



# OCCUPATIONAL DISEASE AND ABSENTEEISM IN WORKERS OF A HOSPITAL FROM LIMA - PERU

ENFERMEDAD PROFESIONAL Y AUSENTISMO LABORAL EN LOS TRABAJADORES DE UN HOSPITAL DE LIMA- PERÚ

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## ABSTRACT

**Introduction:** Work absenteeism in public or private institutions is classified as one of the main labor problems. **Objective:** To determine the association between occupational disease and work absenteeism at the Augusto Belisario Leguía Police Hospital, in the years 2017-2018. **Methods:** Descriptive, cross-sectional, qualitative-quantitative, descriptive study in a convenience sample of 79 medical breaks with a diagnosis of Occupational Diseases of police health personnel. The data collection technique was used to collect data. **Results:** The highest work absenteeism occurred in female patients, married, over 50 years of age, technical nursing profession and with a work seniority of more than 20 years. A Global Absenteeism Rate was obtained 7.56% (2017) and 6.39% (2018), Severity Index. 25.12 days (2017) and 26.43 days (2018). **Conclusions:** Occupational diseases, produced by physical agents, develop greater absenteeism due to musculoskeletal injuries more frequently.

**Key words:** Professional illness; Work absenteeism (source: MeSH NLM).

## RESUMEN

**Introducción:** El ausentismo laboral en instituciones públicas o privadas, está calificado como uno de los principales problemas laborales. **Objetivos:** Determinar la asociación entre la enfermedad profesional y el ausentismo laboral en el Hospital Policial Augusto Belisario Leguía, en los años 2017-2018. **Métodos:** Estudio observacional descriptivo, transversal retrospectivo, cuali-cuantitativo, en una muestra por conveniencia de 79 descansos médicos con diagnóstico de Enfermedades Profesionales del personal de salud policial. Se usó la técnica de recopilación en ficha mediante levantamiento de datos. **Resultados:** El mayor ausentismo laboral se dio en pacientes de sexo femenino, casadas, mayores de 50 años de edad, profesión técnica de enfermería y con una antigüedad de trabajo mayor a 20 años. Se obtuvo una Tasa Global de Ausentismo 7,56% (2017) y 6,39% (2018), Índice de Gravedad. 25,12 días (2017) y 26,43 días (2018). **Conclusiones:** Las enfermedades profesionales, producidas por agentes físicos desarrollan mayor ausentismo laboral debido a lesiones musculo esqueléticas con mayor frecuencia.

**Palabras clave:** Enfermedad profesional; Ausentismo laboral (fuente: DeCS BIREME).

## INTRODUCTION

"Health is a state of complete physical, mental and social well-being and not just the absence of conditions or diseases", defined by the World Health Organization (WHO-1946). This knowledge is taken from the Preliminary Constitution of WHO, which was made by the International

Health Conference held in New York (1946), with delegates from 61 countries. Since that time, it has never changed and is used as a reference until today. This considers that all people are entitled to enjoy the highest level of health as a basic right.

Work is a topic that affects almost the entire population. It is a social conditioning, a human

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need and a right; but, it is also a factor potentially pathogen that can lead to or exacerbate workers health conditions through occupational illnesses and injuries. As mentioned by the International Labour Organization (ILO), "all jobs mean a threat to health" and its negative consequences represent a social, economic and public health problem to solve<sup>(1)</sup>.

According to the ILO's 2020 Newsletter, more than 2.78 million people die each year from work-related accidents or diseases<sup>(2)</sup>. In addition, about 374 million non-fatal work-related injuries occur annually, which result in more than 4 days of absenteeism from work (AL, by its acronyms in Spanish). The cost of this daily adversity is enormous and the economic burden of bad health and safety practices is estimated at 3.94 percent of the global Gross Domestic Product each year. Also, AL is one of organizations main problems and it has a negative influence in the objectives fulfillment and mission<sup>(2,3)</sup>.

According to the 2002 Protocol of the Occupational Safety and Health Convention<sup>(3)</sup>, the term "occupational disease" refers to any disease contracted as a result of exposure to risk factors resulting from work.

AL is "the employee non-attendance to work when he thought he was attending, except for holiday periods and strikes". On the other hand, for the WHO it is the lack of attendance of employees to their workstations due to directly or indirectly avoidable causes, such as: disease, whatever its length and common character is; professional or work-related accident, not including medical visits, as well as unexcused absences for all or part of the working day and circumstantial leave within working hours<sup>(4)</sup>. The same way, Romero<sup>(5)</sup>, classified AL by its origin in predictable situations: maternity, paternity, common illness, occupational accidents, occupational disease, other not predictable leave: unauthorized absence and attendance absenteeism. The Ministry of Health of Peru defines this concept as "those diseases in which the cause-effect relationship has been established, between risks to which workers are exposed according to the economic activity they develop".

There is no standard way to measure AL. However, globally known indicators are available and through them, comparative data and targets can be established. These indicators include the frequency rate, the severity rate and the proportion of absentees. FR – SR – PA, respectively.

Arévalo<sup>(6)</sup>, in his study of the AL characterization of

nursing staff in a sample of 156 medical rest from a national hospital in El Salvador, concludes that the most frequent cause of AL are certified - legal medical disabilities, and therefore affect by not complying their functions.

Núñez and Pérez<sup>7</sup> found that the nursing staff is absent an average of 865 hours per year. It also was found that 89% of the assigned staff was absent at the time of this study. Interestingly, it was also observed that the average age was 47.3 years, female sex 51.7%, single 79.3% and 58.5% had a length of service greater than 16 years. Núñez concludes that the indicators of absenteeism from work were higher in graduated than in nurse technicians and that common diseases are the first cause of medical rests AL. Talledo<sup>(8)</sup> tells us that the main causes of absenteeism are disability due to illness ( $p < 0.05$ ), and maternal leave ( $p < 0.05$ ).

Likewise, in a study with 838 police officers in Uruguay, they verified that there were a total of 3477 certified days, finding an overall absenteeism rate of 0.01, disability rate of 4.52 and frequency rate of 1.09, with respiratory causes (31.26%), musculoskeletal (29.6%) and digestive (25.77%) the most frequent one, being a total average of 4.14 days of absence<sup>(9)</sup>.

The AL impact should be understood as the difference between the not worked hours and the total effective agreed hours, no matter the causes. The absence of workers in their workstation is a characteristic and unavoidable phenomenon of the working world produced by a wide range of reasons. It also has considerable associated costs (both organizational and economic) to the point that it is one of the greatest concern problems in the working world. Thus, Gladys Jave<sup>(10)</sup>, in her study based on the cost generated by absenteeism from work due to medical rests, it was pointed out the income no longer received by the hospital and the economic discount to the worker, both in the analysis of the costs of patient's lost time. As results, it was found out that skeletal muscle pathology was the one generating the highest cost of losses, followed by neurological disorders. In his article, he concludes that the estimated annual cost of AL attributable to medical illness rests for Hospital Nacional Arzobispo Loayza was S/. 126 562.76 nuevos soles, approximately 35 thousand US dollars.

In order to identify the factors of absenteeism from work in the last 20 years, through a meta-analysis, Tatamuez et al.<sup>(11)</sup> found that the most published documents on AL are made by Brazilians 42%

compared to Peru 4%. 60% of the articles do not describe an accurate definition about AL. Only 0.5% use the WHO definition. AL factors such as individual factors – direct relationship with the worker health, organic diseases, mental disorders, anxiety and depression – and the more frequently socio-demographic variables, female, older than 45 years, technical staff, unmarried; and occupational (work overload, ergonomic factors and risk factors), more in personal assistance staff than in administrative one. The same way, J. Delclòs et al.<sup>(12)</sup>, comments that timely detection and referral of occupational diseases should be improved. Due to sub notices of these.

Due to the fact that the literature found in Peru reports a 4% rate of AL<sup>(11)</sup>, the following question was asked: what are the occupational diseases associated with AL in workers of Hospital Augusto B. Leguía in 2017-2018?, with the aim of studying the occupational diseases associated with this phenomenon in police health staff, within a Level II Police Hospital of low complexity in Lima, Peru.

## METHODS

An observational, quantitative, descriptive, cross-sectional and retrospective investigation was conducted during the period 2017-2018. The sample was of the non-probability type for convenience, with a total of 123 cases within a population of 744 police officers who occupy health care positions and had occupational diseases that caused AL registered in the staff area. It was carried out the collection of data from the AL records of the staff area of Hospital Augusto B. Leguía. This database includes data regarding: days of absenteeism, medical cause of absenteeism, occupational accidents; and it allowed us to classify workers in different categories such as sex, age, years of service and level of professional training. The data obtained were statistically processed through dynamic tables and descriptive statistics were used.

## RESULTS

**Table 1.** Demographic characteristics of occupational disease by sex, age, marital status, length of service and job title

	2017 Percentage (%)	2018 Percentage (%)
<b>Sex</b>		
Female	59.38	73.18
Male	40.62	26.82
<b>Age</b>		
20 - 29	12.5	8.7
30-39	28.13	26.08
40-49	25	32.61
> 50	34.7	32.61
<b>Marital status</b>		
Single	38.72	39.13
Married	51.61	56.52
Divorced	6.45	4.35
Widower	3.22	0
<b>Antiquity</b>		
1 – 9	37.5	34.78
10 to 19	12.5	2.17



20 to 29	25	52.18
> 30 years	25	10.87
<b>Job title</b>		
Physician	12.5	8.7
Nurse	18.75	19.56
Dentist	6.25	6.52
Laboratory technician	9.37	10.87
Nurse Technician	50	52.17
Driver	3.13	2.18

**Source:** self-generated through the staff area database of Hospital Policial Augusto B. Leguía.

From a demographic view, those who had higher AL were married and with more than 20 years of service. (see Table No. 2)

**Table 2.** Demographic characteristics of occupational diseases.

		2017 Percentage (%)	2018 Percentage (%)
<b>Sex</b>	Female	59.38	73.18
<b>Age</b>	>50 years old	34.37	32.61
<b>Marital Status</b>	Married	54.36	57.38
<b>Title</b>	Nurse technician	62.3	73.2
<b>Length of service</b>	1-9 years old	31.5	

**Source:** self-generated through the staff area database of Hospital Policial Augusto B. Leguía.

According to the WHO classification of occupational diseases and the causal agent, they were presented in three of them (see Table No. 3), with physical agents being the most frequent. Of them,

musculoskeletal diseases are the main cause. Regarding the biological agent, cases of tuberculosis were detected. Regarding skin diseases, diagnoses of contact dermatitis were found.

**Table 3.** List of occupational diseases by their causal agent found in 2017 and 2018.

Occupational Diseases	n	2017 Percentage (%)	n	2018 Percentage (%)
Chemical Agent	0	0	0	0
Physical Agent	24	72.73	30	65.22
Biological Agent	3	9.09	2	4.35
Inhalation diseases	0	0	0	0
Skin diseases	6	18.18	14	30.43
Carcinogen Agents	0	0	0	0

**Source:** self-generated through the staff area database of Hospital Policial Augusto B. Leguía.

Likewise, it was found that within the classes of AL, the predominant ones were through legal or permitted license, followed by common diseases (see Table 4).

**Table 4.** Types of absenteeism from work.

Absenteeism from work	n	2017 Percentage (%)	n	2018 Percentage (%)
Common Disease	2374	31.84	2073	30.22
Occupational accident	90	1.21	60	0.87
Parental leave	592	7.94	496	7.23
Legal License	4399	59.01	4231	61.68

### Absenteeism indicators

In Table No. 5, it can be seen that in the study period, the police health staff who worked in the hospital were 354 (2017) and 390 (2018). We can also see that

the annual lost days for all causes are 7365 (2017) and 6800 (2018), which is equivalent to an average of 83.22% of monthly working days in 2017 and 69.74% of monthly business days in 2018.

**Table 5.** Working staff in 2017 and 2018

	2017 Percentage (%)	2018 Percentage (%)
Staff	354	390
Annual working days	106200	117000
Monthly working days	8850	9750
Annual lost days	7365	6800

**Source:** self-generated through the staff area database of Hospital Policial Augusto B. Leguía.

At the Hospital Augusto B. Leguía, the AL indicators evaluated were three. We see that there is a similarity in the Overall Absenteeism Rate (OAR) in two years of study, which are the work lost days that police health staff were expected to work. The frequency rate is also constant with an average of 25 days in 2017 and 26 days in 2018, which reflects the days that the staff was exposed to an accident at their workstation. If these days

are spent to worked hours, it would mean that a health police staff member would be exposed to an accident at daily work. If the severity rate is diverse in the two periods of study, which are the days of lost work due to illness or any other cause of absenteeism. This could be explained by the increase in staff in 2018 compared to 2017. (See Table 6)

**Table 6.** Indicators of absenteeism from work.

Indicators	2017	2018
Overall absenteeism rate	7.56	6.39
Frequency index	25.12 days	26.43 days
Severity index	17	22

**Source:** self-generated through the staff area database of Hospital Policial Augusto B. Leguía.



## DISCUSSION

The Pan American Health Organization estimates that in Latin America only between 1% and 5% of occupational diseases are reported. Since generally only those that cause disability subject to compensation are considered, others are not recorded due to lack of recognition of their relationship with work<sup>(13)</sup>.

The diagnosis of Occupational Diseases was proposed from the records of observed medical rests, which are recognized in the list of occupational diseases (reviewed in 2010) by the ILO and Technical Health Standard of the MINSA.

We found medical rests corresponding to the diagnosis of Occupational Diseases caused by biological agents: Hepatitis B Virus - 2.04% and 1.05% - (CIE10-B18), Mycobacterium tuberculosis - 7.7% and 3.3% of - (CIE10 - A15) and occupational diseases caused by physical agents - 71.86% and 65.22%. The latter ones are the most representatives, which are caused by forced postures or repetitive movements at work. They cause skeletal muscle disorders and most international studies recognize repetitive movements, localized efforts and anti-ergonomic positions among their main causes.

In our study, skeletal muscle injuries were the most frequent in the study years (2017-2018) 71% and 65%. Spinelli et al.<sup>(14)</sup>, also showed that the pain in the neck, back or spine is presented in 72.0%; in their study sample, this result is high, similar to ours; this can be explained because both institutions are public. While in Spain, the study of Vicente<sup>(15)</sup>, shows the 23,32% of musculoskeletal injuries as the most common disease of temporary disability with absenteeism in the Spanish population; and the percentage is smaller and can be explained by the different demographic characteristics. Another explanations<sup>(11,16)</sup> identify three groups of AL factors: individual factors, sociodemographic variables and finally, occupational ones, which are similar labor and intercultural realities and give us consistency about the difference with european studies where their results may be different from ours.

Based on occupational or organizational factors such as work overload, Hospital Augusto B. Leguía is a type II-1 hospital that provides care to police staff and their families in the City of Lima. I consider it important to clarify this point, since police health institutions, unlike the rest of health entities, do not have a delimited population. Patients from all over

the country can be treated here, only for the fact of being staff members or a police officer relative. This explains the likely high work overload. Spinelli<sup>(14)</sup> mentions the same about public hospitals of Buenos Aires. It also may be analyzed that ergonomic factors and the influence of risk factors in the workplace, such as physical work space, environmental temperature and work postures, are situations that influence workers to be absent from their workstations: At the Hospital Augusto B. Leguía, facilities are old and the equipment haven't been renewed in 9 years approximately.

The rate of AL in police health staff was 15.86% (2017) and 2.56% (2018) on average, for all police staff working in the hospital of the study. In Argentina, Ferraro<sup>(16)</sup> found similar rates of absenteeism in nurses (21,2%), a very different rate from Camarota<sup>(17)</sup> in Uruguay that studied the medical absenteeism of the police staff and their rate of OAR which is 0.01. This difference may result from the fact that only medical causes were evaluated in Uruguay population and not other types of absenteeism.

Jave's work<sup>10</sup> in his thesis to see AL costs made in the hospital Loayza (Lima) obtained an Overall Absenteeism Rate of 7.3%. In other words, for every 100 workers (physicians/nurses), 7,3 were absent. The work of Zarazu<sup>7</sup> evaluated only the nursing staff and technical medicine service of the hospital Almenara (reference Hospital of Peruvian social security); the absenteeism rate in the nursing team was 4 on average. These national data may differ from ours, that were limited only to the nursing staff and/or other physicians and nurses, that means not all the staff working at those hospitals were analyzed. Another explanation could be that they were not police staff.

On the other hand, Ferraro<sup>16</sup> found an frequency rate (FR) of 31.2% of absenteeism due to temporary disabilities per 1000 worked Man-Hours (HHT, by its acronyms in Spanish). Meanwhile, in Rojas<sup>(18)</sup> work, regarding the frequency rate of medical rests, Hospital de Urgencias HUAP showed the highest frequency rate with 3.9 medical rests average per worker per year and the lowest rate was the Instituto Traumatológico and the Hospital de Valdivia with 1.8 rest permission per worker for both establishments. We found the frequency rate of 17 and 22 days on average with the years of study. Since ours was a hospital with few workers while the other studies were multicentric, the difference in data depended on the number of people who work in the

establishment where the study was carried out. The data of IF -1, 09 - from work in the Uruguayan police can be explained by the fact that only medical causes have been considered and in our study, we evaluated all AL classes reported in the studied population.

The demographic characteristics of the staff who presented AL due to occupational diseases, according to the WHO classification: female sex, over 50 years old, length of service between 20 and 29 years, married as marital status and nurse technicians as occupation. That was consistent with Ferrano16: female nurses, over 45 years old, married and with more than 20 years of work experience.

Finally, several authors18 - 20 found higher AL in the nursing team, which is related to greater family burden, having divorced/separated/widowed marital status and greater length of service in the institution.

## CONCLUSION

Musculoskeletal diseases are the main cause of occupational diseases in police health staff.

The Overall Absenteeism Rate is similar in both years of study and its value cannot be compared with

those in the literature because we have not found a Gold standard for hospitals. However, knowing the OAR monthly would be useful to indicate how police health staff behave and make a comparison seeking to decrease its value each year.

The Severity Rate suggests that around 25 or 26 days per thousand man-hours are missing.

The staff with occupational disease characteristics of AL are female patients, over 50 years old, married, nurse technical occupation and with a length of service greater than 20 years.

## RECOMMENDATIONS

The AL phenomenon is complex and involves multiple individual, organizational and external factors, which determine its occurrence.

This study encourages to continue doing research in the line of absenteeism. For example: the relationship between AL and motivation, the impact of indirect costs generated by AL in an institution; and according to that, take public and occupational health measures to reduce risk factors and improve workers quality.

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