

TSP Annual Journal

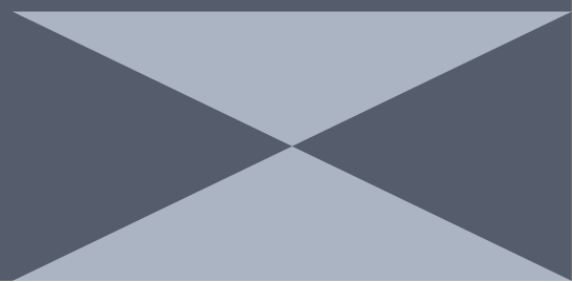
Volume 2, 2022-2023

Edited by:

Batol Hashimi



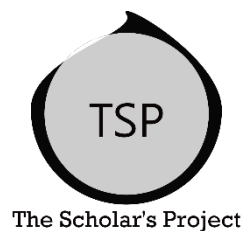
The Scholar's Project



To Enhance Research Knowledge among
Afghan Youths Especially Young Professionals
in the Fields of Social and Natural Sciences
through Training and Mentorship.

Edited by:
Batol Hashimi

Patients and Medical Practitioners' Safety



Designed by:
OROD R&D department

Volume 2, 2022-2023

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Kabul, Afghanistan

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Preface

The primary goal of this initiative is to promote research expertise among youngsters, particularly young professionals in the social and natural sciences through on-the-job training and mentorship programs. OROD strives to play its role in increasing and creating knowledge by boosting the ability of Afghan young specialty girls in the field of applied research and analytical ability by offering professional and standard research training for students and professionals.

Afghanistan lacks published papers and information sources on practically any topic because it is a developing nation. As these nations' contexts are comparable to Afghanistan's, researchers and enterprises in Afghanistan frequently conduct their study using secondary data sources from Pakistan, India, and Iran. However, compared to the demand in Afghanistan, there are extremely few researchers, particularly female researchers. Women are encouraged to engage in close-knit workplaces and professions like teaching and medicine without being encouraged to participate in academic writing, research, and knowledge creation.

Given these circumstances, OROD intends to improve the research abilities of Afghan youth, both male and female, through The Scholars Project, with a particular emphasis on young girls, to help them understand research and produce academic papers. To change social behavior, such as gender inequity, we must give girls and women a voice so they can express their concerns through writing. Allowing young Afghan women to write scientific articles and standard papers allows them to speak up for themselves and defend their opinions more effectively. The publication of literature and papers on social and natural science concerns would aid in reducing the impact of these detrimental discourses on the Afghan population.

Furthermore, the concept of applied research is new in Afghanistan, which may contribute to the high rate of plagiarism among Afghan researchers, professionals, and students. This has two main causes: one is the lack of a search engine to detect plagiarism, and the other is a lack of sense to produce knowledge rather than taking others' work product.

The Scholar's Project Annual Journal, which contains research papers, is published cyclically every year, beginning in August and ending in July of the following year. Through physical and online classes, the project is specifically designed to teach and mentor young professional researchers in the field of social and natural scientific research.

Editors' notes

A stable economic system, especially a health economic system, is achieved by long-term accumulation of knowledge and skills through learning by doing, which provides the maximum return and ensures prosperity. Unfortunately, Afghanistan's health system has been regarded as one of the most vulnerable in the world in terms of human capital and knowledge production due to its reliance on foreign aid, political instability, volatile resource flows, cultural beliefs, and a lack of human and physical capitals.

A high degree of reliance on the international cash flow of aids, which is frequently disrupted due to political circumstances and bureaucratic schemes at the national and international levels, causing the cash flow to provide poor and in-need services rather than capital accumulation. This is because more than half of the country's health budget is based on foreign aid, indicating that the system is unable to produce resources on its own in order to invest back into the system. Afghanistan's national health account shows that the government provides only 30.2% of on-budget support to the health sector, while international communities cover 69.8% of expenses through off-balance. It implies that the international funders themselves support the citizens through NGOs. On the other hand, after excluding the revenue from financial programs, the health financial account reveals that families cover 75.5% of health services. According to this figure, households spent more money on health services even if the government and international aid supply services. There is proof that the money either leaves the country or is utilized for private medical care there, which results in a wasteful allocation of resources anyways.

Although the health sector has been the most unaffected by political instability or sudden government transitions, it has been interrupted, making it difficult for donors and the Ministry of Health to provide quality health services to the people. According to WHO, 50% of children require humanitarian assistance, and a high number of people are suffering from food insecurity, respiratory infections, and a ban on women, all of which exacerbate the country's health-care system and waste time to accumulate capital.

The current scenario has a huge impact on the journal's procedure because demotivation has led many participants to give up or leave the country. However, given the current scenario, we attempt to inspire the will to push for scientific and knowledge production, and we are successful in publishing the current version of the journal. I wish everyone who took part the best of luck and thank you for your commitment to knowledge generation.

Batol Hashimi, MD, BBA, Lecturer, Editor
Organization for Rehabilitation and Optimal Development
July 2023

As the Director of the Research Center and one of the editors of this prestigious publication, I am proud to have been a part of this program and to have witnessed these students' outstanding achievements.

Throughout the training program, I experienced personally these youngsters' determination and dedication. Despite several challenges, they remained dedicated to their studies and displayed outstanding skill in performing health-related research. Their papers demonstrate not only their academic abilities, but also their perseverance in the face of adversity.

I am especially proud of the accomplishments of our female students in light of the current circumstances in Afghanistan, where opportunities for women are frequently few. We have made a tiny but significant contribution to their empowerment and gender equality in the medical industry by giving women this platform to present their findings.

My sincere congratulations go out to each and every student who took part in the program. Your passion to expanding medical knowledge and your determination to doing so deserve the highest praise. Your research publications will undoubtedly benefit the scientific community and motivate others to face obstacles in order to achieve their objectives. I have no doubts about that. Additionally, I want to thank Doctors Batol Hashimi for their crucial guidance and nurturing of these students throughout their research journey.

I extend my heartfelt best wishes for continuing success in all of the students' future efforts. Hopefully, this publication will be the first of many professional successes for you, and it will serve as a reminder of your fortitude and resiliency in the face of hardship.

Mahboba Azizi, MD, BBA, Co-Editor
Organization for Rehabilitation and Optimal Development
July 2023

Welcome to the latest edition of our esteemed research journal! As the copy editor, I am honored to present to you a collection of groundbreaking studies and insightful discoveries that push the boundaries of knowledge in their respective fields. It is with great pleasure that I invite you to embark on a journey of intellectual exploration and enlightenment.

In this issue, we have curated a diverse range of articles that reflect the remarkable breadth and depth of scientific research. Our contributors have delved into captivating subjects, presenting their findings with meticulous attention to detail and unwavering dedication.

As a copy editor, my primary objective is to ensure the clarity, accuracy, and readability of the manuscripts we publish. I have meticulously reviewed each article, working closely with our esteemed authors to refine their work and maintain the highest standards of scientific integrity. It is through this collaborative process that we strive to present you with articles that are both informative and accessible, without compromising on the rigor of the research.

I would like to express my heartfelt gratitude to the authors who entrusted us with their invaluable work and to the anonymous peer reviewers who generously shared their expertise to enhance the quality of the articles. Their combined efforts have truly made this journal a platform for robust scholarly discourse.

Furthermore, I extend my sincere appreciation to the editorial team, whose tireless dedication and commitment have played an instrumental role in shaping this edition. Their meticulous attention to detail and unwavering pursuit of excellence have undoubtedly contributed to the success of our journal.

Lastly, I would like to express my gratitude to you, our esteemed readers. Your unwavering support and enthusiasm for scientific research continue to inspire us on our mission to advance knowledge and foster a culture of intellectual curiosity.

I invite you to immerse yourself in the wealth of knowledge presented within these pages. May this edition of our research journal ignite your passion for discovery, stimulate your intellect, and inspire you to explore the ever-expanding frontiers of science.

Thank you for your continued trust in our publication, and we look forward to bringing you more exciting research in the future.

Warm regards,

Zainab Hashimi, MD, Copy Editor

Organization for Rehabilitation and Optimal Development

July 2023

1. Prevalence of Musculoskeletal Disorder among Dentists in Kabul, Afghanistan

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Kabul, Afghanistan

KEYWORDS

Prevalence
Musculoskeletal
Disorder
Dentist
Afghanistan

ABSTRACT

Background: The prevalence of musculoskeletal complications in dentists is high compared to existing research that has been conducted in Afghanistan.

Objective: This research aims to assess the prevalence of musculoskeletal complications and the most affected area of the body among dental specialists.

Methodology: An online survey was carried out among 86 dentists (83 responses) in Ali Abad Teaching Hospital and a few private dental clinics in Kabul, Afghanistan. Questions included data on demographic details, work conditions, and the Nordic questionnaire.

Result: Overall, 83 out of 86 people have participated in this study. The prevalence of musculoskeletal complications in the present study was found to be 62% among dentists. Neck pain and back pain had a high prevalence among sample dentists. Gender has no influence on the prevalence. Comparing the results with other similar studies, it shows that the prevalence of musculoskeletal complications is an important issue in Germany, India, Iran, and Indonesia too.

Conclusion: Results show that the prevalence of musculoskeletal disorders is high among dentistry practitioners in Kabul. More attention should be paid to the dentistry field and further research should be directed towards this problem.

1.1 Introduction

Work-related musculoskeletal disorder is one of the most common problems among healthcare professionals, including dentists. Dental practitioners are at a high risk of work-related musculoskeletal problems due to their prolonged static postures, awkward positions, limited work area with a limited scope of movements, and narrow visual field associated with the oral cavity. This can lead to neck and lower back pain, chronic muscular fatigue, and continuous physiological damage. Those problems can affect the quality of life of dentists, and their working time and cause career disabilities.

A study in Germany shows that overall, 95.8% of dental professionals suffered from musculoskeletal complications. The neck was the most affected body region among dental professionals. Moreover, shoulder pain was found to be the second highest prevalence after neck pain¹.

Phedy and Gatam conducted a study that revealed the prevalence of musculoskeletal symptoms had been diagnosed in 63.5% of dentists in Indonesia. Most of them experienced fatigue and pain in their neck, upper back, and lower back².

Furthermore, in Iran, a study was conducted focusing on work-related musculoskeletal pains. The findings suggested that about 80% of dentists dealt with musculoskeletal problems after joining

the profession. The problems include lumbar pain, neck pain, and numbness in their limbs³.

On the other hand, another study was conducted among the whole population of physicians in the Czech Republic in 2013. The study findings show that 66.3% of the physicians reported musculoskeletal problems. The physicians included 58.4% men and 69.3% women⁴.

Gopinath et al. after research in India stated that 73.9% of dentists reported musculoskeletal pain. The most common factors are the age and working duration of dentists, by increasing age and working time the risk of musculoskeletal problems will increase.⁵ Chamani et al. found that the most affected regions of the dentists' bodies are the neck and elbow⁶.

The musculoskeletal disorders of dental professionals have been studied worldwide. However, limited sources and information are available in Afghanistan.

Therefore, this study determines the prevalence of musculoskeletal disorders among dentists at Ali Abad Teaching Hospitals and a few private dental clinics in Kabul, Afghanistan.

This research tries to find the answers to the following questions;

1. What percentage of dentists are affected by musculoskeletal disorders in Kabul, Afghanistan?

¹ Ohlendorf, D., Naser, Y. et al. (2020). Prevalence of musculoskeletal disorders among dentists and dental students in Germany. *International journal of environmental research and public health*, 9-10. DOI:10.3390/ijerph17238740

² Phedy, P., & Gatam, L. (2016). Prevalence and associated factors of musculoskeletal disorders among young dentists in Indonesia. *Malaysian orthopedic journal*, 10(2), 2-3. <http://dx.doi.org/10.5704/MOJ.1607.001>

³ Pargali, N., Jowkar, N. (2010). Prevalence of musculoskeletal pain among dentists in Shiraz, Southern Iran. *International journal of occupational and environmental medicine*, 1, 71-72.

⁴ Sustova, Z. et al. (2013). The prevalence of musculoskeletal disorders among dentists in the Czech Republic. 151-152. *ACTA MEDICA* 2013;56(4):150-156

⁵ Gopinadh, A., Devi, K.N.N. et al. (2013). Ergonomics and musculoskeletal disorders: As an occupational hazard in dentistry. *The journal of the contemporary dental practice*, 14(2), 300-302. DOI:10.5005/jp-journals-10024-1317

⁶ Chamani G. et al. (2012). Prevalence of musculoskeletal disorders among dentists in Kirman, Iran. *Journal of musculoskeletal pain*, 1-2. DOI:103109/10582452.2012.704138

2. Which regions of the body are more affected by musculoskeletal disorders among dentists in Kabul, Afghanistan?

1.2 Methodology

The study collected quantitative primary data using a cross-sectional design. An online questionnaire was used and distributed among a random group of dental professionals including general dentists and dental specialists in Ali Abad Teaching Hospital and a few private dental clinics via google forms. The data for the survey was collected in December 2022.

In this study, 86 dental specialists from 72.3% were males and 27.7% were females from Ali Abad Teaching Hospital and a few private dental clinics contributed. The inclusion criteria were a minimum age of 23 years old and a completed questionnaire only by general dentists or dental specialists that they have been practicing dentistry for 3 to 10 years.

The questionnaire of this survey contained three sections. The first section included general information regarding gender, age, height, weight, professional title (general practitioner or specialist), and the length of time in the profession. Section two dealt with the working conditions (working posture, working with or without an assistant) and the specific characteristics of an individual's working environment and work habits like the number of breaks, working hours, and working space conditions. The third section included The Nordic questionnaire, which records musculoskeletal complaints of different body areas; querying; and primarily the lifetime prevalence, 12-month prevalence, and the 7-days prevalence of disorders.

Out of the 86 persons approached with an online form, 83 completed the questionnaire and 3 were incomplete. However, 83 complete responses can be enough to analyze the prevalence of musculoskeletal disorders among dentists in the context of Ali Abad Teaching Hospital and dental clinics.

1.3 Data Analysis

A basic descriptive analysis of the data was completed using Excel.

1.4 Result

The demographic details presented in Table 1 show that the majority of respondents were males (72.3%) and only (27.7%) were females. Additionally, general dental practitioners accounted for 85.5% of the studied subjects, and the remaining were specialists. The mean age of the total 83 respondents was 29 years old as well as the average weight was 70.1kg. However, the average height was 161.8cm.

As the table shows 39.8% of the dentists worked without any break during the day, 39.8% had breaks after every patient and only 20.5% had a short break once in an hour. Furthermore, 46.6% of the surveyed dentists exercise regularly to reduce musculoskeletal problems and 53.6% do not do any kind of exercise.

Figure 2 demonstrates the result of the prevalence of musculoskeletal complications in different parts of the body. Overall, 62.2% of the participants had at least one musculoskeletal disorder symptom over the past twelve months. The most common areas affected with musculoskeletal disorders in order magnitude

were the neck (62.2%), upper back (49.4%), lower back (45.7%), knees (35.4%), and shoulder (27.8%).

Moreover, figure3 also shows that the highest affected area of the body was the neck.

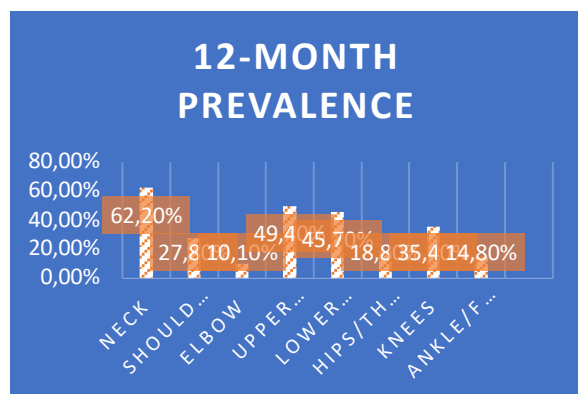
The current study revealed no differences in the prevalence of musculoskeletal disorders between male and female dentists. This could be due to the small sample size of 83 and the fact that the majority of the participants in our study were male. The reason behind the small sample size of female dentists was that, in our country (Afghanistan), most women are not allowed to go to school and university; therefore, the number of female dentists is less than that of male dentists in our society.

No trend was found between the occurrence of musculoskeletal disorders and the number of years of practice. However, there was a correlation between aging and developing pain in different areas of the body. For example, with the increasing age of professionals, less neck pain and shoulder pain have been reported.

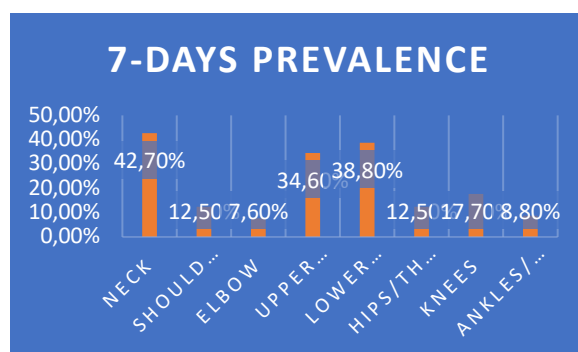
Correct postures during work, lack of exercise and sport, and working consistently without any breaks were the significant factors causing musculoskeletal complications.

Variables	Number (%)
Total study participants	83
Age (average age in years)	29
Male	60 (72.3%)
Female	23 (27.7%)
General Dentists	71 (85.5%)
Specialists	12 (14.5%)
Height (average)	161.8cm
Weight (average)	70.1kg
Prevalence of MSDs	62.20%
Lack of rest	39.60%
Lack of exercise	53.60%

[Table/Fig-1]: Summary characteristics of data the study participants



[Figure-2]: Distribution of MSDs among all participants in twelve months



[Figure-3]: Distribution of MSD among participants in seven days

1.5 Discussion

Musculoskeletal issues, particularly those related to the workplace, are on the rise. Medical professionals, particularly dentists, are among those who experience these issues. Although many studies have been done in this field globally there are no comprehensive studies in Afghanistan. Therefore, this research was conducted to find the prevalence of musculoskeletal complications among dental professionals.

According to the results, a high number of dental professionals (62%) suffer from musculoskeletal problems. In similar studies such as Hay et al the prevalence was reported to be 64% among dentists⁷. The differences in the prevalence of musculoskeletal problems reported in various studies can stem from individual and social varieties.

⁷ Hayes M, Cockrell D, A systemic review of musculoskeletal disorders among dental professionals. *International journal of dental hygiene*. 2009;7(3): 159-65.

⁸ Drooze EH, Jonsson H. Evaluation of ergonomic interventions to reduce musculoskeletal disorders of dentists in the Netherlands. *Work*. 2005; 211-20.

¹⁰ Alexopoulos EC, Stathi I-C, Charizani F. Prevalence of musculoskeletal disorders in dentists. *BMC musculoskeletal disorders*. 2004;5(1): 16.

¹¹ Lake J, Musculoskeletal dysfunction associated with the practice of dentistry – proposed mechanism and management: literature review. *University of Toronto dental journal*. 1994; 9(1): 9-11.

The highest reported problem in musculoskeletal disorders was neck pain with a prevalence of 62%. That is similar to studies including studies conducted in Saudi Arabia and the Netherlands⁸. But this prevalence shows different results in other studies including Lalumandier et al in the USA with 28%, Akesson in Sweden with 73%⁹, and Alexopoulos in Greek with 26%¹⁰.

The variations in reported prevalence may be due to issues such as various measurement tools, cultural differences, and the individual's tasks¹¹. In some of these studies, in addition to dentists, the sample includes dental staff and hygienists, but this study only includes general dentists and specialists¹². The high level of incidence in this group may be related to ergonomic problems such as unsuitable repetitive movements, using vibrating instruments, bending forward at an angle of 15 degrees or sometimes up to 30 degrees for a long time with keeping up shoulder that caused a lot of pressure on the neck and shoulder¹³.

Back pain is the second-high prevalence of musculoskeletal disorders among dentists. As Hayes et al. in their systemic review reported back pain and neck pain as the most musculoskeletal disorder among dentists with prevalence rates of 36.3%-60.1% and 19.8%-70% respectively⁷. The result of the Gupta et al study shows that neck pain with the most prevalence rate (57.5%). The result of our study is similar to the range reported in other studies¹⁴.

Hayes et al. found that neck pain and back pain is seen more in women than men but in this study, the effect of gender on the prevalence of neck pain and back pain has been not considered, which can be caused by the lower sample size of women than men⁷. However, our study found a correlation between aging and neck pain have been reported. As well as, in a study of Hayes the negative relationship between musculoskeletal problems and aging has been seen. The differences that can be seen in the reports come from a variety of issues, including individual, cultural, and social differences.

1.6 Conclusion and Recommendations

The current study assessed the prevalence of musculoskeletal disorders and the most affected areas of the body among dentists and specialists in Kabul working at various hospitals and dental clinics. The results show a high prevalence of musculoskeletal disorders. Moreover, neck pain and back were common among dentists. No trend was found between the occurrence of musculoskeletal disorders and the number of years of practice. In addition, specific postures during work, lack of exercise and sport, and working

¹² Ylipaa V, Arnetz B, Preber H. Factors that affect health and well-being in dental hygienists; a comparison of Swedish dental practices. *Journal of dental hygiene: JDH/American Dental Hygienists' Association*. 1998; 73(4): 191-9.

¹³ Leggat PA, Kedjarune U, Smith DR. Occupational health problems in modern dentistry: a review. *Industrial health*. 2007; 45(5):611-21.

¹⁴ Gupta A, Ankola AV, Hebbal M. Dental ergonomics to combat musculoskeletal disorders: a review. *International journal of occupational safety and ergonomics*. 2013; 19(4): 561-71.

consistently without any breaks were the significant factors causing musculoskeletal disorders.

It is recommended that the working conditions in dentistry should be improved and there is a need for preventive programs such as education in dental ergonomics and awareness regarding the importance of work-related risk factors to reduce the risks of musculoskeletal disorders. The professionals should take these steps to prevent developing musculoskeletal problems and to make dentistry a safer, healthier career. Furthermore, further research and attention are required for this problem.

1.7 Author Special Contribution¹⁵

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2. Relationship between stress and gastric disorders (chronic gastritis) Among medical students of Afghanistan

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Kabul, Afghanistan

KEYWORDS

Stress
Gastritis
Chronic Gastritis
Medical Students

ABSTRACT

Gastritis is an inflammation of the mucosal layer of the stomach which can lead to gastric ulcers in the long term, commonly caused by stress. Worldwide many students have faced gastric disorders due to the stress they have during their studies. On the other hand, a doctor needs to be healthy and without stress for the sake of good performance in the medical field. A limited number of studies have been conducted in Afghanistan to find out the impact of stress on medical student's daily lives or future careers, therefore, this study aimed to describe the relationship between stress and gastric disorders among medical students in Afghanistan. A quantitative study was designed, and data was collected primarily through an online questionnaire from a random group of medical students between 18th-30th on December 2022. Fifty-four members (both male and female) have participated. The participants were from 1-5th classes and interns of different medical faculties (both private and governmental medical schools) of Kabul, Nangarhar, Paktia, Herat, and Balkh provinces of Afghanistan. Microsoft Excel was used to analyze the collected data.

The findings of this study showed a positive relationship between stress and gastric disorders among medical students. Medical students and interns face some challenges in their lives that cause stress more than other students. These challenges include academic overload, examinations, practical work in the hospital, assignments, extra studies, fear of failure, thesis and research, low economic status, feeling alone in the Dormitory, and some other factors that possibly lead to stress among medical students of Afghanistan. All these stressors affected their daily lives and studies. Female students and interns were more affected by stress than male students and interns.

2.1 Introduction

Gastritis is a condition in which the protective lining (mucosa) of the stomach becomes irritated (inflamed), further if it remains untreated can lead to gastric ulcers¹⁶. Stress gastritis is an erosive type of gastritis; it activates the brain-gut axis which results in mucosal mast cell activation and increases the production of pro-inflammatory cytokines and other hormonal and endocrine (high level of cortisol) mediators¹⁷. It also increases the production of Hydrochloric acid (HCL) in the stomach¹⁷. Stress is a nonspecific body response to disturbed body needs¹⁸. Stress is a universal phenomenon that occurs in almost everyone's life and is unavoidable and will be experienced by everyone, it impacts individuals' lives in different ways such as: physical, psychological, intellectual, spiritual, and social¹⁹.

Medical students and interns encounter various stressors that can impact their well-being, such as academic demands, clinical rotations, research requirements, and the fear of not meeting expectations. These factors can lead to high levels of stress among medical students and interns.

Worldwide many students have faced this problem. A study by Nouro found the rate of stress prevalence among medical students in some countries. It showed the following rate of stress among students respectively 56% in Malaysia, 61,4% in Thailand 89,64% in India, and 63% in Saudi Arabia²⁰.

Moreover, university Students face many medical conditions during their time studying like: back and shoulders pain, headache, a variety of gastrointestinal disorders, psychological symptoms, and mental health outcomes such as depression and anxiety, difficulty in sleep, breathing complaints, menstrual disorders and some other

¹⁶ Danish, Inam. Medical Diagnosis and Mangement. 8. 2006.

¹⁷ Mechanisms by which affects the experimental and clinical inflammatory Bowel disease (IBD): Rule of Brain GUt Axis. Bronowski, Bartosz. 2016, current Neuropharmacology, p. 14.

¹⁸ Mental Health, Coping with stress. Organization, World Health. World Health Organization (WHO).

¹⁹ Stress and its Effects on Medical Students: A cross-Sectional Study at a Collage of Medicine in Saudia Arabia. Hamza Abdulghani, Abdulaziz A Alkanhal, ebrahim S Mahmoud, Gominda G Ponnampereuma. 5, 2011, Journal of Health Population and Nutrition, Vol. 29, pp. 516-22.

²⁰ Stress among Medical and its consequences on health: A qualitative study. Abouammah, Nouro. January 2019, Biomedical Research 2020, p. 8.

stress-related complaints²¹. All these stress-related complaints can affect their daily life, ability of learning, academic performance, and goal achievement²².

A positive link between stress and GIT symptoms was found by using preferred reporting items for systematic reviews and Meta-analyses (PRISMA) guidelines for their study to identify the link between stress and GIT symptoms²².

Nouro Abouammah et al. used a phenomenological qualitative study inquiring about medical students and interns who have experienced perceived stressors. The study was conducted at the College of Medicine at King Saud University (KSU) in Riyadh. The targeted population for this study was fifth-year medical students and interns. A convenient sample of 7-10 male and female students and interns was selected. The study found a relationship between stress and its effects on health²⁰.

Firdaus Jahan, Muhammad Sedique, and Mayann R.A used a cross-sectional study design in which medical students of the College of Medicine and Health Science (COMHS) were studied. Questionnaires were administered through a self-reported system. A total of 81 students participated, of which 71 were female (87.7%) and 65.4% reside within the campus. This study indicated that GI symptoms were prevalent among medical students. Significant perceived stress was also displayed. Furthermore, a significant correlation was found between stress and upper dysmotility symptoms²³.

Raras Merbawani et al. (2017) used analytic survey research using cohort design. The research participants were patients of Jatirejo Public Health Services numbering 35 people with a purposive sampling technique. This study identified that stress correlates with GI symptoms²⁴.

A study by Bronowski identified that acute and chronic stress enhances intestinal permeability weakening the tight junctions and increasing bacterial translocation into the intestinal wall which excessive cytokines release and partially blunted immune reactivity in response to a stressor¹⁷.

Eun Young Lee et al. used a cross-sectional study including 715 nursing students in Korea to find a relationship between stress and gastric disorders. The research has shown that 65% of students experienced more than one GI symptom, 31% of students experienced more than three GI symptoms, and most students complained of upper dysmotility and bowel symptoms²⁵.

Although many research studies have focused on the relationship between stress and gastric disorders among medical students, yet in Afghanistan there is very little literature published to investigate this topic. This research aims to find a relationship between stress and gastric disorders among medical students of Afghanistan and to find a way to control stress and prevent adverse effects of stress in the gut and other organs of the body. This study will answer the following questions:

1: Is there any relationship between stress and gastric disorders in medical students?

2: Do stress affect the life of a medical student?

3: Why do medical students have more stress?

2.2 Methodology

This study aimed to find the relationship between stress and gastric disorders among medical students in Afghanistan. The methodology used in this research is an online survey and data was collected primarily from random medical students. The questionnaire was distributed among a group of medical students that had 13 thousand members between the 18th - 30th of November 2022.

The survey was conducted through an online Google form, and the link was shared with medical students. 54 members (both male and female) have participated in the survey.

The participants were from 1-5th class and interns from different medical faculties (both private and governmental medical schools) of Kabul, Nangarhar, Paktia, Balkh, and Herat. Most of them were from Kabul. Kabul University of medical science (KUMS), Nangarhar medical faculty (NMF), Alberoni, Rokhna, Meli, Afghan Swiss, Cheragh, Shifa, Taaj, Daawat, Ghalib Spinghra, Arya, Balkh Medical Faculty, Paktia medical faculty, Herat, Rahaward and Aryana were the Universities from which we collected the data from 54 responses 2 were from Khyber medical college. As our study focuses on medical students in Afghanistan, these two responses were excluded from the study. Totally 36 male students and 18 female students between the age of 18-29 with different economic statuses (40 were middle, 8 low, and 4 respondents had high economic status).

Although this sample size might be small, it can be enough to analyze the relationship between stress and gastric disorders among medical students in Afghanistan. Microsoft Excel was used to analyze the collected data.

2.3 Data analysis

The responses received from the participants are analyzed in this section. This study includes 67% male and 33% female participants.

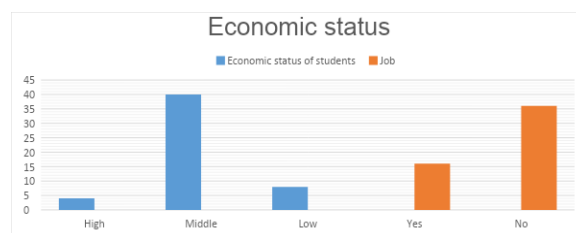


Figure 1: The economical state of the respondents.

From 52 respondents answering about their economic status, 4 (8%) had high, 40 (77%) had middle and 8 (15%) had a low economic

²¹ Perceived Stress and Gastrointestinal Habits in College Students. I.M. Balmus, M. Robea, A. Ciobica and D. Timofte. 2, 2019, Vol. 15, pp. 274-275.

²² Association of perceived stress and gastrointestinal symptoms in college students: A systematic review. A.A, Hamna. 2021, Open Journal of Gastroenterology, p. 10.

²³ Correlation of perceived stress and GI symptoms in Medical Students in Oamn. Firdous Jahan, Muhammad Seddiqui, Mayann R.A. 6, June

2020, American Journal of Multidisciplinary Research and Development(AJMRD), Vol. 2, pp. 15-20.

²⁴ Stress and gastritis relationship at Public Health Service. Merbawani, Raras. 2017, 2017 International journal of Nursing and Midwifery, p. 6.

²⁵ Perceived Stress and gastrointestinal symptoms in nursing students in Korea: A cross-sectional survey. Lee, Eun Young. 2011, BMC Nursing, p. 22.

status and students mentioned that having a low economic status was one of the causes for their stress during their education. 16 (29.6%) respondents had another job besides their studies and most of them were from low-income families, 36(70.4%) respondents hadn't any other occupation.

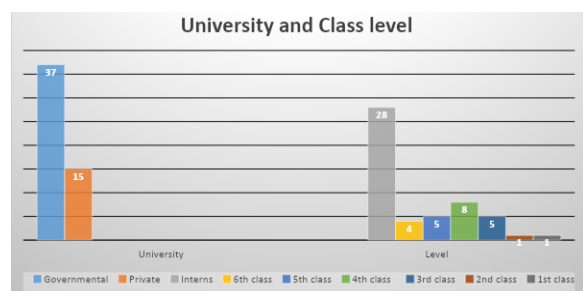


Figure 2: Percentage of students from private and governmental universities of Afghanistan

As the graph shows, The majority of respondents were from different governmental universities in Afghanistan (Kabul University of medical science, Nangarhar medical faculty, Herat, Kandahar, Paktia, Balkh, and Alberoni) and 15 respondents were from different private universities (Bayazid Rokhan, Cheragh, Aria, Ariana, Shifa, Afghan Swiss, Taaj, Spinghar, Daawat, Mirwais week, Ghalib. Rahnaward and Meli) from 1-6th class and interns. Students were from Curative Medicine, Stomatology, and Anesthesia faculties.



Coming to one of the main questions, students were asked about experiencing stress. As Figure 3 shows, the majority of the medical students experienced stress during their studies (78%), 18% of the students sometimes had stress and 4% never experienced stress during the study. This high percentage of Positive responses shows that medical students have more stress during their studies.

Q1: Does stress affect the life of a medical student?

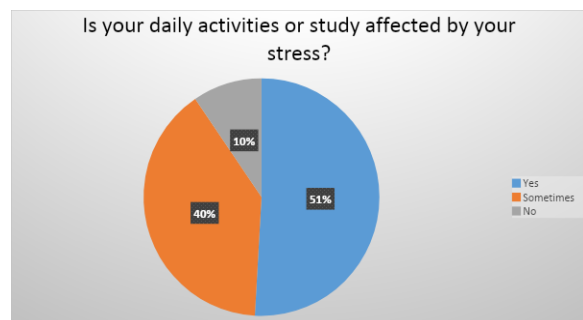


Figure 4: Impacts of stress on daily activities

Coming to the next question, respondents who had experienced stress answered that stress had impacted many of them in doing daily activities. A high percentage (51%) of medical students' life is affected by the stress experience during their studies, and a small group of students were never affected by the stress.

In the following table factors such as sleep duration, Percentages of students that suffer from gastric disorder and headache during their study have been summarized from the responses.

Table 1: sleep duration, gastric disorder and headache.

Sleep Duration	Percentage	Suffer from gastric disorder	Headache during study
more than 6 hours	47%		
6 hours	30%		
5 hours	11.3%		
4 hours	7.5%		
less than 4 hours	1%		
Yes		25.9%	
Sometimes		40.7%	
No		33.3%	
Yes			34%
Sometimes			43.4%
No			22.6%

Most of the students were suffering from gastric disorders. (25.9% always and 40.7% sometimes). However, 33.3% of these students never suffered from any gastric disorders.

The majority of the respondents had headaches during the study (34% always, 43.4% sometimes) due to stress and some gastric disorders which they had and 22.6% have no headaches during study time.

Q2: Is there any relationship between stress and gastric disorders in medical students?

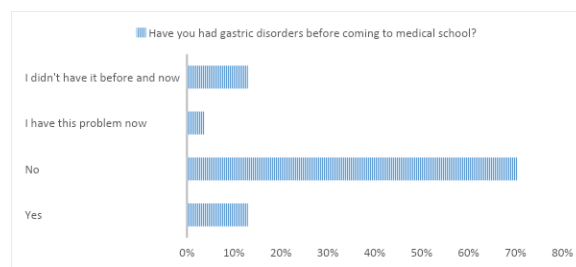


Figure 5: Percentage of gastric disorder among medical students before coming to medical school.

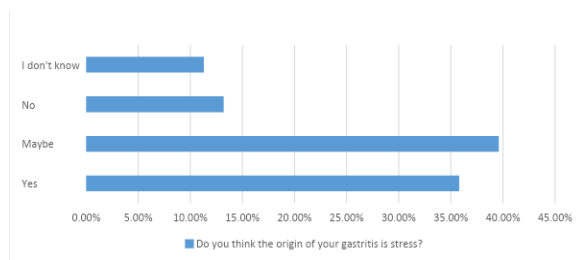


Figure 6: Describes the origin of gastritis among medical students of Afghanistan.

As we see, figure 5 shows that most of the medical students didn't have gastric disorders before coming to medical school. Moreover, figure 6 shows the majority of them think that the cause of gastritis is stress.

Therefore, these findings can show that there is a close relationship between stress and gastric disorders among medical students.

Q3: Why do medical students have more stress?

According to the finding of this research, some significant reasons that a medical student has more stress been fear of failure, overload of studies, low economy, tough exams, worry about results, and long periods of study. Also, in some universities teaching by non-professional teachers, the feeling of being alone in dormitories, prejudice between students, not achieving goals, and an unknown future could be the reasons for the high stress of medical students in the context of Afghanistan.

Furthermore, the responses showed that junior students had more stress than senior students and the very big reason for the stress between them were exams and results after the exams and low economic status.

2.4 Findings

Three main themes emerged from the qualitative analysis: perceived causes of stress in medical students, effects and consequences of stress on everyday life, and the relationship of stress, and gastric disorders among medical students.

Perceived causes of stress in medical students:

Participants confirmed their exposure to stress and stress experience during their study years and internship. Medical students used different terms such as "depressed", "feeling sad", "feeling lonely in the dormitory", "stressed", "feared and worried", "overthinking" to express their feelings. The medical students mentioned that factors like scoring well in exams, economic issues, family problems, demanding everything to be perfect, overload of studies, fear of failure, not achieving goals, a short time for studying in exams, concern about unknown future, and study pressures were the major causes of their stress. Interestingly, most of the students said that their lives are never free of stress since they joined medical school.

One intern had mentioned that: "I've many significant triggers for stress; overthinking, demanding everything to be perfect, concerning too much about unknown future and career, overall, I'm straining myself in every occasion."

Ambiguous demands, increasing responsibilities, and completing a research project for their diploma and according to some of them preparation for board exams for residency made the internship years more stressful for the interns.

A 3rd-year medical student mentioned that: "the volume of lessons and taking a good score in exams is what I'm worried about all the time. Also spending time lonely in the dormitory is another cause of my stress."

Paying the fee before final exams in private universities and low financial state, overload of studies, prejudice between students, teaching by non-professional teachers in some universities, and overthinking about the future and career were the stressors mentioned by different level medical students. It can posterize that medical students have more stress during their study periods.

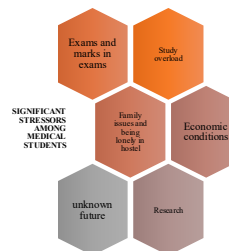


Figure 7: Significant stressors.

Relationship of stress and gastric disorders among medical students:

The majority of the medical students (70.4%) said that they did not have gastric disorders or gastritis before coming to medical school and since they chose the medical field, they have more stress that affects their lives. 35.8% of the students mentioned that the cause of gastritis is the stress that they have through during the study.

33.3% of the respondents suffer from gastric disorders constantly, 40.7% suffer sometimes and 25.9% never suffered from any gastric disorder. Some other symptoms that students suffer from are headache, fatigue, back pain, vertigo, anorexia, and some GI symptoms. 68.5% of respondents visit the doctor for their gastric disorder. This can show a direct relationship between stress and gastric disorders among medical students.

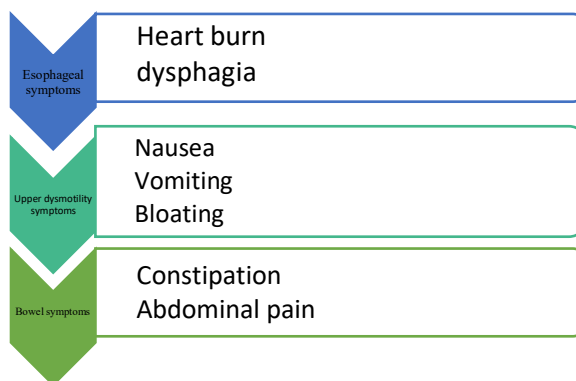


Figure 8: GI symptoms of medical students

Does stress affect the lives of medical students?

The majority of the respondents with the highest percentage mentioned that stress affected their lives, 21 respondent's lives were sometimes affected by the stress, and minimum responses were negative about the effect of stress on their lives.

2.5 Discussion

This research aimed to find the relationship between stress and gastric disorders among medical students in Afghanistan. The findings revealed a positive link between stress and GI disorders among medical students, and the main sources of stress were found to be the overload of lessons, competitive environment, and exams, concerns about marks and scores, low financial state, concerns about fulfilling the research projects, and uncertain future. Furthermore, students have mentioned that stress affects their daily lives and daily activities, and sleep. In line with the research²⁰, the current study showed that exams and overload of work and lessons were important stressors among medical students. Many students described worrying about getting a high score on exams and the volume of the lessons and their low economic state as significant stressors throughout their undergraduate studies. The interns described that studying for board exams, worrying about the residency, fulfilling their research, and transitioning to a higher level of responsibility were the main sources of their stress²⁰.

In line with El Ansari et al.²⁶ and Balmus et al.²¹ study, GI symptoms such as diarrhea, constipation, abdominal problems upper dysmotility, and bowel symptoms were the symptoms that students suffered from. Students who experienced higher perceived stress complained of more than one GI symptom, and females reported more stress than males. The current study showed that the most common GI symptoms among medical students were nausea, vomiting, heartburn, dysphagia, Constipation, epigastric pain, bloating, reflux, and acidity of the stomach. It was also found that the students who had more stress had more GI symptoms.

According to A.A, Hamna study, College students are under a lot of stress, which leads to increased healthcare consumption and has a detrimental influence on everyday activities and quality of life. This study has also shown that the stress that medical students experience during collage life affects their daily life and socialization and sometimes this stress affects their studies too. Most of the students described that their lives were affected negatively/positively. By the stress²².

Participants of this study highlighted some cultural-related factors like being a female medical student and intern in a country like Afghanistan as a stressor too. There are many limitations and difficulties for females, and they seem to have more stress and experienced more pressure compared to male students and interns. As the females mentioned they do not receive support from the family and society side when they struggle with a problem and cannot show their abilities and wishes for future life and goals for achieving and attending the residency programs and broad exams.

Financial stressors were highlighted by the private Universities students because they must pay the fee before their final exams otherwise, they will not be allowed to take the exam. Also teaching

by non-professional and low-teaching skill teachers was another because of their stress.

2.6 Limitation

Including a small sample size of participants, this study was a cross-sectional survey and can't analyze the causal relationship properly. Hence more clinical research with large sample size is required to support this relationship between stress and gastric disorders.

2.7 Conclusion

This paper investigated the relationship between stress and gastric disorders among medical students in Afghanistan. The results showed a positive relationship. Medical students mentioned some stressors like Fear of failing in examinations, academic overload, practical work and assignments, bad economic conditions, research assignments and thesis, and unknown future. Moreover, female students mentioned that they do not have the support of their family or society for their struggles and they have more stress than male interns and students. This stress affects their daily activities and the majority of students had gastric disorders due to the high stress they have during their studies. Symptoms like: epigastric pain, fullness, nausea, vomiting, abdominal discomfort, constipation, dysphagia, and heartburn were the most significant symptoms that they had due to stress. Female students showed more stress than males in a society like Afghanistan where they have no support and opportunities for showing their abilities. Therefore, awareness about this topic is important because if a doctor is not healthy, he/she cannot treat a patient properly and females need support for their struggles.

2.8 Recommendations

To address this issue (the relationship between stress and gastric disorders among medical students), it is recommended to implement stress management programs and interventions, such as mindfulness meditation, exercise, and counseling services. Additionally, promoting a healthy work-life or study-life balance and reducing academic pressure can also help in reducing stress levels among medical students. It is essential to prioritize the mental health and well-being of medical students to ensure their success in their academic and professional careers because the consequences and effects of stress can expand to their professional lives too. As well as it found female students have more stress than males so we should target the unique stressor and challenges faced by female students. This may include providing additional support and resources for female students, such as concealing services, mentorship programs, and networking opportunities, and promoting a culture of inclusivity and diversity within the medical education system can help to reduce feelings of isolation and increase a sense of community among female students. And also, families must support their female children throughout their education period.

²⁶ Are student's symptoms and health complaints associated with perceived stress at University? Perspective from the United Kingdom and Egypt. El Ansari, W., Oskrochi, R. and Haghoo, G. 11, 2014,

2.9 Author Special contributions²⁷

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3. Oral Health Knowledge, Attitude and Behavior Among Dental and Medical Students of Kabul University of Medical Sciences (KUMS)

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KEYWORDS

Oral Health
Knowledge
Attitude
Students
Public Health

ABSTRACT

Objective: The study's goal was to find out how much dentistry and medical students at Kabul University of Medical Sciences knew about oral health, as well as their attitudes and behavior toward dental health and oral hygiene routines.

Materials and Methods: From September 2022 to December 2022, cross-sectional research was conducted at the University of Medical Sciences. A total of 496 dentistry and medical students aged 18-25 years old from 5 colleges of health and medical-related disciplines were addressed. All participants were given a questionnaire with 30 amended items modified from Peterson et al. and Stenberg et al.

Results: 44.5% of the participants brushed their teeth twice per day, 41.3% once per day, and 9.31% more than twice per day, while just 4.7% cleaned their teeth less than once per day. 19.8% of the participants who filled out the questionnaire visited their dentist regularly every 6-12 months, 53.3% visited their dentist when they had pain and 14.1% never visited the dentist in their entire life. Surprisingly, the majority of participants (91%) were aware of the significance of routine dental visits. The majority of the study participants (51.3%) reported visiting the dentist frequently even while they experienced pain. 94% of students had the opinion that brushing teeth prevents dental decay while only 6% disagreed. When asked if using fluoride strengthens teeth, 93% said yes, while 7% said no. 96% of participants agreed that sweets are bad for teeth, and 97% agreed that fizzy beverages are bad for teeth.

Conclusions: Oral health knowledge, attitudes, and behavior is associated with the individual subject's educational level. Females are more concerned about their oral health than males. And for better oral hygiene, there is a need for educational programs for the public.

3.1 Introduction

Oral health is a mirror for the whole well-being of body which has been connected to sleeping issues, behavioral issues, and developmental issues in children and it will have long term effects in human life.¹ It is crucial for appearance, sense of well-being, and overall health.^{28, 29} Dental caries and periodontal disease, the two most prevalent oral diseases, are regarded as behavioral disorders since good oral hygiene practices must be adopted in order to manage them.

Health-related behavior is thought to require oral health information as a necessary precondition. Making patients aware of how to prevent oral disorders and providing them with pertinent information is the first step in developing a habit³⁰. Dental students are expected to be role models for oral health behavior after completing an undergraduate dental curriculum. Practicing proper

oral habits in patients to prevent oral diseases is a crucial duty for oral health practitioners. Peker et al. claim that oral health professionals' attitudes and actions toward their own oral health are a reflection of how seriously they take maintaining their target population's oral health and the value of preventative dental care³¹.

While studies have shown that educational interventions based on the KAP (knowledge-attitude-practice) paradigm greatly improved

²⁸ Rimondini L, Zolfanelli, B, Bernardi, F, Bez C. Self-preventive oral behavior in an Italian university student population. *J Clin Periodontol* 2001; 28:207-11.

²⁹ Hedman E, Ringberg K, Gabre P. Oral health education for schoolchildren: a qualitative study of dental care professionals' view of

knowledge and learning. *International journal of dental hygiene*. 2009 Aug;7(3):204-11.

³⁰ Levin L, Shenkman A. The relationship between dental caries status and oral health attitudes and behavior in young Israeli adults. *Journal of Dental Education* 2004; 68: 1185-91.

³¹ Ilkay P, Alkurt MT. Oral Health Attitudes and Behavior among a Group of Turkish Dental Students. *Eur J Dent*. 2009; 3:24-31.

oral health practice^{32, 33, 34}, a positive correlation between low knowledge and the prevalence of dental caries was observed³⁵ and other study results have shown that children with low oral health attitudes and behaviors were more likely to have dental caries than children with higher oral health attitudes and behaviors^{36, 37}. However, a different study revealed that other characteristics should be taken into account in addition to knowledge, attitude, and the KAP model when predicting oral health practices^{38, 39}.

The oral health system in Afghanistan is currently undergoing change. Our knowledge of people's attitudes on oral illnesses and their prevention is poor. Planning for public oral healthcare requires systematic data. This study is of the utmost significance in this sector because there aren't many studies about the attitudes and behaviors related to oral health among Afghan university students.

This study's objectives were to determine the self-reported oral health attitudes and behaviors of a group of dental and medical students at various Medical & Dentistry Universities in Kabul and to examine the disparities in oral health attitudes and knowledge among dental and medical students at Afghan medical universities.

3.2 Research Questions

- 1: What is the degree of oral hygiene among medical and dentistry students? (18 -25years)
- 2: Which gender is more responsible for maintaining dental hygiene?
- 3: Do medical and dental knowledge and information impact oral hygiene?

3.3 Methodology

Between September and December 2022, 496 medical students from Kabul University of Medical Sciences, faculties of medicine, dentistry, public health, and nursing participated in this cross-sectional study, with 37% (n=184) male students and 64% (n=312) female students. Students were reached in classes, on the university campus, in reading rooms, and in the cafeteria and asked to complete an anonymous structured questionnaire covering the following topics: Age, gender, academic standing, study year, and financial situation assessment are sociodemographic characteristics. Dental health knowledge, attitudes, and perspectives are also sociodemographic characteristics (toothbrushing, flossing, use of mouthwash, regularity of dental visits, and consumption of sugar-containing and sugar-free products).

After the evaluation of the proposal for this study by the research and ethical committee of Kabul University of Medical Sciences, the directorate of the university approved and gave its permission for

proceeding with this study. The surveyor inquired to illuminate the students about the study. All those students who were under 18 years old, were rejected for participating in this study. The study was affirmed by the ethical and research board at Kabul University of Medical Sciences. Before starting our survey, university approval and informed consent from the students were gained.

All participants were given a detailed questionnaire adapted from Peterson et al. and Stenberg et al. The survey included 33 questions designed to assess students' attitudes, behaviors, and knowledge of oral health and dental care. Albeit, we did not use all thirty-three items of the questionnaire because the three items of them were not suitable for medical and dental students and that's why we evaluate those items by thirty questions of the survey. By doing this, the knowledge of participants regarding oral health was tested based on different topics which are including the influences of fluoride utilization and brushing on dentition, the purpose of gums' bleeding and how to stop it, the consequences of dental plaque, the number of temporary and permanent teeth, the impacts of sweets and soft drinks on the dentition and influence of caries on the aesthetic appearance of teeth.

Brushing habits of participants (such as recurrence, term, and time), dental knowledge, and dental visits were also evaluated (such consistency, the reason behind the visit, impact of torment and financial matters on dental participation, data on to begin with a visit, and looking for medications). Treatment uneasiness, treatment sentiments, treatment inclusion considerations, opinions and attitudes regarding the dentist and dental care, attitudes toward dental care and body care in common, and the states of mind toward customary dental visits were utilized to evaluate participants' attitudes about dental care.

In the end, the strategy for reacting to each item was given, and subjects were taught to take after it. A constrained choice arrangement was utilized, in which members had to write their answers, select from a list of alternatives, or combine the two. The subjects were given a careful clarification of how to score their answers and were instructed that a few things had multiple answering designs. A researcher was moreover displaying at all times whereas the students completed the survey, and they were encouraged to contact him in case they had any questions. On several occasions, the subjects were given the choice of selecting more than one answer to a given question. This clarifies why the figures within the recurrence columns don't continuously coordinate the overall test measure for those things within the comes about tables.

Descriptive statistics were used to compute means, standard deviations, and frequency distributions. The data were examined using the Statistical Package for Social Science 26.0. (SPSS 26.0).

³² Suprabha BS, Rao A, Shenoy R, Khanal S. Utility of knowledge, attitude, and practice survey, and prevalence of dental caries among 11- to 13-year-old children in an urban community in India. *Global health action*. 2013; 6:20750.

³³ Shenoy RP, Sequeira PS. Effectiveness of a school dental education program in improving oral health knowledge and oral hygiene practices and status of 12- to 13-year-old school children. *Indian journal of dental research: official publication of Indian Society for Dental Research*. 2010 Apr-Jun;21(2):253-9.

³⁴ D'Cruz AM, Aradhya S. Impact of oral health education on oral hygiene knowledge, practices, plaque control and gingival health of 13- to 15-year-old school children in Bangalore city. *International journal of dental hygiene*. 2013 May;11(2):126-33.

³⁵ Suprabha BS, Rao A, Shenoy R, Khanal S. Utility of knowledge, attitude, and practice survey, and prevalence of dental caries among 11-

to 13-year-old children in an urban community in India. *Global health action*. 2013; 6:20750.

³⁶ Diwan S, Saxena, V, Bansal, S, Kandpal, SD, Gupta N. Oral Health: Knowledge and Practices in Rural Community. *Indian J Comm Health*. 2011; 22:29-33.

³⁷ Al- Omiri M, Board, J, Al-Wahadni, AM, Saeed, KN. Oral health attitudes, knowledge and behavior among school children in North Jordan. *Journal of Dental Education* 2005;70 (2):179- 87.

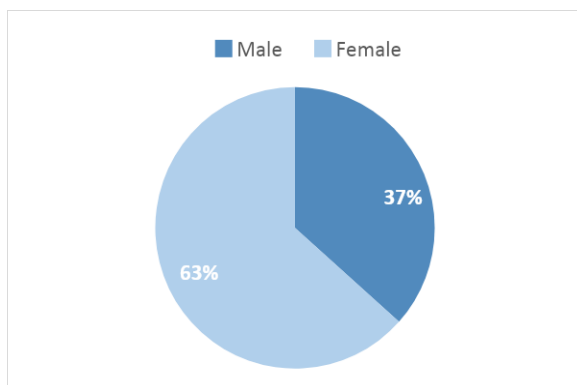
³⁸ Suprabha BS, Rao A, Shenoy R, Khanal S. Utility of knowledge, attitude, and practice survey, and prevalence of dental caries among 11- to 13-year-old children in an urban community in India. *Global health action*. 2013; 6:20750.

³⁹ Oliveira ER, Narendran S, Williamson D. Oral health knowledge, attitudes and preventive practices of third grade school children. *Pediatric dentistry*. 2000 Sep-Oct;22(5):395- 400.

3.4 Results

The study embraced about 496 medical students, among them 37% (n=184) were male and 64% (n=312) were female students. The age of students ranged from 18-25 years, most of them were at the range of 20-21 years, and the level ranged from 1-7 grades and most of them were in 4th grade. Data were collected from 4 different faculty students, Curative medicine 24 % (n= 129), Dentistry 47% (n=254) Public health 18 % (n=96), and Nursing 11.4 % (n=62).

Chart (1) shows the percentage of participants according to gender.



According to the survey, 44.5% of the participants brushed their teeth twice per day, 41.3% once per day, and 9.31% more than twice per day, while just 4.7% cleaned their teeth less than once per day. The majority (74.6%) used a toothbrush and toothpaste to clean their teeth, 46.8% of participants brush their teeth before going to bed and 44.8% in the morning. 40.1% of the participants brushed their teeth for two minutes, 26.4% for one minute, 25.7% for more than two minutes, and 9.7% for less than one minute.

Type of treatment	Number of responses	Percentages
Check up	93	20%
Taking x-ray	31	6.6%
Have scaling	51	11%
Have fluoride on teeth	9	1.9%
Treating gums	13	2.8%
Have filling	145	31.3%
Have crown/bridge	15	3.2%
Have orthodontic treatment	23	4.9%
Have tooth extraction	62	13.3%
other	21	4.5%

Table (1) shows the treatments sought during student's last dental visit

Duration of time	Number of responses	Percentages
Six months ago	154	37.6%

Last 6-12 months	74	18%
Last 1-2 years	69	16.8%
Last 2-5 years	40	9.7%
More than 5 years	72	17.6%

Table (2) shows the last time when participants visited their dentist

The majority of participants (76%) believed that bleeding in gums is a sign of inflamed gum, 29.1% of participants believed that for protecting gums from bleeding, using a toothbrush, paste, and dental floss is vital, 5.6% believed that using of soft food is important, 58% of the participants had the same belief for using vitamin C and 7.1% didn't know how to protect.

19.8% of the participants who filled out the questionnaire visited their dentist regularly every 6-12 months, 12.7% visited occasionally and 53.3% visited their dentist when they had pain and 14.1% never visited the dentist in their entire life.

The most frequent reason for students (62.9%) for their last dental visit was dental caries and other reasons for visiting the dentist were including; family and friends' advice (8.2%), dentist's advice (14.1%), and their internal trigger and interest (14.6%).

Students' feelings about their first dental appointment ranged from worried and hesitant, slightly afraid, very slightly afraid, to never fearful (19.7%, 13.8%, and 21.4% to 44.9%).

Impression	Number of responses	Percentages
There was no dental pain	62	15.1%
There was severe dental pain	136	33.1%
There was little dental pain	75	18.2%
I was feeling not comfortable	48	11.7%
I felt nothing	58	14.1%
There was not enough time for treatment.	13	3.1%
There was enough time for treatment.	18	4.3%

Table (3) shows the first impression of participants from their first dental visit

Table (4) shows the reasons of why participants do not want or are afraid of visiting their dentist

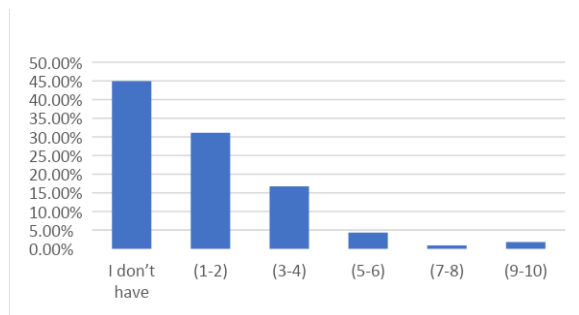
reasons	Number of responses	Percentages
I am afraid of the handpiece	67	15.9%
I am afraid of the dental needle	118	28.1%
Treatment cost is high	89	21.2%
There are no dental clinics nearby	12	2.8%
There is no time	41	9.7%

There is no pain to go to dentist	66	15.7%
I am afraid sitting in the waiting room	14	3.3%
I am afraid even from thinking of tomorrow's appointment.	12	2.8%

Participants' knowledge of the number of deciduous and permanent teeth was different; 9% of them believed that the number of deciduous teeth is less than 20, 6% of them believed that the number of deciduous teeth is more than 20, and only 75.2% of students accepted that the number of deciduous teeth is 20, and 9.6% of them didn't have any idea regarding it. And about permanent teeth; 5% for less than 32 teeth, 86.7% of them responded the number of 32 for permanent teeth and 8.1% of them didn't know about the number of permanent teeth.

44.9% of participants did not have carious teeth, 31.1% had one or two carious teeth, 16.7% had three or four carious teeth, 4.3% had five or six carious teeth, 0.9% had seven or eight carious teeth, and 1.8% had nine or ten carious teeth. 49.3% of the participants had no filled teeth, 32.1% had one or two filled teeth, 12% had three or four filled teeth, and 6.4% had five or six filled teeth.

Chart (2) shows the number of carious teeth of the participants.



According to the poll, 94.5% of participants who completed the questionnaire felt that carious teeth can alter the look of teeth, while 4.5% claimed that it did not.

94% of students had the opinion that brushing teeth prevents dental decay while only 6% disagreed. When asked if using fluoride strengthens teeth, 93% said yes, while 7% said no. 96% of participants agreed that sweets are bad for teeth, and 97% agreed that fizzy beverages are bad for teeth.

Based on the study 91% of students committed that regular visits to the dentist are necessary, whereas 9% were opponents. 79% believed that dentists always explain the dental problem and solve it, on the other hand, 21% did not. 92% mentioned that the dentist examines and takes care of his or her patients and 8% had a negative response to this. There is a remarkable percentage of 68% who

believed that what the dentist cares about is treatment not prevention but 32% believed that it is not.

95.5% of the participants believed that general body health has a relationship to oral and dental diseases whereas only 5% believed that there is not.

96% of the students who filled out the questionnaire mentioned that they care about their teeth as much as any part of their body while 4% committed that they do not.

3.5 Discussion

To the best of our knowledge, this study is the first of its type to look into these concerns among medical students in Afghanistan. It provided a thorough analysis of oral health behavior, knowledge, and attitudes among medical university students aged 18 to 25. Previous studies involving Afghans showed that they have bad oral hygiene, attitudes, and knowledge.⁴⁰ When the results of this study were compared to European populations,^{41 42 43} European students demonstrated better dental knowledge, attitudes, and health than Afghans.

Although medical students (curative medicine) have never received such information, second and higher year dental students have received knowledge and skills to help them understand the role of preventive dentistry and oral health care in the management of common oral health problems, such as dental caries, gingivitis, tooth wear, etc.

The fact that dental students' mean scores based on surveys were higher than those of medical students suggested that the course information relating to oral health education may have had a positive impact on dental students' levels of oral self-care. The findings of this study agreed with those of a survey employing the HU-DBI conducted by Kawamura et al.⁴⁴, which found that second-year dental hygiene students had significantly higher mean HU-DBI scores than second-year nursing students. Our sample size was rather small, which was a restriction in our study even if the results were statistically significant; a subsequent investigation with a bigger sample population may reveal stronger relationships than those described here.

Based on our study, gender was a significant factor affecting the percentage of agree/disagree responses for items (worry about the color of teeth, noticed some white sticky deposits on teeth and often check my teeth in a mirror after brushing). Compared to their male counterparts, female dental students displayed a substantially better attitude. This result is in line with earlier studies.^{45 46}

Typically, females are more inclined to practice good self-care behaviors for internal psychosocial factors, such as to enhance their physical attractiveness and self-esteem.

⁴⁰ Qadir SA, Muhammad S, Khattak MI, Khan Z, Khan M, Haq Z. Self-reported oral health status and associated factors among afghan refugees in Peshawar Pakistan; a pilot study. *Reh J Health Sci.* 2020;2(2). 40-45.

⁴¹ Downer MC. The improving oral health of United Kingdom adults and prospects for future. *Br Dent J* 1991; 23:154-8.

⁴² Peterson PE, Aleksejuniene J, Christensen LB, Eriksen HM, Kalo I. Oral Health Behavior and attitudes of adults in Lithuania. *Acta Odontol Scand* 2000; 58:243-8.

⁴³ Stenberg P, Hakansson J, Akerman S. Attitudes to dental health and care among 20- to 25-year-old Swedes: results from a questionnaire. *Acta Odontol Scand* 2000; 58:102-6.

⁴⁴ Kawamura M, Ikeda-Nakaoka Y, Sasahara H. An assessment of oral self-care level among Japanese dental hygiene students and general nursing students using the Hiroshima University Dental Behavioural Inventory (HU-DBI): surveys in 1990/1999. *Eur J Dent Educ.* 2000;4: 82-8.

⁴⁵ Al-Omari QD, Hamasha AA. Gender-specific oral health attitudes and behavior among dental students in Jordan. *J Contemp Dent Pract.* 2005;6: 107-14.

⁴⁶ Porat D, Kawamura M, Eli I. Effect of professional training on dental health attitudes of Israeli dental students. *Refuat Hapeh Vehashinayim.* 2001; 18: 51-6.

The dentist's job should extend beyond the delivery of dental care because oral health encompasses much more than just having good teeth.⁴⁷ Consequently, dental health education programs that aim to improve oral health practice among the population are very important. Improving public awareness of periodontal health is an essential public health goal in Afghanistan.

Most of the participants in this study, according to the poll, clean their teeth at least once every day. The participants also mentioned irregular dental brushing schedules. The failure of non-dental students to plan or support their toothbrushing efforts aligned with findings from a prior study that showed adults had unacceptable levels of periodontal disease knowledge and awareness.⁴⁸ It was discovered that mouthwash and tooth floss were rarely used; this could possibly be attributable to the absence of oral health education and/or the high cost of such products.

The findings of this study revealed knowing of gingival bleeding as a sign of periodontal disease (represented by gingivitis), which was similar to the findings of a study conducted among Jordanian students.⁴⁹ Most participants in the study did not make the connection between gingivitis and dental plaque or understand the significance of brushing in the management of gingivitis.

The majority of the study participants (51.3%) reported visiting the dentist frequently even while they experienced pain, and this conclusion is similar with a study on Afghan population¹ while only 14% of non-Afghan participants in a different survey who are not medical students or practitioners expressed a strong desire to visit a dentist.⁵⁰ Surprisingly, the majority of participants (91%) were aware of the significance of routine dental visits. Certain findings of this study may offer a justification for the individuals' sporadic dental visits. A significant part of the subjects claimed that they did not attend, because of their dread of dental procedures, the high cost of dental care, and the absence of toothaches.

Additionally, dental services are typically not covered by the Afghan's medical insurance system, which may be the cause of the low rates of dental clinic visits. Tradition and a lack of official healthcare in the community may also be to blame. The extra time needed for frequent visits might not be acceptable, or there may have been a prior negative dental experience. Since one's knowledge of and attitude toward proper health care are crucial components of the preventative cycle, a lack of adequate dental education may be a contributing factor.^{51 52 53 54} To address this, a planned intervention is required. This could result in an improvement in oral and dental health status by raising population awareness and altering their attitudes, behaviors, and lifestyle choices.

Another finding which was found in this study, most of the subjects showed a critical level of dental treatment anxiety which is closer to the finding of another study not among Afghans.¹⁰ It may be due to

the absence of adequate education programs on oral health, which together with the aforementioned factors made dental care unpopular.

The majority of participants (95.5%) had favorable opinions toward their dental practitioners and specialists and high levels of understanding of the connection between dental health and overall health. Which means, the fact that Afghan medical and dentistry institutions have been supporting and educating the importance of prevention and the appropriate treatments of young patients by taking into account systemic well-being and psychological factors. It is vital to note that highlighting the connection between oral health and overall health may aid in promoting oral health awareness and oral self-care among the general public. Nonetheless, a few institutional medical/dental institutes and dental schools in Afghanistan have mostly delivered educational oral health programs to the general people on a small scale. In order to enhance oral health practices, knowledge, and attitudes among the general public, comprehensive national educational initiatives are required. Unfortunately, these attempts are fragmented and insufficient countrywide.

3.6 Conclusion

As a general conclusion, there is a relationship between the educational level of the adult population investigated and levels of oral health awareness; as the participants' educational level improved, so did their oral health knowledge. Subjects from curative medicine, nursing, and public health had a lower degree of oral health awareness because they had not obtained as much dental and oral health information as dentistry students. Female students at Kabul University of Medical Sciences were generally more aware and worried about dental health concerns, as well as more involved in oral behavior and attitudes, than male students. Furthermore, most KUMS students went to the dentist only when they really needed to, and check-up visits were rare. Although the majority of the students appeared to be content with their oral health, they lacked an understanding of the causes and prevention of dental caries and periodontal disorders.

3.7 Author Special contributions⁵⁵

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⁴⁹ Taani DQ, Alhajja ES. Self-assessed bleeding as an indicator of gingival health among 12-14-year-old children. *J Oral Rehabil* 2003; 30:78-81.

⁵⁰ Diwan, S., Saxena, V., Bansal, S., Kandpal, S. D., & Gupta, N. (2011). Oral health: knowledge and practices in rural community. *Indian Journal of Community Health*, 23(1), 29-31.

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⁵⁴ Komabayashi T, Kwan SYL, Hu DY, Kajiwaru K, Sasahara H, Kawamura M. A comparative study of oral health attitudes and behavior using Hiroshima University- Dental Behavioral Inventory (HU-DBI) between dental students in Britain and China. *J Oral Sci.* 2005; 47: 1-7.

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4. Anxiety Level in KUMS Female Students Concerning their Career and Economics Status

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KEYWORDS

Gastric disorders
Attitude
Dental health

ABSTRACT

Introduction: Gastric disorders are a common problem of the twenty-first century and different factors including infections, stress, and anxiety are thought to be related to it. Anxiety is one of the most seen contributing factors among people with gastric disorders, especially students. This research studies risk factors for gastric disorders among female medical students at the Kabul University of Medical Science.

Method: A qualitative study is conducted using online survey questions among 35 female participants of the Kabul University of Medical Science Faculty of Medicine between aged 17 to 26.

Result: This study confirms the existence of a high level of anxiety and gastric disorders among female students of Kabul the University of Medical Science and shows students suffering from anxiety were also affected by gastric disorders.

Conclusion: Gastric disorders among female medical students of Kabul University of Medical Science were seen as parallel to anxiety and depression. There is a significant connection between the incidence of gastric disorders and anxiety among students.

4.1 Introduction

Anxiety is an unpleasant exciting state in that a person is expecting a negative event to happen but is not assured of it happening. There are 3 factors related to anxiety disorder as Autonomic nervous system, Neurotransmitters, and Genetic factors. Stimulation of the autonomic nervous system, especially, the sympathetic system leads to various symptoms such as tachycardia, headache, diarrhea, and tachypnea⁵⁶.

According to the explorations done on the animals and their reactions to the treatment, it is evident that three neurotransmitters are related to anxiety: norepinephrine, gamma amino butyric acid, and serotonin. Moreover, most of the mental stresses lead to cortisol being produced excessively⁵⁷. In stressful situations, the CRF (Corticotropin-Releasing Factor) level goes up and it leads to higher cortisol release. Also, it prohibits several activities such as eating, sexual activity, and endocrine (growth and reproduction). Meanwhile, Y and Galanin neuropeptides have a role in anxiety disorder⁵⁶. Besides, studies show the genetics role in anxiety disorder. Research on twins and the serotonin transfer gen shows that decreased serotonin production by this gen causes anxiety⁵⁶.

Anxiety disorder is a basic human mental agitation that is a combination of fear and continuous worry that the person cannot stop despite trying to avoid such thoughts⁵⁸. People having anxiety disorder anticipate negative events in every situation in their life. Although there is not any external factor, they have repeated negative thoughts of negative happenings. However, anxiety is a mental disorder related to emotions and thoughts that can affect

physical well-being⁵⁷. The most common physical symptoms of anxiety include excessive tension, unusual sweating, muscle tension, and restlessness. In addition to these symptoms, people with an anxiety disorder may also have panic disorder, phobias, and depression⁵⁸.

Several factors are considered to be responsible for anxiety such as genetics, brain chemistry, and stressful environment. In genetics, anxiety and feelings of dread can transfer in families. There are specific neurotransmitters in the brain and all-over nervous system transferring impulses from one nerve to another. If these neurotransmitters do not work properly, it causes anxiety. Besides, presenting in a stressed environment and having low grades and poor performance in educational aspects, low income or worry about their economic state are contexts of anxiety. The anxious students are not able to put their potential into action and they cannot utilize their capabilities as normal and brilliant students⁵⁸.

Although anxiety and stress terms are being used and intimate the same purpose differs in their meanings. Stress is a common response to various motives and is resulting in motivation and hardworking in cases we consider stress positive and have a self-belief of being able to manage the situation. On the other hand, if we consider stress as a threat and have self-belief of not being able to overcome the situation, it causes anxiety. We can overcome our response to stress so that if we have a better stress response it won't lead to anxiety⁵⁹. Environmental factors affect students and interfere with their cognition abilities and performance. Political changes and country rule alterations affect students' attitudes and higher their career worries. Female students face socioeconomic restrictions. Getting a job and contributing to various social and educational activities are

⁵⁶ Clinical Psychiatry, 2020, Kabul: Sharefullah medical publication.

⁵⁷ Preston, T.C. , Shelton,R .C. (2016). Anxiety Disorders. In: Fatemi , S. , Clayton, P. (eds) The Medical Basis of Psychiatry. Springer,New York, NY.

⁵⁸ Zaman, Q., et. al., 2010, Key factors which cause the anxiety among the university students: A case study based on an event happened in peshawer campus. European Journal of Social Sciences, p.87,88.

⁵⁹ Howard, Emma L. "A review of the literature concerning anxiety for educational assessments." 2020.

a challenge for female students. Economic status is another stress-induced factor, especially for poor families. Belonging to low-income families can affect mental health⁵⁸.

Another study conducted by Mirza et al. has found that university students' academic performance, physical well-being, and mental health may substantially worsen over the academic career and could only be detected at an advanced stage. Additionally, this study showed that psychological distress was associated with suboptimal quality of patient care, patient safety, and professionalism⁶⁰.

Stress and anxiety are believed to be part of the clinical picture of many different conditions and may result from or be associated with various medical conditions too. These epidemiological observations clearly state the vulnerability of today's population to maladaptive behavior⁶¹.

According to American Psychological Association (APA), socio-economic status (SES) is commonly conceptualized as the social standing or class of an individual or group, and it is often measured as a combination of education, income, and occupation. When viewed through a social class lens, privilege, power, and control are emphasized. In studies of adults, socioeconomic status has been found to impact both directly on rates of mental illness and indirectly via the influence of poverty and financial hardship on low- and middle-income groups. While anxiety is known to affect both learning and performance⁶¹.

As a result, university students' academic performance, physical well-being, and mental health may substantially worsen over their academic career and could only be detected at an advanced stage⁶². The COVID-19 pandemic is likely to increase anxiety levels within the community and in particular medical students who are already considered psychologically vulnerable groups. Since the COVID-19 outbreak, no study has yet estimated the effect of this pandemic on university students in the UAE or its impact on the psychological well-being of medical students⁶².

Globally, mental health among undergraduate students represents an important public health entity. University students face considerable demands in school and family, resulting in significant psychological stress that may lead to serious disorders and mental health issues such as depression and anxiety⁶³.

A recent study found that the overall prevalence of stress among college students in Afghanistan is 40%. The high prevalence of anxiety among college students may be due to the current state of the country. Everyday conflicts, suicide bombings, explosions, violence, political problems, inadequate family needs, and growing financial challenges make students feel insecure about themselves. Students may not be able to focus enough on their studies and be worrying a lot about their future goals at the same time. In addition, according to this study academic stress and anxiety about future employment has increased. Fewer Opportunities can also contribute to high levels of anxiety⁶³.

The results of the interviews with the students of Kabul University showed that most of the students faced some problems in their personal lives, such as domestic violence and stress, financial problems, and anxiety about being away from home and family. In addition, the participants reported that there were many problems in the dormitory environment, such as poor food quality, problems managing the behavior of some female students, and especially the existence of some female students that might have had a role in

increasing their stress and anxiety. religious and ethnic prejudices in the dormitories, which sometimes even create confrontations and controversies among students, need the attention of the Ministry of Higher Education. Although raising problems, the students said that apart from being away from home and having some problems in the dormitory, they were satisfied with the service of the administrative staff and dormitory workers⁶⁴.

Although a large number of studies have been conducted on the topic of anxiety among medical students, there is not sufficient literature in Afghanistan about the topic. Considering the change in Regime and more conservative rules on women, we need to know how medical female students have been affected by anxiety and worry about their economic status and career. To study anxiety levels in KUMS Female Students concerning their Career and Economic Status, this research tries to find answers to the following questions:

- 1: How many female students of Kabul Medical University are diagnosed with anxiety?
- 2: What changes they have experienced in their behaviors and routine life?
- 3: Whether the students are diagnosed with stress ulcers or not?
- 4: How many female students are faced with social isolation?

4.2 Methodology

To achieve the research objectives, a quantitative research approach was employed. Data was collected through an online survey in the English language. The survey was conducted on 10th December 2022 among female students of Kabul Medical University. The purpose of this study was to assess the anxiety levels of female students at the Kabul University of Medical Science (KUMS). A total of 100 female medical students were randomly selected to participate in the study. Out of 100 students, only 35 female students answered the survey questions, resulting in a response rate of 35%. The online survey consisted of closed-ended questions designed to gather information about participants' demographic characteristics, anxiety levels, and factors that may contribute to anxiety levels. It was based on a standardized scale used in previous studies to measure Data collected from the survey were analyzed using statistical software. Data were summarized using descriptive statistics such as counts and percentages. Overall, this study used a quantitative research approach and collected data through an online survey of female medical students at Kabul University of Medical Science. The results from this study provide valuable insight into the anxiety levels of female medical students and may help identify potential interventions to reduce anxiety levels and improve mental health in this population.

4.3 Limitations

A limitation of this study was the low response rate of 35%. Of the 100 randomly selected participants, only 35 female students participated in the survey. This may have resulted in a biased sample that did not accurately reflect the anxiety levels of all female medical students in Kabul. Furthermore, this study relies on self-reported data and may be subject to social desirability biases and inaccurate

⁶⁰ Mirza, Ahmad A et al. "Depression and Anxiety Among Medical Students: A Brief Overview." *Advances in medical education and practice* vol. 12 393-398. 21 Apr. 2021.

⁶¹ Swarnika, 2020, Role of gender, socio-economic status and place of residence on academic stress and academic anxiety among students. *International Journal of Research and Analytical Review*.

⁶² Saddik, Basema et al. "Increased Levels of Anxiety Among Medical and Non-Medical University Students During the COVID-19 Pandemic

in the United Arab Emirates." *Risk management and healthcare policy* vol. 13 2395-2406. 3 Nov. 2020.

⁶³ Ayubi, R. M. 2020, Prevalence of Anxiety Among University Students, Afghanistan. *International Journal of Advanced Research*, 186-192.

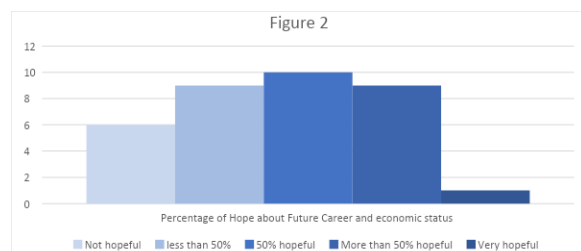
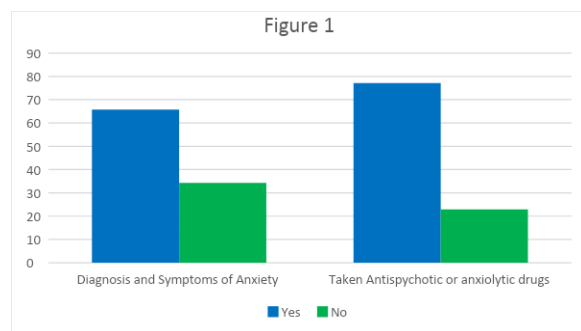
⁶⁴ Oriya, S. H., 2021, Mental Health Status of Afghan Female University Students. *International Journal of Psychiatry Research*.

recall. Future studies could consider using alternative methods such as interviews and focus groups to collect more detailed and nuanced information about the anxiety levels of female medical students at KUMS.

4.4 Data Analysis

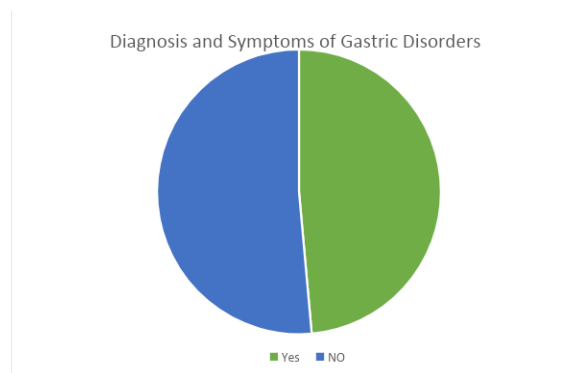
The respondents to the research survey were aged 17 to 26 years, among which 77.1% were 17-21 years old and 22.9% were 22-26 years old.

The responses to the questions about personality type and symptoms of anxiety reveal 62.9% of the respondents were introverted and 37.1% extroverted. Among 35 student respondents, 65.7% confirmed the diagnosis and existence of symptoms of anxiety while 34.3% responded no to the question about being diagnosed with any type of anxiety. About 77% of respondents confirmed taking antidepressant or antipsychotic therapy and 22% have never used antipsychotics [Figure 1]. 10 out of 35 respondents were 50% hopeful about their future career and economic independence, and 1 respondent was very hopeful [figure 2].



About 74% confirmed changes related to anxiety in their learning abilities and 25.7% did not notice any changes.

As shown in figure 3. About 51% of the respondents were diagnosed or experienced symptoms of gastric ulcers or any gastric disorder. About 31% of respondents confirmed taking PPI, and 25% confirmed taking antacids.



4.5 Findings

Our research focuses on the prevalence of anxiety and stress among female students at the Kabul University of medical science (KUMS). A survey of students revealed that 65% of the students at Kabul University of medical science (KUMS) suffer from anxiety and high-stress level. The study discovered that the main sources of stress and anxiety among these students were family problems, social, financial, academic, and hopelessness about their future careers, and emotional factors.

In addition, participants claimed that some issues in the dormitory environment might correlate with the stress and gastric disorders of the students living in dormitories. One of the problems mentioned was the low quality of the dorm's food. All these issues cause stress and gastric disorder, and other conflicts in their lives.

About 77.1% of the students were between the ages of 17 and 21 and 22.9% were between the ages of 22 and 26. In terms of treatment, 77% of the respondents reported taking anti-depressant and anxiolytic drugs with a doctor's prescription. the maximum number of respondents used antiacid and PPI (proton pump inhibitor) drugs for gastric disorders. Most of them take PPI (proton pump inhibitor) and antacids without a doctor's instruction. From our survey, we found that 62.9% of the respondents were introverted and 37.1% extroverted.

Finally, 74% of the respondents reported experiencing changes related to anxiety in their learning abilities, while 25.7% reported no changes.

Also, most of the respondents showed a negative perspective toward their future careers, especially considering the current restricting political conditions. Female students have been banned from education and that has become another reason for stress and tension besides other stressors found in this research. So Overall, it is evident that anxiety is a major concern among female students at KUMS, with over half of the participants reporting symptoms of anxiety and gastric disorders. Therefore, further research must be conducted into the causes of anxiety and gastric disorders among female students of KUMS, as well as an effective treatment for these conditions.

4.6 Discussion

The analysis of our research findings suggests that the incidence of gastric disorders and peptic ulcers was significantly high among the KMUs female students experiencing an anxiety disorder. Most of the respondents confirmed they were taking both anxiolytic and acid-lowering medications which marks the association between the two disorders. Also, the incidence of anxiety among students is directly related to their socioeconomic and concerns regarding their future careers. This finding is similar to the findings of other research in the existing literature that confirms fewer career

opportunities and future career concerns bring more anxiety to medical students⁶³.

This study also analyzed the key findings of anxiety effects on the learning ability of the students who have been affected by anxiety. Most of the students reported changes in their learning ability since their anxiety grew. This is in line with the findings of studies focused on this topic showing that anxiety is a potential cause of negatively affected learning ability of students⁵⁸.

It was also found that socioeconomic and future career concerns increase anxiety among female medical students and most of these students also experience stress ulcers and gastric disorders. Existing pieces of literature also confirm that students from low-income families experience more anxiety⁵⁸. This is what brings more socio-economic concern and gives rise to anxiety among students. However female students' concerns regarding their career which seems to be higher in Afghanistan compared to other countries could be a new finding.

This research suggests gastric disorders and stress ulcers are significantly seen among students having socio-economic concerns and anxiety. Poor socio-economic status and concerns regarding these issues were reported in female students with anxiety and gastric disorders. Socio-economic concerns are detected as a factor to influence the incidence of anxiety and as a result gastric disorders among female student participants.

However other factors that might participate in the causation of gastric disorders cannot be excluded because of this study. But it does not affect the primary findings of our study. Further studies could be done to find out other factors affecting normal gastric functions.

4.7 Conclusion

In conclusion, the study indicates that female students at Kabul University of Medical Science (KUMS) frequently experience anxiety and high levels of stress, with variables like family troubles, academic pressure, financial pressures, and social challenges being major contributors to these situations.

Additionally, it was discovered that the dorm environment contributed to stress and gastric disorder. The results of this study also showed that many students were using antidepressants and anxiolytics on a doctor's prescription. It is concerning that many people were also using PPIs and anti-acids without a doctor's prescription. The study demonstrates how worry impacts female students' academic performance, with 74% of them reporting alterations in their learning capacities.

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Ehsan has made significant contributions to dental research and has several publications to his name. Below are his Publications:

1: Prevalence of Dental Malocclusion and Its Gender Distribution among Dental Students at Kabul University of Medical Sciences, 2021, OROD

2: The Prevalence and Significance of Fissured Tongue in Kabul City Among Dental Patients, 2023, DovePress

3: The prevalence of systemic diseases among dental patients in Medenta Oral & Dental Care, Kabul, Afghanistan, 2022, International Dental Journal of Student's Research

4: Factors Influencing Marginal Bone Loss around Dental Implants: A Systemic Review Article, 2022, Afghan Medical Magazine, Kabul University of Medical Sciences

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Application:

Please apply via website

orodaf.org

Eligibility:

- 1) Must be natural science student*
- 2) Fluent in English and national languages*
- 3) Showing strong commitment toward knowledge production and research and development.*

We accept new applications only during months of August till the end of September.

About TSP

Organization for Rehabilitation and Optimal Development (OROD) is a non-governmental, non-profit and non-political organization, established in 2017, registered with the Ministry of Economics of Afghanistan as a national NGO and is one of the signatories of the codes of conducts for NGOs engaged in Humanitarian action.

OROD conducts informative research and is the basis by which it develops effective intervention strategies for influencing behavior change and for designing, positioning and promoting innovative activities. It helps to identify and understand the characteristics, interests, behaviors and needs of target populations, which influences decisions and actions. Informative research is integral in developing and improving programs.

TSP is an extension of OROD's commitment toward establishing values through applied research in the community whereby accurate information is disseminated. The project seeks to promote the concept of evidence-based advocacy to influence policies.