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Stress and Coping Strategies among Medical Students in the Gaza Strip

الضغوطات النفسية واستراتيجيات التأقلم لدى طلبة الطب البشري في قطاع غزة

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Abstract

Background: stress is recognized as a worldwide phenomenon. There are numerous sources of stress among university students. The aim of this study is to identify the stress and coping strategies among medical student in the Gaza. ***Methods:*** Between April 2022 to September 2022, a cross-sectional descriptive analytical design study involving 250 medical students from Al-Azhar and the Islamic University of Gaza was undertaken. Following validation and piloting, a web-based self-report questionnaire was employed. The Medical Student Stressor Questionnaire (MSSQ-40), Personal Characteristics Variables, and a Brief COPE 28 Items Scale were all included in the questionnaire. Google form was used to electronically collect the data. By using percentages and means to reveal frequency distributions, statistical differences were revealed using t-tests and one-way ANOVA. For data analysis, SPSS statistical software version 23 was employed. ***Results:*** The overall prevalence of stress among medical students was 48.25% (1.93± Standard deviation 0.6), classified as moderate stress. Academic stress was the first stress faced by medical students with an average of 63% (2.52 ± 0.63) which was rated as high stress, followed by teaching and learning stress of 55.75% (2.23 ± 0.8). Whereas, social pressures 49.75% (1.99±0.82), group activities 44.25% (1.77±0.84), drive and desire 39% (1.5±1.3), and personal and internal stresses 37.5% (1.56±0.96), all were classified as moderate stress. In particular, the average stress due to heavy curriculum in the academic domain was the highest with a score of 78% (3.12 ± 0.91) and classified as severe stress. Furthermore, first rank among all coping strategies and first coping strategies among students was Problem-Focused, the general mean was 1.9 (SD=0.48) which had been done in a medium amount, 39.6% of students had adopted this strategy most of the time. The second was for Emotion-Focused Coping which had been done in a medium amount with a general mean of 1.87 (SD=0.45) and the strategy had been adopted most of the time by 37.6% of students. In contrast, only 5.6% of students adopted an avoidant strategy. The level of academic stress among medical students during the years of clinical training was 65.75% (2.68 ± 0.68) higher than in the pre-clinical training years 61% (2.44 ± 0.59) with a statistically significant difference ($P<0.05$). On the other hand, no statistical differences were detected in term of gender regarding stress or coping strategies. ***Conclusion:*** The study concluded that the prevalence of stress among medical students was moderate. Academic-related problems were the major stressor. Undergraduate medical students were struggling to achieve healthy stress-coping strategies. This study recommended the need of stress management training to be an essential component of the curriculum, effective stress reduction strategies, management program should be implemented by Faculties of medicine in the Gaza Strip for medical students, and psychological counseling be integrated into regular student services.

Keywords: Stress, Coping strategies, Medical students, Stressors.

الملخص

الخلفية: يشكل التوتر ظاهرة عالمية، و هناك العديد من مصادر التوتر التي تؤثر على طلاب الجامعات، وخاصة طلاب الطب. وتهدف هذه الدراسة الى تحديد مستوى الضغط النفسي لدى طلاب الطب في قطاع غزة والتعرف على استراتيجيات التأقلم المستخدمة. **المنهجية:** تم إجراء تصميم تحليلي وصفي مقطعي على 250 طالب طب بين ابريل وسبتمبر 2022 من جامعة الأزهر والجامعة الإسلامية بغزة. كما تم استخدام استبيان الاستجابة الذاتية عبر الإنترنت بعد التحقق من المصداقية و عمل عينة تجريبية. وقد تضمن الاستبيان صفات المنتسبين، واستبيان إجهاد الطالب الطبي (**MSSQ-40**) ، ومقياس موجز لعناصر التأقلم **COPE 28**. كما تم جمع البيانات إلكترونيًا بواسطة نموذج **Google**، وتم عرض التكرارات بالنسب المئوية و المتوسط الحسابي لكل محور، كما تم توضيح الفروق الإحصائية بواسطة اختبار **t** و **ANOVA** أحادي الاتجاه حسب الحاجة. تم استخدام البرنامج الإحصائي **SPSS** الإصدار 23 لتحليل البيانات. **النتائج:** بلغ معدل انتشار التوتر بين طلاب الطب 48.25٪ (1.93 ± انحراف معياري 0.6) مصنفة كضغط متوسط. وقد كان الضغط الأكاديمي هو أول الضغوط التي تواجه طلاب الطب بمتوسط 63٪ (2.52 ± 0.63) والذي تم تصنيفه على أنه توتر مرتفع ، يليه ضغط التعليم والتعلم55.75٪(2.23± 0.8). بينما، تم تصنيف الضغوط الاجتماعية 49.75٪ (1.99±0.82)، الأنشطة الجماعية 44.25٪ (1.77±0.84)، القيادة والرغبة 39% (1.5±1.3)، والضغوط الشخصية والداخلية 37.5٪ (1.56±0.96)، على أنها ضغوطات معتدلة. وعلى وجه الخصوص، كان متوسط التوتر بسبب المناهج الثقيلة في المجال الأكاديمي هو الأعلى حيث سجل 78 ٪ (3.12 ± 0.91) وصنف على أنه توتر شديد. علاوة على ذلك، تم تصنيف التعامل مع التركيز على المشكلات في المرتبة الأولى بين استراتيجيات المواجهة (1.91±0.48) حيث اعتمد حوالي 39.6٪ من الطلاب هذه الاستراتيجية في معظم الأوقات بنسبه متوسطة, يليه التأقلم الذي يركز على العاطفة والذي تم اعتماده في معظم الأوقات بكمية متوسطة (1.87±0.45) لـ 37.6٪ من الطلاب. في المقابل، تبنى 5.6٪ فقط من الطلاب استراتيجية التجنب. كان مستوى الضغط الاكاديمي لدى طلاب الطب خلال سنوات التدريب السريري هو 65.75٪ (2.68±0.68) أعلى منه في ما قبل سنوات التدريب السريري 61٪ (2.44±0.59) مع وجود فروق ذات دلالة إحصائية (. ≥**P**). من ناحية اخرى، لم يتم الكشف عن فروق ذات دلالة إحصائية من حيث الجنس فيما يتعلق بالتوتر أو استراتيجيات المواجهة. **الخلاصة:** خلصت الدراسة إلى أن انتشار التوتر بين طلاب الطب كان متوسطا, وقد كانت الضغوط الأكاديمية هى المسببه للتوترالأكبر بين الطلاب. كما خلصت الى أن طلاب الطب يكافحون من أجل تحقيق استراتيجيات صحية للتعامل مع الضغوطات, وقد أوصى الباحث أن إدارة الضغوطات ينبغي ان نكون مكونًا أساسيًا في المنهج الدراسي ويجب ان تتوفر الاستشارة النفسية ضمن خدمات الطلاب العادية.

الكلمات المفتاحية: الإجهاد، استراتيجيات التأقلم، طالب الطب، عوامل الضغط

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List of Abbreviations

Abbreviation	Terms
ANOVA	Analysis of Variance
ARS	Academic related stressors
AUG	AL-Azhar University of Gaza
APA	American Psychological Association
CI	Confidence Interval
CSs	Coping Strategies
DRS	Desire Related Stressors
GG	Gaza Governorates
GHQ	General Health Questionnaire
GARS	Group Activities Related Stressors
HE	Higher Education
IRS	Intrapersonal Related Stressors
IUG	Islamic University of Gaza
MSSQ	Medical Student Stressor Questionnaire
MoE	Ministry of Education
MoH	Ministry of Health
NGOs	Non-Governmental Organizations
PSS	Perceived Stress Scale
SRS	Social Related Stressors
SPSS	Statistical Package for Social
UNCTAD	United Nations Conference on Trade and Development
UNRWA	United Nations Relief and Works Agency
WHO	World Health Organization

Chapter I
Introduction

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Introduction

1.1 Introduction

Over 50 years ago, Hans Selye, the father of stress research, began studying the phenomenon of stress. He defines stress as the body's non-specific response to a request (Tan & Yip, 2018). As a 20th century Stress has been recognized illness and is seen as a complex exchange between people and their situations (John & Naik, 2020). According to the World Health Organization (WHO), stress will be one of the primary causes of disability in the future (Gavali & Deore, 2018).

Stress is currently understood as a lifestyle crisis affecting anyone at any stage of development. It has its place in the academic life of students due to various internal and external factors (Reddy et al., 2018). Beside that the faculty of medicine environment is motivating psychological problems among undergraduate medical students (Battula et al., 2020).

Globally, the medical education system extremely demanding and it has significant impact on the mental and physical well-being of medical students. Medical school is one of the most demanding academic programs in the world. Fear of exams, high parental expectations, peer pressure, a lack of free time, financial concerns, relationships, and desires for higher education are all known to contribute to the development of stress among undergraduate medical students (Rajajeyakum, 2018).

Coping is a constantly changing cognitive and behavioral efforts to manipulate unique outside and internal demands. Throughout the years of study, Students make use of numerous adaptive coping techniques to manage stress and to deal with the external and inner needs. Medical students accept as true that their lives might be stepped forward if those challenges are removed. The records to be had on stress and coping techniques indicates that coping mechanisms fluctuate among the 2 sexes (Abouammoh et al., 2020). The academic system plays a big problem which cause expanded pressure degrees amongst students. Some of the sources encompass inadequate sources and facilities, overcrowded lecture, grading system & lengthy hours (Reddy et al., 2018). Medical students are reported to experience higher levels

of stress than other population groups and students in other academic fields (John & Naik, 2020).

A scientific review of 40 studies concluded that medical students had a higher prevalence of overall mental distress, hopelessness and stress than non-medical students, and that stress in medical students results in lower concentration, expanded occurrence of errors, and dishonest throughout examinations (Saeed et al., 2016). The medical students face psychosocial & environmental trouble which may have an effect on their studying potential and academic performance (Anuradha et al., 2017). Study accomplished in Bangladeshi showed that half of Bangladeshi medical student are affected by academic stress and mentioned that gender is associated aspect of stress (Eva et al., 2015). The main purpose of current study is to assess the level of perceived stress, sources of stressors and coping strategies among medical students.

1.2 Problem statement

Stress is a global phenomenon. It has become one of the major problems in medical science education among medical students at faculties of medicine. Medical students around the world suffering from psychological stress and decreased life satisfaction and academic performance. Several studies reported the importance of this problem that medical students suffering from stress. Medical education is considered to be one of the most academic and emotionally demanding training programs which lead to a negative effect on medical students' psychological well-being and may lead at the end to depression (Satpathy et al., 2021). Medical education is perceived stressful, and increase the level of stress may have a negative impact on cognitive and learning of medical students. The potential negative effects of stress on medical students include impairment of functioning in classroom performance and clinical practice (Anuradha et al., 2017).

According researcher experience in Gaza, this problem need to be highlighted to determine the prevalence of psychological, possible causal stressors, to assess coping strategies which utilize by student to deal with stress and to give a full picture of the phenomenon and suggest solutions to decrease stress among medical students.

1.3 Significant of Problem

Stress has become internationally one of the major problems among medical students at faculties of medicine. There is a lot of international research that shows that medical education is stressful, the prevalence of stress among medical students ranges from 20.9% to 94.5% (Satpathy et al., 2021). The prevalence of stress of the study done in Bangladeshi in 2015 were reported 53% of male and 55% of female students' suffering from stress (Eva et al., 2015). Academic performance of medical students influenced by stress. High stress among medical students can cause physical, intellectual problems, and might have an effect on medical student educational achievement, result in lessening students' self-esteem, lead to depression, drug abuse, burnout, and even suicide (Hotoleanu & Hotoleanu, 2021). Stress among medical students can cause difficulties including decreased students concentration, extra errors, and cheating on exams (Saeed et al., 2016).

One Palestinian study was carried out in 2018 entitled "Mental Health Problems among Universities" the study showed that, Students from West Bank reported more stress and anxiety than in the Gaza Strip. Students from AI- Azhar university scored in total more anxiety and depression than those from Islamic and Al Quds university, Such result highlights the need for counseling in the universities to help students in overcoming their stress (Thabet et al., 2018). Several researches were done and every year try to learn more and more about stress programs for reducing stress among university student and recently among medical student (Satpathy et, al., 2021). According researcher experience, there are no published studies that examined stress and its predictors among medical students in Gaza. The researcher conduct this study to determine the prevalence of stress and causal stressors, to determine coping techniques which utilize by medical students at faculties of medicine in the Gaza Strip. All for reducing stress and improving health and academic performance through many effective programs according to my recommendation for key persons.

1.4 General objective

- To identify the prevalence of stress and adopted coping strategies among medical student in the Gaza Strip.

1.5 Specific objectives

- To identify predisposing factor causing stress among medical student in faculties of medicine in Gaza strip.
- To clarify type of coping strategies used among medical student in the Gaza Strip.
- To recognize the relationship between personal characteristics variable and development of stress among medical student in the Gaza Strip.
- To examine the association between stress and type of stressors among medical students in the Gaza Strip .
- To suggest recommendation for decision makers that could help to adopt strategies and effective programs to decrease stress among medical students. in the Gaza Strip.

1.6 Research question

- Are there statistical differences at level of stress among medical students at the faculties of medicine in the Gaza Strip in related to personal characteristics?
- Are there statistical differences of coping strategies among medical student at the faculties of medicine in the Gaza Strip in related to personal characteristics?
- Are there a relationship between stress and type of coping strategies among medical student at the faculties of medicine in the Gaza Strip?
- Are there a relationship between academic stressors and develop psychological distress among medical student at the faculties of medicine in the Gaza Strip?
- What is the recommendation to reduce stress among medical student at the faculties of medicine in the Gaza strip?

1.7 Context of the study

1.7.1 Demographic context

Palestine (Palestinian Authority) consists of two regions, the population of the Palestinian state in mid-2019 was 5 million, 2.53 million male and 2.45 million female. The GS is divided into 5 governorates, namely Northern Gaza, Gaza City, Central District, Khan Younis and Rafah, The entire population of GS was 2.05 in the year 2020, with two thirds of the people living in eight refugee camps, small towns, and cities (Palestinian Central Bureau of Statistics, 2020). About 64% of the total Population in the Gaza Strip are Refugees (PBCS, 2019).

The number of Palestinians worldwide is projected to reach 14 million by the year 2020, with 5.227.193 million of them residing in the State of Palestine, accounting for around 37.7% of all Palestinians worldwide. (3.12 million people and 59.8% of those in the educated West Bank) and (40.2 percent and 2.106 million individuals in the Gaza Strip). And the population pyramid the age group 15- 60 years (of working age) represents about 60%, with an annual growth rate of 3.1% in GS, and life expectancy at birth is 70.4 years for men and 73.9 years for women (PCBS, 2021).

1.7.2 Socioeconomic context

According to the United Nations Conference on Trade and Development, the Palestinian economy is constantly under stress as a result of the prolonged siege imposed for more than 14 years by the Israeli occupation. Additionally, as the country's economy continues to deteriorate, suffering is intensifying in Palestine (UNCTAD, 2019).

In comparison to other regions, Since April 2017, the Gaza Strip has experienced worsening economic conditions due to access and movement restrictions, violent attacks, and rising unemployment and poverty rates the Gaza Strip is thought to have one of the poorest economies, which has an adverse effect on public health and all other facets of daily life (PCBS, 2017).

A newly published United Nations report describes 2020 as a year of setbacks for the Palestinians. The report highlights that during the first COVID-19,

around 150,000 Palestinians lost their jobs, and large negative impacts are expected from the present lockdown. In 2020, the Palestinian economy contracted around 10 to 12 percent one of the largest annual contractions since the Palestinian Authority was established in 1994 (UN report, 2021).

1.7.3 Higher education context

The Ministry of Higher Education was established in 1996. In 2002, the Ministry of Higher Education and Scientific Research was merged with the Ministry of Education into a single ministry (Palestinian Ministry of Education and Higher Education, 2016). Palestinian tertiary students can get a better education after completing the elegant Secondary Certificate Examination (Tawjihi). There are two routes in higher education. Students receive their first education in Community and Technical Colleges, where they study for two years and receive a diploma certificate. University education is the second path. Students pursue a bachelor's degree in science, education, humanities, engineering, or medicine over the course of four to six years (MoE, 2016).

The Palestinian education system also offers post-baccalaureate programs, which award a one-year higher degree, a two-year master's degree and, in some disciplines, a three-year doctorate (RecoNow National Report, 2016).

Palestinian higher education is designed to produce qualified graduates who can compete locally and regionally. There are 14 universities, one open university, 18 university colleges, and 20 community institutions. Four in Gaza, Al-Quds open University, Al-Azhar University, The Islamic University, and Al-Aqsa, nine universities in the West Bank. Recently, the Ministry of Education controlled Gaza University, Israa and Palestine University, and the bulk of these universities is non-profit schools that rely on student fees. Islamic University and AL-Azhar University are Gaza's oldest and largest universities (Isaac et al ., 2019).

Al-Azhar University in Gaza (AUG) is a non-profit, independent Palestinian public higher education institution It was established in Gaza City in 1991. The Faculty of Medicine was established in 1999 and was the first medical school in the Gaza Strip. It contains 12 colleges. The Faculty of Medicine was established in 1999

as a branch of the Palestine Faculty of Medicine, Al Quds University, Abu Dis. The British Medical Council and other nations recognize the Faculty of Medicine abroad. Students who completed 253 credit hours over six academic years (3 basic and 3 clinical) were awarded a Bachelor's degree in Medicine and Surgery by the Faculty. (Al-Azhar University-Gaza, 2021).

The Islamic University of Gaza (IUG) is an independent academic institution under the Ministry of Higher Education's supervision. It belongs and a member of four associations. IUG includes eleven faculties and provides students with an educational atmosphere based on Islamic principles as well as Palestinian traditions and customs. IUG is an academic institution dedicated to improving Palestinian society's educational, cultural, and civilizational standards. Credit hours are used to measure progress at IUG. After successfully completing all needed courses (about 140 credit hours for all faculties except Engineering, which is 175 credit hours, and Medicine, which is 260 credit hours), a student may graduate from the university (The Islamic University of Gaza, 2021).

The Faculty of Medicine at the Islamic University was opened in 2006. About 631 doctors in 2012- 2021 were graduated. The Faculty of Medicine at the Islamic University seeks to be a qualitative addition to medical colleges in Palestine and the Arab region. The study of medicine at the faculty is divided into basic and clinical stage. The basic lasting three years where students learn basic medical sciences courses such as anatomy, physiology, pathology, pharmacology, microbiology, and other basic subjects. In the other three years clinical science stage, students study practical courses such as internal medicine, surgery, pediatrics, obstetrics and gynecology, and other subjects. Additionally, the Islamic University's Faculty of Medicine has established itself as the first and sole location for the "IFOM" international medical examination and according to the study plan, students must successfully pass two parts of the IFOM exam (held by the American National Institute of Medical Examinations) before being promoted from the basic stage to the clinical stage (Part One) and before obtaining the graduation certificate (Part Two) (Faculty of Medicine, 2021).

1.8 Variables of study

1.8.1 Dependent variables: Student performance

Prevalence of stress among medical students has been reported between 20.9% and 94.5% according to several studies (Satpathy et al., 2021). Academic performance of medical students influenced by stress. High stress among medical students can cause physical, intellectual problems, and might have an effect on medical student educational achievement, result in lessening students' self-esteem, lead to depression, drug abuse, burnout, and even suicide (Hotoleanu & Hotoleanu, 2021).

Stress at faculties of medicine can cause difficulties including decreased students concentration, extra errors, and cheating on exams (Saeed et al., 2016). The students exposed to psychosocial & environmental trouble which can also additionally have an effect on their studying capacity and educational achievement (Anuradha et al., 2017).

1.8.2 Independent variables:

Stressors, demographic factors, coping strategies are the independent variables for this study. Various studies indicated that these factors influence the medical stress among them as change of year study and system's expectations change according to the faculty system (Hotoleanu, et al., 2021). Various studies reported that sex and year of studying has a relation with stress. A study in Bangladesh reported that 53% of male and 55% of female suffered from stress (Eva et al., 2015).

Coping strategies conceptualized and mentioned in various ways in the literature. In general, people deal with things in different ways. There is an adaptive way for solving problem and manage related emotions and maladaptive which includes behaviors that are less constructive and fruitful. Students respond to stress in a variety of ways, but little is known about the types of coping behaviors they exhibit during times of stress. So it is very important for a student to know this because medical students cope not only predicts their mental health and academic achievement, but also the quality of patient care they deal with. Literature reported

that coping strategies employed by medical student and the strategies differ according the year of studying (Neufeld & Malin, 2021).

1.9 Theoretical Definition & Operational definition

1.9.1 Theoretical Definition

- **Stress:** Is defined as the psychological and physical reactions a person experiences when confronted with situations in which their internal needs exceed their coping capacities (Al-Rawashdeh et al., 2020).
- **Stressor:** Is an event or situation that causes physical or psychological stress. Stressors can be internal or external and require adjustment or coping strategies (APA Dictionary of Psychology, 2020).
- **Coping strategies:** Is defined as the willingness to consciously regulate one's thoughts, emotions, and behavior in response to stress (Neufeld & Malin, 2021).
- **Medical student**: A person who has successfully completed a course to become a doctor (Collins English Dictionary, 2016).

1.9.2 Operational definitions

- **Stress:** The pressure which student faces according to researcher instrument, the researcher adopted the Medical Student Stressor Questionaire (40 items).
- **Stressor:** Anything can be perceived as a danger. May be personal, social, academic and environmental that cause stress.
- **Coping strategies:** Actions done by person to deal with stress, the researcher adopted Breif Cope scale (28 items).
- **medical students :** Is a person who is learning at medical school.

Chapter II
Conceptual framework & Literature review

Chapter II
Conceptual framework & Literature review

2.1 Conceptual framework

Based on literature and personal experience, the framework indicates that the researcher is going to perform an assessment for predisposing factors related to stress among medical students and type of coping strategies employed. Conceptual framework consists of three classes, each of them represents determinant that has been studied in this research. Prevalence of stress among medical students has been reported between 20.9% and 94.5% according to several studies (Satpathy et al., 2021). Academic performance of medical students influenced by stress. High stress among medical students can cause physical, intellectual problems, and might have an effect on medical student educational achievement, involve insufficient teacher feedback, reduced learning materials, lack of guidance, and reduced teaching skills Personal and interpersonal developmental stressors (SRI) involve verbal or physical abuse and conflict with teachers by students, teachers, and other staff, societal stressors (SRS) include the inability to answer patient questions, talk to patients about personal problems, illness, or cope with death. of sick. Desire stressors (DRS) involved reluctance to study medicine, parents wanting to study medicine, while group activity stressors (GARS) involved attending class presentations, needing to do well, feelings of incompetence (Battula et al., 2020). The third class represents coping strategies, adaptive & maladaptive. Adaptive which include first, problem-focused strategies (Active coping, Planning, Instrumental support). Second, emotion-focused strategies (Acceptance, Emotional support, Humor, Religion) and Maladaptive which include passive or avoidant strategies such as (Denial, Substance use, Venting, Self-blame, Self-distraction, Behavioral disengagement) (Neufeld and Malin, 2021). The previous studies mention many variables area and the researcher in this study focused on these domain. The previous study could be used in discussing the results of the current study, either in case of supporting or in case of opposing it. Also the researcher tried to draw the relations between variables as the researcher expected, as shown in the following figure.

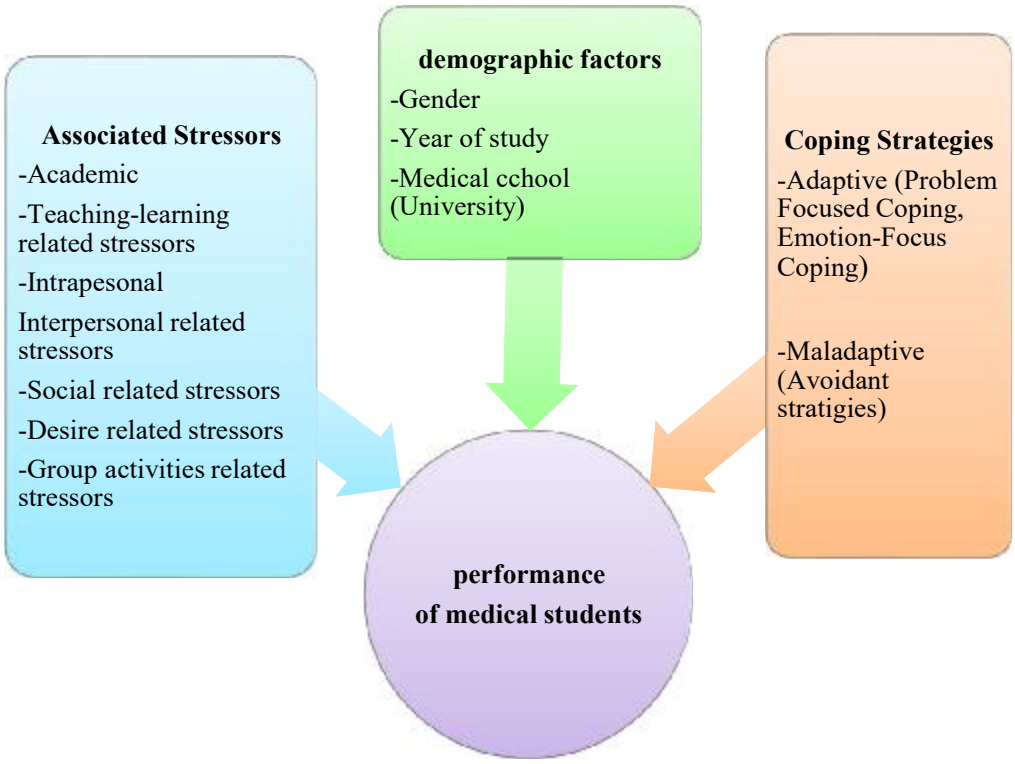

Figure (2.1): Diagram of conceptual framework (Self-developed)

The framework guides the implementation of the research. It demonstrates how the study variables influence each other's and its effect of medical students performance.

2.2 Literature review

2.2.1 Background

Stress is a state of psychological distress. A person experiences stress as a result of a variety of factors in daily life. Stress can be a conscious urge or a subliminal bothersome concern. It is an emotionally unstable state that makes it difficult to concentrate and carry out daily tasks with efficiency. Medical students aren't any exception to this phenomenon, and enjoy large stress at distinct degrees in their academic career, non-academic and training (Qamar et al., 2015). Stress in general can cause problems of health, both physical and psychological. Many studies have been done regarding the stress among medical students to understand the underlying stressors, and to safeguard the wellbeing of students (Mohammed, 2016). Stress is uncomfortable experience and result in feelings of fear, anger, aggression, and may lead to physical and psychological morbidities if unresolved. Individuals respond differently to the same situation. In other way an optimal level of stress was beneficial part of life, but excess level of stress can cause a lot of problems (Alshawi et al., 2018).

In order to prepare the body for stress, hormones are released. Heart rate and blood pressure both rise. Consequently, more blood is sent into the heart and key muscles instead of "less important" body parts like the digestive system Thus, the feeling of nausea during stress. Stress has both positive and negative consequences that can be influenced by its physical and psychological effects. A positive trigger that can aid to motivate action. Negative influences could cause despair, rage, rejection, burnout, and even suicidal thoughts (Mohammed, 2016).

2.2.2 Types of stress

Following is a various types of stress:

A cute Stress: Is stress that affects a person's psychological balance, it comes on quickly and does not last long. This stress can be overcome by using relaxation techniques to promote good health (Kapur, 2021).

Chronic Stress: Chronic stress tends to occur periodically throughout life This type has adverse effects on physical and mental health conditions, and different types of physical health problems include high blood pressure, low blood pressure,

cardiovascular disease, joint pain, etc. Different types of psychological problems are anger, depression, depression and . This type of stress requires a combination of approach, solution-focused coping techniques, and emotion-focused coping (Kapur, 2021).

Psychological Stress: occurs due to various psychological problems, namely trauma, anxiety, anger, and depression. Individuals experience various types of situations that make them psychologically stressed. Relaxation techniques, counseling, problem solving techniques, proper diet and nutrition. These measures help to cope with psychological stress (Kapur, 2021).

Physical Stress: Physical stress is stress that affects the health of the body due to various reasons including injuries, infections, fatigue, poor eating habits, dehydration, toxins, low light, lack of electricity, food allergies , dental problems and musculoskeletal imbalances, lack of oxygen. In addition to relaxation techniques, the individual must take various measures (exercise, diet, nutrition, physical activity, regular medical monitoring, nutrition, exercise and physical activity, regular medical examinations, effective communication with others and a pleasant environment) These measures help manage and reduce physical stress (Scott, 2022)**.**

Psycho-social Stress: It is essential for an individual to be social and to understand that we cannot live in isolation. Problems in relationships and communications with others cause psycho-social stress. The effective measures need to be put in practice to cope is effective communications understanding others. (Scott, 2022).

Psycho-spiritual Stress: Psycho-spiritual stress is the stress that the individuals experience problems in implementing the norms, morals, ethics, beliefs, and values in educational institution and training centers and employment setting (Kapur, 2021).

Burnout: Burnout is a result of long-term, persistent stress in circumstances that make people feel like they have no control over their lives. Burnout is more likely to occur under certain work and educational circumstances, such as those with high demands, ambiguous expectations, unfavorable outcomes, and a high likelihood of for errors. You may experience exhaustion and lack of attention due to burnout. Taking a break, even a brief one, might help you recover from this kind of stress and return renewed (Scott, 2022).

Eustress: is beneficial stress, which produce positive feeling of excitement. The individual motivation develops towards their duties and responsibilities. It facilitates the individuals to do well and to achieve outcomes (Kapur, 2021).

2.2.3 Causes of stress

Various factors caused stress include education, relationships, family, job opportunities, home environmental conditions, work and educational institutions, household chores, health issues, travel, etc. (Kapur, 2021). Exam anxiety, high parental expectations, peer pressure, a lack of free time, financial difficulties, strained relationships and goals (Gupta et al., 2015).

2.2.4 sources of stress among medical students

Feeling stressed is part of a student's daily life. Transitioning to higher education is stressful as college students face many stressful events. Medical students are exposed to many stressors. Previous studies have explored that students are exposed to stress. Several studies found that academic performance, lack of balanced relationships, inadequate student support, information overload, finances, future uncertainty, lack of time for personal responsibilities, frequent exams, etc., the major stressors documented in medical students (Melaku et al., 2021). Some sources include overcrowded classrooms, inadequate grades, facilities and resources, a range of programs, long study periods, high parental expectations and fear of exams, which can affect their self-esteem , their confidence and their performance. In addition Clinical training also provides many stimuli that produce stress due to contact with patients and death, as well as the students are not prepared for this fact (Melaku & Bulcha, 2021).

2.2.5 Impact of stress

According to the literature, stress can have negative physical, psychological, and behavioral impacts. Long-term stress can cause a variety of medical issues, including heart disease, high cholesterol, ulcers, arthritis, and hypertension. Stress can have a variety of psychological problems, including boredom, despair, anxiety, & aggression. Direct behavior such as under eating or overeating, increased smoking and drinking, and drug misuse may occur in conjunction with high levels of stress.

Excessive tension can lead to bad behavior, doing poorly on exams, and having poor academic achievement (Kwaah, 2017).

Nowadays, the incidence of stress has increased dramatically, and it is now becoming prevalent among students as well. Stress is considered dangerous when it affects normal daily routine functioning according the American Psychological Association (APA). Stress is pervasive among medical students because of various psychological factors and elevated academic burden (Mahmood et al., 2021). One of the hardest professional fields is considered to be medicine. Medical students require assistance in meeting their academic obligations and managing their daily stress throughout their study (sattar et al., 2022). As a result of emotional distress, students may experience a variety of side effects, such as stress-related disorders and performance decline, which can have a detrimental effect on their ability to learn and think clearly, cause mental and physical health issues, erode their sense of self-worth, and lower their chances of academic success. This is because stress can affect a student's capacity to build positive relationships with patients as well as their ability to pay attention, concentrate, and make decisions. This will impact the standard of patient care since they will feel inadequate and dissatisfied with their future clinical practice as doctors (Mohammed, 2016).

2.2.6 Coping

Coping refers to making a conscious effort to manage stress and conflict, as well as personal and interpersonal problems. Over time, people have adapted many systems regarded as coping mechanisms for handling pressures. These can be broadly split into two groups, the stress and triggers emotional states, and those in which a person wants to act (problem-focused coping), (emotional-focused coping). The metaphors "approach" and "avoidance," which are directed toward or away from the stress, were also utilized, respectively. Active coping techniques include techniques like looking for emotional support, practicing acceptance, and being meticulous with planning. Conversely, avoidant coping mechanisms including denial, self-distraction, and other obsessive behaviors are aimed at avoiding conflict. Avoidant coping considered to be to blame for a number of negative stressful life experiences. Thus, it is believed that active coping is superior to avoidant coping

when dealing with stressors (Mahmood et al., 2021). Coping strategies are important in overcoming or reducing stress. People employ a variety of coping mechanisms to manage their stress (Ganesan et al., 2018).

In the course of more than 40 years of study, it has become clear that medical students experience high levels of perceived stress and use a variety of coping mechanisms to manage it. This evidence has been supported by studies looking at the effectiveness of interventions like stress reduction, trainings, peer support program student-focused curricula, and wellness courses (Heinen et al., 2017). Coping strategies (CSs) for managing stress and depression are essential for students' ability to fulfill their commitments in medical school and cope with challenging situations. High rates of psychological illness among medical students are a reflection of the high stress involved with the study of medicine. According to worrisome findings from a new comprehensive study of stress, stress among medical students may cause anxiety and despair (Sarkar et al., 2020).

Academic and psychosocial stresses were the ones that students experienced most frequently. Coping with stress is crucial for human survival; it has been seen as a stabilizing component that may aid a person in adaptability under stress. Medical school-related stressors must therefore be managed by medical students. Numerous stress-reduction techniques have been researched for medical students. If persistent stress is not resolved through coping or adaptation, it cause physical and mental health problems and may affect academic performance (Melaku & Bulcha, 2021).

2.2.7 Previous studies

2.2.7.1 International studies

A cross-sectional study was conducted among medical undergrads at the hospital in Mumbai city between January and June 2019. The aim of study was to identify the perceived stress, sources of stress, and coping mechanisms. The study was done in India at the medical college of Mumbai. A total of 450 medical students from the first to the last year were recruited to participate in the study using a purposeful sampling strategy. To determine the factors influencing stress, a self-administered questionnaire with socio-demographic profile and perceived stress scale items was employed. Logistic regression analysis was then performed. The findings showed

that, out of 356 participants, 324 (91%) were suffering from significant levels of stress. Logistic regression analysis was carried out. Factors such as the range of courses, frequent exams, competition with peers, worries about the future, loneliness, relationships with the opposite sex and the quality of food played a major role in the creating additional stress. The study concluded that female medical students in the current study had higher perceptions of stress and that academic factors were a greater cause of perceived female medical student stress. It is recommended to reformulate the academic and counseling program of the institution (Satpathy et al., 2021).

Evaluation and comparative study of stress factors and coping strategies among pre-clinical and clinical undergraduate students at Arsi University, Ethiopia. The study was aimed to assess the most common stressors and coping skills and their relationship to years of study among undergraduate students at Arsi Medical School, a concerning transition to teaching higher as medical students face many strenuous activities. Medical students should address stressors specific to medical training. Most medical students tend to develop intellectual health issues. A cross-sectional study was conducted among 265 medical students by systematic random sampling. Data were collected by pre-tested self-administered questionnaires and analyzed by SPSS-21 software. Logistic regression analysis was used and statistical significance was accepted. The results showed that the main sources of stress were the loss of revision time, conflicts with teachers and uncertainty about the expected content. The ARS domain emerged as the top cause of stress, followed by IRS and TLRS Psychological coping, positive coping, positive restructuring and planning are the most typical coping skills. The TLRS and DRS domains have been identified as major contributors to preclinical year stress due to the preclinical years of medical students compared to the clinical years. Additionally, instrumental help, behavioral withdrawal, religion, self-blame, and emotional help were the most common coping strategies used in the preclinical year compared to the clinical year. In this study, academic stressors, followed by interpersonal and personal stressors, were the top stressors faced by medical students Unlike avoidance techniques, aggressive coping strategies are the most commonly used. Intervention programs to reduce stress have been recommended (Melaku & Bulcha, 2021).

A study carried out Among Undergraduate Medical Students of Haramaya University in Eastern Ethiopia, this study was aimed to determine the prevalence of stress among undergraduate medical students and to identify factors associated with stress and anxiety, this study conducted a cross-sectional study among 523 participants selected by simple random sampling from May 13 to June 12, 2019. Data was collected using a self-administered questionnaire. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 22. The results showed that the study concluded that there was an increase in the prevalence of stress and anxiety among female undergraduate medical students. Drinking and smoking are associated with stress. The recommendation was the establishment of counseling, communication, providing supportive measures to overcome stress and improving student wellbeing (Asfaw et al., 2021).

Another study conducted at the Indian Medical College. The aim of this study was to use the Perceived Stress Scale (PSS) to quantify the prevalence of stress and identify potential stressors for undergraduate medical students. A cross-sectional survey of 301 undergraduate medical students at a private health facility in Kannada was conducted. The PSS-10 was used to assess stress severity, and the questionnaire was used to identify possible academic, psychological, and environmental. The results showed that the mean PSS score was 26.34±3 68% of participants showed signs of moderate stress. Second-year students have higher PSS scores. Female medical students are more stressed (74%). Insufficient study leave (92.4%), extensive academic programs (84.1%), disorganized or poor quality food at home (70.4%), away from home (60.1%) and high parental expectations (48.5%) were everything. identified as a potential stressor. In this study Focusing on medical students, efforts to reduce academic stress, including in leisure activities, focusing on high-risk students facing significant stress, and counseling, all should be recommended to improve the educational process. (John and Naik, 2021).

A study of academic stress assessment and coping mechanism of medical students at a large Midwestern university. The aim of the research was to assess school stress, discover its determinants, and discover many ways to cope with school stress. A cross-sectional exam for first through fourth year medical students. Self-administered questionnaires were used to assess school stress and coping behaviors.

The average age of the 400 members was 20.3 ± 1.5 years. Among them (41.5%) were men, and school stress was moderate, mild and severe in (17%), (77.3%) and (5.7%) individuals, respectively Among the contributors (3.8%), (95%) and (1.2%), the average level of stress management was bad and good, respectively Emotional passive coping (p = 0.054) and passive difficulty (p = 0.001) behaviors were particularly good in adult men. Positive emotional coping behaviors did not differ between genders (p = 05.4). Most students prefer to share their personal problems with their parents, followed by friends. A binary logistic regression assessment revealed that future trauma (p = 0.023) and poor self-esteem (p = 0.026) were independently associated with academic stress. Although academic stress is common among students, the way to deal with it has become suitable for a few Coping behavior is not good, especially among male. This, along with other determinants of educational stress diagnosed in this article, examines issues that need to be addressed during counseling (Joseph et al., 2021).

A study conducted in Mexico at faculty of medicine at Veracruzana university. This study aimed to determine the prevalence and severity of anxiety, depression, and school stress, and to assess changes between periods of high and low stress levels). A longitudinal descriptive study was conducted using the Beck's anxiety-depression inventories Scale and School Stress. The results showed that the prevalence of anxiety was observed during periods of high stress and decreased during periods of low stress. Academic stress was observed during the high-stress phase and decreased during the low-stress phase, with the main stressors being frequent ex+ams, bulky lessons and content, and lack of time to complete activities. The prevalence of signs and symptoms of anxiety, depression, and academic stress among undergraduate medical students was high and increased during exam time. This recommendation plans and expands the implementation of stronger intervention and prevention programs and balanced medicine programs (Puig Lagunes et al, 2020).

A study carried out in urban at medical college. The aim of the study was to identify, pick out stressors and measure the degree, the depth of the stress among last year medical students at An urban Medical College in Chennai, a cross-sectional study was conducted among 250 last year undergraduate medical students between

July and September 2018. Medical student stressor questionnaire (MSSQ-20), was used among medical students consisting of six domains, including academic related stressors (ARS), teaching related stressors (TLRS), intrapersonal development stressors (IRS), social related stressors (SRS), desire related stressors (DRS) and group activities related stressors (GARS). The stress levels were graded as mild, moderate, high and severe. MSSQ-20 analysis showed that students perceived severe stress due to ARS. The mean score was higher for ARS, followed by GARS and the least score was observed in DRS. Also result showed that the Majority of the participants were females. There was a need for reframing the medical education system to enable the medical students acquires knowledge without compromising their health (Battula et al., 2020).

A study was conducted at a medical school in Portugal. Medical school is exciting and challenging, and it can have a serious impact on a student's mental health. Stress can lead to poor quality of life, poor academic performance and poor patient care. The aim of this study was to understand the stress levels of sixth-year medical students in Portugal. A cross-sectional observational study included sixth-year Portuguese medical students from all faculties in Portugal. An online self-response questionnaire, including a 10-point Perceived Stress Scale, was used to examine stress levels and sociodemographic factors (PSS). Using logistic regression, study factor weights on stress levels were calculated. The weights of the stress level determinants studied were estimated by logistic regression. Result showed a total of 501 (69.5% women) with a median age of 24 years found a significant level of stress in 49.9% (95% CI: 45.5-54.3%) of the 20 .8% of students, regardless of age, gender or teacher, all showed extremely high levels. Students with poor sleeping and eating habits, lack of time management skills, dissatisfaction with social and academic experiences, and lack of family support had higher stress levels. Additionally, these students were more concerned about their future and displayed a greater degree of anxiety about their graduation test scores. This study concluded that, Portuguese medical students had higher stress levels, which were related to socioeconomic variables. The recommendation was to integrate educational program about adaptive coping strategies to make students deal with stress currently and in the future (Oura & Santos, 2020).

A study of stress and coping strategies was conducted among Thailand medical students in A southern Medical School. The study aimed to assess stress and coping strategies among medical students at Faculty of Medicine, Thailand. All first to sixth medical students were surveyed, a cross-sectional study was used. The Thai version of the COPE inventory, descriptive statistics were used to analyze the data. The result was presented as frequency, average, percentage & standard deviation. Mean of chi-square used to analyze factors associated strategies. The results showed that 827 respondents from 1,109 medical students had a response rate of 74.6%. Most medical students are women with moderate stress levels. Acceptance, positive coping, self-distraction, and positive restructuring (adaptive coping strategies) commonly used by medical students, but not maladaptive coping strategies (denial and substance use). The relationship between demographic characteristics and coping strategies was significantly associated with adaptive coping strategies, but high stress levels were significantly associated with maladaptive coping strategies. Adaptive coping used by most medical students. A focus on medical student stress and coping strategies is recommended to prevent adverse effects of stress on health and academic outcomes (Norphun et al., 2020).

A study of the prevalence of stress and its associated stressors among medical students in Malaysia. This study aimed to determine the prevalence of stress and related stressors among medical students. Medical education is notoriously a tense field in April. During the formative years, medical students may face a variety of psychological changes. A cross-sectional study was conducted at the Faculty of Medicine in Sabah, Malaysia in May 2018. 396 participants were recruited by universal sampling. Data were collected using self-administered questionnaires including the Sociodemographic Questionnaire, the Depression, Anxiety, and Stress Scale 21 (DASS-21), and the Medical Student Stressor Questionnaire and bivariate analysis was used to analyze associations. Results showed a response rate of 90.2%, a stress prevalence rate of 33.3% among medical students, and an average academic stress score of 2.117, the highest average score on the assessment of the MSSQ. The results of this study recommend that academic institutions need to plan, implement and improve preventive measures for stress management, such as comprehensive mental health care services (Musiun et al., 2019).

A qualitative study was conducted about medical student perception of stress due to academic studies and its interrelationship with other domains of life at medical school in Germany. The study aimed to comprehend any potential interactions between the demands of academic study and those in other areas of life. The two research team members, who were also medical students, used social media to individually approach medical students at the University in Germany to obtain a convenience sample for focus groups. A complete of sixty eight medical students from the faculty of medicine in Germany participate in 8 attention corporations. Periods have been based by using a subject guide and have been recorded, transcribed and content-analyzed. As a result, starting one's medical studies seemed to be connected to significant personal challenges, such as moving out on one's own for the first time and assuming a new social role in a single peer organization. It was believed that persistent pressure lead to emotional weariness, which bled over into other areas of life. Medical students perceive that they have little time for leisure activities, sports, and a healthy lifestyle. There have been reports of social isolation, particularly around test periods. Sports for entertainment have been shown to help students recover from academic stress. Subjectively, social links have been shown to lessen stress, but they have also been shown to raise strain due to expectations. Side employment appeared to add to the pressure and take up too much time, which would affect academic achievement. Some personality traits appeared to magnify those perceptions. Medical students may experience stress and a decline in wellbeing due to pressures from their education, demands from their personal lives, a lack of resources for rest and recovery, certain private trends, certain personality features, and connections between these domains. Approaches to help people cope with stress, including relaxation techniques and stress management strategies, were advised (Bergmann et al., 2019).

A study of stress and coping strategies among undergraduate medical students conducted in Pakistan. The study aimed to assess stress levels and the relationship between coping strategies and perceived stress. A sample of 200 medical students participated in this cross-sectional study. The students are between 18 and 26 years old Demographic questionnaires, the Perceived Stress Scale and the Brief Coping Scale were used. Descriptive statistics, t-tests and multilevel regression were

used for statistical evaluation. Results showed that 29% of medical students were significantly less stressed, 26% were moderately stressed, and 20% were surprisingly stressed, with no gender difference in stress levels. The coping strategies of self-blame and denial emerged as high-quality predictors of stress. In addition to healthy coping techniques, maladaptive coping strategies can be used. This recommendation highlights the need to implement stress management programs that help build students' coping skills (Yasien & Alvi, 2018).

A study of stress and its sources among health professional students at Makerere University, Uganda. The aim of the study was to identify the prevalence of stress and its associated factors among health professional students. A cross-sectional descriptive study by quantitative methods of data collection were used. The research involved 258 undergraduate health professional students (Medical, Dental, and Nursing). And being conveniently selected from each year of study. The General Health Questionnaire 12 was used to assess stress. Data was acquired by consenting students after receiving ethics permission. The SPSS statistical program was used to analyze the data collected. The result showed that the prevalence of stress was determined to be 57.4 percent, with the most common stressors being academic and psychosocial in nature. Academic curriculum (38%) was the main stressor, followed by dissatisfaction with class lectures (30.9%), long distance walk (29.5%), lack of time for relaxation (28.9%), exam performance (28.3%), lack of specific guidance from faculty (26.7%), and high parent expectations (26.7%). More than half of health professional students (57.4%) are stressed. Academic and psychosocial pressures were the most often stated stressors. The authors suggest based on their findings that there is a need to improve peer mentoring among students. More research should be done to examine components of the curriculum to determine which ones are particularly stressful, so that proper consideration in curriculum reviews may be made (amanya et al., 2018).

Another study, conducted by the Medical University of North India, which aimed to assess medical student stress and its association with year of study and gender, was a cross-sectional observational study based on their course semester. The study was conducted using a stress scale for higher education. A total of 251 participants participated in the study. The results were shocking for the future, with

the highest stress ratings among final year students, while second year teachers were rated higher for shortcomings and insufficient feedback, and freshmen rated the highest financial problems. Men rated financial concerns higher than women. The study concluded that stress in medical students is dynamic, as stressors continually change depending on the year of study. strong action by university administration was needed to overcome this problem (Garg et al., 2017).

A study was conducted at the Governmental Medical College, Nagpur, India. The medical education in India is disturbing as a ways as students‟ efforts are involved. Worry of failure, a significant amount of content that needs to be mastered, incapability to address the excessive expectancies of parents and peers are found to be the most typically observed resources of stress. The aim of this study is to identify the source of stress among medical students at Government College, Nagpur. Present observational, descriptive cross-sectional have a look at turned into conducted from March & April 2016 amongst 244 clinical college students at governmental medical college, using self-administered MSSQ questionnaire. Imply age of students on this study changed into 20.17 years with SD of 0.92 years. Academic associated stressors become on top of the list with other stressors was located to be having a mean of 2.96, followed by means of Intrapersonal & interpersonal associated stressors, coaching and getting to know related stressors, group activities associated stressors, Social related stressors, force and choice associated stressors. A significant number of study participants in this study suffer from moderate to high stress. Strategies were recommended to decrease the burden of academic stress among the students (Surwase et al., 2016).

Stress levels among medical students and their association with socio-demographic factors were studied at Rawalpindi Medical College in Pakistan. Medical students live in stressful environments, and the study aimed to determine the relationship between stress levels and students' sociodemographic factors. A cross-sectional study was conducted from March 2015 to September 2016, with a total of 292 students participating in the study, using a stratified random sampling method, selecting subjects by school year, using attendance records to each school year as the sampling frame. The questionnaire survey method was used to collect the data, and the Student Life Stress Scale was applied. An independent samples t-test was used to

analyze the data and Pearson's chi-square test was used at the 5% level of significance. The results showed that there were 25% mildly stressed, 52.7% moderately stressed and 22.3% severely stressed students respectively. Gender differences were observed in all three domains of the scale. Male students scored higher on most subscales than female students. Moderate stress was most common among female students and was more common than among male students. Practical measures to prevent stress in medical students have been recommended (Kashif et al., 2016).

A comparative study of stress between public and private medical schools was conducted in Bangladesh. 77 medical schools in Bangladesh, 54 of which are private. The aim of the study was to collect data on stress levels among Bangladeshi students of both genders. A cross-sectional study of medical students from 2 public medical schools and 6 private medical schools in Bangladesh was conducted. All the colleges have a common curriculum developed by the government of Bangladesh. The subjects were 1,363 medical students in their third and fourth semester years. A generic sampling technique was used. The study period was from February 2014 to June 2014. Data was collected using validated tools and analyzed using SPSS version 20. The results confirmed that the prevalence of stress in the study population was 54% Stress was reported by 53% of men and 55% of women. 54% of ninth graders and 55% of ninth graders are stressed. There was a statistical difference in stress levels between public and private medical schools. More than half of Bangladeshi medical students experience academic stress and it is suggested that relevant authorities address this problem to create an environment conducive to medical learning (Eva et al., 2015).

A study was conducted at a public medical school in Islamabad, Pakistan. The aim of the study was to find out what might cause medical students to experience stress during their first year From January 2014 to April 2014, qualitative descriptive study were used. First-year medical students were asked to complete a self-administered open-ended questionnaire. The study included 115 students Overall, 35 students (30.4%) had mild to moderate physical problems, 20 students (17.4%) had severe physical problems, and 60 students (52.2%) had no physical problems. The average level of stress was 76%. The study concluded that

environmental issues, the new university environment, student abuse, difficult study habits, and personal factors were all cited as major stressors and stressors experienced by most students undergraduate. Planning is needed to manage this problem at an early stage (Qamar et al., 2015).

2.2.7.2 Arabic and regional studies

A prospective cohort study on coping strategies was conducted among medical students at Zgazig University. The aim of this study was to investigate the frequency and determinants of emotional stress, major stressors, and stress management techniques used by medical students at the academic and clinical stages. The study, which began in March 2017 and ended in August 2019. Examined 163 medical students, using the Perceived Stress Scale, the Medical Student Stress Questionnaire, and the brief adaptation scale. At the academic and clinical stages, 69% and 68% of students, respectively, reported moderate to high levels of emotional stress ($p>0.5$). In both phases, there was a relationship between reported stress and socioeconomic class. At the clinical stage, equity class, lower social class, and middle social class were significant independent predictors of higher stress levels. School stress is high at both stages. The study concluded that medical school. is a daunting experience that threatens a person's physical and mental health. Academic and social stress is most common during academic and clinical periods. The response of the method was higher at the academic stage and increased significantly at the post-graduate stage. The results of the educational process can be improved by focusing on medical students, trying to reduce school stress (including their use in leisure activities), developing assessment tools, focusing on students at high risk facing significant stress and recommending psychiatric counseling (Alhawy et al., 2021).

A study of stress and coping strategies among medical students and interns in Saudi Arabia. This study aimed to investigate stressors and coping skills in medical students. Medical students and interns are under a lot of pressure. Chronic stress has numerous deleterious effects on physical and mental health, and the qualitative study included four focus group discussions with graduating medical students (8 males, 10 females) and medical interns (8 males, 7 women). The study was conducted at a

major medical school in Riyadh from October 2017 to January 2018. Software was used to analyze the data. The results suggest that medical students aware of the rewards of health professionals advocate positive methods of stress management. Some participants found planning and time management difficult, while others did not. Stress is considered a typical emotion of medical students. Avoiding medical conversations, having relationships with the opposite sex, and smoking are all on the list of avoidance strategies for coping with stress. The study concluded that medical students and interns still struggle to develop good stress management practices. There is a great need for stress management programs to help improve students' coping skills (Abouammoh et al., 2020).

A study of stress and stressors among medical students conducted in Sudan. The aim of the study was to identify the stress levels, sources and determinants of medical students in Sudan. 617 undergraduate medical students from six Sudanese universities were interviewed using an online questionnaire. Sources of stress, demographics, stress performance, and coping mechanisms were all assessed using a 19-item questionnaire. The results showed that the overall incidence of stress was 31.7%. Time pressure, heavy workload, fear of failure and frequency of exams are the main stress factors. A third of students reported at least one source of psychosocial and teaching-related stress. Female medical students have higher academic stress than males. In addition, fourth and fifth graders experience greater academic stress than first graders. Poisson regression analysis models confirmed that first-year students were less stressed in medical education than final-year students. For years, male medical students were less stressed than girls In addition, grade was a predictor of the development of teaching stress. Compared to male, female medical students are more stressed academically. The recommendation is to reduce routine examinations and academic workload, counseling and support in universities, with a particular focus on Sudanese female and male higher (clinical) medical students (Ragab et al., 2020).

A study of the prevalence and correlation of psychological stress among First-Year Undergraduate Students in South Jordan conducted at different faculties including medical college a Al-Hussein Bin Talal University. The purpose of this study was to investigate the prevalence of psychological stress and the demographic

factors that contribute to stress among first-year undergraduate students in southern Jordan between September 2018 and January 2019, cross-sectional design was conducted with 231 first-year undergraduate students from different faculties. Self-administered questionnaires and self-reported stress scores (perceived stress scale) for data collection. Frequencies, percentages, mean and standard deviation were performed by SPSS version 21 for analysis of demographic data. To test mean differences in independent samples of pressure and sex, t-tests were performed. An ANOVA was performed to test mean differences in the stress and academic domains; high school grade point average (GPA), marital status, and student residence 231 students completed a self-report questionnaire. The results showed significant differences in mean levels of stress by age ($p = 0.023$) and school field ($p = 0.045$). Law students reported the highest stress levels. Participants' overall levels of perceived psychological stress were moderate, and the researchers suggest that academic actors at universities should pay attention to students' psychological well-being. Universities should implement effective stress reduction strategies relevant to academics, with enhanced course activities, stress management training, counseling also as an integral part of daily student services (Al-Rawashdeh et al., 2020).

A study of predictors of perceived stress among medical and non-medical students in Egypt. The aim of this study was to determine the level of perceived stress and its predictors among medical and non-medical students at Minia University. A cross-sectional study was conducted between March 2017 and April 2017 to compare medical and non-medical students. The sample consisted of a randomly selected group of 314 medical students and 291 non-medical students of each school year. Data was collected through interviews and questionnaires asking for socio-demographic information as well as general stressors such as academic, financial, family, and transportation-related stressors, and the Cohen Perceived Stress Scale 10. The percentage of medical students who perceive stress is slightly higher (88.9%) than that of non-medical students (83.5%). Medical students experienced higher levels of stress (18.8%) than non-medical students (12.4%). Academic stressors, lack of exercise, and femininity were significant predictors of reported stress among medical students, while academic and financial stress were significant predictors of perceived stress among nonmedical students. Medical students reported

feeling more stressed than non-medical students. Academic stressors were found to be a significant predictor of all students, thus recommending the establishment of a student counseling service (Seedhom et al., 2019).

A study conducted in Palestine. The aim of this study was to investigate the prevalence of mental health problems among Palestinian university students. The sample consisted of 216 Palestinian university students randomly enrolled in two universities in the Gaza Strip (Azhar and the Islamic University) and one university in the West Bank (Quds University in Jerusalem) during the second semester of the academic year 2004- 2005. Participants (40.3%) were male and (59.7%) were female. The ages ranged from 17 to 30 years old. two questionnaires were used, a predefined socio-demographic form and 28 general health questionnaires. The results showed that 69.4% were classified as cases of mental illness requiring further investigation, 30.6% were not cases, and there were no statistically significant differences between the sex of the subjects. students and the GHQ-28 and subscales. Students from the West Bank are more anxious than students from the Gaza Strip. There were no other statistical differences between the total GHQ28 and the other subscales. There were no statistically significant differences in the GHQ-28 and subscales by type of residence (town, village, camp). Al Azhar University students had higher GHQ scores for total anxiety and depression than Islamic University and Al Quds University students. Based on findings of high levels of anxiety among students, this recommendation highlights the need for counseling centers in universities to help students overcome anxiety (Thabet & Abdullah, 2018).

A study of assessing stress among medical students in Anbar governorate, Iraq was conducted at Anbar and Fallujah universities. The aim of this study was to assess the stress levels of medical students in Anbar Province, Iraq, and to determine the association between perceived stress and sociodemographic characteristics of medical students. Medical students from Al-Anbar province participated in a cross-sectional study, which was conducted between February and March 2018. The Kessler10 psychological stress instrument was used to assess the stress level (K10) of these students. Results showed that 231 students (77.5%) indicated that they had some kind of stress, ranging from severe (30.2%), moderate (25.5%) and mild (22.5%). First-year students reported the highest proportion of students experiencing

stress (11.5%) and this percentage was mostly in the moderate and severe categories. There was a statistically significant relationship between gender and stress levels. Medical students of Anbar University and Fallujah University are under stress and effective programs were recommended to identify associated factors and reducing stress by creating a positive teaching environment at medical universities (Alshawi et al., 2018).

A study on the prevalence of stress among medical students and its impact on academic performance was conducted in the Kingdom of Saudi Arabia. The aim of the study was to determine the prevalence of stress and its impact on the academic performance of medical students. Quota sampling method for a cross-sectional study of undergraduate medical students and interns at the Kingdom of Saudi Arabia Medical College. The questionnaire was self-administered and data was collected using the Kessler Psychological Distress Scale (K10). The results showed that female experienced 70.1% more stress than male (29.5%). Fourth graders had the highest incidence of stress and first graders had the lowest. There was a strong p>(0.00) correlation between year of study and stress level, and a strong correlation between medical research and the acquisition of stress symptoms (p-value 0.001). The main results of this study show that stress is prevalent among medical students in the Kingdom of Saudi Arabia compared to other studies, with female students having higher levels of stress than male students, and the main causes of stress are related to marriage, sleep time and study time. Guidance and effective planning are needed to overcome stress (Mahyuddin et al., 2018).

A cross-sectional study of medical student stress was conducted at King Abduluziz University Faculty of Medicine in Jeddah to compare differences in perceived stress levels and detection among male and female medical students. Identify factors associated with perceived stress, 173 male participants and 173 female participants were selected from a stratified random sample from different school years to Collect socio-demographic information on students. The Perceived Stress Scale was used to assess perceived stress. The Perceived Social Support Multidimensional Scale was used to assess social support among medical students. The results showed that female medical students were more stressed than male medical students (P = 0.005). Female medical students had significantly lower friend

support (with friends) than male medical students (P = 0.001). The only significant predictor of female medical students reporting greater stress was lack of support from friends (P = 0.002). It was concluded that female medical students were significantly more stressed than males. The only significant predictor of female medical students reporting greater stress was lack of social support, Parental constraints, particularly parental attitudes towards their daughters, prevent them from having direct and relaxed social interactions with female friends, which may be a factor in the lack of support from female friends among female medical students in Saudi Arabia (Sehlo et al., 2018).

2.2.8 Summary of Literature Review

Stress has caused health problems all over the world. Previous studies have reported that the medical education system is more demanding and is one of the most stressful college programs in the world. This has a significant negative impact on the physical and mental health of medical students. Many factors are known to contribute to the development of stress in medical students, such as frequent exams, high volume of content, lack of time to review materials, lack of teacher support, lack of free time , parental expectations, peer pressure, interpersonal relationships. and financial matters. Moreover, the literature and previous studies suggest that stress is common among medical students compared to other studies and non-medical students. Compared to other domains for all students, academic stress scores were higher on average, female students had higher and more common stress levels than male students, and medical student stress was dynamic because the stressors constantly changed. Academic performance of medical students affected by stress. Students' use of coping mechanisms varies widely. Emotional strategies associated with lower school performance and positive coping associated with higher performance. Excessive academic stress and maladaptive coping can lead to increase rates of physical and psychological problems.

According to most previous research, good interventions include relaxation techniques, breathing exercises, learning to identify and neutralize negative thoughts, building positive coping styles, and reallocating time and energy to different tasks Faculty, counselors, and other staff should approach students in a non-threatening,

non-judgmental manner to help medical students recognize and manage stress. Improving students' coping skills should be central to education and requires guidance and effective planning to overcome stress. Strategies are suggested to reduce students' academic stress. Universities should implement effective stress reduction strategies relevant to their studies, improve course activities, and provide training in stress management and positive coping as an important part of the curriculum.

Chapter III
Materials and Methods

Chapter III
Materials and Methods

3.1 Study design

Across- sectional- descriptive analytical design to collect point-in-time data. This study design can be used for descriptive purposes and provides insight into the relationships between study variables.

3.2 Study population

The Population of this study involves all medical students who are learning at the faculties of medicine from first to sixth year, (2000) students from (Al-Azhar & Islamic university in the Gaza Strip).

3.3 Sample and sampling

stratified random sampling. The target participants were the medical students from AL-Azhar & Islamic university in the Gaza Strip, the sample was 250 students. 138 students from AL-Azhar University and 112 students from Islamic University from both male and female.

Table (3.1): Population and total sample size according to 10% from each year of study from (AUG &IUG)

Year of study	AUG		IUG		AUG		IUG	
	M	F	M	F	M	F	M	F
First	200	245	120	91	20	21	13	14
Second	100	125	63	70	12	18	10	8
Third	70	80	70	82	9	9	8	10
Forth	38	61	85	75	7	8	9	8
Fifth	43	50	60	69	7	9	7	8
Sixth	40	48	50	65	8	10	8	9
Total	491	609	448	452	62	76	53	59
	N=2000				n=250			

Table (3.2): Participants' Characteristic (n=250)

Character	Frequency	Percent
Faculty of Medicine at		
AL-Azhar University-Gaza	138	55.2
Islamic University-Gaza	112	44.8
Gender		
Female	132	52.8
Male	118	47.2
Year of Studying		
First	77	30.8
Second	37	14.8
Third	51	20.4
Fourth	28	11.2
Fifth	30	12.0
Sixth	27	10.8

3.4 Study instrument

A self-administered online questionnaire was used to collect the data. The questionnaire included three parts. First, personal characteristics questionnaire. Second, the stressor questionnaire by using adopted modified medical student stressor questionnaire. Third part, coping strategies by using adopted brief cope questionnaire (Appendix 1 & 2).

3.4.1 Personal Characteristics Data

Include information about gender (male, female), medical school in the Gaza Strip (Islamic University, Al-Azhar), and year of study (first to last year).

3.4.2 Stress and Stressors

MSSQ was developed by Yusoff (2010) to assess stressors faced by medical students and to measure the intensity of stress caused by stressors. The questionnaire included six areas of stress, categorized as mild, moderate, high and severe. MSSQ is a self-declaration and self-assessment tool. Stressors for medical students are generally grouped into six domains with a total of 40 items. These areas include Academic Stressors (ARS), Interpersonal Relationships, Intrapersonal Stressors (IRS), Teaching and Learning Stressors (TLRS), Social related stressors (SRS), desire-related stressors (DRS) and Group activity stressors (GARS). MSSQ of 40 items on the stress intensity induced by each stress domain Each item was scored on a 5-point Likert scale ranging from "no stress (score 0)" to "severe stress (score 4)".

The average score is explained as follows: Mild stress (0 to 1) means that it does not cause you any stress. Even if it does, it will only cause mild stress; a medium level (1.01 to 2) means it will cause you a reasonable amount of stress. However, you can handle it well, high stress (2.01 to 3) means it will stress you a lot. Your emotions seem to be disturbed. and your daily activities will be slightly affected; severe (3.01 to 4) means it will cause you significant stress. It seriously upsets your mood. Consequently, your daily activities are affected. More details about the domain are described as follows:

3.4.2.1 Academic related stressors (ARS)

This domains adopted into 14 questions. Academic related stressors refer to any scholastic, university, college, educational or student events that cause stress on students. These include examination systems, assessment methods, grading methods, study schedules, student activities related to academic events such as poor test scores, high expectations for learning, a lot to learn, content difficult to understand, no time for revision. The learning environment is full of competition and it is difficult to answer questions from teachers. High scores in this domain indicate that academic matters are the main sources of stress.

3.4.2.2 Interpersonal, Intrapersonal related stressors (IRS)

Interpersonal and intarpersonal stressors refer to any form of the relationships between and within individuals that cause stress. Interpersonal stressors are often linked to our own internal relationships, including lack of motivation to learn and conflicts with oneself. Interpersonal stressors are often related to relationships between individuals, including verbal, physical, and emotional abuse by others, as well as conflict with staff, faculty, colleagues, and staff. High scores in this area indicate that intrapersonal and interpersonal relationships are the main sources of stress.

3.4.2.3 Teaching and Learning-Related stressors (TLRS)

A teaching stressor is any stressful event related to teaching or learning. These are generally related to the relevance of the tasks that teachers give to students, the ability of teachers to supervise and teach students, the quality of feedback from teachers to students, the recognition and support that teachers grant students and

clarity of learning objectives given by teachers. to students. A high score in this domain indicates that teaching and learning events are the main sources of stress. Consequently, it indicates that teaching and learning activities in the institution are unfriendly to students. This requires looking at components of teaching and learning process to determine the causes of stress on the students.

3.4.2.4 Social Related Stressors (SRS)

Societal stressors are any form of community and social relationships that cause stress. This is often related to free time with family and friends, working with the public, personal time, interruptions from the work of others, and problems faced by patients. High scores in this domain indicate that social and community events are a major source of stress. This indirectly indicates that students have difficulty devoting time to social and community activities.

3.4.2.5 Drive and Desire related stressors (DRS)

Drive and desire related stressors refer to any form of internal or external forces that influence person's attitudes, emotions, thinking, and behavior, resulting in stress. It is usually related to the reluctance to study medicine for various reasons, such as choosing to study medicine on your own, poor choice of courses, depression after facing the reality of studying medicine, parents wishing study medicine, follow a friend to study medicine. High scores in this area indicate that motivation and desire are major sources of stress.

3.4.2.6 Group activities related stressors (GARS)

Group activities related stressors refer to any group events and interactions that cause stress. It generally relates to participation in group discussions, group presentations and others expectations to do well. A high score in this domain indicates that group events and interactions are the main sources of stress. It is understandable as most of the educational activities in medicine involve group activities. Therefore, if someone is having difficulty with group activities then the person is easily distressed.

3.4.3 Coping Strategies scale

The Brief COPE was created by Carver (1997) to assess the types of coping mechanisms used in stressful situations. It assesses how medical students cope with stress. The Short-Term COPE Scale is a 28-item questionnaire used to assess effective and ineffective stress coping strategies, Contains 14 adaptation factor structures and maladaptive classification. Positive adaptation, planning, acceptance, positive reconstruction, emotional support, support tool, humor, religion (adjustable). Denial, venting, self-distraction, behavioral disengagement and self-blame, substance abuse, (maladaptation) (García et al., 2018).

The scale included three domains:

3.4.3.1 Problem-Focused Coping:

Aim to solve a problem or take action to change a stressor. When it comes to problem-focused coping, a person's ability to reflect and change events or environmental situations is even more important. Examples of this thinking-process strategy include applying problem-solving skills, resolving interpersonal conflict, seeking advice, managing time, setting goals, and learning how to which a person speaks. At the behavioral or action level, examples of this approach include, participating in a smoking cessation program, following medical advice, following a diet for diabetes, and organizing and prioritizing time management tasks (Garcia et al., 2018)

3.4.3.2 Emotion-Focused coping:

Designed to reduce or manage emotional distress associated with (or caused by) the condition. An emotion-focused approach focuses on changing one's own thoughts or feelings about an environment or event. At the level of thought processes, examples of such techniques include denying the existence of stressful situations, unrestricted emotional expression, avoidance of unpleasant situations, social comparisons, or minimizing attention to the good side of things. Examples of these behavioral or action-level strategies include seeking help from others to reduce the effects of stressful situations, physical activity, relaxation and/or meditation, joining groups support, religious rituals, and alcohol and drug abuse to escape (Garcia et al., 2018) Problem-focused coping and emotion-focused coping are considered adaptive.

3.4.3.3 Avoidant Coping:

It is a coping technique and a means of avoiding experiential pain It is characterized by an individual's conscious or unconscious attempt to avoid facing stressful situations in order to protect themselves from the challenges it presents. It is considered unsuitable and maladaptive (Scott, 2021).

3.5 Validity of instrument

3.5.1 Face validity

This is achieved by organizing the two tools into categories with a logical order.

3.5.2 Content validity

Literature was reviewed to find an instrument to measure the level of stress. The Medical Student Stressor Questionnaire (MSSQ), which covers six dimensions, was used to determine the stressors and the level of stress they produce among medical students. The six domains and the items within each domain were created using a survey of the literature on various types of stress. Based on the questionnaire's applicability and compatibility with the regional cultures and values, we adjusted it. Additionally, a panel of experts (Appendix 3) was consulted to evaluate the instrument's clarity and suitability for the study's goals. All feedback on the instruments was taken into account, and certain modifications were made to some pieces as a result. In addition, a pilot research was carried out prior to the questionnaire's data collection.

3.5.3 Internal consistency

The researcher calculated the correlation between each item and the total score of the domain and belongs to as presented in following table.

Tables below shows the correlation coefficient and p-value for each field items. As show in the tables 3.1 to 3.11 the p-Values are less than 0.001, so the correlation coefficients of this field are significant at $\alpha = 0.01$ or $\alpha = 0.05$, so it can be said that the paragraphs of this field are consistent and valid to be measure what it was set for. All the items have statistically significant correlation with the total score of domains, so none of the items will be excluded from the questionnaire.

Table (3.3): Internal consistency of the academic related stressor (ARS)

##	Item	Pearson Correlation Coefficient	p-value
1.	Frequent Tests/examination in a competitive environment	0.674	<0.001
2.	Falling behind in reading schedule	0.642	<0.001
3.	Quota system in examination	0.452	<0.001
4.	Lack of time to review what have been learnt because of crowded information	0.680	<0.001
5.	Heavy Workload(curriculum)	0.718	<0.001
6.	Difficulty to answer questions given by lecturer	0.730	<0.001
7.	Large amount of content to be learnt	0.694	<0.001
8.	Inappropriate assignments	0.684	<0.001
9.	Getting poor/ low marks	0.574	<0.001
10.	Having difficulty understanding the study content	0.562	<0.001
11.	Medical learning context-full of competition	0.515	<0.001
12.	Not enough medical skill practice	0.561	<0.001
13.	Unjustified evaluation and grading process	0.643	<0.001
14.	Need to do well (self-expectation)	0.617	<0.001

Table (3.4): Internal consistency of the teaching and learning related stressor (TLRS)

No.	Item	Pearson Correlation Coefficient	p-value
1.	Uncertainty of what expected of me	0.687	<0.001
2.	Difficulty to answer questions given by lecturer	0.646	<0.001
3.	Not enough feedback from lecturers	0.710	<0.001
4.	Not enough prepared study material	0.739	<0.001
5.	Lack of recognition and appreciation for work done	0.756	<0.001
6.	Lack guidance from lecturer to medical student	0.785	<0.001
7.	Lecturers-lack of education skills	0.762	<0.001
8.	Lack of support from lecturer	0.754	<0.001

Table (3.5): Internal consistency of group activities related stressor (GARS)

N#	Item	Pearson Correlation Coefficient	p-value
1.	Participation in lecture discussion at class room	0.767	<0.001
2.	Participation in preparing some lecture and presentation	0.788	<0.001
3.	Need to do well (imposed by others)	0.730	<0.001
4.	Feeling of incompetence and fear of failure	0.740	<0.001

Table (3.6): Internal consistency of drive & desire related stressor (DRS)

N #	Item	Pearson Correlation Coefficient	p-value
1.	Unwillingness to study medicine	0.917	<0.001
2.	Desire of parents to study medicine	0.910	<0.001

Table (3.7): Internal consistency of interpersonal & intrapersonal related stressor (IRS)

#	Item	Pearson Correlation Coefficient	p-value
1.	Conflict with lecturers due to decrease support and helping of medical student	0.626	<0.001
2.	Verbal abuse from lecturers	0.828	<0.001
3.	Conflict with personnel(s)	0.848	<0.001
4.	Verbal or physical abuse by other students	0.861	<0.001
5.	Conflicts and jealousy with other students	0.787	<0.001
6.	Poor motivation to learn	0.688	<0.001

Table (3.8): Internal consistency of the social related stressors

##	Item	Pearson Correlation Coefficient	p-value
1.	Hearing to patient about personal problem	0.687	<0.001
2.	Facing illness or death of the patients	0.646	<0.001
3.	Unable to answer some questions from patients	0.710	<0.001
4.	Lack of time for rest and balance relation for family and friends	0.739	<0.001
5.	Frequent interruption of my studying due to different causes	0.756	<0.001
6.	Family responsibilities	0.687	<0.001

Table (3.9): Internal consistency of all stressor domains

N#	Domain	No. of items	Pearson Correlation Coefficient	p-value
1.	Academic related stressor (ARS),	14	0.689	<0.001
2.	Teaching and Learning Related Stressor (TLRS)	8	0.730	<0.001
3.	Group Activities Related Stressor (GARS)	4	0.704	<0.001
4.	Drive & Desire Related Stressor (DRS)	2	0.703	<0.001
5.	Interpersonal & Intrapersonal Related Stressor (IRS)	6	0.716	<0.001
6.	Social Related Stressor (SRS)	6	0.798	<0.001

Table (3.10): Internal consistency of Problem-Focused Coping

#	Item	Pearson Correlation Coefficient	p-value
1.	I've been trying to come up with a strategy about what to do.	0.642	<0.001
2.	Make plan for action	0.629	<0.001
3.	I've been concentrating my efforts on doing something about the situation I'm in	0.581	<0.001
4.	I've been taking action to try to make the situation better	0.622	<0.001
5.	I try hard to prevent other things from interfering with my efforts at dealing with problem	0.473	<0.001
6.	I ask people who have had similar experiences what they did.	0.664	<0.001
7.	I focus on dealing with this problem	0.691	<0.001
8.	Look at the stressor in a more positive light	0.622	<0.001
9.	I've been thinking hard about what steps to take. To manage stress	0.657	<0.001
10.	I think about how I might best handle the problem	0.512	<0.001
11.	I've been trying to see it in a different light, to make it seem more positive.	0.434	<0.001
12.	I've been trying to get advice or help from other people about what to do	0.568	<0.001

Table (3.11): Internal consistency of Avoidant Coping

#	Item	Pearson Correlation Coefficient	p-value
1.	I've been refusing to believe that it has happened	0.691	<0.001
2.	I've been giving up trying to deal with it	0.622	<0.001
3.	I've been turning to work or other activities to take my mind off things	0.664	<0.001
4.	I've been using medication to help me get through stressor	0.622	<0.001
5.	I've been giving up the attempt to cope.	0.642	<0.001
6.	I've been doing something to think about it less, such as going to movies, watching TV, reading, sleeping, or shopping.	0.629	<0.001

Table (3.12): Internal consistency of Emotion-Focused Coping

#	Item	Pearson Correlation Coefficient	p-value
1.	I've been accepting the reality of the stressor happened	0.534	<0.001
2.	I've been getting comfort and understanding from someone	0.522	<0.001
3.	Focusing on and expressing my negative feelings.	0.499	<0.001
4.	I've been getting emotional support from others	0.441	<0.001
5.	I've been trying to find comfort in my religion or spiritual beliefs.	0.652	<0.001
6.	I've been learning to live with the stressors	0.567	<0.001
7.	I've been praying or meditating	0.598	<0.001
8.	Using humor and making fun of the situation.	0.517	<0.001
9.	I've been blaming and criticizing myself for things that happened	0.442	<0.001
10.	I've been saying things to let my unpleasant feelings escape.	0.449	<0.001

Table (3.13): Internal consistency of stress coping strategies domains

N#	Knowledge domain	No. of items	Pearson Correlation Coefficient	p-value
1.	Problem-Focused Coping	12	0.724	<0.001
2.	Avoidant Coping	6	0.633	<0.001
3.	Emotion-Focused Coping	10	0.755	<0.001

3.6 Reliability

Reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring . For the most purposes reliability coefficient above 0.7 are considered satisfactory, between 0.5 and 0.7 5 consider moderate and less than 0.5 consider poor (Koo & Li, 2016). The Cronbach alpha method has been used to test reliability, as shown in table (3.12).

3.6.1 Cronbach's Coefficient Alpha

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient alpha value between 0.0 and + 1.0.

Table (3.14): Cronbach's Alpha for Reliability

N#	Domain	No. of items	Cronbach's alpha
1.	Academic related stressor (ARS),	14	0.874
2.	Teaching and Learning Related Stressor (TLRS)	8	0.875
3.	Group Activities Related Stressor (GARS)	4	0.748
4.	Drive & Desire Related Stressor (DRS)	2	0.801
5.	Interpersonal & Intrapersonal Related Stressor (IRS)	6	0.865
6.	Social Related Stressor (SRS)	6	0.812
7.	Problem-Focused Coping	12	0.825
8.	Avoidant Coping	6	0.666
9.	Emotion-Focused Coping	10	0.694
10.	**All**	**68**	0.927

As shown in Table 3.12 the Cronbach's coefficient alpha was calculated to each domain and the whole questionnaire. The results were in the range of 0.666 and 0.875 and the general reliability for all domains was equal to 0.927. This range is considered high; this result ensures the reliability of the questionnaire.

3.7 Pilot Study

Before beginning the data collection, a pilot study was conducted as a pretest to highlight phrasing issues, Arabic translation issues, predict response rates, determine the actual time required to complete the questionnaire, identify areas of ambiguity, and test the validity and suitability of the questionnaire. The pilot study, which was conducted with a total of 30 participants (around 12% of the study's target group), was included in the final analysis.

3.8 Eligibility criteria

All medical students from the first year to sixth year were eligible to participate in this study.

3.9 Setting of the study

The study was conducted at faculties of medicine in the Gaza strip at AL-Azhar and Islamic Universities, between April and September 2022, the total number of medical students from both gender was 2000 medical students from first to the final year.

3.10 Ethical and administrative considerations

- the researcher had an approval from Helsinki committee in the Gaza Strip (Appendix 4).
- An official letter of approval obtained from the Deanship of Scientific Research and Graduate Studies at Islamic University to carry out the study (Appendix 5).
- Participants received a thorough written description of the objectives and nature of the study, as well as assurances regarding the privacy of the data they provided. Participation was entirely voluntary.

3.11 Study period

The study was carried out between April 2022 and September 2022.

3.12 Data collection

For this study, An adopted questionnaire-based study sent for undergraduate medical students at two universities in Gaza through on line Google form. Instructions to medical students from first to final year to fill out the questionnaire were ready, and each section and element of the questionnaire were explained clearly. Questionnaire consisting of the following sections: (a) socio-demographic profile, (b) medical student stressor questionnaire (MSSQ) which measure six domain of stress, (c) coping strategies by using Brief COPE subscale style included, problem focused coping, emotion-focused coping, and avoidant coping. Questionnaires filled by the participants and returned on line to the researcher for statistical analyzer to analyze data.

3.13 Data analysis

The researchers took the following steps to ensure high quality data collection and entry:

- The data were collected electronically by Google form and saved then downloaded .
- The data were coded, and were cleaned for any errors or illogic values before analysis.
- SPSS Statistical software version 23 was used for data analysis.

- correlation coefficient is used to test the validity of the correlation coefficient between each paragraph of a field and the entire field.
- Cronbach's α test was used for reliability test of the questionnaire.
- Descriptive analysis in the form of measures for central tendency such as mean and measures of variability such as standard deviation and variances was used to describe data.
- Categorized data were described in form of frequency distribution and percentage.
- Utilizing independent Student's t-tests, one-way ANOVA, and post hoc tests as necessary, to examine correlations between categorical independent factors and continuous dependent variables.

3.14 Limitation of the study

- Gathering data was a challenge, the students had basic setting at faculties of medicine and also clinical setting at different hospitals. Also gathering data from each study year was very difficult. Their time full with training , exams, crowded information and quizzes.
- The limited current resources such as reports, statistical data, books and journals
- Time one of the major limitation in the study.
- Finance also one limitations because there was no financial support available for any of the research work. All by the researcher .

Chapter IV
Results and Discussion

Chapter IV
Results and Discussion

This chapter provides an overview of the findings concluded from this study. The findings were reached after collecting data from 250 medical students, through an electronic self-administered questionnaire by Goggle form. First in this chapter, the study population was described in terms of their baseline characteristics. Then, the distribution of stress levels experienced by medical students using the Medical Student Stress Questionnaire (MSSQ-40). MSSQ-40 categorized into six stressor domains related to academic, teaching, group activity, drive & desire, Interpersonal & Intrapersonal and social for identifying the source and measuring the severity of stress experienced by medical students in the past six months. Later, the chapter described the coping strategy adopted by the students. Brief COPE 28 items scale was the used questionnaire which designed to assess some different coping behaviors and thoughts after a person's response to a specific situation among adults with or without clinical conditions. Additionally, this chapter examines statistical differences among medical student stressors and coping strategies.

Table (4.1): Socio-demographic characteristics of the participants (n=250)

Character	Frequency	Percent
Faculty of Medicine at		
AL-Azhar University-Gaza	138	55.2
Islamic University-Gaza	112	44.8
Gender		
Female	132	52.8
Male	118	47.2
Year of Studying		
First	77	30.8
Second	37	14.8
Third	51	20.4
Fourth	28	11.2
Fifth	30	12.0
Sixth	27	10.8

4.1 Characteristics of the participant

A total of 250 medical students participated in the study as illustrated in table (4.1). Students were mainly from Al-Azhar University-Gaza and Islamic University

of Gaza. Slightly more than the half of the participants were from AL-Azhar University 138 (55.2%), 112 (44.8%) from Islamic university and132 (52.8%) were females from both university and 118 (47.2%) were males. And About one-third of the students were in the first studying year77 (30.8%), second year 37 (14.8%), third year 51 (20.4%), fourth year 28 (11.2%), fifth year 30 (12.0%), sixth year 27(10.8%).

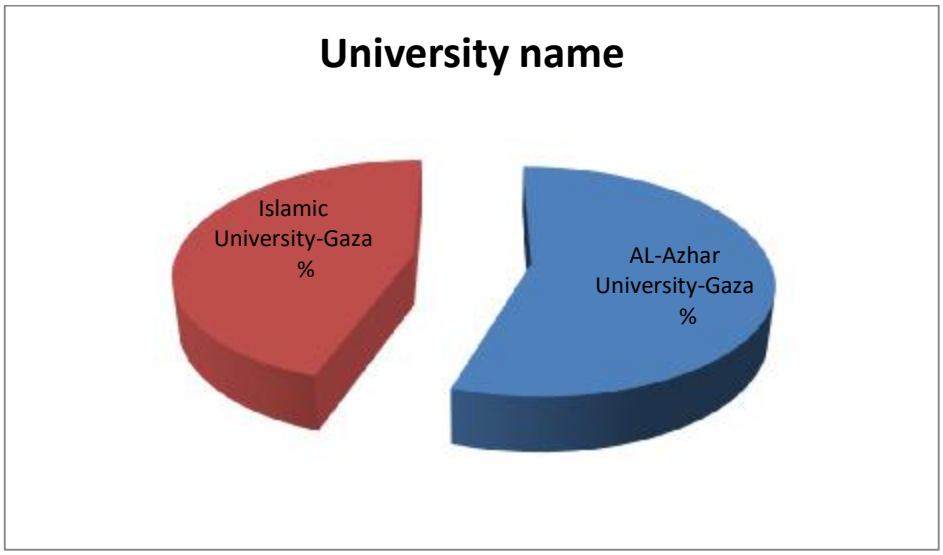

Figure (4.1): Distribution of participants per university

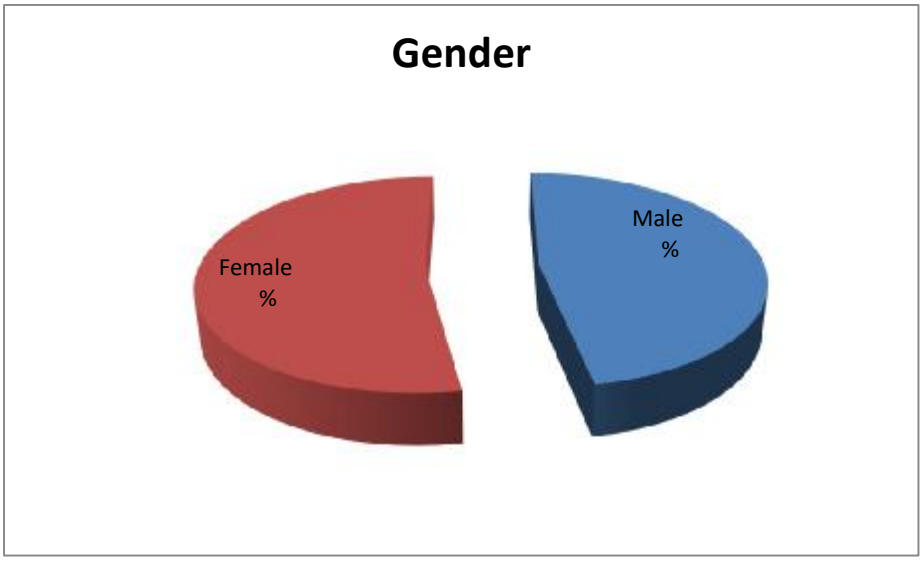

Figure (4.2): Distribution of participants per Gender

4.2 Sources and Severity of Stressors among Medical Students

In the present study, 40 items of MSSQ were grouped into six main stressor domains of medical students and concerning the intensity of stress caused by each stressor domain. Each item is rated on a 5- point Likert scale ranging from "causing no stress at all (score 0)" to "causing severe stress (score 4)." Mean score interpretations were as follows: Mild stress (0 to 1) indicates that it does not cause any stress on you. Even if it does, it just causes mild stress; Moderate (1.01 to 2) indicates that it reasonably causes stress on you. However you can manage it well; high stress (2.01 to 3) indicates that it causes a lot of stress on you. Your emotions seem to be disturbed by it. Your daily activities are mildly compromised due to it; severe (3.01 to 4) indicates that it severely causes stress on you. It disturbs your emotions badly. Your daily activities are compromised due to it. The domains were categorized in the following order:

1. Academic related stressor (ARS)
2. Teaching and Learning Related Stressor (TLRS)
3. Group Activities Related Stressor (GARS)
4. Drive & Desire Related Stressor (DRS)
5. Interpersonal & Intrapersonal Related Stressor (IRS)
6. Social Related Stressor (SRS)

Table (4.2): Distribution of academic related stressor (ARS) among medical students (n=250)

Stress Causing	**Mild stress**	**Moderate stress**	**High stress**	**Severe stress**	**No stress at all**	**Mean (SD)**	**Class**	**Rank**
Stressors	n (%)	n (%)	n (%)	n (%)	n (%)			
Frequent examination in a competitive environment	10 (4)	47 (18.8)	117 (46.8)	72 (28.8)	4 (1.6)	2.97 (0.88)	High stress	3
Falling behind in reading schedule	54 (21.6)	80 (32)	75 (30)	24 (9.6)	17 (6.8)	2.14 (1.07)	High stress	12
Quota system in examination	79 (31.6)	59 (23.6)	19 (7.6)	7 (2.8)	86 (34.4)	1.13 (1.05)	Mild stress	14

Stress Causing	Mild stress	Moderate stress	High stress	Severe stress	No stress at all	Mean (SD)	Class	Rank
Stressors	n (%)	n (%)	n (%)	n (%)	n (%)			
Lack of time to review what have been learnt because of crowded information	11 (4.4)	49 (19.6)	106 (42.4)	82 (32.8)	2 (0.8)	3.02 (0.88)	Sever stress	2
Heavy Workload curriculum	12 (4.8)	37 (14.8)	99 (39.6)	99 (39.6)	3 (1.2)	3.12 (0.91)	Sever stress	1
Large amount of content to be learnt	10 (4.0)	56 (22.4)	97 (38.8)	82 (32.8)	5 (2.0)	2.96 (0.94)	High stress	4
Inappropriate assignments	17 (6.8)	46 (18.4)	114 (45.6)	71 (28.4)	2 (0.8)	2.94 (0.90)	High stress	5
Getting poor/ low marks	19 (7.6)	63 (25.2)	87 (34.8)	76 (30.4)	5 (2.0)	2.84 (1.00)	High stress	6
Having difficulty understanding the study content	36 (14.4)	75 (30.0)	93 (37.2)	38 (15.2)	8 (3.2)	2.47 (0.02)	High stress	8
Medical learning context-full of competition	65 (26.0)	68 (27.2)	56 (22.4)	26 (10.4)	35 (14.0)	1.89 (1.20)	Moderate stress	13
Continuation of lectures during exams period	29 (11.6)	60 (24.0)	95 (38.0)	44 (17.6)	22 (8.8)	2.44 (1.17)	High stress	9
Not enough medical skill practice	32 (12.8)	90 (36.0)	81 (32.4)	36 (14.4)	11 (4.4)	2.40 (1.15)	High stress	10
Unjustified evaluation and grading process	35 (14.0)	73 (29.2)	79 (31.6)	45 (18.0)	18 (7.2)	2.39 (1.15)	High stress	11
Need to do well (self-expectation)	29 (11.6)	56 (22.4)	94 (37.6)	59 (23.6)	12 (4.8)	2.64 (1.11)	High stress	7

Table 4.2 described 14 questions determined by the domain of ARS. Heavy Workload (curriculum) was ranked as the first stressor based on respondents' answers. The mean was 3.12 (SD=0.91) which was classified as severe stress, followed by using lack of time to review what has been learned because of crowded information, the mean was 3.02 (0.88).

However, frequent tests/examinations in a competitive environment 2.97 (SD=0.88), a large amount of content to be learned 2.96 (SD=0.94), inappropriate assignments 2.94 (SD=0.90), poor/low marks 2.84 (SD=1.00), need to do well 2.64 (SD=1.11), difficulty understanding the study content 2.47 (SD=0.02) and continuation of lectures during exams 2.44 (SD=1.16), not enough medical skill practice 2.40 (SD=1.15) were classified as causing high stress. However, the quota system in the examination was denied by students as a stressor and was ranked in the last order with a mean of 1.13 (1.05) which was classified as a factor causing mild stress.

These findings agree with another studies of Puig Lagunes et al. (2020), Surwase et al. (2016), Melaku and Bulcha (2021), Seedhom et al. (2019), Ragab et al. (2020), amanya et al. (2018), which indicated that academic stressors was the primary cause of stress.

In my opinion, based on the researcher job experience at the faculty of medicine and the interactions with medical students, persistent academic stressors, especially heavy curriculum influence on academic achievement and can compromise a student's performance and have a detrimental impact on health. Working memory is interrupted and unable to perform well in stressful academic situations, which has an impact on cognitive functioning. Medical students mental states can be affected by stress, making it difficult for them to think clearly and are more inclined to take risks and make mistakes that could have long-term consequences when they are under stress.

Table (4.3): Distribution of the Teaching and Learning Related Stressor (TLRS) (n=250)

Stress Causing	Mild stress	Moderate stress	High stress	Severe stress	No stress at all	Mean (SD)	Class	Rank
Stressors	n (%)	n (%)	n (%)	n (%)	n (%)			
Uncertainty of what expected of me	30 (12.0)	89 (35.6)	88 (35.2)	30 (12,0)	13 (5.2)	2.37 (1.10)	High stress	2
Difficulty to answer questions given by lecturer	52 (20.8)	93 (37.2)	56 (22.4)	29 (11.6)	20 (8.0)	2.09 (1.15)	High stress	8
Not enough feedback from lecturers	54 (21.6)	85 (34)	75 (30)	21 (8.4)	15 (6.0)	2.13 (1.14)	High stress	6
Not enough prepared study material	57 (22.8)	70 (28.0)	69 (27.6)	36 (14.4)	18 (7.2)	2.19 (1.15)	High stress	4
Lack of recognition and appreciation for work done	36 (14.4)	81 (32.4)	73 (29.2)	50 (20.0)	10 (4.0)	2.47 (1.01)	High stress	1
Lack guidance from lecturer to medical student	56 (22.4)	83 (33.2)	57 (22.8)	33 (13.2)	21 (8.4)	2.1 (1.08)	High stress	7
Lecturers-lack of education skills	47 (18.8)	99 (39.6)	55 (22.0)	31 (12.4)	18 (7.2)	2.14 (1.08)	High stress	5
Lack of support from lecturer	43 (17.2)	84 (33.6)	59 (23.6)	48 (19.2)	16 (6.4)	2.32 (1.03)	High stress	3

Table 4.3 described that 8 questions determined by the domain of TLRS. All of the items in this domain were classified as high stressors. However, lack of recognition and appreciation of student work was ranked as the first and significant reason for TLRS stressor with a mean of 2.47 (SD=0.10), followed by uncertainty of what was expected of me 2.37 (SD=1.10), lack of support from lecturers 2.32 (SD=1.03), not enough prepared study material 2.19 (SD=1.15), lecturers-lack of education skills 2.14 (SD=1.08), not enough feedback from lecturers 2.13 (SD=1.14), lack guidance from the lecturer 2.1 (SD=1.08), and difficulty to answer questions given by lecturers 2.09 (SD=1.15), were classified as causing also high stress but in the last rank.

TLRS is a significant stressor that contributes to stress, however according to the findings of other studies, TLRS was ranked in the third position and not the second. For example, Surwase et al. (2016) demonstrated that intrapersonal and interpersonal stressors were in the second rank that generate high stress after academic and followed by teaching learning stressor. This difference in ranking could be due to utilizing the same scale but different sitting of research. Thus,

different medical students situation and the learning environment which may affect their personality. Moreover, the difference in teachers capabilities and dealing with the medical students. In addition, the result of Rajab et al.(2021) supported our result, it showed that the items of poor support by teachers ranked the highest source of stress among medical students.

On the other hand, the study's findings came in contrast with Battuta et al. (2020) who found that 85 students (34%) were predisposed to high stress as a result of GARS and 138 students (55%) experienced severe stress due to ARS. The mean score was higher for ARS, followed by GARS and the mean score was moderate for TLRS, taking in consideration that they conducted the study among 250 final year undergraduate medical students only and utilizing a differ scale which is the MSSQ-20.

The researcher's viewpoint considers that the teaching -learning related stressors are no less important than the pressure caused by the size of the curriculum among medical students. Lack appreciation, uncertainty of what expected from students and lack support from lectures are the main factors causes stress. It might be because lecturers don't have enough time to interact with students, especially because many of them are not academic and work part-time and have limited offices.

Table (4.4): Distribution of the Group Activities Related Stressor (GARS) (n=250)

Stress Causing:	**Mild stress**	**Moderate stress**	**High stress**	**Severe stress**	**No stress**	**Mean (SD)**	**Class.**	**Rank**
Stressors	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**			
Participation in lecture discussion at class room	65 (26)	68 (27.2)	26 (10.4)	8 (3.2)	83 (33.2)	1.24 (1.12)	Moderate stress	4
Participation in preparing some lecture and presentation	82 (32.8)	71 (28.4)	37 (14.8)	11 (4.4)	49 (19.6)	1.52 (1.1)	Moderate stress	3
Need to do well (imposed by others)	61 (24.4)	101 (40.4)	56 (22.4)	24 (9.6)	8 (3.2)	2.11 (0.98)	High stress	2
Feeling of incompetence and fear of failure	46 (18.4)	69 (27.6)	68 (27.2)	42 (16.8)	25 (10)	2.22 (1.22)	High stress	1

Table 4.4 illustrated 4 questions determined by the domain of GARS. The feeling of incompetence and fear of failure was ranked first rank as the first stressor among respondents. The mean was 2.22 (SD=1.2) which was classified as high

stress, followed by the need to do well (imposed by others). However, Participation in preparing some lectures and presentations with mean1.52 (SD=1.1), and participation in lecture discussions in the classroom 1.24 (SD=1.12) were classified as causing moderate stress.

The results of Surwase et al. (2016) support current results in their studies and indicated that, GARS caused higher stress and listed at the fourth rank of other domain by mean 2.34. However, the result of current research showed that, GARS caused moderate stress by mean 1.77 and were in the fourth rank. Moreover, the result of Melaku et al. (2015) showed that GARS take the last ranked and caused mild stress, this result disagreed with current findings. The findings of Gavali et al. (2018) indicated that GARS was the next common domain causing high stress following ARS and the mean was 1.57 (0.82). Students in this domain were having more stress in participation of class presentation and feeling in competence.

From the researcher's point of view, the differences in the results could be due to different educational environment for the students, differences in the capabilities and skills of students from each other's, their personal traits and the presence of helpful materials.

Table (4.5): Distribution of Drive & Desire Related Stressor (DRS) (n=250)

Stress Causing Stressors	Mild stress n (%)	Mode. Stress n (%)	High Stress n (%)	Severe stress n (%)	No stress n (%)	Mean (SD)	Class	Rank
Unwillingness to study medicine	32 (12.8)	53 (21.2)	46 (18.4)	44 (17.6)	75 (30)	1.81 (1.48)	Moderate stress	1
Parental desire to study medicine	40 (16.0)	36 (14.4)	38 (15.2)	26 (10.4)	110 (44)	1.32 (1.42)	Moderate stress	2

Drive and desire related stressors refer to any kind of internal or external forces that influence one's attitude, emotion, thought, and behavior which causes stress. It is usually associated with the reluctance to study medicine for various reasons, such as not one's choice to study.

Table 4.5 described that two questions determined by the domain of DRS. Although unwillingness to study medicine was ranked as the first stressor among respondents, it was classified as moderate stress (mean=1.81, SD=1.48), followed by parental desire to study medicine with mean 1.32 (SD=1.42).

Surwase et al. (2016) showed that DRS caused high stress but in the last rank of other domain. our result is inconsistent of DRS which ranked before the last rank and it caused moderate stress. It could be due to conducting study only among second and third year medical students of government Medical College in India. In addition, Melaku et al. (2015) found that DRS were in the third rank following ARS and TLRS and caused high stress, this might be related to using different scale (MSSQ-20), (GHO-12). Ragab et al. (2021) concluded that the students who did no study medicine by choice experienced high psychological stress.

According to the researcher's opinion, stress among medical students is a complex phenomenon that is associated with a wide range of stressors. The community's culture point of view plays a major role in the issue of choosing a university specialization field after the secondary stage, as the community and the parents perspectives, medicine is the finest and loftiest specialty, and the community needs more doctors and therefore encourage this field. Others believe that medicine is wonderful, but the study course is long. And tired and therefore they do not encourage it.

It is natural that any student who chooses his university specialization voluntarily will be creative with it, but he remains confused between his high grades, his family desire, his willingness and fear for his transition from the school stage to the university stage.

Table (4.6): Distribution of interpersonal & intrapersonal related stressor (n=250)

Stress Causing:	**Mild stress**	**Mode. Stress**	**High Stress**	**Severe stress**	**No stress**	**Mean (SD)**	**Class**	**Rank**
Stressors	n (%)	n (%)	n (%)	n (%)	n (%)			
Conflict with lecturers due to decrease support and helping of medical student	65 (26.0)	67 (26.8)	54 (21.6)	16 (6.4)	48 (19.2)	1.70 (1.19)	Moderate stress	2
Verbal abuse from lecturers	58 (23.2)	47 (18.8)	47 (18.8)	16 (6.4)	82 (32.8)	1.43 (1.29)	Moderate stress	3
Conflict with personnel(s)	66 (26.4)	56 (22.4)	36 (14.4)	12 (4.8)	80 (32.0)	1.34 (1.20)	Moderate stress	4
Verbal or physical abuse by other students	48 (19.2)	55 (22.0)	35 (14.0)	11 (4.4)	101 (40.4)	1.23 (1.23)	Moderate stress	6
Conflicts and jealousy with other students	62 (24.8)	52 (20.8)	40 (16.0)	12 (4.8)	84 (33.6)	1.34 (1.22)	Moderate stress	5
Poor motivation to learn	44 (17.6)	64 (25.6)	60 (24.0)	37 (14.8)	45 (18.0)	2 (1.31)	Moderate stress	1

Table 4.2 presented 6 questions determined by the domain of IRS. Poor motivation to learn was ranked as the first stressor based on respondents' answers. The mean was 2 (SD=1.3) which was classified as moderate stress, followed by conflict with lecturers due to decrease support and help of medical students with an average score1.7 (SD=1.19), verbal abuse from lecturers with mean1.43 (SD=1.29), conflict with personnel(s)1.34 (SD=1.20), conflicts, and jealousy with other students 1.34 (SD=1.22), Verbal or physical abuse by other students, the mean was 1.23 (SD=1.23). Moreover, the IRS domain in general reported a mean of 1.5 (0.96) which was classified as factors causing moderate stress and ranked the last domain causing stress. This result differed from the results of Surwase et al. (2016) which showed that IRS ranked as the second rank of other domain and causing high stress and a mean was 2.43.

In my opinion, the same stressors may be perceived differently by medical student, depending on cultural background, life experiences, personal traits, and coping mechanisms. The students of the Gaza Strip lived through difficult and frustrating conditions and lived wars, but in general they were the best able to bear the pressures.

Table (4.7): Distribution of Social Related Stressor (SRS) (n=250)

Stress Causing **Stressors**	**Mild stress** n (%)	**Moderate stress** n (%)	**High stress** n (%)	**Severe stress** n (%)	**No Stress** n (%)	**Mean (SD)**	**Class**	**Rank**
Hearing to patient about personal problem	77 (30.8)	62 (24.8)	23 (9.2)	6 (2.4)	82 (32.8)	1.18 (1.06)	Moderate stress	**6**
Facing illness or death of the patients	59 (23.6)	81 (32.4)	44 (17.6)	20 (8.0)	46 (18.4)	1.73 (1.18)	Moderate stress	**5**
Unable to answer some questions from patients	58 (23.2)	75 (30.0)	61 (24.4)	20 (8.0)	36 (14.4)	1.88 (1.16)	Moderate stress	**4**
Lack of time for rest and balance relation for family and friends	39 (15.6)	62 (24.8)	82 (32.8)	55 (22.0)	12 (4.8)	2.52 (1.13)	High Stress	**1**
Frequent interruption of my studying due to different causes	46 (18.4)	55 (22.0)	89 (35.6)	46 (18.4)	14 (5.6)	2.43 (1.15)	High Stress	**2**
Family responsibilities	48 (19.2)	79 (31.6)	68 (27.2)	35 (14.0)	20 (8.0)	2.21 (1.14)	High Stress	**3**

Table 4.7 described the domain of SRS determined by 6 questions. Lack of time for rest and balanced relations with family and friends were classified as high

stress and was ranked as the first rank stressor, the mean was 2.52 (SD=1.13) ; followed by frequent interruption of studying due to different causes 2.43 (SD=1.15) and family responsibilities 2.21(SD=1.14). However, being unable to answer some questions from patients 1.88 (SD=1.16), facing illness or death of the patients1.73 (1.18), and hearing from patients about personal problems 1.18(SD=1.06) were classified as a factors causing moderate stress. The result of our study were in accordance with the result of Gavali et al. (2018) which indicated that SRS was in the third rank with the mean score of 1.38 and caused moderate stress. Moreover, Surwase et al. (2016) found that SRS ranked fifth domain causing stress with the mean score of 2.24. It could be due to differ setting and sample.

From the researcher's perspective, a high score in this category suggests that societal events are the primary sources of stress. Medical students do not participate and have difficulty spending time in social activities and do not sit with their families, friends a lot, and sometimes their studies are intermittent for many reasons such as lack of encouragement by the parents, lack of time, overcrowded curriculum, exams, no special places in universities for medical students for entertainment and activities, and there are no clear programs or strategies to overcome these pressures .

Table (4.8): Summary of all domains of the stressors (n=250)

Stress Causing / Stressors	Mild stress n (%)	Mod. stress n (%)	High stress n (%)	Severe stress n (%)	Mean (SD)	Relative mean %	Class.	Rank
Academic related stressor (SRS)	5 (2)	50 (20)	150 (60)	45 (18)	2.52 (0.63)	63	High stress	1
Teaching and Learning Related Stressor (TLRS)	17 (6.8)	90 (36)	104 (41.6)	39 (15.6)	2.23 (0.80)	55.7	High stress	2
Group Activities Related Stressor (GARS)	61 (24.4)	103 (41.2)	71 (28.4)	15 (6)	1.77 (0.84)	44.25	Mod. stress	4
Drive & Desire Related Stressor (DRS)	111 (44.4)	57 (22)	50 (20)	32 (12.8)	1.56 (1.3)	39	Mod. stress	5
Interpersonal & Intrapersonal Related Stressor (IRS)	94 (37.6)	84 (33.6)	58 (23.2)	14 (5.6)	1.5 (0.96)	37.5	Mod. stress	6
Social Related Stressor (SRS)	37 (14.8)	100 (40)	92 (36.8)	21 (8.4)	1.99 (0.82)	49.75	Mod. stress	3
Mean of responses	**23 (9.2)**	**103 (41.2)**	**114 (45.6)**	**10 (4)**	1.93 (0.65)	48.25	Mod. stress	-

Table 4.8 illustrated a summary of all domains of the stressors. The mean of all stressors in general was 1.9 ± 0.65 and the relative mean was 48.25% which was classified as moderate stress. Academic stressor was ranked in the first rank as the

first stressor facing medical students. The mean was 2.52 (SD=0.63) which was classified as high stress, followed by teaching and learning-related stressors with mean 2.23 ± 0.80. While, group activities the mean was1.77 ± 0.84 , drive & desire 1.56 ± 1.3, interpersonal & intrapersonal 1.5 ± 0.96, and social-related stressors 1.99 ± 0.82 and were classified as moderate stressors.

A high score in this area suggests that the main causes of stress are academic-related. According to numerous studies, primary sources of stress were academic and teaching-related pressures. Medical school is considered to be a source of stress and anxiety for students because it entails challenging, time-consuming courses. Academic stress is distressing for everyone involved, including the student, the institution's ability to function at its best, and even the surrounding environment. Higher education has traditionally seen as a very demanding setting. The already demanding setting is made much more unpleasant by medical training.

In current study academic related stress was having higher mean score as compared with other areas, which is seen in other studies. The result of the study agreed with the result of Melaku and Bulcha. (2021) which showed that ARS domain became the primary contributor to excessive stress. Additionally, the findings are in line with those of a study by Battula et al. (2020) which was conducted in an urban setting at a medical college. In that study, the mean score was higher for ARS, but it was followed by GARS, and the lowest score was found in DRS. In addition the result is congruent with a study conducted in Malaysia. The mean score of academic stressors was 2.117 (0.758) it was the highest mean score determined by MSSQ (Musiun et al., 2019). In addition, Bamuhair et al. (2015) reported that the main stressors among medical students were academic, social and personal.

In my opinion, having an insight about stress can assist in identifying the causes of stress. It assists in developing better coping mechanisms to overcome. A certain amount of stress helps students in medical school to handle challenges, but prolonged and excessive stress can result in physical, psychological, and behavioral problems. Future doctors who provide for the patients' bodily and mental well-being are medical students. Focusing on the future doctors' mental health is crucial for ensuring the safety and wellbeing of the patients. Curriculum development should be reframing to prevent tension among medical students. Teachers should be give more

encouragement and support to help their students and made more conscious of their role as ideal role models. In order to foster a shared understanding and accomplish unmistakably defined learning outcomes, educational programs must assure simplicity and specificity, and role models are students who consistently inspire and teach by example. Taking break from studying to spend time with family, friends, can building positive interaction and can help alleviate stress. Also medical students must spend time working with the community this can remind students that the goal of their schooling is to assist people, not to concentrate on grades. Also, maintaining good physical health by exercising and healthy food, sleep schedule can help keep mental health in order too.

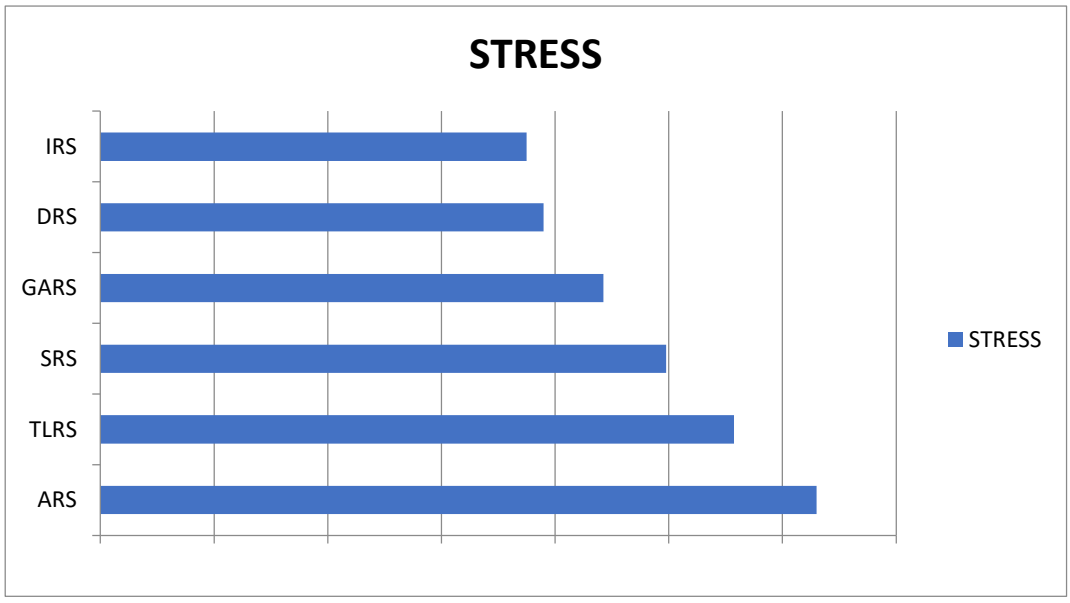

Figure (4.3): Summary of all domains of the stressors

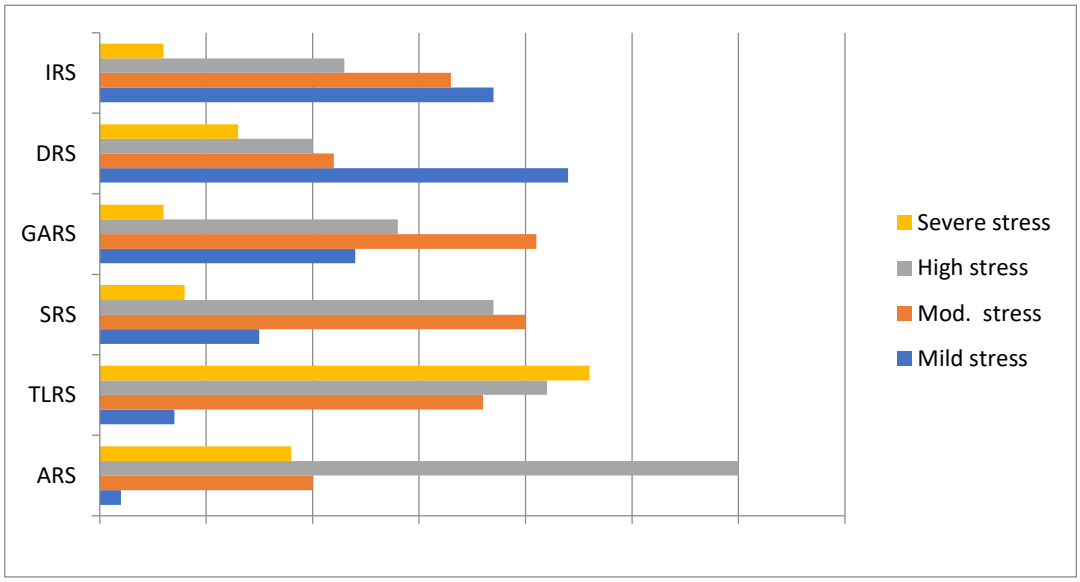

Figure (4.4): Level of stress among students

4.3 Coping Strategies

Brief COPE scale designed to assess some different coping behaviors and thoughts after a person's response to a specific situation with or without clinical conditions. It consists of 28 items, and each item is rated on a 4- point Likert scale ranging from "I have not been doing this at all (score 0)" to "I have been doing this a lot (score 3)". The items were scored to produce 3 domains (Problem-Focused, Avoidant, Emotion-Focused), and measure 14 dimension such as active coping, planning, acceptance, denial, self-distraction, use of substance, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, humor, religion, and self-blame. Mean score interpretations were as follows: 0 equal to "has not been doing this at all", 0 to1 equal to "has been doing this a little", 1.01 to 2 equal to "has been doing this medium amount", and 2.01 to 3 "has been doing this lot". The higher score indicates greater coping by the respondents.

Table (4.9): Distribution of the Problem-Focused Coping (n=250)

Strategy	Strategy have been done				Mean (SD)	Class	Rank
	A lot	A medium amount	A little bit	Not at all			
	n (%)	n (%)	n (%)	n (%)			
I've been trying to come up with a strategy about what to do.	89 (35.6)	109 (43.6)	43 (17.2)	9 (3.6)	2.11 (0.81)	A lot	2
Make plan for action	76 (30.4)	111 (44.4)	55 (22.0)	8 (3.2)	2.02 (0.80)	A lot	4
Look at the stressor in a more positive light	43 (17.2)	106 (42.4)	78 (31.2)	23 (9.2)	1.68 (0.86)	Medium	9
I've been thinking hard about what steps to take to manage stress	69 (27.6)	104 (41.6)	67 (26.8)	10 (4.0)	1.93 (0.83)	Medium	6
I've been getting help and advice from other people.	41 (16.4)	94 (37.6)	92 (36.8)	23 (9.2)	1.61 (0.86)	Medium	10
I think about how I might best handle the problem	108 43.2	108 43.2	30 12.0	4 1.6	2.28 (0.73)	A lot	1
I've been taking action to try to make the situation better	70 (28)	135 (54)	40 (16)	5 (2)	2.08 (0.71)	A lot	3
I try hard to prevent other things from interfering with my efforts at dealing with problem	47 (18.8)	108 (43.2)	82 (32.8)	13 (5.2)	1.76 (0.81)	Medium	8
I've been concentrating my efforts on doing something about the situation I'm in	68 (27.2)	114 (45.6)	61 (24.4)	7 (2.8)	1.97 (0.79)	Medium	5
I ask people who have had similar experiences what they did.	60 (24.0)	78 (31.2)	84 (33.6)	28 (11.2)	1.68 (0.96)	Medium	9
I focus on dealing with this problem	73 (29.2)	91 (36.4)	73 (29.2)	13 (5.2)	1.90 (0.88)	Medium	7
I've been trying to see it in a different light, to make it seem more positive.	57 (22.8)	96 (38.4)	78 (31.2)	19 (7.6)	1.76 (0.89)	Medium	8

Table 4.9 showed 12 questions determined by the coping strategy of Problem-Focused. "Thinking about the best handle of the problem was classified as a strategy that done a lot and was ranked as the first coping strategy the mean was 2.28 (SD=0.73) ; followed by trying to come up with a strategy about what to do 2.11 (SD=0.81), taking action to try to make the situation better 2.08 (SD=0.71), and make a plan for action 2.02 (SD=0.80)." However, concentrating efforts on doing

something about the situation, the mean was1.97 (SD=0.79), thinking hard about what steps to take to manage stress 1.93 (SD=0.83), focusing on dealing with this problem 1.90 (SD=0.88) and all other items in the table were classified as strategies adopted in a medium amount".

The result of Norphun et al. (2020) showed that coping strategies frequently performed by undergraduate medical students were adaptive type, were avoidant strategies(maladaptive) did not perform by medical student at all. Similar results of Abouammoh et al. (2020) were reported that medical students used active coping strategies than avoidant strategies to cope. In addition, The result of study conducted in Malaysia showed that the task oriented coping was the mostly used coping method among the medical students (salam et al., 2019). Moreover, the result of study conducted at Arsi University in Ethiopia reported, active coping strategies were mostly used rather than avoidant coping strategies (Melaku and Bulcha, 2021).

In my opinion students believed that doctors were prominent and respected by society. they were viewed as prestigious and this is an emotional reward for them and this satisfaction reward compensates for the stress they feel throughout years of study,. For example, my son Hitham is a medical student and was taking part of my study said: "we have stressful life, but we are greatly satisfied. I compare myself with others and I believe that I have a better social status. Medical students are being praised by everyone. You are a doctor, You have something because you're a doctor….. So, despite being under stress, but I'm doing good".

Table (4.10): Distribution of Avoidant Coping(n=250)

Strategy	Strategy have been done				Mean (SD)	Class	Rank
	A lot	A medium amount	A little bit	Not at all			
	n (%)	n (%)	n (%)	n (%)			
I've been refusing to believe that it has happened	18 (7.2)	43 (17.2)	78 (31.2)	111 (44.4)	0.87 (0.94)	little	5
I've been giving up trying to deal with it	19 (7.6)	48 (19.2)	119 (47.6)	64 (25.6)	1.09 (0.86)	medium	4
I've been turning to work or other activities to take my mind off things	28 (11.2)	106 (42.4)	100 (40.0)	16 (6.4)	1.58 (0.77)	medium	2
I've been using medication to help me get through stressor	9 (3.6)	24 (9.6)	43 (17.2)	174 (69.6)	0.47 (0.81)	Little	6
I've been giving up the attempt to cope.	36 (14.4)	75 (30)	104 (41.6)	35 (14)	1.45 (0.90)	medium	3
I've been doing something to think about it less, such as going to movies, watching TV, reading, sleeping, or shopping.	55 (22)	82 (32.8)	72 (28.8)	41 (16.4)	1.6 (1.00)	medium	1

Table 4.10 illustrated 6 questions determined by the coping strategy of avoidant. Doing something to think less about the problem, such as going to movies, watching TV, reading, sleeping, or shopping was classified as the strategy that done in a medium amount and was ranked as the first coping strategy the mean was 1.6 (SD=1.00) ; followed by turning to work or other activities to take my mind off things1.58 (SD=0.77), giving up the attempt to cope 1.45 (SD=0.90), giving up trying to deal with it 1.09 (SD=0.86). However, refusing to believe that the problem has happened and using medication to help getting through stressor were adopted rarely with a mean of 0.87, 0.47 respectively.

Avoidance coping strategy ranked at the last one, this result inconsistence with the result of salam et al. (2019) which showed that the next common coping strategy adapted by medical students from both first and third years, after focused coping was avoidant strategy followed by emotion-focused coping. AlHawy et al. (2020) conclude that approach coping was higher in academic phase and significantly increased in a clinical phase, with avoidance coping regression. As well,

Mohammed et al. (2016) found that 5 coping strategies used by students, fourth were mostly active coping(planning, active coping, acceptance, and positive refarming) and the fifth one was self-distraction, this is an avoidant strategy and substance use the least one used.

From my point of view as a researcher and from the reality of medical students, students use different methods to overcome psychological tension and often focus on effective solutions, and they rarely use ineffective methods, as our culture as Muslims calls us to get closer to ALLAH and take advice, and support and work to find effective solutions to overcome psychological stress. The avoidance and maladaptive strategy can provide temporary relief stress, but it is an unproductive coping strategy to solve problems and may lead to dysfunctional life.

Table (4.11): Distribution of the Emotion-Focused Coping(n=250)

Strategy	Strategy have been done				Mean (SD)	Class	Rank
	A lot	A medium amount	A little bit	Not at all			
	n (%)	n (%)	n (%)	n (%)			
I've been accepting the reality of the stressor happened	69 (27.6)	114 (45.6)	57 (22.8)	10 (4.0)	1.97 (0.81)	moderate	4
I've been getting comfort and understanding from someone	42 (16.8)	94 (37.6)	78 (31.2)	36 (14.4)	1.57 (0.93)	moderate	8
Focusing on and expressing my negative feelings.	40 (16)	78 (31.2)	102 (40.8)	30 (12)	1.51 (0.90)	moderate	9
I've been getting emotional support from others	28 (11.2)	94 (37.6)	96 (38.4)	32 (12.8)	1.47 (0.85)	moderate	10
I've been trying to find comfort in my religion or spiritual beliefs.	145 (58)	72 (28.8)	29 (11.6)	4 (1,6)	2.43 (0.75)	A lot	1
I've been learning to live with the stressors	78 (31.2)	111 (44.4)	47 (18.8)	14 (5.6)	2.01 (0.85)	A lot	3
I've been praying or meditating	141 (56.4)	78 (31.2)	24 (9.6)	7 (2.8)	2.41 (0.77)	A lot	2
Using humor and making fun of the situation.	84 (33.6)	76 (30.4)	72 (28.8)	18 (7.2)	1.90 (0.95)	moderate	5
I've been blaming and criticizing myself for things that happened	69 (27.6)	81 (32.4)	72 (28.8)	28 (11,2)	1.76 (0.98)	moderate	6
I've been saying things to let my unpleasant feelings escape.	45 (18)	97 (38.8)	83 (33.2)	25 (10)	1.65 (0.89)	moderate	7

Table 4.11 presented 10 questions determined by the coping strategy of emotion-focused. Trying to find comfort in my religion or spiritual beliefs was listed as the strategy that mostly done and was ranked as the first coping strategy with mean 2.43 (SD=0.75); followed by praying or meditating 2.41 (SD=0.77) and learning to live with the stressors 2.01 (SD=0.77). However, all other items such as accepting the reality of the stressor happened 1.97 (SD=0.81) and using humor and making fun of the situation 1.90 (SD=0.95), ….etc. (more are explained in the table 4.11) had been adopted in a medium amount. This result agrees with the result of Melaku and Bulcha (2021) which indicated that the top coping strategies used were religious coping, active coping, positive reframing and planning, concluded that the main coping strategy used by medical students was religion. Contrarily, it was discovered that the least popular coping mechanisms were substance use, denial, and behavioral disengagement. Our study result is in contrast with the result of Salam et al.(2019) which reported that emotion-focused coping strategy was the least used and the mean score was 43.44 for first year and 42.42 for the third year. It could be due to different culture setting, and using differ scale, Coping Inventory for Stressful Situation' (CISS) scale.

Table (4.12): Distribution of Coping Strategies

Strategy have been done	**A little bit**	**A medium amount**	**A lot**	**Mean (SD)**	**Relative mean**	**Rank**
	n (%)	**n (%)**	**n (%)**			
	Mean (SD)	**Mean (SD)**	**Mean (SD)**			
Problem-Focused Coping	10 (4)	141 (56.4)	99 (39.6)	1.91 (0.48)	**63.3**	1
	0.81(0.21)	1.64(0.27)	2.37(0.26)			
Avoidant Coping	126 (50.4)	110 (44)	14 (5.6)	1.18 (0.54)	**39.3**	3
	0.75 (0.25)	1.5(0.27)	2.41(0.24)			
Emotion-Focused Coping	13 (5.2)	143 (57.2)	94 (37.6)	1.87 (0.45)	**62.3**	2
	0.85 (0.23)	1.67(0.25)	2.3(0.19)			
Mean of responses	**8 (3.2)**	**212 (84.8)**	**30 (12)**	**1.61 (0.35)**	**53.3**	*

Table 4.12 described a summary of all domains of the coping strategies used by medical students. Problem-Focused Coping was ranked in first rank as the first

coping strategy. The general mean was 1.9 (SD=0.48) which had been done in a medium amount, however, 39.6% of students had adopted this strategy most of the time. The second rank was for Emotion-Focused Coping which had been done in a medium amount with a general mean of 1.87 (SD=0.45) and the strategy had been adopted most of the time by 37.6% of students. Although the general mean of the avoidant coping strategy was 1.18 and classified as done in medium amount, more than half of students (50.4%) adopted this strategy a little bit and only 5.6% adopted it most of the time.

Medical students are more likely to choose active coping than avoidant one, and the least item of coping was stated to be using medication. This result agree with the result of Norphun et al. (2020) which showed that medical students used adaptive coping rather than maladaptive. However, Active coping and emotional support were the most common techniques used by medical students. While self-distraction, self-blame and denial were the techniques used for avoidant coping (Alhawy et al., 2021). Zagazig University

From the researcher's viewpoint, medical students adopting a number of coping techniques to reduce their stress and to overcome the internal and external demands. In general coping strategies of the problem –focused act in the best, it reduces the stress by dealing with the root cause of the problem, emotion focused coping is effective in uncontrollable reactions, on other hand avoidance strategy make person to ignores the stressor, escape and leaving problems unresolved. I think the process of coping with stress is dynamic to promote personal integrity and survival. Failure to handle stress may result in quitting education, having suicidal thoughts, or engaging in risky activities like consuming alcohol, medications, smoking, or behaving aggressively toward others. Providing the population with qualified and trustworthy doctors is the primary objective of the medical curriculum and the mental health of undergraduate students is a significant and growing public health concern. For medical students, different stress reduction techniques should be researched. The study found that the coping mechanisms used varied depending on socio-cultural factors such as region, social group, gender, age, and an individual's previous experience.

Views of some students from the pre-clinical and clinical phase about the stressors they face in their studies of medicine and coping strategies utilized

- Adnan, a medical student stated "Students life is very exciting but it is also pressured and stressful. When I face stress in general, I can't isolate; the isolation only occurs during exam time. I practice my hobbies and I try to overcome pressures by getting closer to ALLAHA and making a plan and trying to find an action to any problem I face".
- Student Moataz from the Faculty of Medicine remarked "despite the demands of my classes, I used to find comfort in visiting the mosque, the gym, or spending time with my family. One day I thought twice about going into medicine, but this was only a passing regret; today, I'm proud to be a doctor and spread a lofty message."
- Mohammad Another student said" Despite the great academic pressure, I set my priorities and consider this pressure motivating me. I can convert it into positive energy for solving problems and to reach to my goal".
- Enas stated" first and due to transition to a new environment, I felt depressed, but with the support of my parents, taking advice, arranging my priorities, organizing my time and moving from one class to another, I became more experienced and deal with stress in a positive way".
- Samah stated " medical students prone to different type of academic and nonacademic stressors, We try as much as possible to adapt positively despite all circumstances. To become doctors, we must have the psychological strength".

4.4 Analytic statistics

Table (4.13): Mean difference of stressors in relation to students characteristics

Stressors		ARS	GARS	TLRS	DRS	IRS	SRS
Character	**Group**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Mean (SD)**
Faculty of Medicine	**AUG**	2.4 (0.65)	2.26 (0.76)	1.76 (0.84)	1.61 (1.2)	1.60 (0.92)	1.940 (0.78)
	IUG	2.66 (0.59)	2.19 (0.86)	1.79 (0.83)	1.51 (1.3)	1.39 (0.99)	2.053 (0.84)
	T	3.1	0.694	0.254	0.590	1.66	1.09
	P	0.002*	0.489	0.800	0.555	0.098	0.277
Gender	**Male**	2.46 (0.63)	2.26 (0.76)	1.82 (1.1)	1.40 (.97)	1.52 (1.1)	1.99 (0.80)
	Female	2.58 (0.63)	2.19 (0.86)	1.79 (0.9)	1.75 (0.84)	1.49 (0.9)	1.99 (0.83)
	T	1.51	0.694	0.91	2.11	0.291	0.013
	P	0.132	0.489	0.321	0.03*	0.771	0.990
Year of Studying	**Pre-clinical (n=165)**	2.44 (0.59)	2.20 (0.75)	1.72 (0.82)	1.4 (1.3)	1.48 (0.95)	1.96 (0.81)
	Clinical (n=85)	2.68 (0.68)	2.3 (0.89)	1.88 (0.87)	1.88 (1.4)	1.56 (0.99)	2.06 (0.83
	T	2.84	1.01	1.44	2.76	0.638	0.912
	P	0.005*	0.312	0.149	0.006*	0.524	0.363
Year of Studying	**1st[a]**	2.42 (0.58	2.20 (.69)	1.92 (.87)	1.3 (1.3)	1.42 (0.92)	1.8 (0.76)
	2nd[b]	2.26 (.54	1.89 (.68)	1.57 (.87)	1.7 (1.4)	1.42 (1.01)	1.8 (0.85)
	3rd[c]	2.72 (0.58)	2.58 (.78)	1.51 (.53)	1.7 (1.2)	1.67 (0.92)	2.2 (0.81)
	4th[d]	2.55 (0.65)	1.99 (.84)	1.80 (.88)	1.73 (1.2)	1.54 (0.96)	1.894 (0.85)
	5th[e]	2.68 (0.61)	2.45 (.74)	1.82 (.81)	2.23 (1.3)	1.51 (0.93)	2.189 (0.76)
	6th[f]	2.82 (0.77)	2.48 (1.03)	2.03 (.88)	1.69 (1.3)	1.63 (0.1.1)	2.1 (0.88)
	F	4.689	5.11	2.367	2.938	0.511	1.798
	P	0.001*	0.001*	0.040*	0.01*	0.768	0.114
	Post hoc	**b *vs* c**	**b *vs* c**	-	**a *vs* e**	-	-
	P	0.009	0.001	-	0.020	-	-
		b *vs* f	**b *vs* f**				
		0.003	0.022				
			c *vs* d				
			0.030				

Table 4.13 assessed the difference in the mean of stressors in relation to students' characteristics. Independent student t-test was used to find the statistical

difference in means of stressors domains between students' character variables of two categories: the faculty name and the student gender. The table shows that the only statistical difference was found in the means of ARS. Thus, the mean of ARS among Al-Azhar University (AUG) students (2.4±0.65) was lower than what it was among IUG students (2.66±0.59) with asignificant statistical difference (p=0.002). However, no other significant statistical difference in all other stressor domains between the two universities. Similarly, the situation in gender character as no significant statistical difference in all other stressor domains except DRS which represent that the mean of DRS among males was 1.40 ±0.97 and 1.75±0.84 among females (p=0.03). Both ARS and DRS indicate significant statistical difference in means of year of studying comparing pre-clinical years (from 1st to 3rd year) to clinical years (from 4th to 6th). Thus, the mean of pre-clinical years students was 2.44±0.59 for ARS and 1.4±1.3 for DRS compared to 2.68±0.68 and 1.88±1.4 among students in clinical years respectively, with significant statistical differences (p=0.005, 0.006). Moreover, a one-way ANOVA statistical test was used to find the statistical difference in means of stressors domains between students' character variables of more than two categories such as year of studying. As a result, the means of ARS among students in different years of studying were differed with a significant statistical differences (p=0.001).

Moreover, a post hoc statistical test were run to determine the significant statistical differences between which two specific means. The table represents that the difference in means was between students in the second years and those who were in the 6th years and 3rd years (2.26 ±.54 *versus* 2.82 ±0.77) and (2.26 ±.54 *versus* 2.72 ±0.58) respectively. Similarly, finding in GARS domain which represents that the difference in means was between students in the second years and those who were in the 6th years and 3rd years (1.89±0.68 *versus* 2.48 ±1.03) and (1.89±0.68 *versus* 2.58 ±0.78) respectively, in addition to difference between those in 3rd and 4th year (2.58 ±0.78 *versus* 1.99±0.84). Furthermore, finding in DRS domain represents that the difference in means was between students in the first year and 5th year (1.3±1.3 *versus* 1.7 ±1.3).

However, the researcher categorize the studying years into two category: clinical and pre-clinical years and compared between means using t-test and the

results were somehow more meaningful since the mean of ARS and DRS was higher among students in clinical years than students in pre-clinical years.

The result of Ragab et al. (2020) showed that, female medical students had more academic stress than male counterparts.The current study showed there is no statistical differences between both sexes about stress. Additionally, students in their fourth and fifth years experienced greater academic pressure than those in their first year. In terms of stress related to medical education, first-year college students were less stressed than students in their final year. Male medical college students consistently experienced less stress than female classmates. Furthermore, John et al. (2020) found there was a significant association between gender and perceived stress ($p < 0.05$). Moderate and higher stress was seen among female students, and mild stress was observed among males. Also, according to the finding of (Mahyuddin et al. (2018), females experienced more stress 70.1% than male (29.5%), and the prevalence of stress was highest among fourth-year students and lowest among first-year. There was a strong link between study year and stress level ($p > 0.00$). These results agree with our present result that clinical years more stressful than preclinical years, this might be due to heavy work load, test, patient examination etc…

In addition, the current result was in contrast with this result which reported there was a significant statistical association between gender and stress level. Female students experienced higher stress than male students, and the more stressed students were in the first year (11.5%) and the lowest portion of the stress (0.37%) was reported a sixth-year student (Alshawi et al., 2018). Moreover, Kashif et al. (2016) in their study reported that, all of the study participants who were medical students experienced stress. Regardless of academic years, moderate stress was frequently present and was more common in female students than male students which is statistically significant ($p=0.00$). Additional findings were, stress levels were based on the student's academic years. First-year students reported experiencing 54% moderate stress, second-year students, 43% moderate stress, third-year students 57% moderate stress, fourth-year students, mostly 60% moderate stress, and fifth-year students, 48% moderate stress.

Satpathy et al. (2021) reported that ARS the primary reason for increased stress among medical students, this part agree with our results. 91% of medical students reported high stress, gender was an important factor of stress ($p<0.01$) and the association of female sex with stress was statistically significant, the mean PSS score was higher among female than male. Eva et al. (2015) in their study was reported that 53% of male and 55% of female experienced stress. Stress was reported in 54% of Year III students and 55% of Year IV students. This could be due to the end of pre- clinical and starting clinical years which more lecturer, training and examinations.

The present result was consistent with the result of Yasien & Alvi (2018) showed that there has been no gender differ in the degree of stress, 20% of the medical students had been sever stress, 26% had been moderately stressed and 29% had been less stressed. Finding of Asfaw et al. (2021) indicated and their study concluded that the prevalence of stress and anxiety increased among female undergraduate medical students. ARS domain became the principle cause of excessive stress, followed by the IRS and TLRS, TLRS and DRS domains were identified as the main cause of stress within the preclinical years (Melaku and Bulcha, 2021). The current result also was not agreed with the result of Norphun et al (2020) which indicated that preclinical and clinical year was significantly related to stress level ($p<0.001$) the clinical medical students stress score was less than pre-clinical among the medical year.

In my opinion all medical students suffering from stress but the stress is dynamic and may become high or low according to the year of study this depend on transition of medical students from stage to another. According to studied mention that female stressed more than male this may due to female more emotionally than male, males often suppress their emotions, so has lower psychological and emotional reaction to stressors. And may be due to the number of female more than male at medical school, but In our society, both sex of medical students live the same conditions and the same suffering.

Table (4.14): Mean difference between stressors and adopted coping strategies classification

Coping strategy	Category (n)	ARS Mean (SD)	GARS Mean (SD)	TLRS Mean (SD)	DRS Mean (SD)	IRS Mean (SD)	SRS Mean (SD)
PFCS	Little (n=10)	2.01 (0.9)	1.68 (1.1)	1.38 (0.86)	1.25 (1.3)	0.92 (0.6)	1.35 (0.78)
	Medium (n=141)	2.53 (0.6)	2.20 (0.8)	1.79 (0.81)	1.65 (1.3)	1.42 (0.9)	1.94 (0.84)
	A lot[c] (n= 99)	2.56 (0.59)	2.32 (0.7)	1.79 (0.86)	1.47 (1.3)	1.68 (1)	2.12 (0.76)
	F	3.47	3.118	1.183	0.791	4.22	4.660
	P	0.033*	0.046	0.308	0.454	0.016	0.010
	Post hoc	***a vs* b**	***a vs* c**	-	-	***a vs* c**	***a vs* b**
		0.034	0.047	-	-	0.046	0.075
		***a vs* c**	-	-	-	-	***a vs* c**
		0.029	-	-	-	-	0.013
ACS	Little[a] (n=126)	2.37 (0.65)	2.06 (0.82)	1.59 (0.83)	1.08 (1.2)	1.19 (0.95)	1.8 (0.7)
	Medium[b] (n=110)	2.65 (0.57)	2.35 (0.75)	1.88 (0.78)	2.01 (1.2)	1.78 (0.86)	2.13 (0.7)
	A lot[c] (n= 14)	2.9 (0.58)	2.75 (0.69)	2.57 (0.6)	2.39 (1.1)	2.13 (0.83)	2.5 (0.8)
	F	8.63	7.47	11.07	19.8	15.7	7.1
	P	0.001	0.001	0.001	0.001	0.001	0.001
	Post hoc	***a vs* b**	***a vs* b**	***a vs* b**	***a vs* b**	***a vs* b**	***a vs* b**
		0.003	0.013	0.019	0.001	0.001	0.009
		***a vs* c**	***a vs* c**	***a vs* c**	***a vs* c**	***a vs* c**	***a vs* c**
		0.006	0.006	0.001	0.001	0.001	0.013
		-	-	***b vs* c**	-	-	-
		-	-	0.008	-	-	-
EFCS	Little (n=13)	2.54 (0.6)	2.13 (0.9)	1.77 (0.8)	1.54 (1.2)	1.13 (0.6)	1.8 (0.98)
	Medium (n=143)	2.46 (0.6)	2.15 (0.8)	1.76 (0.9)	1.62 (1.3)	1.44 (0.8)	1.9 (0.78)
	A lot[c] (n= 94)	2.60 (0.6)	2.35 (0.7)	1.80 (0.8)	1.48 (1.4)	1.66 (1.1)	2.1 (0.8)
	F	1.36	1.9	0.083	0.33	2.6	1.9
	P	0.26	0.16	0.92	0.72	0.08	0.15

Table 4.14 assessed the difference between stressors and adopted coping strategies classification. A one-way ANOVA statistical test was used to find the significant statistical difference in the means of stressors domains between the three categories of coping strategies adopted by students which were classified as PFCS, ACS, and EFCS. Regarding PFCS, significant statistical differences in means were

found in ARS, GARS, IRS, and SRS (p=0.033, 0.046, 0.016, 0.010) respectively. However, regarding ACS significant statistical differences in means were found among all stressors domains. In contrast with EFCS, in which the one-way ANOVA failed to detect any statistical differences among all stressors domains.

Moreover, a post hoc statistical test was run to determine the significant statistical differences between which two specific means of the categories (little, medium, a lot) of using the three domains of coping strategies (PFCS, ACS, EFCS). The table represents that in ARS the difference in means was higher between students using PFCS medium than those who use it little (2.01±0.9 *versus* 2.53±0.6, p=0.034) and higher between students using PFCS a lot in comparison to those who use it little (2.01±0.9 *versus* 2.56±0.59, p=0.029) with statistical evidence. Similarly, in SRS domain, statistically significant differences in means of PFCS which was higher among students using it a lot in comparison to those who use it little (1.35±0.78 *versus* 2.12±0.84, p=0.013). As well, the table represents that the difference in GARS mean was higher between students using PFCS a lot than those who use it a little (1.68±1.1 *versus* 2.32 ±0.7, p=0.047) with statistical evidence, similar to the situation in IRS (0.92±0.6 *versus* 1.68±1, p=0.016) in which the difference in IRS mean was higher between students using PFCS a lot than those who use it a little, with statistical evidence.

Schiller et al. (2018) reported in their study that students turned to more emotional strategies. Also reduce the use of active coping strategies. Coping was not associated with preclinical academic performance, but was associated with clinical performance, positive coping was associated with better performance, and emotional coping was associated with poorer clinical academic performance. Alhawi et al. (2020) concluded that the most common types of stressors during academic and clinical periods were social and academic. Method processing is more common at the academic stage. and increased significantly in the clinical phase with avoiding facing regression.

From other hand, the researcher could say, Life is full with healthy, reasonable stress. Small daily doses of stress serve as an unseen supervisor, continually keeping an eye on us to ensure that we are on top of our study and that

we give it our all when faced with a demanding or unpleasant scenario. Your performance and efficiency are improved and enhanced as a result of the mental stimulation and energizing effects it has. The most crucial thing to keep in mind is to make tension work for you rather than against you by refusing to allow it dominate your actions or your life. The coping strategies used by students differed greatly. The performance and learning of students may suffer as a result of these changes in coping mechanisms. Education should prioritize enhancing students' coping skills. High achievers usually channel their stress into positive activity-promoting strategies. They stressed that there aren't enough hours in the day to get everything done, they worry about the present and the future, and they fear that they might fail.

Chapter V

Conclusion and Recommendations

Chapter V
Conclusion and Recommendations

5.1 Conclusion

Stress is recognized as a global phenomenon affecting all slides of the community. There are several sources of stress affecting university students, particularly medical students. The aim of this study was to determine the stress levels and coping strategies utilized among medical students in the Gaza Strip. The online self-response questionnaire consisted of the Medical Student Stress Questionnaire (MSSQ-40) and a Brief COPE 28-item questionnaire used by researcher for gathering data.

Based on the results of this study, we conclude that, The prevalence of stress among medical students was 48.25% and classified as moderate stress. Academic-related problems were the major and the first stressor faced by medical students with an average of 63%, which was rated as high stress, followed by teaching and learning stressor of 55.75%. The level of academic stress among medical students during the years of clinical training was 65.75% higher than in the pre-clinical training years 61%.

Medical students used active coping strategies rather than avoidant strategies, Problem-Focused Coping was ranked first among coping strategies. About 39.6% of the students adopted this strategy most of the time. Emotion-Focused Coping had been adopted most of the time in a medium amount by 37.6% of students. However, only 5.6% of the students adopted an avoidant strategy. Regarding gender variations, no statistical differences were found in terms of stress or coping strategies.

5.2 Recommendations

Paying attention to medical students, understanding student stressors and coping strategies will help lecturers and college counselors to monitor and control these factors. This can be achieved by reducing or eliminating the most common sources of stress by providing guidance and teaching students how to manage stress and how to cope.

For universities administration and decision makers

- Focusing on the future doctors' mental health is crucial for ensuring the safety and wellbeing of the patients.
- Curriculum development should be reframing to prevent tension among medical students.

- Stress management training should be an essential component of the curriculum.
- Integrate educational program about adaptive coping strategies.
- Provide and creating a positive and a conducive medical learning environment.
- Psychological counseling should be integrated into regular student services.
- involving students in recreational activities, providing supportive measures, Providing relaxation techniques and stress management techniques to facilitate coping with stress.
- Highlight the need for establishing counseling centers in the faculties of medicine in the Gaza Strip to help students on overcoming their anxiety.

For lecturer

- implementing a balanced educational and training program
- establishment of effective communication with students
- educational skills must assure simplicity and specificity, and lecturer shoud be a role models, inspire and teach by example to foster a shared understanding and accomplish unmistakably defined learning outcomes,.
- Integrate educational slills about adaptive coping strategies to make students deal with stress currently and in the future.
- Establishment of effective communication, providing supportive measures, and more aprecciation to overcome stress and improving student wellbeing.

For student

- Taking break from studying to spend time with family, friends and Practicing your hobbies and relaxation technique.
- To become a doctor, you must have psychological strength.
- Use adaptive coping skills..
- Keep in mind is to make tension work for you rather than against you by refusing to allow it dominate your actions or your life.

5.2.1 Recommendation for further research

- To identify effective Stress-Relief Strategies.
- To assess the effect of psychiatric counselor among medical students.

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Appendices

Appendices

Appendix 1: Personal -related information, MSSQ, Brief COPE (Arabic version)

استبانة

طلاب وطالبات الطب البشري ... السلام عليكم ورحمة الله وبركاته،،،

انا الباحثة انهار عطية موسى فرج الله اقوم بأجراء بحث علمي كمتطلب للحصول على درجة الماجستير تخصص تمريض الصحة النفسية المجتمعية – الجامعة الاسلامية بعنوان: "الضغوطات النفسية واستراتيجيات التأقلم لدى طلبه كليات الطب البشرى في قطاع غزة".

Stress and Coping Strategies among Medical Students in the Gaza Strip

نرجو منكم التكرم بتعبئة الاستبانة المرفقة، علما بأنها لا تستغرق أكثر من 15 دقيقة. نؤكد على كامل حريتكم الكاملة على الموافقة او الرفض للمشاركة في البحث او الاجابة عن أي سؤال او الاحتفاظ بحقكم في الانسحاب من البحث في أي وقت كما نؤكد على سرية المعلومات واستخدامها لأغراض البحث العلمي فقط والذى على اساسه ستكون هناك توصيات مفيدة لكم.

الباحثة/ رقم الجوال

انهار عطية فرج الله

0594071094

الضغوطات النفسية واستراتيجيات التأقلم لدى طلبة كليات الطب بقطاع غزة

سيطرح عليك هذا الاستبيان بعض الأسئلة حول الضغوطات النفسية التي تواجهكم. اثناء دراستكم للطب البشرى وطرق التأقلم معها لك كل التقدير إذا قمت بإكمال الاستبيان بصدق، ستساعدنا إجاباتك في تحديد التغييرات التي يجب إجراؤها نحو الأفضل يرجى الإجابة على الأسئلة التالية عن طريق وضع دائرة حول الإجابة التي تنطبق عليك.

الجزء الاول: المعلومات الشخصية

1-	**الجامعة**	كلية الطب بالجامعة الاسلامية كلية الطب بجامعة الازهر
2-	**الجنس:**	1- ذكر 2- أنثى
3-	**السنة الدراسية**	1- سنه اولى 2- سنه تانية 3 - سنه ثالثة 4-سنه رابعة 5- سنه خامسة 6- سنة سادسة

الجزء الثاني: العوامل المسببة للضغوطات النفسية

يرجى وضع إشارةتحت الاجابة التي تمثل نسبه الضغط التي تمثلها لك الامور المطروحة:

		ضغط نفسي مرتفع جدا	ضغط نفسي مرتفع	ضغط نفسي متوسط	ضغط نفسي خفيف	لا تمثل أي ضغط
ضغوطات اكاديمية						
1	كثرة الاختبارات والامتحانات النظرية او العملية					
2	تأخر وضع الجدول الدراسي					
3	يقسم الطلبة في الاختبارات الى مجموعات					
4	عدم كفاية الوقت لمراجعة و دراسة ما اتعلمه					
5	المنهج كبير ومتعب جدا					
6	المحتوى الدراسي الذى نتعلمه لكل مادة كبير جدا					
7	الاعباء الدراسية غير مناسبه					
8	الحصول على درجات متدنية					
9	عدم فهمنا لمحتوى المادة					
10	دراسة الطب مليئة بالمنافسة					
11	استمرارية الكثير من المحاضرات بشكل نظامي فترة الامتحانات					
12	عدم ممارسة المهارات الطبية والتطبيقات العملية بشكل كافى					

		لا تمثل أي ضغط	ضغط نفسي خفيف	ضغط نفسي متوسط	ضغط نفسي مرتفع	ضغط نفسي مرتفع جدا
13	آلية التقييم ووضع الدرجات غير واضحة					
14	الحاجة لان اعمل بجد دائما					
ضغوطات ناتجة عن العملية التعليمية والمحاضرين						
1	عدم وضوح ما هو مطلوب ومتوقع من الطالب					
2	استمرار المحاضرات في فترة الامتحانات					
3	لا يوجد تغذية راجعة من المحاضرين					
4	لا يوجد مادة علمية مجهزة وكافية من المحاضر					
5	لا يوجد اعتبار لما ينجزه الطالب					
6	قلة الارشادات والتوجيهات المفيدة التى نتلقاها من المحاضرين					
7	قلة وعدم تنوع المهارات التعليمية من قبل المحاضرين					
8	قلة الدعم النفسي والمساعدة من المحاضرين للطالب					
ضغوطات ناتجة عن النشاطات الجماعية للطلبة والمحاضر						
1	المشاركة في النقاش مع الحاضرين والطلبة في القاعة الدراسية					
2	المشاركة في التحضير للمحاضرات والعرض داخل القاعة0 الدراسية					
3	الحاجة لان انجز بجد ما يفرضه علي الاخرين					.
4	اشعر بعدم الكفاءة والفاعلية					
ضغوطات ناتجة عن الرغبة في التخصص أو عدمه						
1	دراستي للطب دون رغبة وشغف منى					
2	دراستي للطب كانت رغبة الاهل					
ضغوطات مرتبطة بالشخصية						
1	مشاكل مع المحاضرين لقله الاهتمام بالطالب وعدم مساعدته في ايجاد حلول لكثير من المشاكل					
2	التعرض للإساءة اللفظية من المحاضرين					
3	مشاكل وخلافات مع الاخرين					
4	التعرض للإساءة اللفظية والجسدية من الطلاب					

		لا تمثل أي ضغط	ضغط نفسي خفيف	ضغط نفسي متوسط	ضغط نفسي مرتفع	ضغط نفسي مرتفع جدا
5	خلافات و غيرة من الطلاب					
6	دافعية ضعيفة للتعلم					
ضغوطات لها علاقة بالجانب الاجتماعي						
1	سماع لشكاوى المرضى الشخصية					
2	التعامل مع المرضى ومواجهة المرض او الوفاة					
3	عدم القدرة على الاجابة على بعض اسئلة المرضى					
4	لا يوجد وقت كافي للراحة والعلاقات مع الاهل والاصدقاء					
5	الانقطاع عن الدراسة لأسباب مختلفة					
6	المسئوليات العائلية					

الجزءالثالث: استراتيجيات التأقلم المستخدمة لمواجهة الضغط النفسي

عند مواجهتك للضغوطات النفسية ما هي استراتيجية التأقلم الثى تستخدمها وبأي درجة.

ضع اشارة تحت الاجابة المناسبة

		لا يحدث ذلك باي شكل	بشكل قليل	بشكل متوسط	بشكل كبير
التأقلم بالتركيز على المشكلة استراتيجية					
1	أحاول التوصل الى استراتيجية حول ما يجب القيام به لتخطى الموقف				
2	أقوم بعمل خطة للتغلب على ما حدث				
3	أنظر للضغوطات او المشكلة بمنظور اكثر ايجابية				
4	كنت افكر مليا بالخطوات التي اود اتخاذها				
5	أحاول الحصول على المشورة والمساعدة من الاخرين حول ما يجب القيام به لتخطى الامور بسلام				
6	أفكر كيف استطيع التغلب على المشكلة				
7	أقوم باتخاذ اجراء معين لتحسين الوضع				
8	أتخلص من كل المعيقات التي تقف في طريق ما اود فعله للتغلب على الموقف				
9	أركز جهدي على القيام بشيء حيال الموقف الذى امر به				
10	أسال ذوى الخبرة ومن مرو بنفس الموقف ما قاموا به للتغلب على المشكلة				
11	أركز فيما حدث				
12	أنظر للمشكلة بمنظور إيجابي من زوايا مختلفة حتى استطيع التأقلم معه				
استراتيجية التجنب والاعتزال					
1	أتخلى عن محاولة التعامل مع الموقف الذي امر به.				
2	أقوم بتغيير نشاطاتي الاعتيادية لأخذ تفكيري بعيدا عن الضغوطات				
3	لا استطيع التأقلم مع الحدث المسبب للتوتر				
4	كنت اقوم بأشياء كالذهاب القهوة ومشاهدة التلفاز والقراءة والتسوق حتى لا افكر بالحدث الذى سبب لي التوتر				
5	أرفض تصديق ما حدث				
6	أستخدم بعض الادوية لأتغلب على ما يسبب لي التوتر				

		لا يحدث ذلك باي شكل	بشكل قليل	بشكل متوسط	بشكل كبير
استراتيجية التعامل بالتركيز على العاطفة					
1	أحصل على الراحة والتفهم من شخص ما				
2	أتلقى الدعم النفسي من الاخرين				
3	أتقبل حقيقة ما حدث				
4	أعبر عن مشاعري السلبية				
5	كنت احاول ان أجد الراحة في ديني وقربى من الله ومعتقداتي الروحانية.				
6	كنت أتعلم التعايش مع الاحداث والمواقف المزعجة				
7	كنت أصلى وادعو وأتأمل				
8	أستخدم الدعابة والمرح للتغلب على التوتر				
9	كنت الوم نفسي و انتقدها على ما حدث				
10	أتحدث في امور اخرى لأدع الاحداث غير السارة بعيدا عنى وعن تفكيري				

Appendix 2:Personal-related information, MSSQ, Brief COPE English version

Questionnaire

Dear participant

It is highly appreciated to have your informative participation in this research entitled:

Stress and Coping Strategies among Medical Students in the Gaza Strip

This questionnaire will ask you some questions about stressors and coping strategies which utilize by medical student at the faculties of medicine in the Gaza Strip. It would be much appreciated if you complete the questionnaire honestly, your answers will help us decide what changes need to be made.

Please answer all the questions according to your personal knowledge of what you believe appropriate, kindly know that there are no opinions are correct and the others are wrong. The time required to fill in the questionnaire is about 15 minutes, knowing that participation in this questionnaire are optional, and you have the right to withdraw at any moment. We also emphasize the confidentiality of information and its use for scientific research purposes only, on the basis of which there will be useful recommendations for you.

Researcher

Anhar Farajallah

Please answer the following questions by ticking or circling the answer that best applies to you.

Part I: Personal -related information

1	**Faculty of Medicine**	1- Faculty of Medicine at AL-Azhar University 2- Faculty of Medicine at Islamic University
2	**Gender**	1- Male 2- Female
3	**Year of Studying**	1. 1st 2. 2nd 3. 3rd 4. 4th 5. 5th 6. Final year

Part II: Stressors Survey

The MSSQ was adopted with some modification to identify the stressors of medical students as well as measure the intensity of stress caused by the stressors. The six domains of stress measured by the MSSQ .

Please rate your perception about the following statements contributing to Stress ticking under suitable heading .

	Question	**No stress at all**	**Causing**			
			mild stress	**moderate stress**	**high stress**	**severe stress**
	Academic related stressor (ARS)					
1	Frequent Tests/examination in a competitive environment					
2	Falling behind in reading schedule					
3	Quota system in examination					
4	Lack of time to review what have been learnt because of crowded information					
5	Heavy Workload(curriculum)					
6	difficulty to answer questions given by lecturer					
7	Large amount of content to be learnt					
8	Inappropriate assignments					
9	Getting poor/ low marks					
10	Having difficulty understanding the study content					
11	Medical learning context-full of competition					

	Question	No stress at all	Causing			
			mild stress	moderate stress	high stress	severe stress
12	Not enough medical skill practice					
13	Unjustified evaluation and grading process					
14	Need to do well (self-expectation)					
Teaching and Learning Related Stressor (TLRS)						
1	Uncertainty of what expected of me					
2	Continuation of lectures during exams period					
3	Not enough feedback from lecturers					
4	Not enough ready study material					
5	Lack of recognition and appreciation for work done					
6	Lack guidance from lecturer to medical student					
7	lack a lot of education skills by Lecturers					
8	Lack of support from lecturer					
Group Activities Related Stressor (GARS)						
1	Participation in lecture discussion at class room					
2	Participation in preparing some lecture and presentation					
3	Need to do well (imposed by others)					
4	Feeling of incompetence and fear of failure					
Drive & Desire Related Stressor (DRS)						
1	Unwillingness to study medicine					
2	Parental desire to study medicine					
Interpersonal & Intrapersonal Related Stressor (IRS						
1	Conflict with lecturers due to decrease support and helping of medical the student					
2	Verbal abuse from lecturers					
3	Conflict with personnel(s)					
4	Verbal or physical abuse by other students					
5	Conflicts and jealousy with other students					
6	Poor motivation to learn					

	Question	No stress at all	Causing			
			mild stress	moderate stress	high stress	severe stress
Social Related Stressor (SRS)						
1	Hearing to patient about personal problem					
2	Facing illness or death of the patients					
3	Unable to answer some questions from patients					
4	Lack of time for rest and balance relation for family and friends					
5	Frequent interruption of my studying due to different causes					
6	Family responsibilities					

Part III: Coping strategies
Brief COPE

There are many ways to try to deal with problems and coping with stress. The following items ask what you've been doing to cope with this one. people deal with things in different ways, but I'm interested in how you've tried to deal with it.

Read the statements and indicate how much you have been using each coping style

	Question	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
	Problem-Focused Coping				
1	I've been trying to come up with a strategy about what to do.				
2	Make plan for action				
3	I've been concentrating my efforts on doing something about the situation I'm in				
4	I've been taking action to try to make the situation better				
5	I try hard to prevent other things from interfering with my efforts at dealing with problem				
6	I ask people who have had similar experiences what they did.				
7	I focus on dealing with this problem				
8	I've been getting help and advice from other people.				
9	I've been thinking hard about what steps to take. To manage stress				
10	I think about how I might best handle the problem				
11	I've been trying to see it in a different light, to make it seem more positive.				
12	I've been trying to get advice or help from other people about what to do				
	Avoidant Coping				
1	I've been refusing to believe that it has happened				
2	I've been giving up trying to deal with it				
3	I've been turning to work or other activities to take my mind off things				
4	I've been using medication to help me get through stressor				
5	I've been giving up the attempt to cope.				

	Question	I haven't been doing this at all	I've been doing this a little bit	I've been doing this a medium amount	I've been doing this a lot
6	I've been doing something to think about it less, such as going to movies, watching TV, reading, sleeping, or shopping.				
Emotion-Focused Coping					
1	I've been accepting the reality of the stressor happened				
2	I've been getting comfort and understanding from someone				
3	Focusing on and expressing my negative feelings.				
4	I've been getting emotional support from others				
5	I've been trying to find comfort in my religion or spiritual beliefs.				
6	I've been learning to live with the stressors				
7	I've been praying or meditating				
8	Using humor and making fun of the situation.				
9	I've been blaming and criticizing myself for things that happened				
10	I've been saying things to let my unpleasant feelings escape.				

End of Questionnaire

Thank you

Appendix 3: Names of the experts group

Prof. Dr. Yousef Aljeesh	The Islamic University of Gaza
Dr.Jehad Hammad	The Islamic University of Gaza-faculty of medicine
Dr. Khaled Khadora	Israa University
Dr. Yousef Awwad	Palestine University
Dr. Emad Abed	Gaza Community Mental Health Programme
Dr. Mohamed Abu shaweish	Ministry of Health

Appendix 4: Approval from Helsinki Committee

المجلس الفلسطيني للبحث الصحي

Palestinian Health Research Council

تعزيز النظام الصحي الفلسطيني من خلال مأسسة استخدام المعلومات البحثية في صنع القرار

Developing the Palestinian health system through institutionalizing the use of information in decision making

Helsinki Committee

For Ethical Approval

Date: 2022/08/01 **Number:** PHRC/HC/1162/22

Name: Anhar farajallah الاسم:

We would like to inform you that the committee had discussed the proposal of your study about:

نفيدكم علماً بان اللجنة قد ناقشت مقترح دراستكم حول:

stress and coping strategies' among medical students in Gaza Strip

The committee has decided to approve the above mentioned research. Approval number PHRC/HC/1162/22 in its meeting on 2022/08/01

و قد قررت الموافقة على البحث المذكور عاليه بالرقم والتاريخ المذكوران عاليه

Signature

Member Chairman Member

Genral Conditions:-

1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee of any change in the approved study protocol.
3. The committee appreciates receiving a copy of your final research when completed.

Specific Conditions:-

E-Mail:pal.phrc@gmail.com

Gaza - Palestine غزة - فلسطين

شارع النصر - مفترق العيون

REDMI NOTE 8

Appendix 5: Approval from the Islamic University

بسم الله الرحمن الرحيم

الجامعة الإسلامية بغزة
Islamic University of Gaza
عمادة البحث العلمي والدراسات العليا
Deanship of Research and Graduate Studies

Ext:1140

Ref ج س غ /28/
Date 02/07/2022

The Islamic University of Gaza
Deanship of Research and Graduate Studies
Ethical Research Committee
Name: **Anhar A. Frajallah**

I would like to inform you that the Ethical Research Committee at the Islamic University of Gaza discussed your research application entitled:

Stress and coping strategies among medical student in Gaza Strip

In its meeting that was held on 02 July 2022, and decided to approve this research study (App. ID 22-2022).

Committee Chairperson — **Prof. Dr. Adel M. Awadallah**

Dean of Research and Graduate Studies — **Prof. Dr. Yousef I. Al-Jeesh**

Conditions:

1. Valid for 2 years from the date of approval.
2. It is necessary to notify the committee about any change in the admitted research study.
3. Pre-permission from the responsible authorities
4. Any treatment should be carried under the supervision of specialized physician
5. The committee appreciate receiving a copy of your final study when it is completed.

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