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Relationship between knowledge and attitude of workers about the vaccine against COVID-19 of the Provincial Hospital of Acobamba, 2021

Relación entre conocimiento y actitud de trabajadores sobre la vacuna contra la COVID-19 del Hospital Provincial de Acobamba, 2021

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ABSTRACT

The objective of this research is to determine the relationship between the knowledge and attitude of workers about the vaccine against COVID-19 of the Provincial Hospital of Acobamba, 2021; is a field study, cross-sectional, descriptive, quantitative-qualitative and non-experimental design that used, as data collection instruments, a Questionnaire and a Scale with an internal reliability (α -Cronbach) of 0.90 and 0.97, respectively. Likewise, the Spearman Rho test was used to determine the relationship between knowledge and attitude with a level of statistical significance ($p < 0.05$); regarding the results, it was obtained that of a total of 101 workers, the average age was 39.07 (± 10.82) years, 66.3% were women, 56.4% were single, 35.6% indicated that they had two children, 67.3% said they had no antecedent COVID-19; 89.1% were healthcare personnel, 45.5% worked a morning / afternoon shift, 52.5% worked more than five years ago and 79.2% worked 12 hours or more. 76.2% reported high knowledge and 50.5% indicated acceptance of the COVID-19 vaccine. It was determined that knowledge and attitude regarding the COVID-19 vaccine are not related, concluding that the level of knowledge about the COVID-19 vaccine of the workers of the Acobamba Provincial Hospital is not related to the type of attitude.

Keywords: knowledge, attitude, vaccine, COVID-19, worker

RESUMEN

El objetivo de la presente investigación es determinar la relación entre el conocimiento y la actitud de los trabajadores sobre la vacuna contra la COVID-19 del Hospital Provincial de Acobamba, 2021; es un estudio de campo, transversal, descriptivo, cuantitativo-cualitativo y de diseño no experimental que empleó, como instrumentos de recolección de datos, un Cuestionario y una Escala con una confiabilidad interna (α -Cronbach) de 0.90 y 0.97, respectivamente. Así mismo se utilizó la prueba Rho de Spearman para determinar la relación entre el conocimiento y la actitud con un nivel de significancia estadística ($p < 0.05$); en cuanto a los resultados, se obtuvo que, de un total de 101 trabajadores, la edad promedio fue 39.07 (± 10.82) años, 66.3 % fueron mujeres, 56.4 %, solteros, 35.6 % indicó tener dos hijos, 67.3 % refirió no tener antecedente COVID-19; 89.1 % era personal asistencial, 45.5 % trabajaban un turno mañana/tarde, 52.5 % trabajaba hace más de cinco años y 79.2 % laboraba 12 horas o más. El 76.2 % refirió un conocimiento alto y el 50.5 % denotó una aceptación sobre la vacuna contra la COVID-19. Se determinó que el conocimiento y la actitud respecto a la vacuna contra la COVID-19 no están relacionados, concluyendo que el nivel de conocimiento sobre la vacuna contra la COVID-19 de los trabajadores del Hospital Provincial de Acobamba no está relacionado al tipo de actitud.

Palabras clave: conocimiento, actitud, vacuna, COVID-19, trabajadores

INTRODUCTION

The pneumonia present in patients in Wuhan, China, in November 2020, was declared a pandemic through a statement from the World Health Organization (WHO) in March 2020, due to the advance of this pathology in China, in the Asian countries and world level¹.

Among the main characteristics of the new coronavirus or SARS-CoV-2 is its high transmissibility through coughing, respiratory secretions or direct person-to-person contact (or contaminated surface); while the incubation period is approximately between 2 to 14 days. In the highest percentage of cases of COVID-19 infection, patients are 80% asymptomatic; 15% are those who present symptoms (fever, dry cough, general malaise, headache, fatigue, among others) and those with severe symptoms reach 5%, denoting results derived from viral pneumonia, cardiovascular involvement and multiple organ failure, which could reach death².

The measures applied in the different countries were social confinement, as an extreme option, the implementation of constant hand washing, physical distancing and the constant use of masks or face coverings^{1,3}. However, from the beginning of the pandemic until the current year 2021, the development of a reliable vaccine against COVID-19 has been the hope and objective of the entire world, which is why currently, there are vaccines approved globally with different levels of effectiveness, which, for the most part, exceed 70%⁴.

Generally, vaccines against COVID-19 face challenges such as ensuring an ideal immunogenicity and safety profile, constant (prolonged) protection and a speed-cost aligned with meeting global needs. On the other hand, like any other vaccine, it can cause side effects such as headache, pain and inflammation in the area where the vaccine was received, fatigue, among others.

Verger *et al*⁵ identified the type of attitude of health workers in relation to vaccination against COVID-19 through a cross-sectional methodology applied to

2,678 health workers from France, Belgium and Canada using a validated questionnaire based on a pilot test. Finally, it was determined that 79.6% would recommend a vaccine against COVID-19 to their patients, 72.4% would accept being vaccinated with it and that there was a high acceptance of the vaccine (48.6%), although 40.9% reported that the safety of vaccines during the pandemic was no guarantee.

Gagneux-Bruno, *et al*⁶ determined an attitude of acceptance towards the COVID-19 vaccine in French health workers in a cross-sectional study. An online survey was conducted through a questionnaire on the intention to get vaccinated. 2,047 health workers were surveyed, among which 1,554 would agree to be vaccinated; Furthermore, it was found that advanced age, male sex, fear, and previous influenza vaccination were factors associated with vaccine acceptance. They concluded that the intention to get vaccinated against COVID-19 reached 75% of health workers. This research provides, in addition to a favorable percentage of acceptance of the COVID-19 vaccine, some factors that may influence said perception, which must be considered in the analysis of the problem.

Therefore, the idea of developing a vaccine against COVID-19, with possible side effects, against a virus that constantly mutates, in a short time (compared to other diseases) and with an effectiveness that does not reach 100%, can generate a certain uncertainty in the population, impacting the attitude that subjects take towards its application; which is extremely relevant in individuals who are in direct contact with potentially infected spaces or people⁷. The countries that have already developed the vaccine are the United States, Russia, China and the United Kingdom and it has been used in the population; although it is known that there are clinical trials for the study of vaccines in other nations.

In this sense, hospital staff constitute a first line in the fight against the disease (including administrative staff) and a target for this, as well as for the application of the vaccine due to the implications of

their work. Therefore, the knowledge they have about the COVID-19 vaccine may be closely related to the attitude they have towards it and, therefore, to the actions that may be taken during its application. According to this, knowledge is understood as a process that allows human beings to become aware of their reality, contemplate it, assimilate it and finally create an internal representation of what is known⁸. On the other hand, attitude is understood as the evaluation and predisposition that is created with respect to an object, subject, idea or situation and that is related to the emotional and social aspect of the person⁹.

METHODOLOGY

Population

The study population was formed from 130 healthcare and administrative workers of the Acobamba Provincial Hospital who worked during the execution of the study.

Sample

It was a non-probabilistic census-type sampling. The final sample was made up of 101 subjects, male and female.

Study variables

- Knowledge about the COVID-19 vaccine
- Attitude about the COVID-19 vaccine

Method

The research will be non-experimental since there will be no intervention, correlational because it seeks to determine the association between the main and cross-sectional variables because only one measurement of the variables will be carried out in each participant during the study execution period.

Technique

The data collection technique of this project will be the survey; applied through a questionnaire and a scale developed by the authors.

RESULTS

Tables 1, 2 and 3 describe how the population of hospital workers who were included in this study was formed, according to their sex, marital status and number of children.

Table 1. Workers at the Acobamba Provincial Hospital by sex

Tabla 1. Trabajadores del Hospital Provincial de Acobamba según sexo

Sex	Frecuency	Percentage
Male	34	33,7
Female	67	66,3
Total	101	100,0

Table 2. Workers at the Acobamba Provincial Hospital according to marital status

Tabla 2. Trabajadores del Hospital Provincial de Acobamba según estado civil

Marital status	Frecuency	Percentage
Single	57	56,4
Married	40	39,6
Widower	2	2,0
Divorced	2	2,0
Total	101	100,0

Table 3. Workers at the Acobamba Provincial Hospital according to number of children

Tabla 3. Trabajadores del Hospital Provincial de Acobamba según número de hijos

Number of children	Frecuency	Percentage
Nine	31	30,7
Only one	23	22,8
Two	36	35,6
Tree or more	11	10,9
Total	101	100,0

Tables 4 describes the distribution of workers, according to their type of contract and workload with the hospital.

Table 4. Distribution of workers, according to their type of contract, seniority and workload

Tabla 4. Distribución de los trabajadores, según su de tipo de contratación, antigüedad y carga horaria

Type	Frecuency	Percentage
Job functions		
Assistance	90	89,1
Administrative	11	10,9
Work shift		
Morning	16	15,8
Evening	2	2,0
Morning/Afternoon	46	45,5
Morning/Afternoon/ Evening	37	36,6
Seniority		
<2 years	34	33,7
2-5 years	14	13,9
>5 years	53	52,5
Hours of work day		
6 hours	10	9,9
8 hours	11	10,9
≥12 hours	80	79,2
Total	101	100,0

Tables 5 show the history of COVID infection, level of knowledge about the vaccine and type of workers' attitude towards the COVID-19 vaccine.

Table 5. Workers of the Acobamba Provincial Hospital according to COVID-19 history

Tabla 5. Trabajadores del Hospital Provincial de Acobamba según antecedente COVID-19

	Frecuency	Percentage
COVID-19 history		
Yes	33	32,7
No	68	67,3
Level of knowledge about the COVID-19 vaccine		
Low	1	1,0
Medium	23	22,8
High	77	76,2
Type of attitude about the COVID-19 vaccine		
Rejection	3	3,0
Indifference	47	46,5
Acceptance	51	50,5
Total	101	100,0

According to the data presented, the level of significance for Spearman's Rho coefficient had a value greater than 0,05; Therefore, the null hypothesis is not rejected and it is concluded that there is no relationship between knowledge and attitude about the COVID-19 vaccine in workers at the Acobamba Provincial Hospital (**Table 6**).

Table 6. Relationship* between knowledge about the COVID-19 vaccine and the attitude of workers

Tabla 6. Relación entre conocimiento sobre la vacuna contra la COVID-19 y la actitud de trabajadores

	Level of Knowledge	Type of Attitude
Correlation coefficient	1,000	-0,066
Sig. (bilateral)	.	0,513
n	101	101

* Spearman's Rho (by Level of Knowledge)

DISCUSSION

The analysis regarding the characterization of the 101 workers of the Acobamba Provincial Hospital allowed us to obtain an average age of 39.07 years and a greater frequency of the female sex (66.3%) in a similar way to the study by Gagneux-Brunon and collaborators where the age range The most prevalent of the health workers evaluated was those between 30 and 49 years old (47.3%) and the percentage of women reached 69.25% 5; Likewise, the average age is higher than that reported by Szymd and collaborators, whose population reached the average of 31.39 years, although the female sex was almost similar to this research with 68.48% ¹¹.

On the other hand, more than half of the workers at the Acobamba Provincial Hospital declared they were single (56.4%); This figure is different from that obtained by Kabamba and collaborators, for

whom 66.6% of those evaluated were married¹², a fact that could be explained by the cultural and legal characteristics regarding the formalization of relationships in our country. Furthermore, according to the results, approximately 67% of collaborators indicated that they had not been infected by COVID-19, a response similar to that obtained by the health professionals analyzed in the Szmyd and authors' research, among which only 16.28% had this clinical history¹¹.

In this sense, the majority of respondents were dedicated to healthcare work within the Acobamba Provincial Hospital; information that is related to the results of Gagneux-Brunon and Szmyd in whose investigations values above 60% of healthcare professionals were found, of which doctors, pharmacy staff and nurses stood out 6,11. Similarly, 52.5% of the total workers in this study indicated having a working time (seniority) of more than five years; result that is within that obtained by Kabamba and collaborators for which the highest percentage of those evaluated indicated having a seniority in their hospital work of 10 years or less (53.5%)¹².

On the other hand, regarding the level of knowledge of the staff of the Acobamba Provincial Hospital, it was determined that the highest percentage of participants had high knowledge about the COVID-19 vaccine, approximately 76.2%. Although it is an adequate figure, it is expected that the percentage will increase over time and in accordance with the strategies taken into account within the entity. This result is different from what was shown by Kabamba and authors, in whose study, 58.1% of health professionals did not attend conferences or discussions about the COVID-19 vaccine and the disease itself, so their knowledge regarding The topic could be limited¹². The latter may be due to the fact that the present research collected data between the first and second quarters of 2021, a period in which the information on both topics was more developed and disseminated than at the time

it was carried out. From the research of Kabamba and authors (first half of 2020).

In relation to the type of attitude, half (50.5%) of those surveyed presented an attitude of acceptance towards the COVID-19 vaccine, a result similar to the 48.60% intention to get vaccinated obtained by Verger *et al.*⁵. Similarly, Although with percentages close to 70% of participants, Gagneux-Brunon and authors, and Kose and collaborators indicated a higher percentage of acceptance towards the possible vaccine against COVID-19 in workers of health institutions^{6,13}.

Finally, after applying the inferential statistics of the study, it was determined that the knowledge of the workers (care and administrative) of the Acobamba Provincial Hospital about the COVID-19 vaccine was not related to the type of attitude. Unlike these data, Verger and authors determined that the acceptance of the COVID-19 vaccine was related to the information that was handled regarding its effectiveness within the pandemic, the credibility of health institutions and the vaccination history. against influenza that all health personnel surveyed had⁵. Likewise, Kose and authors reported knowledge and experience about influenza vaccination and younger ages, as possible factors related to the acceptance of said vaccine in the first quarters of the pandemic¹³.

In short, these results must be contrasted with new evidence that proposes the association between knowledge (level) and attitude (type) towards the COVID-19 vaccine in workers from other hospital entities and taking into account the fact that we are in the midst of a national vaccination program against COVID-19, a reality that can influence the perception of the participants, their response to the questions and the corresponding statistical analysis.

CONCLUSION

It was determined that the level of knowledge of the workers at the Acobamba Provincial Hospital about the COVID-19 vaccine is not related to the type of attitude. Among the characteristics of the workers, an average age of 39.07 years was identified and a higher percentage of female sex, single marital status, workers with two children, absence of a COVID-19 history, care staff, morning work shift late, working time of more than five years and working hours of 12 hours or more per day. The level of knowledge about the COVID-19 vaccine was high in the largest percentage of workers at the Acobamba Provincial Hospital. The type of attitude towards the COVID-19 vaccine was acceptance in the highest percentage of workers at the Acobamba Provincial Hospital.

Conflict of interest: The authors declare that they have no conflict of interest.

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