for FBS and immunoreactive insulin were used to determine the homeostasis-based model of assessment-insulin resistance: HOMA-IR= (immunoreactive insulin FBS)/405.

Statistical investigation:

The average and standard deviation for each variable were written as mean SD. The normality test employed was the Shapiro-Wilk test. Parametric assessments include one-way ANOVA and Tukey's honestly significant distinction analyses were performed if the item followed an average function. The Kruskal-Wallis H experiment and the Scheffe evaluation were employed as nonparametric assessments with a threshold for significance of p0.05 if the item failed to have an average distribution.

Analysis of variance:

The statistical technique known as analysis of variance (ANOVA) divides data that is seen variation into two types: systematic and random. The exhibited statistics are affected by methodological concerns but are unaffected by unpredictable parameters. Researchers frequently utilize the ANOVA test to look at how different factors could affect the reliability of prediction research. Statistically significant variations among numerous independent variables may be shown with the use of the ANOVA formula, which is employed to carry out a variance. We will demonstrate how to do multiple analyses of separate groups using the ANOVA full form and our method of

Table 1. *Derived variables and loadings factor.*

Factors	Items	Range	Loading factor
Initial factor	usual bedtime	Early-late	0.869
	usual wakeup time	Early-late	0.746
	unusual bedtime	Small-large	0.714
	unusual wake-up time	Small-large	0.690
	M value	Evening-morning	-0.658
	unusual sleep time	Small-large	0.653
	Breakfast pattern	Always-never	0.617
	Activity pattern	Never-always	-0.595
Middle factor	Difficult to sleep	Easy-difficult	0.983
	Time to turn it in now	Short-long	0.530
	The mood on getting up	Pleasant-unpleasant	0.428
	Deep sleep	Deep-light	0.418
	Practice of insomnia	No-yes	0.409
Final factor	Regular period	Short-long	1.003
	optimum sleep time	Short-long	0.575
	usual wakeup time	Early-late	0.398
	The importance of sleep	Important-unimportant	-0.382
	Computerized Time	Short-long	-0.378

generating ANOVA. The ANOVA formula is shown to be the following (equation 1).

$$P = (Average\ number\ of\ squares\ caused\ by\ treatment) / (standard\ error\ of\ the\ mean) \quad (1)$$

Results.

Characteristics of each category of sleeping patterns:

The average and standard deviation for each scale score across all four sleep behaviors categories is shown in Table 2 to 5 and Figure 1 to 4. The first form of sleep was the most consistent and restful, although it tended to be shorter. It was classified as a "good sleep" kind. The second kind had a more regular pattern, marked by insomnia and extended periods of sleep. The category was dubbed "long sleep" type. The third kind, marked by brief but rather restful periods of sleep, was the most common. The category was dubbed "short sleep" type. Extreme insomnia and prolonged sleep length defined the fourth kind, which was the most erratic. The "poor sleep" category was created to describe this kind. Figure 1 and table 2 depicts the outcomes of sleep quality.

The mean values for the 4 sleeping patterns groups for regular rest length, ideal sleep quality, regular night, regular awakening time, and time to get sleeping are displayed in Table 3. The average night's sleep was 6.8 - 1.2 hours. There were essential variations in typical sleep time, suitable sleep time, ordinary night-time, regular awakening time, erratic sleep time, inconsistent night-time, inconsistent get-up schedule, and decades to fall drowsy.

The physical traits of the people:

The physical features of participants with the four sleep patterns are described in Table 4. Multiple comparisons found

Table 2. *Comparison of sleep behavior.*

Sleep type	Sleep quality		
	Regularity	Quality	Quantity
Goodsleep	0.959	0.673	0.266
Long sleep	0.098	0.145	0.515
Short sleep	0.92	0.12	1.088
Poor sleep	1.515	1.051	0.889

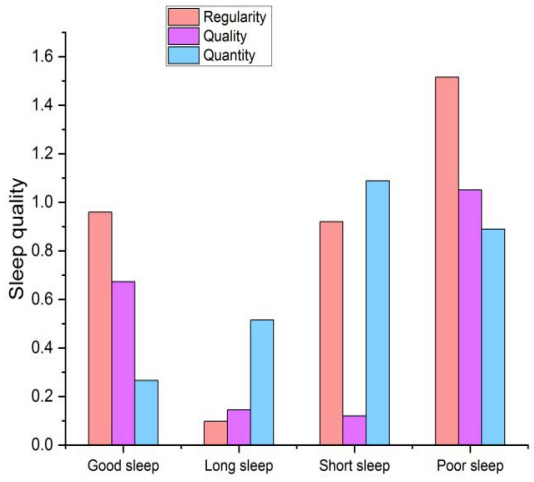

Figure 1. *Outcomes of sleep quality.*

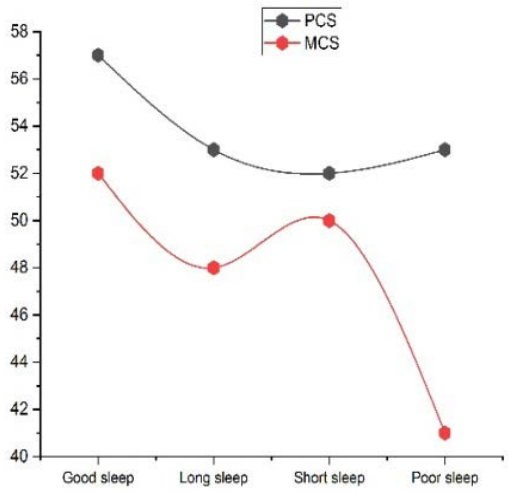

Figure 2. *PCS & MCS.*

a statistically significant distinction between those who had adequate vs inadequate sleep for waist measurement, systolic BP, and diastolic BP, but not for a pulse. There were no statistically significant variations in the individuals' ages or body mass indexes.

Mental health objective:

Information for the four sleep patterns based on PCS and MCS answers from the SF-36 is displayed in Figure 2. All categories' PCS scores were more than the mean (>50), but only two (the long-sleep and poor-sleep categories) had MCS values below the average. Among the participants, there was a statistically significant distinction in MCS but no disparity in PCS. When compared to excellent sleep (p0.001), long sleep (p0.05), and short sleep (p0.01), bad sleep had substantially lower MCS scores. Information for the four sleep patterns based on SDS replies. When compared to excellent sleep (p0.001), long sleep (p0.05), and short sleep (p0.05), bad sleep had considerably higher mean scores.

Blood sample outcomes:

The outcomes of blood tests administered to each group are shown in Table 5. There were no substantial variations in immunoreactive hormone levels, HOMA-IR, LDL-C, des-acyl ghrelin, or HMW a peptide but there were noteworthy differences in fasting blood sugar (p0.05; no difference in multiple comparisons) and high-density lipoprotein cholesterol (p0.05; good sleep vs. short sleep).

Discussion.

This research aimed to quantify the effect of various sleep practices (sleep hygiene) on the psychological and physiological well-being of a group of 90 male college students. Mental health can suffer from sleep problems include insomnia, sleep apnea, and restless legs syndrome. Anxiety disorders, depression, bipolar disorder, and even psychosis can all be exacerbated or developed as a result of chronic sleep deprivation or poor sleep quality. Neurotransmitter and hormone balance can be upset by sleep disturbances, which can cause emotional instability and cognitive decline. There is a reciprocal link between stress and

Table 3. *Characteristics of sleep data.*

Data	Items	Total	Healthy sleep	Long sleep	Small sleep	Bad sleep
Sleep data	N-value	91	26	32	21	15
	Usual sleep	6.8	6.8	7.4	5.4	7.2
	Ideal sleep	7.5	7.4	7.8	6.9	8.2
	Regular bedtime	24.8	23.7	24.7	25.3	26.2
	Regular wakeup	7.9	6.8	8.3	7.5	9.7
	Unusual sleep	71.1	32.5	60.1	79.6	153.2
	Unusual bedtime	94.1	50.1	78.8	117.1	174.7
	Unusual wakeup	81.7	41.3	62.4	90.1	185.4
	Time to sleep	25.4	17.9	28.2	21.1	39.7

Table 4. *Characteristics of physical data.*

Data	Items	Total	Healthy sleep	Long sleep	Small sleep	Bad sleep
Physical data	Age	19.5	20.1	20.7	20.1	20.2
	BMI	22.1	21.3	22.3	22.4	22.4
	Waist circum	73.2	70.1	73.2	74.1	74.5
	Systolic BP	117.3	111.2	118.3	119.1	121.1
	Diastolic BP	67.4	63.5	69.2	66.1	71.1
	Pulse	70.1	65.9	71.9	72.1	73.8

Table 5. *Characteristics of blood data.*

Data	Item	Total	Healthy sleep	Long sleep	Small sleep	Bad sleep
Blood data	FBS	87.9	86.1	87.2	86.8	92.8
	Insulin	7.1	6.8	7.4	7.6	12.2
	HOMA-IR	2.7	2.3	2.5	2.5	4.1
	HDL-C	62.3	64.6	58.8	66.1	60.4
	LDL-C	91.3	94.8	88.2	86.1	98.3
	leptin	3.5	3.1	3.6	3.8	3.5
	ghrelin	204.8	241.7	183.6	182.5	217.5
	HMW	6.3	6.1	6.2	5.1	5.7

sleep. Sleep disruptions can be brought on by stressful life events, work-related stresses, or personal difficulties. On the other hand, sleep deprivation can worsen coping skills, raise stress levels, and make it more difficult to properly manage stress. This loop has the potential to spiral out of control and harm mental health. Our research highlights the need of evaluating all three aspects to establish a reliable connection among sleep and health.

Conclusion.

In this study, we compared four groups of male college students with diverse sleep habits and discovered statistically significant variations in their physical appearance, mental health, and blood sample findings. All of the young men in this research had normal body mass indexes, yet they nonetheless gained weight because of their erratic sleep schedules. This was true even when their total sleep time remained the same. Furthermore, compared to those who had high-quality sleep, those who had poor-quality sleep were in a less-than-ideal mental state. For the sake of their physical and emotional well-being, male college students might benefit from a deeper grasp of sleep patterns. In the disciplines of sleeping aids and preventative medicine, further research may be necessary to verify this scale.

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Conflict of interest statement.

The author declares no conflict of interest.

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