



COVID-19 VACCINATION ACCEPTANCE AND ITS INFLUENCING FACTORS AMONG ELDERLY PEOPLE IN BENADIR REGION, SOMALIA

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Keywords

Immunization; Willingness; Hesitation; Old people; Mogadishu; Sub-Saharan Africa;

ABSTRACT

Background: Coronavirus disease 2019 [COVID-19] vaccination is essential for prevention and control of the pandemic. The elderly are among the most prioritized groups for vaccination due to their weakened immune systems and chronic disease conditions, yet required vaccination uptake is known to be low among this age group.

Methodology: A cross-sectional community-based study using a quantitative approach through questionnaires administered by interviewers was carried out among 427 participants in the Benadir region from November to December 2021. A quota-based non-probability sampling technique was used to include participants from all seventeen districts in the region.

Result: COVID-19 vaccine acceptance was 40.2%. The main reasons for COVID-19 vaccination hesitation were: lack of adequate information about the vaccines (36.9%), safety concerns (23.1%), religious beliefs (14.1%), vaccine ineffectiveness suspicions (13.3%), against vaccines in general (11%), and believing that COVID-19 is not that serious in their residential or work area (1.2%). Participants' acceptance of COVID-19 vaccination was significantly associated with a lack of formal education, lower educational categories, lack of knowledge of their higher needs to receive COVID-19 vaccines, and having a household member or a friend who died of COVID-19.

Conclusion: Health education initiatives, provided by well-trained health professionals and Islamic scholars to provide adequate information about the vaccine in general, its importance, safety, effectiveness, and also to eliminate religious misconceptions about the vaccine, may aid in reducing COVID-19 vaccination hesitation.

INTRODUCTION

The first confirmed case of COVID-19 in Somalia was discovered by the Ministry of Health on March 16th, 2020, five days after the World Health Organization (WHO) made the assessment that the disease could be characterized as a pandemic [1]. According to WHO, there have been 23169 confirmed COVID-19 cases through nose swap technique of polymerase chain reaction (PCR) tests, with 1333 deaths in Somalia, from the 3rd of January to the 23rd of December, 2021 [2]. Infection with COVID-19 is more common in the elderly, immune-compromised, and people with chronic diseases [3]. The United Nations defines "elderly" as any person above 60 years of age [4]. As of May 2020, elderly people (1-2% of the population) accounted for 15% of COVID-19 cases in Somalia [5]. Vaccination is an important intervention for lowering infectious disease mortality and morbidity, particularly among vulnerable populations [6]. On March 15th, 2021, Somalia received the first COVID vaccine doses [7]. As of December 22, 2021, there were 1,453,959 vaccine doses administered in Somalia [2]. For the successful distribution of COVID-19 vaccines, WHO works with its major partners, including UNICEF, to provide technical support to the Somali federal and state ministries of health [8]. Vaccine distribution remains a challenge in many populations, especially where vaccine access has historically been limited [9]. The recurrent finding that groups of people around the world are still hesitant to get vaccinated presents a compelling reason to investigate factors that influence vaccination intentions [10]. The aim of this study was to assess COVID-19 vaccination acceptance and identify factors that might influence elderly people's decision to accept the vaccine in the Benadir Region, Somalia.

METHODOLOGY

Interviews with people over the age of 60 years were conducted between November and December 2021 in the Benadir region. The sample was recruited purposefully to include participants from all the 17 districts in the region. Included were people over the age of 60 years who had lived in the Benadir region for at least six months and were willing to participate. Excluded were people who were residents of more than one district, did not believe in the existence of COVID-19 or its vaccine, were ill, or had difficulty understanding and responding to questions clearly. Four hundred and twenty-seven participants were distributed over the 17 districts. Twenty-five participants were allocated to each district. The two remaining participants were added to the two districts that were estimated to hold the largest populations in the region (Hodan and Yaqshid districts). A data collec-

tion team of 10 trained bachelor public health officers supervised by 2 master's degree public health officers using structured interviewers administered questionnaires, pre-tested on 20 subjects from the actual population, visited market places, mosques, tea shops, and households, where eligible elderly people were conveniently selected. Since the study participants were elderly people, to avoid asking many questions that could annoy or discomfort them, the researchers tried to make the questionnaire as short and concise as possible, and for that, it contained four sections with 21 questions. The first section of the questionnaire contained seven socio-demographic background questions: (age, gender, educational status, occupation, marital status, district of residence, status of chronic illnesses). The second section of the questionnaire was related to experiences of COVID-19 and its vaccination contained ten questions: (Have you been diagnosed with COVID-19 before? Is there a member of your household diagnosed with COVID-19? Is there any of your friends diagnosed with COVID-19? Do you believe the death reports related to COVID-19 by the government are real? Is there anyone in your family who died as a result of COVID-19? Is there a friend of yours who died of COVID-19? Have you heard about COVID-19 vaccines? Do you believe elderly people over 60 years have a higher need to take the COVID-19 vaccine compared to other age groups? Have you been vaccinated for COVID-19? What is your most important source of COVID-19 related information? The third section of the questionnaire, which was related to the acceptance of the COVID-19 vaccination and its reasons, contained 3 questions [Do you accept to receive freely available COVID-19 vaccine? What is the most important reason that convinced you to accept the COVID-19 vaccination? If you accept to take the vaccine when do you desire to take it?]. The fourth and final section of the questionnaire was related to reasons for hesitation to take the COVID-19 vaccine and contained a single question: [what is the most important reason that convinces you to hesitate on COVID-19 vaccine uptake?]. The preparation of the instrument occurred after analysis of related literature [11,12]. The data was obtained through face-to-face interviews. Participants were encouraged to feel free and they were assured that their responses would be kept private and that no information would be shared with anyone other than the researchers. Participants who agreed to participate and provided oral informed consent were then interviewed. The dependent variable was [COVID-19 vaccination acceptance], measured with one question [Do you accept to receive freely available COVID-19 vaccine] with possible answers of [No] and [Yes]. The independent groups of variables were related to socio-demographic backgrounds and experiences related to COVID-19 and its vaccine. The data was analyzed using the Statistical Packages for Social Sciences (SPSS, 20.0). Descriptive and inferential analyses of binary logistic regression were performed.

RESULT

Socio-demographic characteristics of respondents

There were a total of 427 participants, of whom the majority (275 [64.4%]) were male. Their Mean age \pm SD was 71.8 ± 7.9 years. The majority of respondents were married (325, or 76.1%). More than half (230, 53.9%) could not read and write; only 52 [12.2%] had secondary and above educational attainment. Most of them were unemployed (231, 54.1%), followed by 81 [19%] merchants. To their knowledge, 301 [70.5%] were free of chronic diseases, but those with chronic diseases 126 [29.5%], the majority of whom 35 [27.7%], were hypertensive, diabetic 26 [20.6%], heart diseases 23 [18.3%], both diabetes and hypertension 22 [17.5%], chronic lung diseases 4 [3.2%], and other chronic diseases 16 [12.7%].

Study participants' experiences related to COVID-19 and its vaccines

The majority of the elderly (278 [65.2%]) had heard about COVID-19 vaccines, and nearly half of the participants (209 [49%]) believed that elderly people had a greater need to take COVID-19 vaccines. Radio 228 [53.4%], TV 122 [28.6%], and family and friends 71 [16.6%] were the most important sources of COVID-19 vaccine information. Most of them, 359 [84.1%] were not diagnosed with COVID-19 before, while 68 [15.9%] were diagnosed with COVID-19. Respondents that reported family and friends diagnosed with COVID-19 were 93 [21.8%] and 126 [29.5%] respectively. The majority of them (347, or 81.3%) believed that the COVID-19 deaths reported by the government were real. There were 47 [11%] and 100 [23.5%] participants who reported household members and friends who died of COVID-19, respectively.

Acceptance to receive COVID-19 vaccines

Among the 427 participants, 172 [40.2%], generally accepted to receive the vaccine, of whom 45 [10.5%] were vaccinated and 127 [29.7%] had a desire to take the vaccine but were not vaccinated yet, of whom most of them 59 [46.5%] had not decided when they would take the vaccine, wanted to take it as soon as possible, 45 [35.4%], and those waiting for its safety to be confirmed, 23 [18.1%]. The main reasons that convinced them to accept the COVID-19 vaccine were their age 55 (31.9%), the fast spreading nature of the disease 47 (27.3%), the fatality of the disease 28, (16.2%), due to their chronic disease conditions, 24 [14%], due to their weak defense 11 [6.4%], to protect their families 5 [3%] and other reasons 2 [1.2%].

Hesitation to receive COVID-19 vaccines

There were 255 [59.8%] respondents who hesitated to take the vaccine, the main reasons were lack of adequate information 94 (36.9%), safety concerns 59 (23.1%), reasons related to religion 36 (14.1%), reasons related to vaccine ineffectiveness 34 [13.3%], against vaccines in general 28 [11%], believing that COVID-19 is not that serious in their residential or work area 3 [1.2%] and other reasons 1 [0.4%].

Predictors of COVID-19 vaccination acceptance

Table 1. Multivariate binary logistic regression analysis.

Variables	Categories	Frequency (%)	AOR	95% CI	p-value
Education	Cannot read and write	230 (53.8)	0.075	0.031- 0.182	<0.001
	Can read and write	108 (25.3)	0.103	0.040-0.263	<0.001
	Elementary	37 (8.7)	0.086	0.027- 0.270	<0.001
	Secondary & above	52 (12.2)	Ref...		

Having a house hold member who died for COVID-19	Yes	47 (11)	2.508	1.154-5.451	0.020
	No	380 (89)	Ref...		
Having a friend who died for COVID-19	Yes	100 (23.5)	2.802	1.545-5.149	0.001
	No	227 (76.5)	Ref...		
Do elderly people have higher need to take COVID-19 vaccine?	No	58 (13.6)	0.304	0.109- 0.847	0.023
	Unknown	160 (37.5)	0.492	0.273-0.887	0.018
	Yes	209 (48.9)	Ref...		

DISCUSSION

COVID-19 vaccination acceptance was low compared to other studies, although this finding is slightly better than a previous research in our study area in which 36.8% accepted the vaccine [13]. The difference could be attributed to study periods since there was around a one-year period between the two studies in which COVID-19 vaccines arrived in the country and their information could have reached more people. An online survey conducted in Somalia presented 76.8% acceptance [14]. This higher acceptance could be attributed to differences in educational backgrounds, since their study was an online survey and their participants were better educated compared to our study population. In neighboring countries, studies conducted present higher acceptance of 46.1% [12] and 45.5% [11]. Our finding is also lower than studies in Bangladesh 60% [15], The USA 69% [16], and UK 71% [17]. The difference can be explained by differences in socio-demographic characteristics and health care services. Among others, the main reasons for COVID-19 vaccination hesitation in this study were lack of adequate information, safety concerns, religious ideas, and vaccine ineffectiveness suspicions. An online survey in Somalia presented the main reasons for COVID-19 vaccine hesitation as: in-effectiveness suspicions, fear of side effects, and confidence in their immunity [14].

A similar result was observed in most other related studies [12], [11] and [18]. According to this study, lack of and lower educational backgrounds were negatively associated with COVID-19 vaccine acceptance as shown by other studies [9], [15] and [19]. This could be explained by the fact that education is a determinant factor for healthy behaviors [20]. A significant positive association with COVID-19 vaccine acceptance was observed among participants with household members and friends who died of COVID-19. A study presented that participants with friends who had been diagnosed with COVID-19 were more likely to accept COVID-19 vaccines [11]. This could possibly be explained by the possibility that participants with experiences of COVID-19 morbidity and mortality among their household members and friends are more aware of the risks and therefore are willing to take necessary measures of COVID-19 prevention like vaccination acceptance and uptake. A significant negative association was also observed among participants with responses of "I don't know if elderly people have a higher need to take COVID-19 vaccine" and those who replied "elderly people don't have a higher need to take COVID-19 vaccine". A study showed that participants who see COVID-19 as a serious threat are more likely to get vaccinated or vaccinate people in their care [9]. Another study presented a significant association between understanding the possible severe consequences of COVID-19 and the intention to get vaccinated [21]. These findings could be explained by the importance of COVID-19 risk perception among elderly people.

CONCLUSION

COVID-19 vaccination acceptance was low, mainly for lack of adequate information, safety concerns, religious ideas, and vaccine ineffectiveness suspicions. COVID-19 vaccination acceptance was significantly associated with lower educational categories, COVID-19 related deaths among participants' households or friends, and elderly people's lower knowledge of higher needs for COVID-19 vaccination. To improve the current situation, concerned international and local authorities should collaborate on creating an increased level of awareness about the lack of adequate information, safety concerns, religious misconceptions, and vaccine ineffectiveness doubts.

Acknowledgement

We would like to extend our thanks to Modern University for Science and Technology for supporting this project. We are very grateful to Mohamed Hayir Tahlil for his magnificent contribution. Our deepest gratitude goes to data collectors for their relentless efforts to provide reliable data. We would also like to express our appreciation to the participants. Without their contribution, this project would not have been possible.

The author's contribution

Abdiweli Mohamed performed the analysis of the data and prepared the manuscript. Mahad Ali conducted all the required supervision and gave consultations on data collection. Dr. Ikram Ahmed designed the data collection sheets. Ahmed Abdulkadir led the data collection team and managed all the data collection and management efforts. Finally, all authors have read and approved the final version of the manuscript.

Disclosure statement

No conflict of interest.

Statement of data sharing

A SPSS sheet with all the primary data is available upon reasonable request.

Ethical approval and consent

The researchers received ethical approval from the ethical review and approval committee of Modern University for Science and Technology. An informed verbal consent was obtained from all participants after informing them about the objectives of the study and the possibility of withdrawal at any time they felt the need. To ensure anonymity, their names or any other identifying attributes were not written on the questionnaire.

Funding information

-None

Paper context

Lower COVID-19 vaccination acceptance among countries with fragile health care infrastructure is a shared concern and our findings further strengthen it. The main reasons for hesitation were described and predictors of COVID-19 vaccination acceptance were identified. Therefore, a carefully planned and executed health education initiative targeting elderly people through commonly used media channels like: radio and paying visits to households, market places, mosques, and tea shops may aid in reducing COVID-19 vaccination hesitation among the elderly.

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