

Effectiveness of an educational intervention in relation to the level of knowledge of COVID-19 in older adults

Efectividad de una Intervención educativa sobre el nivel de conocimiento de la COVID-19 en adultos mayores

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ABSTRACT

Introduction: the need for admission and mortality in older adults infected with COVID-19 is greater than in the general population, with knowledge about the disease determining risk perception and prevention.

Objective: to evaluate the impact of an educational intervention on the level of knowledge of COVID-19 in older adults.

Method: non-observational, quasi-experimental, before-after study without a control group, through an educational intervention in older adults belonging to the “Wilfredo Santana” Teaching Polyclinic between April and May 2020. The sample consisted of 84 older adults. The research was carried out during three predefined periods: diagnosis, intervention and evaluation. Descriptive and inferential statistics were used.

Results: patients predominated in the age group between 70 and 79 years (38,10 %), and female (54,76 %). A significant increase ($p < 0,05$) was observed after the educational intervention of the adequate level of knowledge about the generalities of the COVID-19 (29,76 % vs 66,66 %), the sanitary measures necessary to contain the contagion (19,04 % vs 73,8 %), and on warning signs and symptoms (16,66 % vs 64,28 %). 40,48 % of the older adults studied presented an inadequate level of general knowledge before the intervention, while after it, 97,62 % presented adequate levels.

Conclusions: the application of the educational intervention had a favorable impact on the level of knowledge of older adults; guaranteeing tools to confront COVID-19 in this highly vulnerable population group.

Keywords: Aged; Coronavirus Infections; Health Education; Health Promotion; Preventive Health Services.

RESUMEN

Introducción: la necesidad de ingreso y la mortalidad en adultos mayores infectados por la COVID-19 es mayor que en la población general, siendo el conocimiento sobre la enfermedad determinante en la percepción de riesgo y prevención.

Objetivo: evaluar el impacto de una intervención educativa sobre el nivel de conocimiento de la COVID-19 en adultos mayores.

Método: estudio no observacional, cuasi-experimental, antes-después sin grupo de control, mediante una intervención educativa en adultos mayores pertenecientes al Policlínico Docente “Wilfredo Santana” entre abril y mayo del 2020. La muestra estuvo conformada por 84 adultos mayores. La investigación se desarrolló durante tres períodos predefinidos: diagnóstico, intervención y evaluación. Se empleó estadística descriptiva e inferencial.

Resultados: predominaron los pacientes en el grupo de edades entre 70 y 79 años (38,10 %), y del sexo femenino (54,76 %). Se observó un aumento significativo ($p < 0,05$) tras la intervención educativa del nivel de conocimiento adecuado sobre las generalidades de la COVID-19 (29,76 % vs 66,66 %), las medidas sanitarias necesarias para contener el contagio (19,04 % vs 73,8 %), y sobre los signos y síntomas de alerta (16,66 % vs 64,28 %). El 40,48 % de los adultos mayores estudiados presentó un nivel de conocimiento general inadecuado antes de la intervención, mientras que posterior a esta el 97,62 % presentó niveles adecuados.

Conclusiones: la aplicación de la intervención educativa tuvo un impacto favorable sobre el nivel de conocimiento de los adultos mayores; garantizando herramientas para el enfrentamiento a la COVID-19 en este grupo poblacional de gran vulnerabilidad.

Palabras clave: Adulto Mayor; Infecciones por Coronavirus; Educación en Salud; Promoción de la Salud; Servicios Preventivos de Salud

INTRODUCTION

The novel coronavirus began in Wuhan, China, in late 2019 and has spread rapidly throughout the world. Because of this, the global scientific community has expressed itself in favor of implementing preventive measures in view of the population's risk of contagion⁽¹⁾. Due to its rapid spreading and easy contagion, the saturation of health services at a global level represents a possibility; therefore, preventive work and control of the status of health constitute tools of unquestionable value⁽²⁾.

It is essential to pay due attention to vulnerable groups, especially the elderly, since the increase in age conditions represent a decrease in the immune response and regeneration capacities, as well as a decrease in the body mass index, functionality and an increase in co-morbidities and polypharmacy⁽³⁾. In Cuba, it is revealed a 20,8 % of population aging⁽⁴⁾, which bases the constant specialization of the attention to geriatric patients from the Primary Health Care (PHC). In this way, a more effective attention to the elderly can be achieved, through the medical offices present in each community^(2,5).

The pandemic provoked by the novel coronavirus constitutes, without a doubt, one of the worst health crises faced until now⁽⁶⁾, which is affecting the elderly in a deep and dramatic manner. Those over 70 years of age account for 86 % of the deaths in Spain and represent 37 % of all those diagnosed as infected, as published in the Spanish Ministry of Health report of May 14, 2020⁽⁷⁾.

Within this population group the highest proportion of serious and fatal cases was observed, where 10,8 % of the cases remained in hospital, 2,7 % in intensive care units (ICU) and 16,5 % died⁽⁸⁾.

In Cuba, Cobas-Planchez and col.⁽⁹⁾ reported in their study on clinical characteristics of presumptive positive patients to COVID-19 admitted at Frank País García hospital, where those older than 60 years represented 30,43 % of the positive cases. Medina-Fuentes y col. (10) in their study on clinical epidemiological characteristics of confirmed positive patients to COVID-19 belonging to Joaquín de Agüero y Agüero polyclinic in Camagüey, found predominance of patients over 60 years old (38,4 %).

These studies show an increased risk of hospitalization and mortality in older adults with respect to the general population. Besides, they show an increase in the need of intensive care for those infected in this age group for presenting serious complicated pictures and decompensation of their underlying diseases.

It is essential that this vulnerable group of the population maintains a high level of knowledge in relation to COVID-19, in order to increase the perception of risk and the implementation of measures to reduce the contagion. Such elements condition the need to design and implement educational interventions that allow increasing the level of knowledge in relation to this disease in the elderly.

This study was carried out with the objective of assessing the impact of an educational intervention on the level of knowledge related to COVID-19 in old adults belonging to Wilfredo Santana Teaching Polyclinic form Habana del Este municipality.

METHODS

A non-observational, quasi-experimental research was conducted, following a before-after type of study without control group, through an educational intervention in older adults belonging to the No- 5 Doctor's Office at Wilfredo Santana Teaching Polyclinic, from Habana del Este municipality, during April to May 2020 period. The population comprised 84 older adults, working with all of them. There were included the patients with 60 years old and more, who accepted to participate in the study and who had the cognitive abilities for the correct performance in the research, which were evaluated by the authors of this study.

The research was developed during three predefined periods: a first moment of diagnosis to identify the learning needs, a second moment dedicated to the intervention, where the educational discussion linked to group participation techniques directed by the authors of the present research were applied; and the last moment was given to assess the impact of the intervention.

Data collection was done through a survey, which was conducted by the authors of the research and evaluated by a committee of experts belonging to the Ethics Committee and Scientific Committee of the health area; applied to patients the day the study started on. The initial survey allowed assessing the level of knowledge and learning needs in relation to COVID-19. The survey was read and explained in details to each of the patients, in order to ensure a correct understanding by them. After the intervention, the level of knowledge was evaluated again with the same survey.

To carry out this research, groups of 14 members each were created, chosen at random. First, the older adults were gathered in their sum to confirm their willingness, the objective of the research was explained to them; the schedule of the educational discussion per session was communicated to them, as well as the place and time of the discussion. Taking into account the group participating in the study, a clear, simple and easy to understand speech was used, without overusing medical terms. In addition, coordination was made with the health teams to remind patients of the schedule.

The educational intervention was applied during four weeks, by means of four educational discussions per session, linked to group participation techniques, with an average duration of 30 minutes. Each of the discussion was previously prepared by the authors with the instructions of specialists in geriatrics from the health area.

The first discussion dealt with the generalities of COVID-19, emphasizing the ways of contagion, the current epidemiological characteristics, the multisystem damage the virus provokes and the vulnerable groups. In the second meeting the essential hygienic measures to stop the contagion of the new coronavirus were communicated, which were mentioned and explained in detail. The third meeting was oriented to the identification of the warning signs and symptoms of the disease and the fourth was used to answer the doubts they had, not yet been clarified, and a general review was completed.

The survey initially applied (complementary material) allowed to determine the level of general knowledge in relation to COVID-19. The survey had a value of 30 points in total, assessing it as an adequate level of knowledge if 18 points or more were obtained, or inadequate, if the score obtained was less than 18. To evaluate the level of knowledge in relation to COVID-19, knowledge about generalities of the new coronavirus, the hygienic measures necessary to contain the contagion and the signs and symptoms of alert were analyzed; variables that were evaluated in the survey by a maximum of 10 points in each question. It was considered an adequate level of knowledge if more than 8 points were obtained, moderately adequate if between 6 and 8, and inadequate if the result in each question was less than 6.

A database was designed and the corresponding variables were reflected. IBM SPSS version 23 was used for the final preparation of the tables and their analysis. Descriptive and inferential statistics was the

approach applied to process the information collected. By means McNemar's test the variation before and after the intervention was assessed.

Written informed consent was requested from all patients. The approval of the Medical Ethics Committee at Wilfredo Santana Teaching Polyclinic was obtained, as well as that of the Scientific Committee. This research followed the principles and recommendations for physicians in biomedical research in humans adopted by the 18th World Medical Assembly in Helsinki in 1964 and finally ratified by the 41st World Assembly in Hong Kong in 1991.

RESULTS

Patients were found to be predominantly in the 70-79 year age group (38.10%), and female (54,76 %) (Table 1)

Table 1. Distribution according to age groups and sex of older adults belonging to Wilfredo Santana Teaching Polyclinic , No-5 doctor's office, during between April and May 2020.

Age	Sex				Total	
	Female		Male		No	%
	No	%	No	%		
60-69	13	15,47	16	19,05	29	34,52
70-79	17	20,24	15	17,86	32	38,1
80-89	13	15,48	5	5,95	18	21,43
≥ 90	3	3,57	2	2,38	5	5,95
Total	46	54,76	38	45,24	84	100

There was a marked increase in the level of adequate knowledge concerning the generalities of COVID-19, growing from 29,76 % before the intervention to 66,66 % after it; the variation was significant ($p < 0,05$) (figure 1).

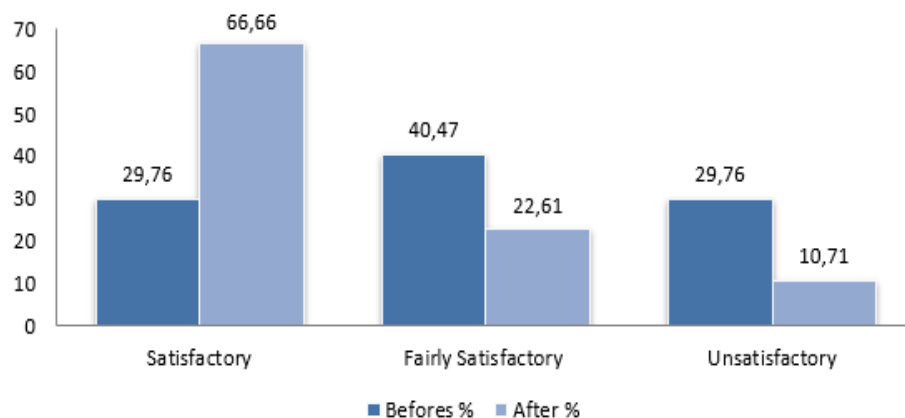


Figure 1. Distribution of older adults according to the level of knowledge concerning the generalities of the COVID-19 before and after the educational intervention.

The 34,52 % of the older adults studied presented an insufficient level of knowledge in relation to the health measures necessary to achieve the containment of COVID-19 transmission before the educational intervention, while after it only 2,38 % presented such a level; 73,8 % of the sample presented a satisfactory level of knowledge after the intervention (figure 2). When analyzing the variations in the levels of knowledge, it turned out to be significant ($p < 0,05$).

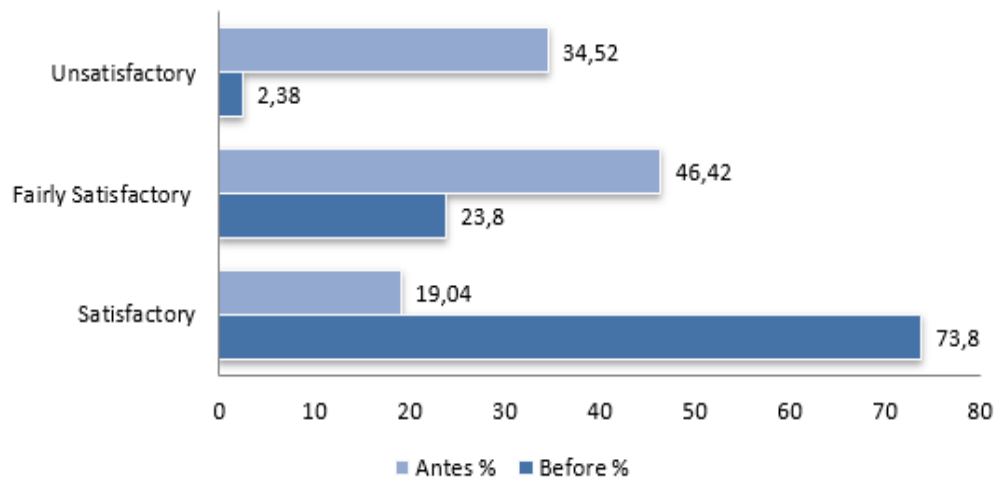


Figure 2. Distribution of older adults according to the level of knowledge in relation to health measures needed to contain the spread of COVID-19 before and after the educational intervention

Prior to the intervention, 48,8 % of the population studied showed insufficient levels of knowledge about the warning signs and symptoms of COVID-19. After the intervention, 64,28% showed satisfactory levels of knowledge; this variation was significant ($p < 0,05$) (Figure 3).

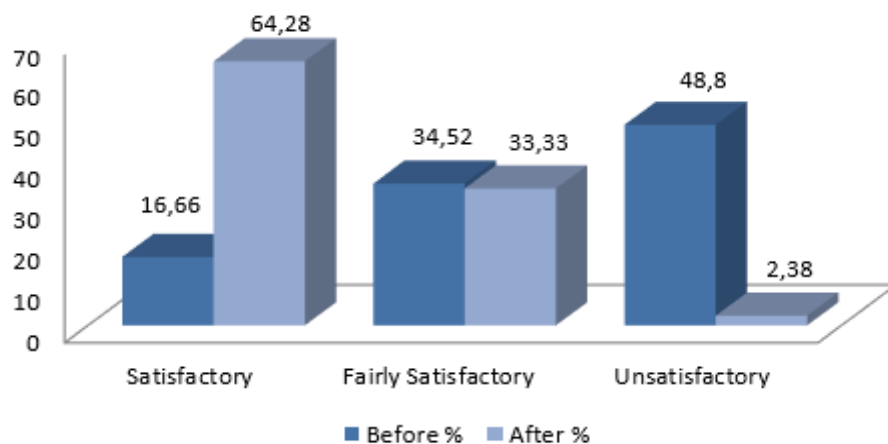


Figure 3. Distribution of older adults according to the level of knowledge about the warning signs and symptoms of COVID-19 before and after the educational intervention.

E40,48 % of the older adults studied presented an insufficient level of general knowledge before the intervention, while after the intervention 97,62 % presented satisfactory levels, being statistically significant ($p < 0,05$).

DISCUSSION

Comprehensive care for the elderly is a priority for the Cuban health system. Health promotion and prevention are essential pillars of the work of the basic working group in primary health care⁽¹¹⁾.

The educational intervention study concerning COVID-19 in the population should provide the necessary information and prepare a closer contact to the population that has suffered this disease and offer them tools to cope with it. The educational intervention study on COVID-19 in the population should provide the necessary information and prepare, by means of a closer contact with the population who has suffered this disease and give them tools to cope with it.

Díaz-Rodríguez and col.⁽³⁾ stated in their study about the impact of aging on the nutritional and functional status and the polypharmacy in hospitalized elderly people, that the predominant age was represented in the group between 75 and 89 years old and they reported a higher number of female gender (60 %). Similar results were obtained by Garcia-Orihuela et al.⁽¹²⁾, who stated in their study on comorbidity, functional and pharmacological therapeutic status in geriatric patients, that the predominant age was in the group between 70 and 80 years old and reported a higher number of women (58,1 %).

These results were analogous to those obtained in the present research, which agree with the sociodemographic characteristics of Cuba. The average age of the elderly people indicates an aged population, data that is in agreement with the Health Statistical Yearbook of 2019, which reports a life expectancy at birth of 78,45 years⁽⁴⁾. It is important to highlight that there is not currently wide evidence on interventions related to this topic, which reinforces even more the meaning of this research.

In the studies of Molina-Raad⁽¹³⁾ and Santos-Velázquez et al.⁽¹⁴⁾ related to the level of knowledge in relation to COVID-19 in medical science students and dentists respectively, it was found that both studied samples presented a high level; which differs from the results of this research where, after the application of the initial survey, a predominance of patients with average level of knowledge was observed. This is due to the fact that the samples studied in these investigations were integrated by students and health workers who are familiar with the topics related to the novel coronavirus.

Gómez-Tejeda and col.⁽¹⁵⁾, in a study where they evaluated the impact of the application of an educational intervention on the level of knowledge in relation to COVID-19, with regard to the generalities of the novel coronavirus, they found that 16,5 % initially presented a satisfactory level of knowledge, and after the intervention, it was evident in 93,7 % of them. In relation to the measures for prevention, the pillar of this strategy, before the application of the program, only 6,98 % had satisfactory knowledge, while after it was shown in the whole sample. Besides, they reflected the difference between the level of knowledge with reference to the clinical symptoms of COVID-19 before and after the intervention was applied (71,8 % vs. 80 %)⁽¹⁵⁾.

These results are consistent with those found in this research. This justified the important role that the educational intervention plays in the needs and motivations of each of the individuals and in the determination of health status; that is why an adequate informative work by health personnel is fundamental in the education of the population.

Another result obtained in the present study is the one referring to the considerable increase of the general level of knowledge concerning COVID-19 after the application of the intervention program; an aspect that shows equivalence with respect to the results of Gómez-Tejeda and col.⁽¹⁵⁾, where 23,4 % of the patients with satisfactory knowledge were obtained at the beginning of the intervention, and 95,4 % after its application.

Over the years, the older adults reveal a decrease in functional and cognitive capacity, as well as an increase in comorbidities and polypharmacy; elements that place this population group as vulnerable or at risk^(16,17). Such reasons make necessary to provide comprehensive and specialized care to the elderly from the point of view of their limitations. Ensuring adequate communication with them and guaranteeing the necessary and relevant information to them is a key unit for their development and performance in the current environment.

In spite of the relevance of the research, it was presented as limitations of the study that the included patients presented advanced ages, which brings about deficiencies in the abilities of comprehension and vision; for such reasons the chosen older adults were previously evaluated by the authors and by the health professionals of the area; in addition, the survey applied was read and carefully explained, the educational intervention took into account these limitations.

It was concluded that the application of the educational intervention had a positive impact on the level of knowledge of older adults, which guaranteed a greater perception of risk and provided tools for coping with COVID-19 in this highly vulnerable population.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR'S CONTRIBUTION

YLDR and MAVF participated in the conceptualization, research, and formal analysis. YLDR, MAVF and LAQL were responsible for the initial draft, review and editing.

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The authors did not receive funding for the development of this article.

ADDITIONAL MATERIAL

Additional material can be consulted at: <http://www.revgaleno.sld.cu/index.php/ump/rt/suppFiles/570>

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