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VACCINATION AGAINST COVID-19 IN PRIMARY HEALTH CARE

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ABSTRACT

Introduction: COVID-19 is a potentially serious infectious disease with high transmissibility and global distribution. In January 2021, vaccination began in Brazil, which is using four vaccines, *Corona Vac, Astrazeneca, Pfizer and Janssen*. In Fortaleza, vaccination is in the phase of application of the booster dose. While the vaccines may have raised hopes for a return to normal functions before the pandemic hit, they also raise questions about unknown effects and speculation about potential adverse effects, which could lead a part of the population to refuse the vaccine. Therefore, it is necessary to know the groups that are most resistant to the use of the vaccine and what strategic actions should be implemented to prepare the population for vaccination, in order to achieve high and homogeneous coverage between groups and locations. **Methods:** it is an analytical observational study, with a quantitative and qualitative approach. A questionnaire was applied through the Google Forms platform, addressing sociodemographic data and epidemiological profile of vaccination for Covid-19. The inclusion criteria used were individuals over 18 years of age scheduled for vaccination at UBS Benedito Arthur de Carvalho, who signed the Free and Informed Consent Term (FICT). Those individuals who did not sign the informed consent were excluded. The data were analyzed by the authors of the research and later compared and discussed with existing studies in the national and international literature. **Results**: the population enrolled in the area, in addition to presenting heterogeneous socioeconomic and cultural profiles, had varied knowledge about the relevance of vaccination against COVID-19. As for education, 56.3% of respondents reported not having access to university and only 39.1% of participants were in a formal employment situation. In addition, only 25.3% of respondents had a vaccine reaction to any of the doses received, on the other hand, 48% of those who considered not taking the vaccine did so for fear of reactions. **Conclusion:** it was evidenced that more than 30% of respondents hesitated to take the COVID-19 vaccine due to fear of reaction and uncertainty as to effectiveness. To encourage vaccination, health professionals can hold waiting rooms with UBS users, explaining the benefits it brings to the general population and the risk that non-adherence can cause. Furthermore, it is important to update and educational lectures aimed at professionals, especially community health agents, who are in greater contact with the population, and they should be trained so that they can take ownership of the subject and capture the largest possible number of people who are overdue for the COVID-19 vaccine or who for some reason have previously refused.

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INTRODUCTION

At the end of 2019, the World Health Organization was notified about several cases of pneumonia in the city of Wuhan, China, in which, after studies, it was identified that it was a new strain of the coronavirus, SARS-CoV-2, which had repercussions around the world, being responsible for a pandemic with more than 120 million cases and 2.67 million deaths until March 17, 2021 (1,2,3). The Novel Coronavirus (COVID-19) is an infectious disease caused by SARS-

COV-2, potentially serious, of high transmissibility and of global distribution (4). SARS-COV-2 infection generates a storm of pro-inflammatory cytokines and thrombogenic agents in the human body that, although mainly affecting the respiratory system, can affect other organs such as kidneys, heart, liver and brain (,5,6,7 ,8,9). It is known, so far, that a considerable portion of individuals tested positive for SARS-CoV-2 may be asymptomatic, as well as present systemic symptoms during and after infection (10). The COVID-19 pandemic was responsible for a high number of deaths, in addition to crises in health systems, isolation, among other numerous negative repercussions. Currently, the existence of one or more vaccines against SARS-CoV-2 approved and made available to the Brazilian population, puts the fight against the pandemic on another level (11).
In January 2021, vaccination began in Brazil, which is using four vaccines: Corona *Vac, Astrazeneca, Pfizer and Janssen* (12). In Fortaleza, vaccination is in the phase of application of the booster dose (13). While vaccines may have raised hopes for a return to normal functions before the pandemic hit, they also raise questions about unknown effects and speculation about potential adverse effects, which may lead a portion of the population to vaccine refusal (14). According to the literature , most of the side effects that occur with the use of the vaccine are mild and transient, and can cause arm pain, headaches, fever and myalgia. However, in a lower percentage, the risk of myocarditis and pericarditis is also evidenced (16,17,18). Even though they are events with a low probability of occurrence, the health professional must be informed about the effects and new studies published, which may be a factor that contributes to individuals being able, at some point, to refuse the application of the vaccine. Therefore, it is necessary to know the groups that are most resistant to the use of the vaccine and what strategic actions should be implemented to prepare the population for vaccination, in order to achieve high and homogeneous coverage between groups and locations.

METHODS

This is an analytical observational study, with a quantitative and qualitative approach. It was carried out between September and November 2021. The study sample consisted of 87 individuals who were scheduled to take the Covid-19 vaccine at the UAPS Benedito Arthur de Carvalho health post.

Approval of standard protocols, records, and patient's consent: Approval for this study was obtained from the Research Ethics Committee Centro Universitário Christus - UNICHRISTUS under protocol CAAE 55310821.9.0000.5049. The online Informed Consent Form (ICF) was obtained from eligible patients with their consent.

Procedure: For data collection, a questionnaire was applied through the Google Forms platform, with multiple-choice and single-answer questions, addressing sociodemographic data and epidemiological profile of vaccination for Covid-19. The inclusion criteria used were individuals over 18 years old scheduled for vaccination at UBS Benedito Arthur de Carvalho, who signed the Free and Informed Consent Term (FICT) and who proposed to answer the questionnaire. Those individuals who did not sign the informed consent were excluded. The data were analyzed by the authors of the research and, in order to provide a greater theoretical basis, the results were compared and discussed with existing studies in the national and international literature.

Data availability: The principal investigator (DV) and the first author (PU) as well as the co-investigator (SND) had access to all the data and checked for data accuracy. All the data acquired from the study has been mentioned in the tables, and anonymized data will be shared by request from any qualified investigator.

RESULTS

The questionnaire was applied at the UAPS Benedito Arthur de Carvalho health center, on October 6 and 20, 2021, with the participation of 87 individuals (n=87) who signed the Free and Informed Consent Form (ICF). The questionnaire was divided into sociodemographic characteristics and epidemiological profile of vaccination for Covid-19.

Sociodemographic characteristics: Of the 87 study participants, there was a predominance of females (70.1%), aged between 19 and 30 years (49.4%) and of mixed race (54%). The research was carried out in the Engenheiro Luciano Cavalcante neighborhood, where the UAPS Benedito Arthur de Carvalho health post is located, and, among the participants, about 63% live in the neighborhood that were scheduled for vaccination, which contributed to the adherence of this population to the campaign. In addition, it was observed that half of the interviewees have a family income between R$1,000 and R$5,000, with a heterogeneous employment situation and predominance of complete high school and/or incomplete higher education, a fact that contributes to access to information about vaccines and suggests greater action by health agents in terms of health education for the underprivileged population.

Table 01. Sociodemographic characteristics regarding the sex of the population evaluated.

SEX	N (%)
Female	61 (70.1%)
male	26 (29.9%)

Table 02. Sociodemographic characteristics referring to the neighborhood of the population evaluated

NEIGHBORHOOD	N (%)
Luciano Cavalcante	55 (63.2%)
Petrolino Ribeiro/Guararapes	16 (18.3%)
Salinas	7 (8.0%)
Mandibura Park	1 (1.1%)
Jardim das Oliveiras	4 (4.6 %)
Messejana	1 (1.1%)
Mondumbi	1 (1.1%)
Porto das Dunas	1 (1.1%)
Papicu	1 (1.1%)

Table 03. Sociodemographic characteristics regarding the age of the population evaluated

AGE	N(%)
12-18	11 (12.6%)
19-30	43 (49.4%)
31-45	26 (29.9%)
46-59	3 (3.4%)
60 or more	4 (4.6%)

Table 04. Sociodemographic characteristics regarding the employment situation of the population evaluated

EMPLOYMENT SITUATION	N (%)
Formal employment	34 (39.1%)
Student	23 (26.4%)
Self	20 (23%)
Unemployed	10 (11.5%)

Table 05. Sociodemographic characteristics regarding the education of the population evaluated

EDUCATION	N(%)
High school completed	28 (32.2%)
College incomplete	23 (26.4%)
College completed or more	15 (17.2%)
High school incomplete	7 (8%)
Elementary school completed	4 (4.6%)
Incomplete elementary school or less	10 (11.5%)

Epidemiological profile of vaccination for Covid-19: Of the total number of individuals (n=87) who answered the questionnaire, 85 had

already taken at least one dose of the Covid-19 vaccine, the Pfizer immunizer was the most applied on the days on which the questionnaire was carried out (91 .7%).

Table 06. Sociodemographic characteristics regarding the income of the population assessed

FAMILY MONTHLY INCOME	N(%)
Less than BRL 1,000	6 (7.4%)
BRL 1,000 - BRL 2,000	30 (37%)
BRL 2,000 - BRL 3,000	10 (12.3%)
BRL 3,000 - BRL 5,000	10 (12.3%)
BRL 5,000 - BRL 10,000	9 (11.1%)
More than BRL 10,000	16 (19.8%)
Did not respond	6 (6.9%)

Table 07. Epidemiological profile of vaccination for Covid-19 of the population interviewed.

Question	N (Percentage)
Have you taken the vaccine for Covid-19? (N=87)	
•Yes	85 (97.7%)
•No	2 (2.3%)
If yes, which vaccine did you take? (N=84)	
•CoronaVac	2 (2.4%)
•Astrazeneca	5 (6%)
•Pfizer	77 (91.7%)
•Janssen	0 (0%)
If yes, how many doses did you take? (N=84)	
•1 dose	78 (92.9%)
•2 doses	2 (7.1%)
• 3 doses	0 (0%)
Did you miss any of the days of vaccination for Covid-19? (N=87)	
•Yes	37 (42.5%)
•No	50 (57.5%)
If yes, what dose did you miss? (N=34)	
•1st dose	19 (55.9%)
•2nd 3rddose	15 (44.1%)
•dose	0 (0%)
Was there a vaccine reaction to any of the doses you took? (N=87)	
•Yes	22 (25.3%)
•No	65 (74.7%)
Are you scheduled for the vaccine/another dose? (N=85)	
•Yes	76 (89.4%)
•No	8 (9.4%)
•I don't know	1 (1.2%)
Have you sought health care in the last 12 months? (N=87)	
•Yes	33 (37.9%)
•No	54 (62.1%)
Did you receive a visit from the health agent to talk about COVID vaccination? (N=87)	
•Yes	8 (9.2%)
•No	79 (90.8%)
Did you think about not taking the Covid-19 vaccine? (N=87)	
•Yes	27 (31%)
•No	60 (69%)
If yes, why did you think about not taking it? (N=25)	
•Fear of reactions	12 (48%)
•Short time to carry out immunization tests	4 (16%)
•Uncertainty of effectiveness	6 (24%)
•Fear of fake news	3 (12%)
Do you have a preference for some type of vaccine? (N=87)	
•Yes	25 (28.7%)
•No	62 (71.3%)

In addition, it was observed that 31% (n=27) of the interviewees reported having considered not taking the vaccine, when asked why, about 48% were afraid of the side effects, 24% pointed out that it was due to the uncertainty of the effectiveness of the vaccines. immunizers and 16% said it was due to the short time to carry out vaccine tests. Furthermore, 37 of the individuals (42.5%) revealed that they missed at least one day of vaccination, this scenario can be explained by the low number of individuals who received a visit from the health agent to talk about immunization, with only 9.2% of respondents, and due to the considerable number of people who revealed a preference for a specific type of vaccine (28.7%). This scenario indicates that future intervention proposals on the subject of the present study should focus on educating individuals that all Covid-19 vaccines are safe, effective and have passed all necessary tests in a timely manner for their use.

DISCUSSION

Initially, as the visits to the Basic Health Unit took place, a strong suspicion was identified that the population assigned to the area, in addition to presenting heterogeneous socioeconomic and cultural profiles, had varied knowledge about the relevance of vaccination against COVID-19. It is known that knowledge, often linked to education and quality of life criteria, is closely related to the population's satisfactory adherence to public vaccination policies, considering that vaccine hesitancy is a worldwide growing obstacle to the control of countless numbers. of preventable diseases through passive immunization of the population (19). Awareness of the benefits of the vaccine is among the strategies to combat the refusal of immunizers that highlights the fundamental role of health professionals in terms of better acceptance by the population of vaccination initiatives (20). It is also understood that measures with a focus on health education are essential for the development of the collective spirit of the population regarding the benefits proposed by the vaccine (21). So that eventual measures of this nature can be elaborated and implemented, it is necessary that there is a survey of the population profile, aiming at the description of obstacles to be overcome for the success of vaccination campaigns.

As for education, 56.3% of respondents reported not having access to university. The study results were similar to those obtained by Kalam MA et al. when developing a study with an urban population in Bangladesh with regard to the behavioral determinants of vaccine acceptance where most participants did not have higher education, even if incomplete (22). Other criteria taken into account to establish the population profile, envisioning the development of strategies and public immunization policies were: younger age group (18-44 years), female gender, absence of any comorbidity, lower education, current employment status, positive history of confirmed COVID-19 infection in the person and positive history of confirmed COVID-19 infection in any family member/friend (22). Furthermore, only 39.1% of the participants were in a formal employment situation, which directly influences the sociodemographic profile of the population and, consequently, their opinion regarding vaccination against COVID-19. In a study that aimed to identify the main risk factors associated with population resistance to vaccination against COVID-19, it was observed that low levels of education and access to information showed a more significant statistical association with absenteeism for the application of the first dose of the vaccine. vaccine (23). Manning, ML et al. informs that the more borderline the socio-educational condition of the population sample, the greater the efforts to demystify non-scientific beliefs regarding mass immunization through health education (24). It also concluded that among the most recurrent reasons reported for refusing the vaccine are the lack of confidence in its safety and the possibility of adverse effects. In the same vein, he informed that the interviewees had insufficient knowledge regarding the development of vaccines in general. Despite the fact that only 25.3% of respondents had a vaccine reaction to any of the doses received, 48% of those who considered not taking the vaccine did so for fear of reactions. Among the other reasons given, uncertainties regarding the effectiveness and the short time to carry out safety tests of the immunizers were listed, in line, a study carried out in China showed that the main attributes that

influence an individual in the vaccination decision is the vaccine efficacy and side effects (25). Most of the population's hesitations can be tackled through the establishment of informative and educational strategies aimed at a diverse target audience through the use of traditional and social media in order to clarify possible doubts about the effectiveness of vaccines and their side effects, in addition to monitor and refute myths about the COVID-19 vaccine (26). Furthermore, health professionals can also play an important role in the population's adherence to the SARS-CoV-2 vaccine, as studies show that physicians influence the vaccination decision (27).

CONCLUSION

The study has a central theme regarding the analysis of data collected with the population scheduled for vaccination against SARS-CoV-2 at the Basic Health Unit Benedito Arthur de Carvalho. In this context, it was evidenced that more than 30% of respondents hesitated to take the COVID-19 vaccine due to fear of the reaction and uncertainty about the effectiveness. Therefore, to encourage vaccination, health professionals can hold waiting rooms with UBS users, explaining the benefits it brings to the general population and the risk that non-adherence can cause. Furthermore, it is important to update and educational lectures aimed at professionals, especially community health agents, who are in greater contact with the population, and they should be trained so that they can take ownership of the subject and capture the largest possible number of people who are overdue for the COVID-19 vaccine or who for some reason have previously refused.

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