

## Identifying risk factors contributing to anxiety in health science students

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### Abstract

**Background:** Mental health among adolescents is significantly affected by various risk factors, particularly anxiety, which can hinder academic performance and overall well-being. This research aims to identify the anxiety risk factors among students at STIKES Al-Su'aibah, highlighting the prevalence and impact of these factors on their mental health.

**Method:** A quantitative correlation was conducted using closed questionnaires to collect structured data from students. This approach allows for the measurement and comparison of responses, enabling the identification of specific patterns and characteristics related to anxiety risk. The population in this study were all students from the D3 Midwifery, S1 Health Administration, and S1 Midwifery study programs, totalling 138 people. The research sample was taken using the total population technique. The analysis used univariate and bivariate methods with chi-square analysis.

**Results:** Out of 138 participants, 53.3% reported no anxiety, while 43.3% experienced mild to moderate anxiety, with 3.3% facing severe anxiety. The study found a significant relationship between smoking and anxiety levels ( $p = 0,02$ ).

**Conclusion:** The findings indicate a notable prevalence of anxiety among students, underscoring the need for enhanced mental health screening and support programs at educational institutions.

**Keywords:** Anxiety, Mental Health, Academic Pressure.

## INTRODUCTION

Adolescence is a critical period for developing social and emotional habits that are important for mental well-being. Adolescents with mental health conditions are particularly vulnerable to social exclusion, discrimination, stigma (which impacts readiness to seek help), educational difficulties, risk-taking behaviour, poor physical health and human rights violations (1).

Many factors influence mental health. The more risk factors an adolescent is exposed to, the greater the potential impact on their mental health. Factors that can contribute to stress during adolescence include exposure to adversity, pressure to conform to peers, and identity exploration. Media influences and gender norms can

exacerbate the gap between the reality of adolescents' lives and their perceptions or aspirations for the future. Other important determinants include the quality of home life and peer relationships. Violence (especially sexual violence and bullying), harsh parenting, and severe socioeconomic hardship are known risks to mental health (2).

Some adolescents are at higher risk of developing mental health conditions due to their living conditions, stigma, discrimination or exclusion, or lack of access to quality support and services. These include adolescents living in vulnerable and unsafe environments; adolescents with chronic illnesses, autism spectrum disorders, intellectual disabilities, or other neurological

conditions; pregnant adolescents, teenage parents, or those who married young or were forced into marriage; orphans; and adolescents from ethnic or sexual minority backgrounds or other discriminated groups. Anxiety and depressive disorders can significantly impact school attendance and work. Social withdrawal can exacerbate isolation and loneliness. Depression can lead to suicide(3).

Emotional disorders are common in adolescents. Anxiety disorders (which may involve excessive panic or worry) are most common in this age group and are more common in older adolescents than in younger adolescents. It is estimated that 4.4% of adolescents aged 10–14 years and 5.5% of adolescents aged 15–19 years have an anxiety disorder (1). Depression is estimated to occur in 1.4% of adolescents aged 10–14 years, and 3.5% of adolescents aged 15–19 years (1). Depression and anxiety share some symptoms, including rapid and unpredictable mood swings (4).

Anxiety among college students is of particular concern in the mental health field because of its significant impact on academic performance, physical health, and overall psychological well-being. Anxiety levels among college students tend to be higher than those of the general population, primarily due to the academic demands and significant life changes that college entails (5).

Anxiety is one of the mental health problems that often occurs in students, especially in the final year who are facing a final assignment or thesis. This is because the academic burden of the final assignment is quite heavy and requires individual completion. Anxiety can also be caused by the experience of interaction and communication between students and their supervisors (6).

In the health sector, students have unique and specific demands, such as the demands to understand complex materials, take exams with strict standards, and undergo field practice that often involves clinical skills. Research conducted by (7) that the high academic load and strict standards

are often the main source of anxiety for health students. They are not only expected to have a good theoretical understanding but also adequate practical skills, which they will need in the world of work. This burden often causes ongoing stress and anxiety, especially since any mistakes in practice can have serious consequences.

Based on the results of descriptive analysis in research conducted by (8), it was found that 40% of students experienced symptoms of depression, ranging from mild to severe symptoms. Depression is defined as a medical condition in the form of feelings of sadness that have a negative impact on a person's thoughts, actions, feelings, and mental health.

Another risk factor that plays a role in student anxiety is a lack of social support from family, friends, or the campus environment. Social support plays a very important role in helping students cope with academic and psychological stress. Students who feel they have no support tend to be more prone to anxiety than those who have strong support from those around them. In addition, this lack of social connections often worsens feelings of isolation, which is also a significant factor in increasing the risk of anxiety (9).

Anxiety is not only an obstacle to student success, but also causes various physical and psychological symptoms that can reduce their health. Although most respondents did not experience anxiety, almost all respondents had experienced at least one symptom listed in SRQ 20. The three most common symptoms experienced by students were stomach ache, difficulty making decisions, and restless sleep. (10).

This study is expected to be a basis for developing effective intervention programs to support the mental health of STIKES Al Su'aibah students. By identifying key risk factors, institutions can design relevant anxiety prevention and management strategies, such as through counseling services, stress management training, and activities that improve students' social connectedness and psychological well-being.

## METHOD

This research is a quantitative study that uses data in the form of numbers to describe the relationship or pattern between variables. Data were collected through a closed questionnaire, where respondents choose answers from several options that have been provided. With this approach, researchers can measure and compare respondents' answers in a structured manner, making it possible to identify certain patterns or characteristics. This research is correlation, which aims to describe phenomena, such as anxiety levels or factors that affect adolescent mental health. If researchers want to know the relationship between variables, they can use statistical methods such as correlation. The results of this approach provide an objective overview and can be used to understand conditions or trends in the wider population.

This research was conducted at the Al-Su'aibah Palembang Health Sciences College in September - November 2024. The population in this study were all students from the D3 Midwifery, S1 Health Administration, and S1 Midwifery study programs totaling 138 people. The research sample was taken using the total population technique, where all members of the population were used as research subjects. The inclusion criteria in the study were active students at STIKES Al Suaibah, the sample was in good health and present at the time of the research. This allows the research results to reflect the real conditions of the entire population studied. Analysis data used univariate and bivariate with chi square analysis.

## RESULTS

### Univariate Analysis

Based on the univariate analysis carried out, the characteristics of respondents in this study can be seen in table 1. Three people (3.33) have a risk of severe anxiety, 39 people (43.3%) have a risk of mild and moderate anxiety. Based on the univariate analysis in table 4.1 shows that most students of Al-Su'aibah Health College Palembang are female 87.8% (79 people).

Most students do not have a history of non-communicable diseases, diabetes, heart disease or hypertension 86.7% (78 people). Some students do not smoke 86.7% (87 people). Most students have the behavior of consuming sugar every day 63.3% (57 people). Most students have the behavior of consuming salt every day 74.4% (67 people). Most students have the behavior of consuming vegetables every day 87.8% (79 people). Most students have the behavior of not consuming alcohol 87.8% (79 people). Most students have the behavior of not doing physical activity every day 78.9% (71 people). Most students do not have a risk of anxiety of 53.3% (48 people).

### Bivariate Analysis

Based on the bivariate analysis conducted in this study, it can be seen in the following table. Based on the bivariate analysis in table 2, it shows that the majority of students at the Al-Su'aibah Palembang Health College have no history of non-communicable diseases such as diabetes, heart disease or hypertension so that it is not related to the risk of anxiety (p value 0,259). it shows that most students at the Al-Su'aibah Palembang Health College do not smoke and do not have a risk of anxiety, so it is related to the risk of anxiety (p value 0,02).

it shows that most students at the Al-Su'aibah Palembang Health College who have daily sugar consumption behavior do not have a risk of anxiety, so there is no relationship between sugar consumption and the risk of anxiety (p value 0,737). It shows that most students at the Al-Su'aibah Palembang Health College who have daily salt consumption behavior do not have a risk of anxiety, so there is no relationship between salt consumption and the risk of anxiety (p value 0,259).

It shows that most students at the Al-Su'aibah Palembang Health College who have daily vegetable consumption behavior do not have a risk of anxiety, so there is no relationship between vegetable consumption and the risk of anxiety (p value 0,273). It shows that most students at

the Al-Su'aibah Palembang Health College who have a non-consumption behavior do not have a risk of anxiety, so there is no relationship between alcohol consumption and the risk of anxiety (p value 0,911). It shows that the majority of students at the

Al-Su'aibah Palembang Health College who have the behavior of not doing physical activity every day do not have a risk of anxiety, so there is no relationship between daily physical activity and the risk of anxiety (p value 0,428).

**Table 1. Univariate Analysis STIKES Al-Su'aibah Palembang Students**

<b>Variables</b>	<b>N</b>	<b>Percent (%)</b>
Gender		
Man	11	12.2
Woman	79	87.8
History of Non-Communicable Diseases		
Yes		
No	12	13.3
	78	86.7
Smoking Risk Factors		
Yes	3	3.3
No	87	96.7
Sugar Consumption Behavior		
Yes, every day		
Yes, not every day	57	63.3
	33	36.7
Salt Consumption Behavior		
Yes, every day		
Yes, not every day	67	74.4
	23	25.6
Vegetable Consumption Behavior		
Yes, every day		
Yes, Not every day	79	87.8
	11	12.2
Alcohol Consumption Behavior		
Yes, not every day		
No	11	12.2
	79	87.8
Physical Activity Behavior		
Yes, every day	19	21.1
Yes, not every day	71	78.9
Anxiety Risk		
Don't worry	48	53.3
Mild anxiety	29	32.2
Moderate anxiety	10	11.1
Severe anxiety	3	3.3
Total	90	100

**Table 2. Bivariate Analysis of Non-Communicable Disease History with Anxiety Al-Su'aibah Health College Palembang**

Variables	Anxiety risk								Total		p-value
	No		Light		Currently		Heavy				
History of Non-Communicable Diseases	n	%	n	%	n	%	n	%	N	%	0.259
Yes	5	10.4	3	10.3	3	30	1	33.3	12	13.3	
No	43	41.6	26	25.1	7	8.7	2	2.6	78	86.7	
Total	48	53.3	29	32.2	10	11.1	3	3.3	90	100	0.02
Smoking risk											
Yes	2	4.2	0	0	0	0	1	33.3	3	3.3	
No	46	52.9	29	33.3	10	11.5	2	2.3	87	96.7	0.737
Sugar Consumption Behavior											
Yes, every day	32	56.1	16	28.1	7	12.3	2	3.5	57	63.3	
No, not every day	16	48.5	13	39.4	3	9.1	1	3	33	36.7	0.259
Salt Consumption Behavior											
Yes, every day	35	35.7	22	21.6	9	7.4	1	2.2	67	74.4	
No, not every day	13	56.5	7	30.4	1	9.1	2	8.7	23	25.6	0.273
Vegetable Consumption Behavior											
Yes, every day	43	54.4	23	29.1	10	12.7	3	3.8	79	87.8	
No, not every day	5	45.5	6	54.5	0	0	0	0	11	12.2	0.911
Alcohol Consumption Behavior											
Yes, not every day	6	54.5	4	36.4	1	9.1	0	0	11	12.2	
No	42	53.2	25	31.6	9	11.4	3	2.6	79	87.8	0.428
Physical Activity Behavior											
Yes, every day	13	68.4	4	21.2	2	10.5	0	0	19	21.1	
No, not every day	35	49.3	25	35.2	8	11.3	3	4.2	71	78.9	

## DISCUSSION

The results of the screening conducted on students showed varying levels of anxiety. The implementation of mental health screening among students is still not optimal, and this reflects the urgent need to integrate more stakeholders in early detection of mental health problems.

Effective screening is essential to prevent more serious mental health disorders in the future. A well-conducted screening procedure can help identify mental

health problems, including anxiety, earlier. When these problems go undetected, the impact on students' quality of life can be very detrimental. Therefore, support from health workers, who are actively involved in this process, is essential to reduce the potential negative impacts that can arise (11).

In line with these results, research (12) also revealed that the majority of college students experience mental health disorders, including anxiety, depression, PTSD, and substance use. This shows the importance of

more routine and structured screening to identify mental health problems early on in the campus environment. Through such screening, students can more easily find out their mental health condition, and those who are identified with mental health problems can be given appropriate treatment immediately. Follow-up after screening will ensure that students receive appropriate and targeted assistance, whether in the form of counseling or other treatment programs, which in turn can improve their quality of life.

In addition, research (13) shows that anxiety experienced by students is often caused by high academic burdens, lack of time management, and social pressures they feel. This condition not only has an impact on the physical, such as sleep and concentration disorders, but can also lead to cukup saja deskripsi, tidak perlu dituliskan angkanya sehingga diulang pada bagian hasila decrease in overall quality of life. To overcome this, Fauziyyah recommends stress management training and counseling support for students. Stress management training can provide students with skills to better manage academic pressure, while counseling support will provide space for students to talk about their anxiety and seek solutions in more depth.

Meanwhile, (14) revealed that around 45% of students experience moderate to severe anxiety during exams. The main factors that influence this level of anxiety are lack of study preparation and pressure from family expectations. When students feel unprepared for exams, their anxiety increases. To overcome this problem, Rahmawati proposed an academic mentoring program and coping skills training that can help students manage anxiety and deal with academic pressure more effectively.

Research by (15) also highlights the importance of social support in preventing mental health disorders in college students. They found that students who do not have adequate social support are more susceptible to anxiety and other mental health problems. Students who feel isolated, both on campus and in their social life, are

more likely to experience anxiety disorders. Therefore, emphasizing the importance of building a supportive community on campus, such as discussion groups or support groups, which can provide emotional support for students.

In relation to other factors affecting students' mental health, the results of the Bivariate study showed that there was no significant relationship between physical activity and mental health, although several previous studies, such as by (16), showed that high levels of physical activity were associated with better mental health. Regular physical activity can play a role in improving students' psychological well-being, such as self-image, life satisfaction, happiness, and overall improving mental health. However, these differences in results could be caused by other factors, such as age, gender, geographic conditions, smoking, and consumption patterns, which can affect the extent to which physical activity can impact mental health.

Research (17) found that physical activity plays an important role in reducing anxiety and stress among college students. Those who exercise regularly, at least three times a week, have higher levels of happiness compared to those who rarely do physical activity. Physical activity is also positively related to sleep quality and self-confidence in college students. However, (18) emphasized that other factors such as social support and time management also play an important role in moderating the relationship between physical activity and mental health.

Another study by (19) showed that alcohol consumption among college students is often triggered by social pressure and academic stress. College students who consume alcohol excessively are more prone to anxiety and depression. In addition, (20) noted that alcohol consumption can affect students' cognitive abilities, such as decreased academic performance and the risk of impulsive behavior. Therefore, it is important to implement education about the dangers of alcohol consumption on campus



to reduce alcohol abuse which risks worsening mental health problems.

Similar to alcohol consumption, excessive salt consumption in college students can also affect their mental health. (21) showed that a high-salt diet can increase levels of stress hormones, such as cortisol, which are associated with anxiety disorders. This is an important concern considering that salt can affect blood pressure, which in turn risks worsening college students' mental health. On the other hand, (22) added that high vegetable consumption can reduce anxiety through its positive influence on the balance of gut microbiota, which is associated with mental health through the gut-brain axis.

Research (23) found that high sugar consumption was associated with increased anxiety among college students. A diet high in sugar can affect the brain's chemical balance, particularly in fluctuations in insulin and serotonin levels, which can increase anxiety symptoms. Therefore, reducing sugar consumption is recommended to improve college students' mental health.

Smoking is also a factor that affects the mental health of students. (24) found that students who smoke are more prone to anxiety, especially when they face stress due to academic or personal problems. Smoking is often used as a way to cope with stress, but in reality, this habit actually worsens their mental health. Interventions to help students quit smoking are essential to improve their quality of life.

Research (25) also shows that students with a history of non-communicable diseases (NCDs) such as hypertension, diabetes, or heart disease tend to have higher levels of anxiety compared to those without a history of these diseases. Stress related to disease management and uncertainty about long-term health conditions can worsen anxiety symptoms in students. Therefore, attention to students with NCDs also needs to be increased in efforts to prevent and treat anxiety.

## CONCLUSIONS

The mental health of adolescents, including college students, is affected by various risk factors such as social exclusion, stigma, and discrimination. In addition, major stressors during adolescence include high academic load, social pressure, family expectations, and lack of time management.

Early screening is an essential step in detecting and preventing mental health issues in adolescents, especially in college. This process allows for early identification of issues such as anxiety, depression, or severe stress, so that appropriate interventions can be provided immediately. Counseling support, stress management training, and increased social support are essential to creating an environment that supports adolescent mental health. Integrating structured screening programs on campus can promote mental well-being and improve students' quality of life.

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