Health Risks for University Students From the Amazon Region in the New Normality

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The objective of the study was to identify and compare the health risk of university students in the Peruvian Amazon in the post pandemic new normal. The approach was quantitative, of the descriptive type of group comparison. The population consisted of 1320 students and the sample consisted of a total of 298 students who were administered the SF-36 Health Questionnaire (version 2). According to the results, the health status of university students is in the medium risk level, which could affect the quality of learning, the prevalence and affection of other possible diseases, as well as absenteeism. Likewise, through the Chi-square test, the statistical power and the effect size, it was possible to determine that the health status is similar in the groups of students conformed by gender and family dependence. However, it was evidenced that the evolution of health in the university students of the gender group is different ($p<0.05$; $w=0.339$; $1-\beta= 0.865$).

INTRODUCTION

The coronavirus pandemic has significantly changed the lifestyles of the university population, so new knowledge and best practices are required to avoid the contagion. However, avoiding it is not entirely safe, especially with the return to face-to-face work (Fernandez et al., 2022; Estrada, 2022).

The new normality emphasizes the need to guarantee an inclusive, equitable and quality education that promotes development opportunities, lifelong learning and addresses health education in a cross-cutting approach (Calderón, 2021). This is due to the fact that health can condition and determine the stability and quality of life of students, indispensable requirements to achieve happiness and positive personal development (García, 2020). However, it would be conditioned by the actions carried out by students, aimed at taking care of their organism, preventing diseases and promoting their own wellbeing (Amigo, 2020).

In the reality of universities, a significant number of adolescents and young adults are concentrated and are exposed to a stressful environment so they are not exempt from suffering complications or health alterations (Peralta et al., 2018). Likewise, they are divided into economically independent or even dependent social groups with great uncertainties in terms of work and finishing their professional career in the established time, these adverse aspects must be dealt with by students that in many of the cases affect and change their lifestyle (Ferrero & Marina, 2020).

University students generally do not have a good diet, rather, an unbalanced diet with high caloric content, and the practice of physical exercise is ineffective, even when it is known that a good diet and exercise have health benefits (Fernández et al., 2022). Then, there are members in the university population who have the necessary knowledge to carry out adequate behaviors, but obviously they are not aware of the risks, because they are the ones who behave less healthy (Bastías & Stiepovich, 2014). Added to this, in Latin American and Caribbean countries, public policies do not adequately address the health needs of university students (Lara et al., 2015). Therefore, a factor that seems to protect young people from the impact of the vicissitudes of university life seems to be the maintenance of lifestyles that promote health otherwise they could be catalysts for the development of long-term diseases (Chau & Saravia, 2016).

After almost three years have passed since the beginning of the pandemic and shortly after the return to face to face studies in higher education, which means resuming daily activities in a context still affected by the contagion of COVID-19, it is expected that the results will allow proposals aimed at addressing the needs and requirements of the student body in a multidimensional manner. As Charry & Cabrera (2021) point out, universities should be, due to the time spent during higher education, fundamental spaces for the formation of healthy lifestyles and habits, aimed at positively modifying the risk factors that underlie the current lifestyle of the student body. However, to achieve this, it is necessary to detect the limitations and difficulties that affect the academic community, starting from the understanding of the state of health that conditions the students.

The study aimed to identify and compare the health risk of higher education students, according to gender and type of family dependency.

METHODOLOGY

The study corresponded to the type of descriptive research of group comparison to analyze the variable health status in students of the Universidad Nacional Amazónica de Madre de Dios (UNAMAD). The population consisted of 1320 students of the Faculty of Education, composed of three professional careers: Education (Initial and Special, Primary and Computer Science, and Mathematics and Computer Science), Law and Political Science, and Nursing. The sample consisted of a total of 298 students, of whom 193 (64.8%) were female, while 105 (35.2%) were male (35.2%). Likewise, 172 (57.7%) were dependent on their families and 126 (42.3%) were independent of family support.

To assess the health conditions of individuals, Lara et al. (2015) have recognized that self-perception of health is one of the most consolidated and easily asked indicators in health surveys. Therefore, for data collection, the SF-36 Health Questionnaire (version 2) was applied, consisting of the following dimensions and items: physical function (10 items), physical role (4 items), bodily pain (2 items), general health (5 items), vitality (4 items), social function (2 items), emotional role (3 items), mental health (5 items) and health evolution (1 item).

In order to carry out the data collection, authorization was requested from the corresponding university authorities. Afterwards, through the WhatsApp messaging application, students were invited to participate and were sent the link to the survey, the objective of the research was socialized, their consent was requested and they were guided so that they could answer the questions. This procedure lasted approximately 15 minutes, and after corroborating the participation of the 298 students, their access was disabled.

To analyze the data, two figures were prepared, the first to compare the health status of the students according to gender, while the second to contrast the health status according to family dependence. Likewise, a table was prepared to specify the comparison of the frequencies between groups, gender and family dependence, using the Chi-square test, whose results were validated by obtaining the effect size (1 - β) and statistical power (w).

As for ethical aspects, it was approved by the institutional ethics committee. It should also be noted that the students were informed about the purpose and nature of the research and gave their informed consent, guaranteeing at all times the anonymous and voluntary nature of their participation.

RESULTS

Figure 1 contains the results of the frequencies obtained from the health status of university students, which showed that both the female and male genders were located in the medium risk level, with higher percentages in the components physical function, physical role and emotional role for the female gender, and mental health, social function, body pain, general health and vitality for the male gender. Likewise, the high risk level was higher in the components mental health, social function, general health and vitality in the female gender, and for the male gender it was higher in the components physical function, physical role, emotional role and bodily pain. Finally, the male gender had a higher percentage in the elements physical function, physical role, emotional role, social function, bodily pain, general health and vitality, while the female gender was only higher in the mental health element.

FIGURE 1
COMPARISON OF HEALTH STATUS IN UNIVERSITY STUDENTS
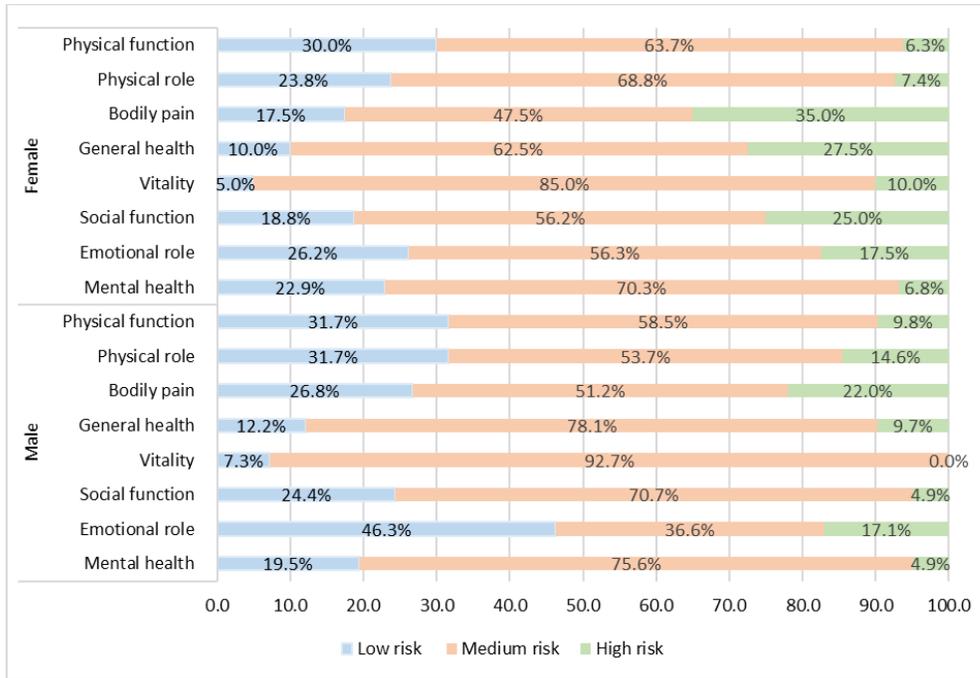**ACCORDING TO GENDER**

Figure 2 compared the results of family dependence, placing both groups of students in the medium risk level. In the group of dependent university students, the elements physical function and mental health predominated, while in the group of independent university students, physical role, emotional role, social function, bodily pain, general health and vitality predominated. Similarly, the results show that the group of independent university students has the highest percentage of students in the high risk level, specifically in the components physical role, mental health, emotional role, social function, bodily pain and general health, in contrast to the group of dependent university students, who have the highest percentage in the components physical function and vitality, as well as the highest proportion of students in the low risk level.

Table 1 specifies the results obtained from the Chi-square test of the comparison of frequencies between groups. Regarding gender, it was determined that the health status between females and males was similar in eight components: physical function, physical role, mental health, emotional role, social function, bodily pain, general health and vitality, as the p-value was above the significance level ($p>0.05$), while the statistical power was less than 0.80 and the effect size was less than 0.05. However, in the health evolution component, the frequency between the female and male groups was different, since the p-value was lower than the significance level ($p<0.05$), the effect size was regular ($w= 0.339$) and the statistical power was high ($1-\beta= 0.865$).

On the other side, the results of the Chi-square test in the comparison of the frequencies of the type of family dependence allowed us to verify that the health status between the dependent and independent groups was similar, since the p-value was higher than the significance level ($p>0.05$), while the statistical power was lower than 0.80 and the effect size was lower than 0.05.

FIGURE 2
**COMPARISON OF THE HEALTH STATUS OF UNIVERSITY STUDENTS ACCORDING TO
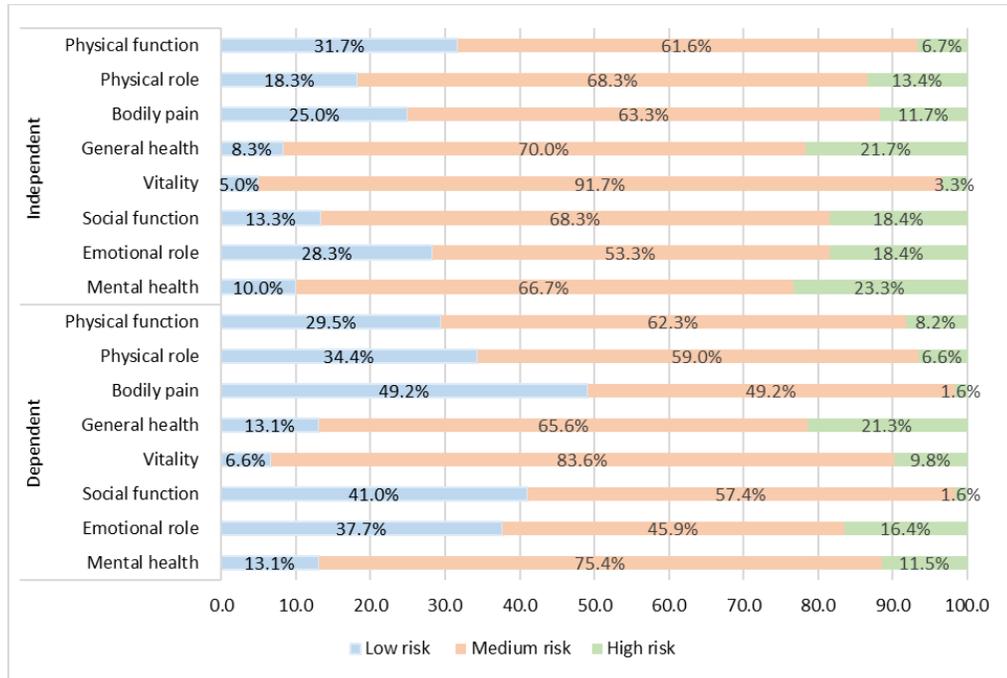THE TYPE OF FAMILY DEPENDENCY**

TABLE 1
**CHI-SQUARE TEST OF HEALTH STATUS DIMENSIONS IN STUDENTS WITH GENDER
AND FAMILY DEPENDENCY**

Health status		Gender	Family dependency
Components	Measures		
Body function	*Sig.*	.331	0.877
	w	.338	0.009
	1-β	.154	0.001
Physical role	Sig.	.354	0.706
	w	.339	0.010
	1-β	.649	0.001
Mental health	Sig.	.257	0.782
	w	.337	0.010
	1-β	.627	0.001
Emotional role	Sig.	.175	0.560
	w	.338	0.010
	1-β	.681	0.001
Social function	Sig.	.263	0.479
	w	.339	0.009
	1-β	.629	0.001
Bodily pain	Sig.	.501	0.032
	w	.010	0.063
	1-β	.001	0.002

Health status		Gender	Family dependency
Components	Measures		
General Health	Sig.	.098	0.726
	w	.338	0.010
	1-β	.617	0.001
Vitality	Sig.	.649	0.501
	w	.009	0.010
	1-β	.001	0.001
Health evolution	Sig.	.011	0.769
	w	.339	0.009
	1-β	.865	0.001

DISCUSSION

The results obtained for the overall health of university students according to gender indicate that 78.1% of males and 62.5% of females presented a medium risk regarding their overall health. Regarding family dependency status, 65.6% of dependent students and 70% of independent students also presented a medium risk in terms of their overall health.

These results compare with the findings made by Cassaretto et al. (2020), who identified the existence of a considerable number of students who reported the presence of health-related problems or discomfort in the period marked by COVID-19. Similarly, it converges with Charry and Cabrera (2021), who found that 63% of university students had health risks, mostly in the first cycles. Garcia (2020), on the other side, evidenced the deterioration of the health of higher education students considering the COVID-19 pandemic as a risk determinant factor, which had a negative influence on the individual and collective wellbeing of the university community. These results confirm the findings of Cortijo et al. (2022), who determined that the health status of university students during the social distancing was regular, a situation that implied the manifestation of symptoms and signs that required medical attention.

Ferrero & Marina (2020) argue that the high health risk in the university community would be influenced by unhealthy lifestyles or eating habits, such as the lack of daily intake of essential nutrients, the lack of physical activity in the student population, the abandonment of the family home, the interaction with people from different places of origin or the overload of academic and social activities (Zambrano & Rivera, 2020).

In the mental health component, the results indicate that 75.5% of females and 70.3% of males presented a medium level of risk. On the other hand, 75.4% of dependent students and 66.7% of independent students also presented a medium risk in terms of their mental health.

In this sense, Cuenca et al. (2020) argue that the female gender has greater vulnerability compared to the male gender to develop different problems related to mental health, especially in university adolescents. Likewise, Sánchez & Benítez (2021) find that family characteristics, academic performance and curricular demands are closely related to the mental health of students, considering that women are more predisposed to have this type of problems. On the other side, Gastelú & Hurtado (2022) affirm that lifestyles, experiences, risk situations, as well as the way in which each person faces stressful situations such as in the COVID-19 pandemic, because many university students presented affectations in their mental health causing symptoms at the cognitive and behavioral level, as well as problems in the execution of coping skills and strategies (Cuamba & Zazueta, 2020), being for some students of a resolute nature, while for others of a negative type (Barreto & Salazar, 2021).

Likewise, the medium risk level in mental health obtained as a result in the research would be related to the confinement by the COVID-19 pandemic that has caused imbalance in the lives of students, mainly affecting their emotions, bringing instability in the initial phase of the mental health of some young people (Zapata et al., 2021), increased anxiety related to worsening mental health (Vivanco et al., 2020), increased

depression, with females and first-year students being involved in the high-risk group for developing such conditions (Carvacho et al., 2021; Martínez et al., 2022; Aponte et al., 2022; Estrada et al., 2022).

Regarding the emotional role component, the results indicate that 46.3% of the males presented a high level of risk, while 56.3% of the females had a medium risk. Similarly, 45.9% of dependent students and 46.3% of independent students also presented a medium risk with respect to the emotional role.

Rodríguez et al. (2020) affirm that, at the level of gender of university students, there are differences in the emotional impact caused by COVID-19, specifically in the dimensions of fear and depression, being affected by the circumstances of the environment, due to the moments of tension, discouragement and irritability, which involved a great effort in the mood, emotions and feelings of students (Fernández, 2020; Acuña et al..., 2021), so they would have experienced emotional exhaustion, which would have an impact on physical and mental health, decreased academic performance and affected their family and social life (Barreto & Salazar, 2021).

It is worth mentioning that the transition to adulthood brings with it physical, psychological and social changes, which change the way of life of young people and stimulate them to take an active role in their own health and self-care, responsibilities that previously belonged to their parents (Charry & Cabrera, 2021; Ruiz et al., 2021). Therefore, it is necessary to consider that quality of life is strictly linked to elements of physical well-being or permanent health conditions (Olivella et al., 2020).

This research addresses a topic associated with health that is very relevant, although in the local, national and international context it has been little studied during the post-pandemic period. In this sense, the findings are relevant and innovative; however, there are some limitations, such as the homogeneity of the sample, as well as the characteristics of the data collection instrument, aspects that could cause that generalizations cannot be made and that there are biases of social desirability, respectively. In consideration of the aforementioned, it would be important in future research to expand the sample size, including university students from other professional careers, and to use additional data collection techniques and instruments that complement and provide greater objectivity to the aforementioned process.

CONCLUSIONS

The health status of university students is in the medium risk level, which may affect the quality of learning, the prevalence and affection of other possible diseases, as well as absenteeism. Likewise, through the Chi-square test, statistical power and the effect size it was possible to determine that the health status is similar in the groups of students conformed by gender and family dependence, however, it was evidenced that the evolution of health in the university students of the gender group is different ($p < 0.05$; $w = 0.339$; $1-\beta = 0.865$).

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