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PERCEPTION OF KNOWLEDGE AND ATTITUDES TOWARDS COVID-19 IN A GROUP OF CITIZENS FROM THE URBAN AREA OF HUÁNUCO

PERCEPCIÓN DE CONOCIMIENTOS Y ACTITUDES FRENTE A COVID-19 EN CIUDADANOS DE LA ZONA URBANA DE HUÁNUCO

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ABSTRACT

Introduction: The COVID-19 pandemic has caused a crisis in health systems around the world with a rapid increase in human contagion. As well, a gap is identified in the knowledge of COVID-19 prevention in the community context. **Objective:** To determine the relationship between the perception of knowledge and the type of attitudes towards COVID-19 among citizens in the urban area of Huánuco, Peru. **Methods:** An analytical and cross-sectional study using a quantitative approach was conducted in the city of Huánuco between March and May 2020. The sample consisted of 168 people. A perception of knowledge questionnaire and a previously validated COVID-19 attitude scale have been applied. The chi-square test was applied, a *p-value* less than 0.05 has been taken into account. **Results:** When analyzing the perception of knowledge about COVID-19, 62.5% (105) said "they feel they do not know". The analysis of the type of attitudes viewed by citizens towards COVID-19 revealed that 63.1% (106) of respondents had negative attitudes. Statistically significant association was found between the perception of knowledge and the type of attitudes towards COVID-19 ($p<0.005$). **Conclusions:** There is a relationship between the perception of knowledge and the type of attitudes toward COVID-19 among a group of citizens from the Huanuco urban area.

Key words: Knowledge; Attitudes; Self-care; Coronavirus; COVID-19 (source: MeSH NLM).

RESUMEN

Introducción: La pandemia de la COVID-19, ha generado una crisis en los sistemas de salud a nivel mundial con un aumento rápido de contagios en la población; así mismo, se reconoce un vacío en el campo del conocimiento de la prevención de la COVID-19, en el contexto comunitario. **Objetivos:** Identificar la relación entre la percepción del conocimiento y el tipo de actitudes frente a la COVID-19 en ciudadanos de la zona urbana de Huánuco, Perú. **Métodos:** Se realizó un estudio analítico y transversal, con enfoque cuantitativo; desarrollado en la ciudad de Huánuco, entre los meses de marzo y mayo del 2020. La muestra fueron 168 ciudadanos. Se aplicaron un cuestionario de la percepción del conocimiento y una escala de actitudes frente a la COVID-19 previamente validados. Se aplicó la prueba de chi cuadrado, se consideró un valor de p menor a 0,05. **Resultados:** Al analizar la percepción del conocimiento frente a la COVID-19, el 62,5% (105) mostro que "percibe que desconoce". Analizando el tipo de actitudes percibidas por los ciudadanos frente a la COVID-19, el 63,1% (106) presentó actitudes negativas. Se encontró asociación estadísticamente significativa entre la percepción del conocimiento y el tipo de actitudes frente a la COVID-19 ($p<0,005$). **Conclusiónes:** Existe relación entre la percepción del conocimiento y el tipo de actitudes frente a la COVID-19 en un grupo de ciudadanos de la zona urbana de Huánuco.

Palabras clave: Conocimientos; Actitudes; Autocuidado; Coronavirus; COVID-19 (fuente: DeCS BIREME).

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INTRODUCTION

COVID-19 pandemic has created a crisis in health systems worldwide. In recent days we have been witnesses of the fast increase of infections caused by this disease, whose prevalence and incidence has become a worldwide public health problem, where high mortality and morbidity have been evidenced[1]. COVID-19 has a high spread, thus resulting in the appearance of a large number of cases and causing the collapse of health systems in developed countries, being even more alarming in national health systems of middle- and low-income countries[2].

When facing this pandemic, immediate attention is needed; so that the emergence of this pandemic forced the confinement of the world's population[3]. Several measures have been implemented to reduce the impact of COVID-19, such as physical isolation or temporary closure of territorial boundaries, academic institutions and public places[4], but everyone must take the necessary precautions, with an aware and responsible commitment, either individually or collectively, to control and adapt to the new routine; which requires awareness and responsibility from everyone, to deal with the pandemic[5].

Therefore, the World Health Organization (WHO) insisted on the strengthening of the effective monitoring of cases, early detection, isolation and management of such cases, follow-up of patients, and prevention of the spread of the virus[6]. In addition, the WHO[7] and various related organizations publish promotional preventive information about COVID-19, so that the population is well informed about the ways in which the disease is spread, becomes aware of it and adopts attitudes of individual and collective health self-care.

Global statistics state that the spread of COVID-19 results in significant psychological, economic, social and political consequences[8]. However, as mentioned by Peralta et al.[9], this disease continues to spread due to factors such as lack of knowledge caused by the misinformation of citizens and their consequent negative attitudes; assuming that this disease does not arise from nature, but was created intentionally. Another factor also attributable to lack of knowledge is the negative attitude towards self-care practices.

Huanuco is a region with a high incidence of COVID-19 cases, reporting 28.990 confirmed cases and a fatality rate of 1.77% (May 5)[10]. Having been informed of these results, the media have been broadcasting specific measures for self-care, such as social distancing, compulsory social immobilization, frequent hand hygiene and the use of face masks. These recommendations are ignored and the population shows a lack of knowledge about this disease, so they act recklessly based on their negative attitudes.

In view of the problems aforementioned, a gap in the field of knowledge of COVID-19 prevention is recognized. This is due to a poor specialized and programmed communicational resource of national and local health authorities, being knowledge the main resource that individuals have to solve their problems or needs. Therefore, it is necessary to carry out research from the primary health care approach that allows us to analyze knowledge and attitudes, since there are currently no studies on this subject in Huánuco. Consequently, the objective of our study is to identify the perception of knowledge and the type of attitudes towards COVID-19 in citizens of the urban area of Huánuco, during the first wave, which took place during the first half of the year 2020.

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METHODS

Study design and area

This was a quantitative, analytical, cross-sectional study. Also, to develop this research, it was conducted a virtual survey in the metropolitan area of the city of Huánuco, Peru.

Population and sample

The sample size was calculated by means of epidemiological analysis software Epidat version 3.1, taking into account a population (N) of the district of Huánuco[11]: 56,299 people aged 18 to 64 years, with an appropriate level of knowledge about COVID-19 (87.5%)[12,13], a confidence level of 95%, and a precision of 5%. The sample consisted of 168 persons selected by a nonprobabilistic, exponential, non-discriminatory snowball sampling, which consisted of sending the questionnaire to persons residing in the urban area of Huánuco, due to the difficulties of physical access to contact them because of the quarantine implemented in the country. People older than 18 years who were not confirmed cases, contacts or suspected carriers of COVID-19 and who also granted their informed consent were included. On the other hand, people over 60 years and those who worked as health personnel were also excluded due to their cognitive knowledge of the subject matter.

Study variables

To assess the perception of knowledge and attitudes towards COVID-19, a knowledge questionnaire was applied. This consisted of 8 items and closed-ended questions with four response options, in which only one was the correct choice. Each correct answer was worth one point[1] and each incorrect answer was worth zero points (0). The resulting scores were divided according to their grouping: "perceives that he/she knows" (5 to 8 points), "perceives that he/she does not know" (5 to 8 points). Likewise, the attitude scale with 7 items was applied. For this, it was taking into account as response options, according to the Likert model, the following: "1" indicating "totally disagree" and "5" as "totally agree"; and as final value: "negative attitude" (from 1 to 19) / "positive attitude" (from 20 to 35).

Research instruments were developed by the authors, validated at the qualitative level and were tried by 5 experts. Also, 2 judges assessed the relevance of the items of both measuring instruments. Meanwhile, at the quantitative level, the prior reliability of these kinds of instruments was calculated by applying them to a sample of 50 residents not included in the sample in study. Therefore, to conduct the knowledge perception questionnaire, the Kuder-Richardson (KR) (0.68) method was applied and, concerning the attitude scale, we applied the Crombach's Alpha coefficient (0.85). In addition, data on sociodemographic characteristics (age, gender, marital status and education) were collected.

Research Process

Data collection was carried out between March and May 2020, during the first wave of the pandemic. To collect these data, an online survey via the Google Docs platform was applied. People from the urban area of Huánuco were contacted through social networks (Facebook). They were surveyed after prior acceptance of the virtual informed consent form. The objective of the research and the importance of the study for public health were explained to them. The first ones to be included in the study were the teachers of the Universidad de Huánuco, who then invited others. Quality control of the collected information was then carried out to verify that all the data were complete, otherwise data were eliminated.

Data analysis

A descriptive analysis with frequencies and proportions for qualitative variables was conducted. Hypothesis testing was carried out using the chi-square test for dichotomous variables, with a statistical significance level of $p<0.05$. The IBM SPSS 25 statistical package was used to prepare the results tables and the Microsoft Excel 2016 office automation tool was used for database analysis.

Ethical Considerations

Ethical principles of the World Medical Association Declaration of Helsinki were respected. The research protocol, prior to its realization, was reviewed and approved by Comité de Ética en Investigación of Universidad de Huánuco. Prior to the application of the collection instruments, acceptance of the virtual informed consent, summarized at the top of the online survey, was considered. Although it was not signed, the option of accepting or not to participate voluntarily in the study was considered.

RESULTS

Regarding the sociodemographic characteristics of the sample of the study, 77.4% (130) were young adults from the ages of 20 to 39; 54.2% (91) were male; half of the sample were single; 44% (74) had completed higher education. The occupational group to which they belonged was professionals with 26.2%: 73.8% (124) were Catholics; 10.7% (18) were living with their family during the quarantine period; 47% (79) had children and, among them, 19.6% (33) had three or more children (Table 1).

When analyzing the perception of knowledge towards COVID-19 of the citizens in study, it was found that 55.4% (93) perceived that they knew the complications of COVID-19, 52.4% (88) the diagnostic methods, 42.9% (72) the risk factors and the preventive measures, respectively. In contrast, 81% perceived that they did not know the notion of this disease, 76.8% (129) did not know the symptoms and 75% (126) were unaware of the meaning of being an asymptomatic carrier; thus, there was a higher proportion in the category "perceives that they do not know" (Table 2). In general and descriptively, 62.5% (105) of the sample in this study were in the category "perceives that they do not know".

When assessing attitudes towards COVID-19, it was evident that 45.8% (77) never comply with the regulations imposed by the government, compared to 42.3% (71) who consider that being healthy is never a result of the individual's self-care responsibility. On the other hand, 35.1% (59) of the

study sample always opted for self-care, since health services are hardly ever available (Table 3).

When analyzing the type of global attitudes, it was found that 63.1% (106) of the participants showed negative attitudes, compared to 36.9% (62) with positive attitudes. An association was found between the perception of knowledge and attitudes towards COVID-19, obtaining a chi-square value of 7.423, with p=0.005 (Table 4), which indicates that the lower perception of knowledge, results in a better attitude.

Table 1. Sociodemographic characteristics of citizens from the urban area of Huanuco, 2020.

Sociodemographic characteristics	n = 168	
	fi	%
Age group		
Young Adult (20-39)	130	77.4
Middle Adult (40-49)	25	14.9
Mature Adult (50-59)	8	4.8
Older Adult (60-69)	5	3.0
Gender		
Male	91	54.2
Female	77	45.8
Marital status		
Married	36	21.4
Cohabitant	43	25.6
Single	84	50.0
Divorced	5	3.0
Level of education		
No education	8	4.8
Incomplete primary school	5	3.0
Complete primary school	11	6.5
Incomplete secondary	9	5.4
Complete secondary	26	15.5
Incomplete higher education	35	20.8
Complete higher education	74	44.0
Occupational group		
Members of the Executive, Legislative and Judicial Branches, as well as senior staff of the public and private administration.	13	7.7
Professionals	44	26.2
Technical professionals	21	12.5
Chiefs and administrative employees	5	3.0
Service workers and store and market sellers	33	19.6

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Farmers and skilled agricultural, forestry and fishery workers	1	0.6
Construction, building, handicraft, electrical and telecommunication workers	9	5.4
Industrial machine operators, assemblers and transport drivers	9	5.4
Elementary occupations	31	18.5
Military-Police jobs	2	1.2
Religion		
Catholic	124	73.8
Evangelist	20	11.9
Mormon	6	3.6
Others	18	10.7

Source: sociodemographic interview guide of citizens from the urban area of Huánuco.

Table 2. Description of knowledge related to COVID-19 of citizens from the urban area of Huánuco, 2020.

Knowledge	n = 168			
	Perceives that knows		Perceives that does not know	
	af	%	af	%
Overview of COVID-19 disease	32	19,0	136	81.0
Risk factors of COVID-19	72	42,9	96	57.1
Symptoms of COVID-19	39	23,2	129	76.8
Transmission routes of COVID-19	47	28,0	121	72.0
Diagnostic methods	88	52,4	80	47.6
Significance of being an asymptomatic carrier of COVID-19	42	25,0	126	75.0
Complications of COVID-19	93	55,4	75	44.6
Preventive measures	72	42,9	96	57.1

Source: knowledge questionnaire.

Table 3. Attitudes towards COVID-19 of citizens from the urban area of Huánuco, 2020.

Attitudes	n = 168									
	Never		Sometimes		Often		Mostly		Always	
	af	%	af	%	af	%	af	%	af	%
Interested in self-care and in the family' s care.	0	0.0	5	3.0	34	20.2	73	43.5	56	33.3
Responsible for fulfilling his/ her self-care.	0	0.0	11	6.5	42	25.0	58	34.5	57	33.9
Comply with the regulations set forth by the government.	77	45.8	58	34.5	16	9.5	16	9.5	1	0.6
Prefer to practice self-care, since access to health services are not enough.	0	0.0	7	4.1	33	19.6	69	41.1	59	35.1
Consider that medicalization solves health problems.	0	0.0	9	5.4	34	20.2	68	40.5	57	33.9
Let the Government to take charge of his/her health care.	2	1.2	9	5.4	50	29.8	57	33.9	50	29.8
Being healthy is the result of individual self-care responsibility.	71	42.3	61	36.3	19	11.3	16	9.5	1	0.6

Source: scale of attitudes.

Table 4. Analysis of the correlation between knowledge and attitudes towards COVID-19 of citizens from the urban area of Huánuco, 2020.

Knowledge	Attitudes				X^2	p-value
	Positive		Negative			
	af	%	af	%		
Have knowledge	15	23.8	48	76.2		
Do not have knowledge	47	44.8	58	55.2	7.423	0.005
Total	62	36.9	106	63.1		

Source: knowledge questionnaire and scale of attitudes towards COVID-19.

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DISCUSSION

To take preventive measures in response to the health emergency, it is necessary to acquire knowledge gradually in order to implement more effective measures to deal with the situation[14]. As Muñoz states[15], COVID-19 is a disease that demands a supportive attitude from the entire population, since this is the best measure to deal internationally with the coronavirus. As Ubillús states[16],"overcoming the pandemic shall depend on the health vocation and social responsibility of citizenship".

According to the findings of this research, it was found that most of the citizens who considered themselves to be aware of the disease, in turn, showed negative attitudes towards the COVID-19. A result that brings out the risk of spreading the infection among the members of the family, society and communities, since an incorrect perception of the knowledge leads to inadequate actions. This is a situation to which, unfortunately, a large part of the population is exposed when faced with a disease that is more uncertain than certain, which leads to the easy spread of rumors or myths about COVID-19.

This finding is based on the analysis of Llanos et al.[17], when considering that knowledge influences the thinking or believing and the attitudes that a person has about the COVID-19 pandemic. In addition, in the behavioral component, the current behavior of the person is reflected and, depending on the knowledge the person may have, he/she shall show more or less correct attitudes. In a similar vein, Perez[18] states that preventive attitudes towards the pandemic are characterized by knowledge, responsibility and control. Moreover, the control of the COVID-19 pandemic lies in the people themselves, through individual and collective self-care.

On the other hand, WHO[7] explains that, during the health emergency, media provide information related to COVID-19 so that the population acquires knowledge about the transmission routes of this disease in order to become aware of its incidence worldwide; otherwise, it is analyzed that misinformation leads to incorrect behaviors. Ruiz et al.[19] noted a significant direct correlation between insufficient cognitive aspects and negative attitudes towards COVID-19. On the other hand, Ríos et al.[20] analyzed in their study the correspondence between attitudes and practices, being the first ones adequate, but not the second one. Therefore, it is necessary to promote health education to enhance knowledge about COVID- 19 and thus generate positive attitudes towards prevention.

According to our findings, in the presence of perception of lack of knowledge, attitudes towards COVID-19 improve, which may be related to the fact that people with a lower level of education, poor access to a variety of information about the disease or simply within timely and appropriate information about it, only get basic practical knowledge about basic measures to ensure effective control of the spread of COVID-19.

Among the studies that differ from our findings, we find the study of Azlan et al.[21], who concluded that the Malaysian population has an acceptable level of knowledge and, therefore, a positive attitude in their perspective to overcome the crisis caused by the COVID-19 pandemic. These studies must also take into account the educational, cultural and social differences of the community studied.

Furthermore, our result also contradicts the findings of Montaño et al.[22] who identified that 100% of the sample studied showed a high level of knowledge about the causative agent of COVID-19, 80% knew the incubation period of the virus, and 95% had an excellent knowledge about the main symptoms of this disease.

It is recommended to implement targeted, more vigorous measures and to strengthen communication strategies to the population by means of professionals with skills in the area, to continue with social awareness campaigns starting with primary health care through coordinated work, preventive actions and health promotion, diffused in different networks and media (advertising spots on television, radio, loudspeakers, billboards, social networks, etc.) that are accessible to citizens, making sure to use messages with clear and precise information, in order to promote responsible behavior that prevents the spread of COVID-19.

The first limitation of our study was that the online survey could have generated response bias; however, we used a self-administered and standardized instrument that was easy to understand. On the other hand, non-random sampling resulted in the increase in selection bias; however, the study described and evaluated knowledge and attitudes in a limited spatial context, so the data obtained in this study cannot be generalized to the urban population of Huánuco. Despite these limitations, this research provides results for future studies, since it is the first one of this type to be reported in our region, and therefore its results should be taken as initial references for future research.

CONCLUSION

There is an inverse association between the perception of knowledge and the type of attitudes towards COVID-19 in a group of citizens from the urban area of Huánuco. In view of this, it is important to provide the population with an adequate and correct level of knowledge that allows them to be oriented towards favorable attitudes of prevention, recognizing the possible damages or consequences that affect the most vulnerable groups, in order to avoid serious complications in their health.

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