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ANXIETY LEVEL AND ITS RELATIONSHIP WITH EATING HABITS AND NUTRITIONAL STATUS IN YOUNG ADULTS

NIVEL DE ANSIEDAD Y SU RELACIÓN CON LOS HÁBITOS ALIMENTARIOS Y EL ESTADO NUTRICIONAL EN ADULTOS JÓVENES

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Anxiety level and its relationship with eating habits and nutritional status in young adults

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ABSTRACT

Anxiety is a global problem that affects approximately 350 million people, presenting with symptoms such as nervousness, fear and changes in appetite. The aim of this study was to determine the level of anxiety and its relationship with eating habits and nutritional status in young adults between 20 and 30 years of age insured at the Cabanillas Health Center. A descriptive cross-sectional study was conducted with a quantitative approach, using the Zung Anxiety Assessment Scale (EAA), consisting of 20 items, to measure anxiety. Eating habits were assessed by means of a 26-item questionnaire covering frequency of consumption. Nutritional status was determined by Body Mass Index (BMI). Data analysis was carried out using Spearman's Rho test. The results showed a significant and positive association between anxiety and nutritional status (RHO = 0.725, $p < 0.01$). In addition, a significant, inverse and strong association was identified between anxiety levels and eating habits (RHO = -0.771, $p < 0.01$). In conclusion, anxiety level has a significant relationship with eating habits and nutritional status in young adults aged 20-30 years, according to Spearman's Rho correlation coefficient.

***Keywords*:** anxiety, eating habits, lifestyle, nutritional status, body mass index

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Nivel de ansiedad y su relación con los hábitos alimentarios y el estado nutricional en adultos jóvenes

RESUMEN

La ansiedad es un problema global que afecta a aproximadamente 350 millones de personas, presentándose con síntomas como nerviosismo, miedo y cambios en el apetito. Este estudio tuvo como objetivo determinar el nivel de ansiedad y su relación con los hábitos alimentarios y el estado nutricional en adultos jóvenes de 20 a 30 años asegurados en el Centro de Salud Cabanillas. Se realizó un estudio descriptivo de corte transversal con un enfoque cuantitativo, utilizando la Escala de Evaluación de la Ansiedad de Zung (EAA), que consta de 20 ítems, para medir la ansiedad. Los hábitos alimentarios se evaluaron mediante un cuestionario de 26 ítems que abarca la frecuencia de consumo. El estado nutricional se determinó mediante el Índice de Masa Corporal (IMC). El análisis de datos se llevó a cabo utilizando la prueba de Rho de Spearman. Los resultados mostraron una asociación significativa y positiva entre la ansiedad y el estado nutricional (RHO = 0.725, $p < 0.01$). Además, se identificó una asociación significativa, inversa y fuerte entre los niveles de ansiedad y los hábitos alimentarios (RHO = -0.771, $p < 0.01$). En conclusión, el nivel de ansiedad tiene una relación significativa con los hábitos alimentarios y el estado nutricional en adultos jóvenes de 20 a 30 años, según el coeficiente de correlación Rho de Spearman.

Palabras clave: ansiedad, hábitos alimentarios, estilo de vida, estado nutricional, índice de masa corporal

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INTRODUCTION

Anxiety is a widespread condition that affects approximately 350 million people worldwide (Constantino et al., 2022), being especially relevant in the group of young adults aged 20 to 30 years (Góngora et al., 2022). This group faces emotional, social and occupational challenges that may influence their anxiety state (Pérez, 2015).

Anxiety manifests itself with a variety of symptoms that can include excessive worry, nervousness, muscle tension, difficulty concentrating and a sense of impending danger (Sierra et al., 2003). These symptoms can significantly affect people's quality of life and, in some cases, can interfere with their ability to carry out daily activities (Mayo Clinic Family, 2018). In addition, anxiety can have an impact on eating habits and nutritional status, as people experiencing anxiety often turn to food as a way to cope with their emotions, which can lead to unhealthy eating patterns and nutritional deficiencies (Organización Mundial de la Salud., 2023).

Poor dietary practices cause the death of 11 million people in the world, mainly due to excessive consumption of processed foods and lack of fruits, vegetables and fiber-rich foods (Lopez, 2019). In Peru, according to the 2021 Demographic and Family Health Survey, 36.9% of people aged 15 years or older are overweight and 25.8% suffer from obesity, with women being the most affected. This situation is alarming, as obesity and overweight increase the risk of cardiovascular diseases, type 2 diabetes and certain types of cancer (Ministerio de Salud, 2022).

Studies such as Arriaga A. and Manchego J. (2022) conducted a study to determine the relationship between eating habits and anxiety levels in health students of a private high school in Lima. This quantitative, correlational, non-experimental, cross-sectional study concluded that there is a significant relationship between eating habits and anxiety levels in this population (Arriaga & Manchego, 2022).

Camargo A. (2021) investigated the relationship between anxiety and eating habits in adolescents in La Paz, Bolivia. The study adopted a quantitative approach with a non-experimental cross-sectional design. A moderate correlation was found between anxiety and eating habits, suggesting a standard but not significantly high connection between these variables (Camargo, 2021).

Estela S. (2022) investigated the relationship between anxiety and overweight in fourth and fifth grade students of public educational institutions in Cajamarca. Although the study was quantitative,

descriptive, relational and non-experimental, no relationship was found between anxiety and overweight in students (Estela, 2022)

On the other hand, Ñuflo M. (2020) analyzed the relationship between stress and nutritional status in adolescents from I.E Manuel Seoane Corrales, Callao Region. The study revealed a high positive relationship between stress and nutritional status in these adolescents, suggesting a dependence between these variables (Ñuflo, 2020).

In this context, the need arises to investigate the relationship between anxiety, eating habits and nutritional status in young people aged 20 to 30 years. This study was carried out in the Cabanillas Health Center, with the aim of determining whether there is a significant relationship between these factors in this specific population.

Therefore, the following hypothesis is proposed:

- Null Hypothesis (H0): There is no relationship between anxiety, eating habits and nutritional status in young people aged 20 to 30 years insured at the Cabanillas Health Center.
- Alternative Hypothesis (H1): There is a relationship between anxiety, eating habits and nutritional status in young people aged 20 to 30 years insured at the Cabanillas Health Center.

This study will contribute to expand knowledge about anxiety levels, eating habits and nutritional status in this specific population, allowing the development of effective intervention strategies to improve their health and well-being.

METHODOLOGY

The study conducted is relational, quantitative, descriptive, analytical, observational, non-interventional, prospective and cross-sectional. The study included a sample of 70 young adults insured at the Cabanillas Health Center, aged between 20 and 30 years, selected from an initial population of 85 patients. Participation was voluntary and was subject to the acceptance to collaborate in the research and the signing of an informed consent form. Those with severe psychological illnesses were excluded, for which purpose access to their medical records was requested and this condition was verified with the support of the psychology department. Participants were selected by non-probabilistic convenience sampling, which allowed the selection of those willing to participate and who met the established criteria.

To evaluate the level of anxiety in the young people insured at the Cabanillas Health Center, the Zung Anxiety Assessment Scale (EAA) was used, which classifies anxiety in different levels: anxiety at maximum degree (80 to 60 points), marked to severe anxiety (59 to 48 points), minimal to moderate anxiety (47 to 36 points) and absence of anxiety (35-20 points). During the interviews, this scale was applied to obtain information on the emotional state of the participants, thus ensuring a comprehensive assessment of anxiety in the selected sample. The EAA demonstrated good reliability, with a Cronbach's alpha coefficient of 0.75, indicating that it is a reliable instrument for measuring anxiety in this context.

To assess young people's eating habits, an eating habits survey was used that categorizes habits into healthy, unhealthy and not healthy, according to the scores obtained (from 130 to 97 points for healthy, from 96 to 62 points for unhealthy and from 61 to 26 points for not healthy). This survey, which also demonstrated good reliability with a Cronbach's alpha coefficient of 0.747, made it possible to obtain detailed information on the participants' eating patterns, which is fundamental for understanding the relationship between diet and health in this age group.

Regarding nutritional status, the body mass index (BMI) was used as an indicator, calculated from anthropometric measurements taken with a measuring rod and a scale owned by the health center. The BMI results were classified into different categories: underweight (BMI less than 18.5), normal (BMI 18.5 to 24.9), overweight (BMI 25 to 29.9), grade I obesity (BMI 30 to 34.9), grade II obesity (BMI 35 to 39.9) and grade III obesity (BMI over 40). These measurements provided objective and quantitative information on the nutritional status of the participants, which complemented the subjective assessment of eating habits and anxiety.

To analyze anxiety and its relationship between eating habits and nutritional status, Spearman's RHO test was used to determine whether there was a significant association between these variables. This statistical analysis provided a deeper insight into how these factors are related to each other, which is crucial to better understand the determinants of health in this population.

Finally, it is important to note that the research was carried out with the approval of the Institutional Research Ethics Committee, under certificate N°048-2023/CIEI UNA-Puno, which guarantees that ethical principles were respected and the integrity and confidentiality of the participants were protected.

RESULTS AND DISCUSSION

Figure 1. Anxiety levels in young adults aged 20 to 30 years insured at the Cabanillas Health Center.

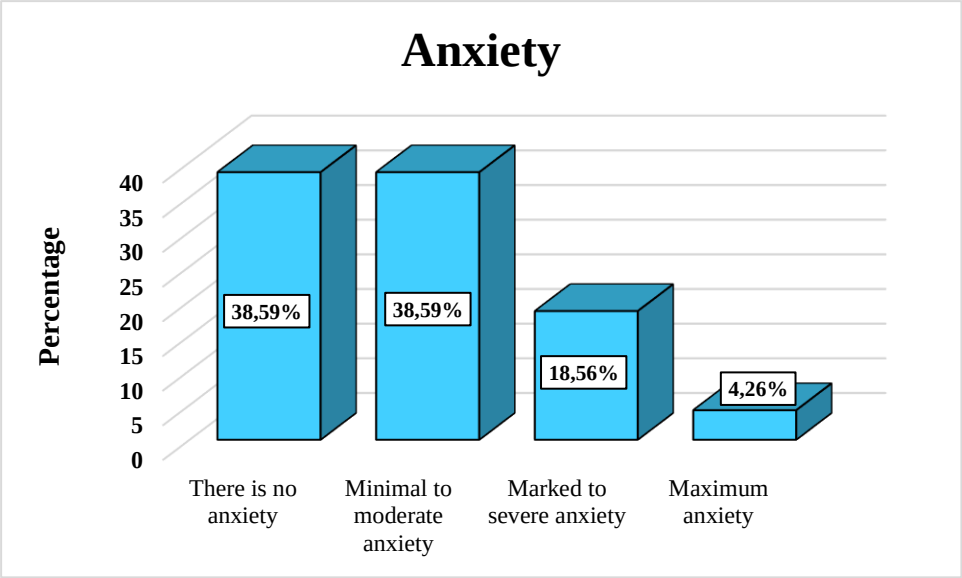

Figure 1 shows the levels of anxiety in young adults aged 20 to 30 years insured at the Cabanillas Health Center shows that 38.59% of the participants reported having no anxiety, while another 38.59% indicated experiencing minimal to moderate anxiety. Some 18.56% reported marked to severe anxiety. In addition, 4.26% of the participants reported having maximum anxiety.

Figure 2. Eating habits in young adults aged 20 to 30 years insured at the Cabanillas Health Center.

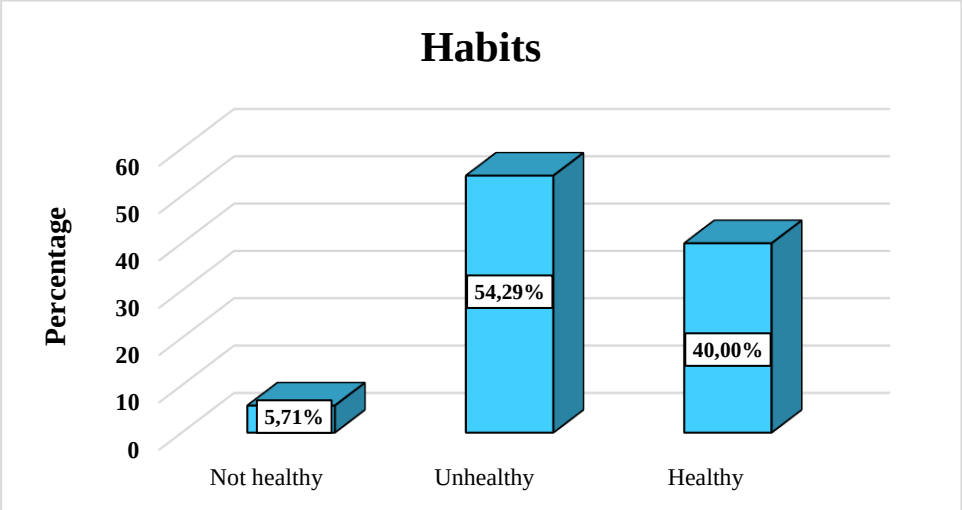

Figure 2 presents the assessment of eating habits in young adults aged 20-30 years insured at the Cabanillas Health Center reveals that 5.7% of the participants have not healthy habits, while 54.3% report unhealthy habits and 40% have healthy habits, therefore, most of the young adults in the study present eating habits that could benefit from improvements towards healthier options.

Figure 3. Nutritional status in young adults aged 20 to 30 years insured at the Cabanillas Health Center.

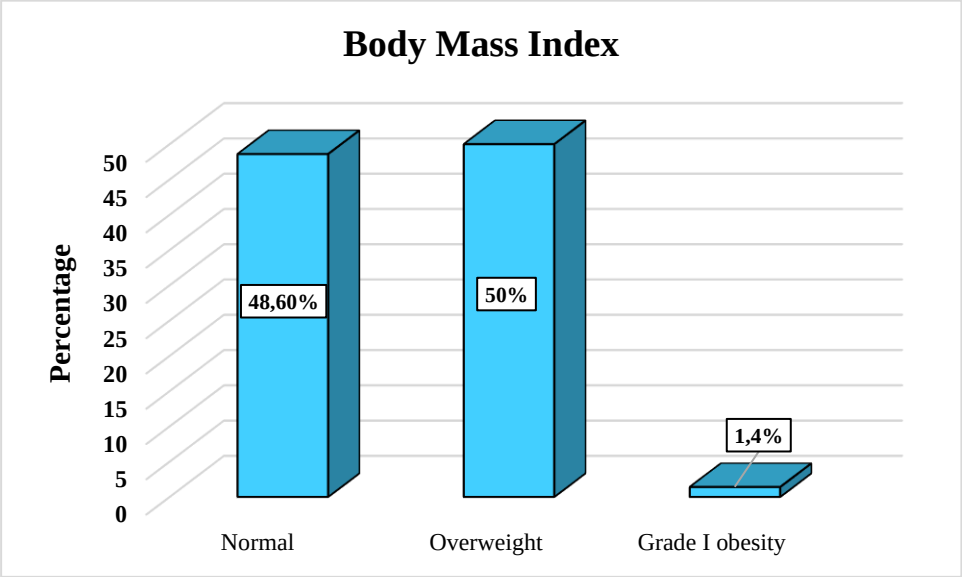

Figure 3 shows the assessment of nutritional status in young adults aged 20 to 30 years insured at the Cabanillas Health Center shows that 48.6% of the participants have a body mass index (BMI) within the range considered normal, while 50% are overweight and 1.4% are grade I obesity, indicating a significant prevalence of overweight in the sample, with a minority showing signs of obesity.

Table 1. Relationship of anxiety and eating habits in young adults aged 20 to 30 years insured at the Cabanillas Health Center.

		HABITS						Total	
		Not healthy		Unhealthy		Healthy			
ANXIETY	There is no anxiety	0	0,0%	2	2,9%	25	35,7%	27	38,59%
	Minimal to moderate anxiety	0	0,0%	26	37,1%	1	1,4%	27	38,59%
	Marked to severe anxiety	2	2.9%	9	12,9%	2	2.9%	13	18,56%
	Maximum anxiety	2	2,9%	1	1,4%	0	0,0%	3	4,26%
Total		4	5,7%	38	54,3%	28	40,0%	70	70

**. Correlation is significant at the 0.01 level (bilateral).

Table 1 shows a relationship between anxiety levels and eating habits in young adults aged 20 to 30 years insured at the Cabanillas Health Center. It is observed that young people with unhealthy habits represent the largest group in all anxiety levels, with 37.1% of them reporting minimal to moderate anxiety, followed by 12.9% with marked to severe anxiety. On the other hand, youth with healthy habits

are less likely to experience high levels of anxiety, with only 1.4% reporting marked to severe anxiety. This relationship suggests that there may be an association between unhealthy eating habits and higher levels of anxiety in this population, which could indicate the importance of interventions aimed at promoting healthier eating habits to improve the mental well-being of youth at the Cabanillas Health Center.

The results of Spearman's correlation show a significant inverse and strong association (rho = -0.771, p = 000) between anxiety levels and eating habits in young people aged 20-30 years insured at the Cabanillas Health Center. This correlation indicates that as anxiety levels increase, eating habits tend to become less healthy, and vice versa.

These results coincide with the findings of Camargo A. (2021), Arriaga A. and Manchego J. (2022), who concluded that there is a significant relationship between eating habits and anxiety levels. This relationship may be because anxiety causes changes in appetite and preference for certain types of foods, especially those that are high in fats and sugars, which can provide a temporary sense of relief or comfort (Ribeiro et al., 2018). In addition, anxiety can interfere with people's ability to plan and prepare healthy meals, leading to increased consumption of processed and convenience foods that are less nutritious (Camargo, 2021), (Arriaga & Manchego, 2022).

For example, a study by Torres and Nowson (2007) found that anxiety and chronic stress can increase the desire to consume foods high in fats and sugars, which in turn can lead to a less healthy eating pattern. This finding underscores the importance of considering emotional and psychological factors when addressing eating habits and nutrition (Torres & Nowson, 2007)

Likewise, anxiety can affect the digestive system, causing problems such as irritable bowel syndrome (IBS), which can lead to changes in eating habits and nutrient absorption. A study by Blanchard et al. (2008) suggests that elevated levels of anxiety can exacerbate IBS symptoms, which could negatively influence food choices and overall nutritional status (Blanchard et al., 2008), (Fadgyas Stanculete et al., 2023).

Table 2. Relationship of anxiety and nutritional status in young adults aged 20 to 30 years insured at the Cabanillas Health Center.

		BODY MASS INDEX						Total	
		Normal		Overweight		Grade I obesity			
ANXIETY	There is no anxiety	26	37,1%	1	1,4%	0	0,0%	27	38,59%
	Minimal to moderate anxiety	7	10,0%	20	28.%	0	0,0%	27	38,59%
	Marked to severe anxiety	1	1,4%	12	17.1%	0	0,0%	13	18,56%
	Maximum anxiety	0	0,0%	2	2,9%	1	1,4%	3	4,26%
	Total	34	48,6%	35	50.0%	1	1.4%	70	100,0%

**. Correlation is significant at the 0.01 level (bilateral).

Table 2 shows the relationship between anxiety levels and nutritional status (BMI) in young adults aged 20 to 30 years insured at the Cabanillas Health Center. It is observed that the majority of young people with normal BMI report anxiety levels ranging from no anxiety to minimal to moderate anxiety, with 37.1% and 10.0% respectively. However, as the severity of anxiety increases, there is a tendency to have a higher BMI, being more noticeable in cases of marked to severe anxiety and anxiety in maximum degree, where 17.1% and 2.9% respectively present overweight. This relationship suggests an association between anxiety and nutritional status in this population, with higher levels of anxiety correlated with a higher risk of having an elevated BMI.

Spearman correlation results show a significant and positive association (rho = 0.725, $p < 0.01$) between body mass index (BMI) and anxiety levels in 20-30 year olds insured at the Cabanillas Health Center. This indicates that as BMI increases, anxiety levels also tend to increase in this population. This correlation suggests a relationship between nutritional status and the experience of anxiety, which may imply the need to address both mental health and physical health in interventions targeting this population. These findings are consistent with previous studies on the relationship between mental health and nutritional status.

For example, Ñuflo M. (2020) found a high positive correlation between stress and nutritional status in adolescents, suggesting a strong relationship between these variables. This is important, as it indicates

that both anxiety and stress can affect nutritional status in different age groups, highlighting the need to consider mental health in the assessment and treatment of nutritional problems (Ñuflo, 2020).

In contrast, the study by Estela S. (2022) did not find a significant relationship between anxiety and overweight in high school students. This difference may be due to several reasons. First, the age difference between the study samples may influence the results, as coping mechanisms and physiological responses to anxiety may vary considerably between adolescents and young adults. In addition, Estela S.'s sample consisted of only 11 individuals, which limits the generalizability of her findings due to the small sample size (Estela, 2022).

Garcia R., et al. (2016) indicates that people with anxiety tend to turn to food to cope with their emotions, often resulting in the excessive consumption of foods high in sugar and fat (63). This high sugar consumption causes rapid fluctuations in blood glucose levels, contributing to emotional instability and increasing anxiety symptoms (64). In addition, sugar has addictive properties that can lead to dependence and compulsive consumption patterns, aggravating anxiety when the body does not receive the expected amount (65). Furthermore, excessive sugar consumption can interfere with sleep quality, a crucial factor for mental health, and lack of adequate sleep can increase anxiety levels and aggravate other mental health problems (63), (66).

Another important factor is individual variability in the response to anxiety. Some people may increase their caloric intake to cope with anxiety, whereas others may lose their appetite. This variability suggests that individual coping strategies and level of resilience play a crucial role in how anxiety affects nutritional status. Therefore, it is essential to take a personalized approach to both nutritional and psychological interventions (Sierra et al., 2003).

In addition, Estela S.'s study focused solely on the relationship between anxiety and overweight, without considering other classifications of nutritional status, such as undernutrition. This may have limited its ability to capture the complexity of the relationship between anxiety and nutrition, as malnutrition and other forms of malnutrition may also be influenced by mental health factors (Estela, 2022), (Molina et al., 2020).

CONCLUSIONS

The present study has revealed a significant relationship between anxiety, eating habits and nutritional status in young adults. The findings indicate a strong correlation between anxiety and eating habits, demonstrating that the higher the anxiety, the less healthy eating habits tend to be, characterized by a higher consumption of processed and sugary foods. In addition, a positive correlation between body mass index (IMC) and anxiety has been identified, suggesting that higher BMI is associated with higher levels of anxiety. These results underscore the importance of considering both mental and physical health in interventions aimed at improving the well-being of young adults. Interventions that promote healthy eating habits and weight management could be beneficial in reducing anxiety in this population. Therefore, it is recommended that comprehensive programs addressing these two areas be implemented to achieve significant improvement in the quality of life of young adults.

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