









ORIGINAL

Mindfulness and work-related stress among healthcare personnel in the emergency department of a hospital in Cajamarca

Mindfulness y estrés laboral en personal asistencial del área de emergencia de un nosocomio de Cajamarca

Wilthon David Chuquilin Izquierdo¹  , Segundo Bueno Ordoñez¹  , Miriam Adelis Leyva Chávez¹  , Mitzy Rose Minchán Zavaleta¹  

¹Universidad Nacional de Cajamarca. Perú.

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Corresponding Author: Wilthon David Chuquilin Izquierdo 

ABSTRACT

Objectives: to determine the relationship between mindfulness and work stress among health personnel in the Emergency Department of a hospital in Cajamarca in 2025. To assess the level of mindfulness and work stress, and to identify intervening variables that influence stress.

Method: a quantitative study with an observational, cross-sectional, and correlational design with a sample of 77 healthcare staff participants. The “Five Facet Mindfulness Questionnaire” and the “Wolfgang Stress Inventory for Healthcare Professionals” were administered, with Cronbach’s alpha indices of 0,829 and 0,912, respectively.

Results: no significant relationship was found between mindfulness and work stress. A medium level of mindfulness predominated in 66,2 % of respondents, and moderate stress in 63,6 %. Furthermore, a significant relationship was found between sex ($p = 0,012$) and employment status ($p = 0,020$) and work stress levels.

Conclusions: mindfulness was not significantly related to work stress in the Emergency Department of a hospital in Cajamarca, 2025. Sex and employment status were also identified as factors significantly associated with work stress among health personnel.

Keywords: Mindfulness; Work Stress; Health Personnel.

RESUMEN

Objetivos: determinar la relación entre mindfulness y el estrés laboral en el personal asistencial del área de Emergencias de un nosocomio de Cajamarca en el 2025. Evaluar el nivel de mindfulness y estrés laboral e identificar variables intervinientes que influyen en el estrés.

Método: estudio de enfoque cuantitativo, diseño observacional, transversal y correlacional con una muestra de 77 participantes del personal asistencial. Se aplicó el “Cuestionario Five Facet Mindfulness Questionnaire” y el “Inventario de Estrés de Wolfgang para Profesionales de la Salud”, cuyos índice Alpha de Cronbach son de 0,829 y de 0,912 respectivamente.

Resultados: no se identificó una relación significativa entre mindfulness y estrés laboral. En el 66,2 % de los encuestados predominó un nivel medio de mindfulness y en el 63,6 %, un estrés moderado. Además, se encontró una relación significativa entre sexo ($p = 0,012$) y condición laboral ($p = 0,020$) con los niveles de estrés laboral.

Conclusiones: el mindfulness no guarda una relación significativa con el estrés laboral en el área de Emergencias de un nosocomio en Cajamarca, 2025. Asimismo se llegó a identificar al sexo y condición laboral como factores asociados al estrés laboral de manera significativa en el personal asistencial.

Palabras clave: Mindfulness; Estrés Laboral; Personal de Salud.

INTRODUCTION

We currently find ourselves in a highly competitive, globalized, and unstable work environment, which results in an unpleasant experience for many professionals, who are subjected to frustration and high levels of emotional tension, leading to high rates of work stress (WS).⁽¹⁾ This term is defined as a factor related to vulnerability to work-related exhaustion, and in healthcare personnel, this is accompanied by mental disorders such as anxiety and depression. All these factors can lead to an increased risk of adverse long-term physical and mental health conditions.⁽²⁾ Stress related to healthcare personnel is a growing concern. Catapano Pierluigi et al.⁽³⁾ conducted a systematic review and found that more than 20 % of European healthcare workers report work-related stress. A study conducted by Zhou Zhu et al.⁽⁴⁾ during the recent pandemic in Wuhan showed that 29,8 % reported symptoms of stress, 13,5 % showed symptoms of depression, and the remaining 24,1 % reported symptoms of anxiety. In the Peruvian context, a study conducted in 2023 by Lyann A. Quintana et al.⁽⁵⁾, where the findings show that healthcare workers in the obstetrics and gynecology departments of a hospital in Lima had an average stress level of 45,4 %, with 29,3 % having high stress levels and around 25 % having low stress levels. In the descriptive cross-sectional study by Cabieses Pechú et al. in 2022, it was found that 10 % of the sample had average stress levels, while the other 90 % had low stress levels.⁽⁶⁾ In the Cajamarca region, we have a non-experimental cross-sectional study conducted by Coba Villán et al.⁽⁷⁾, whose results showed that of the 100 % of healthcare personnel working in the emergency department, only 7 % did not experience stress, while 63 % experienced mild stress, 28 % moderate stress, and 3 % severe stress. Another study conducted in 2020 at the largest hospital in Cajamarca on healthcare personnel in the gynecology and obstetrics department determined that the predominant level of occupational stress is mild, with 68 % of staff suffering from it and 30 % of staff suffering from moderate stress.⁽⁸⁾

The term mindfulness has various definitions, one for each author who works with this concept, and it can overlap with other psychological concepts, processes, and constructs. Thus, mindfulness, as a psychological process, could be understood as a term that refers to the conscious state of contact with present reality, that is, attention or full awareness.⁽⁹⁾ A review conducted by Jain et al.⁽¹⁰⁾ found that strategies such as cognitive behavioral therapy (CBT) and mindfulness were effective in reducing depression, psychological distress, and anxiety in many cases. Nabeela et al.⁽¹¹⁾ review concluded that this strategy suggests not only improved mental health but also improved well-being among healthcare personnel, with a moderate to large effect. Given their effectiveness in improving psychological well-being in groups, these interventions began to be applied individually. Thus, in their review, Adán et al.⁽¹²⁾ conclude that although individual interventions such as positive emotion-generating activities, self-managed psychoeducational activities, mindfulness, or CBT exercises are important components for stress reduction, they do not usually produce a significant effect when used separately. which is why they should be used in conjunction with face-to-face meetings and online training. According to the results obtained by the review conducted by Jia et al.⁽¹³⁾ interventions on digital platforms were also effective in reducing levels of mood disorders, stress, and anxiety among first responders during the recent pandemic. In 2022, Lekagul et al.⁽¹⁴⁾ conducted a review of studies from 2020 onwards to evaluate the effectiveness of certain interventions based on mindfulness and meditation. The results showed that 90,9 % had a significant decrease in anxiety levels in randomized controlled trials and similarly in depression levels with 83,3 %. In 2021, Fiol de Roque et al.⁽¹⁵⁾ also published their randomized controlled trial, in which they evaluated the impact of a mindfulness intervention carried out through mobile devices on stress in those working in the health sector during the recent pandemic. The results showed that the average usability score for PsyCovidApp was high (87,21 %); with the additional result that just over 94 % of the participants in the intervention asked to be allowed access to the app again, thus demonstrating its high acceptability.

The connection between mindfulness strategies and reducing work-related stress has been studied in recent years, especially in emotionally demanding contexts such as critical care personnel. International studies such as that by Castelo-Rivas et al.⁽¹⁶⁾ analyzed this relationship in healthcare personnel, specifically in ICUs in private and public hospitals in Ecuador. The results showed that professionals who practice mindfulness have improved emotional regulation, which in turn led to a decrease in EL levels. The review carried out by Pérez-Fernández et al.⁽¹⁷⁾ shows that both burnout syndrome and stress are present among nursing staff, with rates of 14 % and 30 %, respectively, and a greater increase of 44 % in the healthcare sector. In the face of risk factors such as excessive workload, staff shortages, and insufficient time to perform tasks, mindfulness was used as an effective coping strategy due to its accessibility and benefits. In Peru, they also evaluated the impact of this strategy on different types of stress, such as perceived, physiological, and work-related stress, in employees at a university in the city of Lima. Although they were not healthcare workers, it was concluded that mindfulness is an effective strategy for reducing EL in any work environment.⁽¹⁸⁾ At the local level, in Cajamarca, the few

studies conducted have shown that there is an inversely proportional correlation between the application of mindfulness and EL levels in healthcare personnel. A pre-experimental study conducted in this same city found that of the 65 healthcare workers evaluated, initially 90 % of the participants had intermediate/high levels of stress and burnout. After the application of the mindfulness program, around 65 % showed a reduction in their symptoms, demonstrating that organizational and workplace wellness strategies can improve certain aspects of their lives.⁽¹⁹⁾

The present study was justified theoretically and practically, since work-related stress among healthcare personnel is an alarming problem, especially considering that, according to recent studies, more than 90 % of workers surveyed in a hospital in Cajamarca in 2024 reported work-related stress.⁽⁷⁾ Both prevention and control of this stress will reduce absenteeism, increase productivity, and improve work efficiency, as well as optimize the quality of service provided to users or patients. That is why it became important to explore approaches to managing WS, such as mindfulness. The application of intervention strategies will reduce the risk of mental disorders among staff, preventing severe cases of stress and burnout, and thus promoting their own well-being and that of their social environment. In addition, this study allowed us to analyze how the variables of mindfulness and work-related stress are associated in emergency room staff in Cajamarca, an aspect that has been little explored at both the national and local levels. The new findings of this study will contribute to science by providing reliable evidence on the incidence of work-related stress in this particular group. In addition, it will serve as a framework and reference for future studies or workplace well-being policies in the region.

Based on all of the above, the following question arose: How is mindfulness related to work stress among healthcare personnel in the emergency department of a hospital in Cajamarca in 2025? The hypothesis proposed to answer this question was that there is a relationship between the variable of mindfulness and the variable of work stress. To achieve this purpose, the main objective was to determine the relationship between mindfulness and work stress among healthcare personnel in the emergency department of a hospital in Cajamarca in 2025. The specific objectives were to evaluate the level of mindfulness, measure the degree of work stress faced by these professionals, and identify other variables that influence the development of stress.

METHOD

This research was basic or pure, as it had a theoretical basis, was based on previous studies, and measured reality without modifying it. It followed a quantitative approach because it was objective in nature, measuring variables to answer the proposed hypothesis. The design used was observational, as data on the variables were collected in their natural environment and analyzed numerically to evaluate their relationship without manipulating the mindfulness variable, but only observing its manifestation in reality. In addition, the study was cross-sectional, as the variables were measured at a single point in time for each individual, and correlational, as the relationship between the aforementioned variables was examined.⁽²⁰⁾

The population considered in this research consisted of all doctors and nurses, that is, 94 people working in the emergency department of a hospital in the city of Cajamarca; while the sample, determined using the formula for finite studies, considering the margin of error and confidence level at 5 % and 95 % respectively, consisted of 77 participants selected through simple random probability sampling.

To collect the data, the Five Facet Mindfulness Questionnaire (FFMQ) was used for the first variable, and the Stress Inventory for Health Professionals (IEPS) was used for the second variable. The FFMQ is a questionnaire created by Baer in 2006, which has a Cronbach's alpha index of 0,829.⁽²¹⁾ It consists of 39 items that analyze five dimensions, including: Observation, Description, Absence of reactivity, Act with conscience, and Lack of judgment. The members of the sample answered each question using a Likert scale, which contains ranges from 1 or never true to 5 or always true. The questionnaire obtains a score ranging from 39 points to 195 points, which graded the variable in three dimensions: high level of mindfulness (144-195), medium level of mindfulness (92-143), and low level of mindfulness (39-91).⁽²²⁾ The IEPS has a total of 30 items, evaluated on a Likert scale from 0 to 4, with values ranging from never to very often. This questionnaire measures four variables: Personal Recognition (PR), which consists of nine questions; Professional Uncertainty (PU), with seven questions; Responsibility for Patient Care (RPC), with seven questions; and Conflicts at Work (CW), also with seven questions. It has a Cronbach's alpha of 0,912, which graded the stress variable in four dimensions: minimal stress or no stress (from 0 pts. to 30 pts.), mild stress (from 31 pts. to 60 pts.), moderate stress (from 61 pts. to 90 pts.), and severe stress (from 91 pts. to 120 pts.).^(17,23,24)

Excel® v.2021 was used to record the data obtained, and a descriptive statistical analysis was performed to create frequency and percentage tables using the IBM SPSS 27 statistical program. To evaluate the degree of relationship proposed in the hypothesis, the Chi-square test was used, with a significant value of "p" < 0,05, and to find the level of interdependence or association between variables, Spearman's coefficient was used, considering a statistical significance value of "p" < 0,05.

For the application of the instruments, verbal informed consent was requested from the entire sample, guaranteeing them full confidentiality in the data collected and ensuring that it would be used solely for

academic purposes. The project was funded by the authors of this study, who also declared that they had no conflict of interest.

RESULTS

Table 1. Distribution of general data on healthcare personnel in the emergency department of a hospital in Cajamarca, 2025

Variable		F	%
Age	Less than or equal to 29 years	7	9,1
	30 to 34 years old	21	27,3
	35 to 39 years old	19	24,7
	40 to 48 years old	22	28,6
	49 years old or older	8	10,4
	Total	77	100
Gender	Male	20	26
	Female	57	74
	Total	77	100
Marital status	Single	25	32,5
	Married	29	37,7
	Cohabiting	19	24,7
	Divorced	4	5,2
	Total	77	100
Children	None	18	23,4
	One child	27	35,1
	Two children	23	29,9
	Three children	9	11,7
	Total	77	100
Occupation	Physician	20	26
	Nurse	57	74
	Total	77	100
Employment status	CAS	38	49,4
	Appointed	32	41,6
	Other	7	9,1
	Total	77	100
Time in job	Less than 6 months	5	6,5
	From 6 months to 1 year	5	6,5
	More than 1 year and less than 5 years	19	24,7
	More than 5 years	48	62,3
	Total	77	100

Table 2. Distribution of mindfulness and its degrees among healthcare personnel in the emergency department of a hospital in Cajamarca, 2025

Independent variable		F	Percentage
Mindfulness	Low	26	33,8
	Medium	51	66,2
	High		
	Total	77	100

According to table 2, the level of mindfulness in 66,2 % of respondents is medium and in 33,8 % is low.

Table 3. Distribution of work stress and its degrees among healthcare personnel in the emergency department of a hospital in Cajamarca, 2025

Dependent variable		F	Percentage
Work stress	Minimal stress or no stress	10	13
	Moderate stress	49	63,6
	High stress	14	18,2
	Severe stress	4	5,2
	Total	77	100

According to table 3, 63,6 % of respondents report moderate stress, followed by 18,2 % who report high stress.

Table 4. Relationship between mindfulness and work stress in healthcare personnel in the emergency department of a hospital in Cajamarca, 2025												
		Work stress										Chi-square = 0,243
Variable	Item	Minimal or no stress		Moderate		High		Severe		Total		
		F	%	F	%	F	%	F	%	F	%	
Mindfulness	Low	3	30	17	34,7	5	35,7	1	25	26	33,8	p p = 0,970 = -0,008 p = 0,945
	Average	7	70	32	65,3	9	64,3	3	75	51	66,2	
Total		10	100	49	100	14	100	4	100	77	100	

Table 4 shows that the association between the variables mindfulness and work stress did not reach statistical significance ($p = 0,970$), nor was a random correlation found between the variables ($\rho = -0,008$).

Table 5. Distribution of stress levels according to general data on healthcare personnel in the emergency department of a hospital in Cajamarca, 2025

		Work stress									
Variable	item	Minimal or no stress		Moderate		High		Severe		Total	
		F	%	F	%	F	%	F	%	F	%
Age	Less than or equal to 29 years old	2	2,6	3	3,9	1	1,3	1	1,3	7	9,1
	30 to 34 years old	3	3,9	15	19,5	2	2,6	1	1,3	21	27,3
	35 to 39 years old	4	5,2	13	16,9	2	2,6	0	0	19	24,7
	40 to 48 years old	1	1,3	14	18,2	5	6,5	2	2,6	22	28,6
	49 years old or older	0	0	4	5,2	4	5,2	0	0	8	10,4
$p = 0,246$ Not significant											
Total		10	13	49	63,6	14	18,2	4	5,2	77	100
Gender	Male	6	7,8	13	16,9	0	0	1	1,3	20	26
	Women	4	5,2	36	46,8	14	18,2	3	3,9	57	74
$p = 0,012$ Significance											
Total		10	13	49	63,6	14	18,2	4	5,2	77	100
Marital status	Single	3	3,9	18	23,4	3	3,9	1	1,3	25	32,5
	Married	3	3,9	17	22,1	7	9,1	2	2,6	29	37,7
	Cohabiting	4	5,2	10	13	4	5,2	1	1,3	19	24,7
	Divorced	0	0	4	5,2	0	0	0	0	4	5,2
$p = 0,782$ Not significant											
Total		10	13	49	63,6	14	18,2	4	5,2	77	100

Children	None	4	5,2	10	13	3	3,9	1	1,3	18	23,4
	One child	1	1,3	21	27,3	3	3,9	2	2,6	27	35,1
	Two children	4	5,2	15	19,5	4	5,2	0	0	23	29,9
	Three children	1	1,3	3	3,9	4	5,2	1	1,3	9	11,7
p = 0,217 Not significant											
Total		10	13	49	63,6	14	18,2	4	5,2	77	100
Occupation	Doctor	2	2,6	14	18,2	2	2,6	2	2,6	20	26
	Nurse	8	10,4	35	45,5	12	15,6	2	2,6	57	74
p = 0,466 Not significant											
Total		10	13	49	63,6	14	18,2	4	5,2	77	100
Employment status	CAS	7	9,1	29	37,7	2	2,6	0	0	38	49,4
	Appointed	2	2,6	17	22,1	10	13	3	3,9	32	41,6
	Other	1	1,3	3	3,9	2	2,6	1	1,3	7	9,1
p = 0,020 Significance											
Total		10	13	49	63,6	14	18,2	4	5,2	77	100
Time in job	Less than 6 months	0	0	4	5,2	1	1,3	0	0	5	6,5
	From 6 months to 1 year	0	0	3	3,9	1	1,3	1	1,3	5	6,5
	More than 1 year and less than 5 years	5	6,5	12	15,6	2	2,6	0	0	19	24,7
	More than 5 years	5	6,5	30	39	10	13	3	3,9	48	62,3
p = 0,470 Not significant											
Total		10	13	49	63,6	14	18,2	4	5,2	77	100

Table 5 shows the relationship between general data and work-related stress, where gender was identified as a significant factor ($p = 0,012$), with a higher prevalence among women (46,8 %) than among men (16,9 %). Likewise, employment status was identified as another significant factor ($p = 0,020$), with CAS employees having the highest percentage of stress in this variable, at 37,7 %.

DISCUSSION

Emergency department staff face various factors and work challenges that can cause stress. Work overload, exhaustion, and insufficient space to perform certain activities, together with job dissatisfaction, are stress-inducing factors.⁽²³⁾ This not only influences these personnel in the possible generation of mental disorders such as depression or burnout, but also greatly influences user satisfaction.⁽²⁴⁾ It is therefore necessary to implement strategies to assess and combat WS in healthcare personnel. Among these, mindfulness stands out, as it has multiple benefits such as improving empathy, communication, and caregiving skills, and reducing work overload.⁽²⁵⁾ In the present study, which focused on evaluating the possible relationship between mindfulness and work stress, it was found that there is no statistically significant association, similar to the findings of a quasi-experimental study with a control group conducted in a hospital in Murcia, where it was concluded that personal and work factors had a greater influence on the emotional health of nursing professionals than the mindfulness intervention itself.⁽²⁶⁾ In addition, an exploratory review identified that despite the growing scientific output on mindfulness in healthcare personnel, there is a high degree of heterogeneity in the programs implemented, as well as a lack of standardization in interventions and instructor training, limiting the possibility of reaching definitive conclusions. Therefore, higher-quality studies with robust designs and standardized programs are needed to establish with greater certainty the effectiveness of mindfulness in managing EL in different areas such as healthcare.⁽²⁷⁾ Contrary to this, a randomized clinical trial conducted at a clinical center in Bethesda, United States, showed that participants experienced statistically significant reductions in stress along with an increase in mindfulness levels, results that were maintained even after follow-up.⁽²⁸⁾ A network meta-analysis including 23 randomized controlled studies compared mind-body practices and multiple psychological therapies in healthcare workers, demonstrating that programs and interventions based on mindfulness and other related practices such as yoga had significantly positive effects on reducing ES.⁽²⁹⁾

With regard to work-related stress in the study, the sample showed a predominance of moderate and high levels, constituting high levels of stress. This is similar to a study of healthcare workers in the emergency department of a hospital in Ecuador, which shows high exposure to work-related stress among this staff.⁽³⁰⁾ Similarly, another study using the same inventory to measure stress in internists in Uruguay showed that moderate

and severe stress levels were present in almost the entire sample.⁽³¹⁾ In the national context, something similar to this research was found in Junín, where more than half of the healthcare personnel in the ICU had a medium level of WS, followed by a high level.⁽³²⁾ However, there were studies that differed, such as the one conducted in the emergency department of a hospital in Nariño, Colombia, where the level of EL in a sample of 109 workers was mostly very low, followed by low, showing that the work environment is favorable for the performance and management of the duties established for the position they hold.⁽²⁴⁾

When examining individual factors, a significant relationship was observed between EL and gender, with females predominating over males. Similar to this research, a study analyzing healthcare personnel in Mexico City showed that women experience greater work stress than men, with a difference of approximately one-fifth more in proportion.⁽³³⁾ Another study of nursing professionals on the incidence of WS in ICUs during the recent pandemic concluded that women were more exposed to situations of pressure and work stress.⁽³⁴⁾ Similarly, an analysis carried out in China revealed that both stress and anxiety symptoms were more frequent in female healthcare personnel, mainly nurses.⁽³⁵⁾

Another significant stressor identified was employment status, with CAS personnel showing a higher percentage of EL. In Peru, the hiring of healthcare personnel under this regime, established by Legislative Decree No. 1057, has been key to responding flexibly to the urgent needs of the sector, mainly during the COVID-19 pandemic. Emergency Decree No. 029-2020 authorized the hiring of personnel under this modality, and Law No. 31539 in 2022 allowed for the one-time regularization of CAS-COVID personnel. A study conducted during the pandemic in a public hospital in Callao showed that work-related stress particularly affected those hired under this modality, compared to other employment regimes. However, of all participants, more than half did not show symptoms of stress and only about a third showed mild levels. This could be explained by the fact that these staff members had previously worked in critical conditions, which allowed them to develop experience and better coping skills in adverse contexts.⁽³⁶⁾

With regard to the mindfulness variable, it was found that a considerable proportion (66,2 %) of healthcare personnel had an average level of mindfulness, of which three-quarters had severe stress levels. This result contradicts the theory, which states that the higher the level of mindfulness, the lower the level of work stress, as well as studies that mention an inverse relationship between these variables^(11,14,37,38), as in the research by Yslado *et al.*⁽³⁹⁾, where after applying a program based on the mindfulness strategy to a population of healthcare personnel in Peru, it was concluded that this mindfulness-based program managed to reverse the intermediate and late stages of stress, thus demonstrating its efficiency in reducing WS levels in healthcare personnel. The study by Reynaldos and Pedrero also supports the inverse relationship between these variables and concluded that the practice of mindfulness brought positive results, including a decrease in EL in healthcare professionals, especially in nursing. One possible reason for this is that the study is exploratory in nature, comparing before and after the intervention, where methods were applied to increase mindfulness levels, compared to our study, where only mindfulness values were measured without any intervention.⁽⁴⁰⁾

CONCLUSIONS

In summary, this research reveals that no significant relationship was found between mindfulness and work stress in healthcare personnel in the emergency department of a hospital in Cajamarca, 2025. The total sample presents a medium to low level of mindfulness. In terms of work stress, moderate levels predominate, followed by high levels. We also found that gender and employment status were significant variables influencing work stress.

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CONFLICT OF INTEREST

Authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Wilthon David Chuquilin Izquierdo, Segundo Bueno Ordoñez, Miriam Adelis Leyva Chávez, Mitzy Rose Minchán Zavaleta.

Data curation: Wilthon David Chuquilin Izquierdo, Segundo Bueno Ordoñez, Miriam Adelis Leyva Chávez, Mitzy Rose Minchán Zavaleta.

Formal analysis: Wilthon David Chuquilin Izquierdo, Segundo Bueno Ordoñez, Miriam Adelis Leyva Chávez, Mitzy Rose Minchán Zavaleta.

Drafting - original draft: Wilthon David Chuquilin Izquierdo, Segundo Bueno Ordoñez, Miriam Adelis Leyva Chávez, Mitzy Rose Minchán Zavaleta.

Writing - proofreading and editing: Wilthon David Chuquilin Izquierdo, Segundo Bueno Ordoñez, Miriam Adelis Leyva Chávez, Mitzy Rose Minchán Zavaleta.