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Exploring Patients' Understanding, Perceptions, and Actions Regarding COVID-19 at Hoima Regional Referral Hospital

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ABSTRACT

This research delved into the perceptions and behaviors surrounding COVID-19 among 150 patients admitted to Hoima Regional Referral Hospital. Employing a quantitative cross-sectional approach and random sampling, data was collected via interviews. Results revealed high awareness (98%) of COVID-19's viral origin, with most participants (81%) recognizing the significance of avoiding crowded places. However, misconceptions persisted, notably around asymptomatic transmission (83% lacked accurate knowledge). Surprisingly, a considerable number (63%) frequented crowded areas, while mask usage was inconsistent despite 69% using them when leaving home. Additionally, around 55% didn't maintain recommended distancing during conversations. The study underscored deficiencies in information, negative attitudes, and inadequate practices in combating COVID-19, urging swift corrective measures. Notably, despite shortcomings, social media and the internet facilitated knowledge acquisition. The findings linked poor practices to inadequate knowledge, lower education levels, and contact with confirmed COVID-19 cases. Addressing these gaps is critical, especially given the associations between poor knowledge, education, travel history, and inadequate practices.
Keywords: COVID-19 epidemic, Patients, Deaths, Poor knowledge, Educational level.

INTRODUCTION

Coronavirus disease (COVID-19) is a disease caused by a newly emerging novel coronavirus called Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV2) that appeared in late 2019 disseminating to cause a global pandemic in 2020 [1]. It is related to the SARS-CoV and Middle Eastern Respiratory Coronavirus (MERS-CoV) that emerged in the early2000s in East Asia and the Middle East respectively [2]. These viruses are of zoonotic origin with SARS-CoV2 thought to have originated in bats and they were not previously identified in humans [3]. Initially, most cases at the epicenter ofthe outbreak in Wuhan, Hubei province, China had contact with live animals and seafood suggesting animal to human transmission [4]. Later on, person to person spread was reported outside the epicenter and on 31st December 2019, the World Health Organization (WHO) was informed of a cluster of cases of pneumonia of unknown cause detected in Wuhan City, Hubei Province of China [5]. Globally, the new Coronavirus has infected close to 132 million people with more than 2.8 million deaths as of April 7, 2021 and in the United States alone, the number of COVID-19 cases surpassed 30.5 million with more than 552,000 deaths [6]. The infections and associated morbidity and mortality continue to increase worldwide with intermittent flareupseven in countries that were assumed to have brought it under control [6]. Currently, the WHO reports that COVID-19 deaths in Africa have surged by 40% ever since the virus was re- ported on the continent on 14 February 2020; this surge comes as Africa is battling new and more contagious variants for which it has geared up its largest-ever vaccination drive [7]. Uganda launched its mass COVID-19 vaccination program on 10th/03/2021 thereby joining a host of countries in Africa to initiate jab inoculations. According to the Ministry of Health, Uganda aims at vaccinating at least 49.6% of its population (21,936,011) with Oxford University–

AstraZeneca COVID-19 vaccine at different phases [7]. Approximately 2.3% of the world's population has now been infected by the severe acute respiratory coronavirus-2 (SARS CoV-2), the novel coronavirus and etiologic agent of COVID-19, and more than 3.3 million people have died [8]. As of 1 May 2021, 150,110,310 confirmed cases of COVID-19, including 3,158,792 deaths, had been reported to the WHO globally. Of these, over 4.5 million confirmed cases including more than 121,000 deaths were in sub-Saharan Africa. Although initially slow to spread in Africa, confirmed cases of COVID-19 on the continent are rising steadily [9]. The uptake of COVID-19 vaccines is critical to personal health, protecting vulnerable populations, reopening socio-economic life, and achieving population health and safety through immunity [10]. Moreover, it has been suggested that because the COVID-19 pandemic is so serious, the patient character could be more influential regarding uptake than the level of medical advice received, because during the pandemic any eligible patients will have been advised by their general practitioner (GP) to have the vaccination [11]. While the governments of high-income countries pre-ordered these vaccines, low- and middle-income countries had difficulties in purchasing enough doses for their population and to bridge this gap, the COVAX initiative was created to rapidly procure and deliver doses of a safe, effective, and approved vaccine for equitable distribution around the world [12]. The big question is whether these vaccines can easily be accepted by their end-users [7] because much as vaccines are essential in battling against COVID-19, it is paramount to establish vaccine acceptance campaigns before they reach the community because the fear of vaccines has grown radically in the past years [3]. In some Africancommunities, this fear has led to a significant increase in rates of vaccine refusal which has led to an increase in vaccine-preventable diseases [13]. In Uganda, COVID-19 vaccination with the AstraZeneca vaccine was launched on 10 March 2021, with priority being given to healthcare workers and individuals at risk of severe COVID-19 and death; however, little is known about acceptance of receiving the vaccine among Ugandans, especially in the priority groups and reports from the government of Uganda also indicate there is a slow uptake of the COVID-19 vaccine in the country, with only about 400,000people vaccinated by 10 May 2021 [8]. Adherence to the recommended COVID-19 prevention measures is mostly influenced by knowledge, attitudes, and practices; thus, communities and healthcare workers must be equipped with adequate knowledge of COVID-19 prevention policies for them to have positive attitudes and appropriate practices that contribute to decreasing the risk of infection [3].

Earlier studies on viral disease outbreaks, like SARS in 2003 and Ebola in 2018, have shown that the management and control of an outbreak requires a good understanding of the population about the disease to avoid its spread in the community [14]. It is therefore necessary that a survey is undertaken to establish the level of awareness, knowledge and attitudes of the population about the COVID-19 pandemic and the measures put in placeto mitigate it [3]. The continent of Africa has poorly equipped health settings to manage thousands of COVID-19-infected people in comparison to developed countries [15]. It is also clear fromthe current reports that even the healthcare systems in high-income countries have been overwhelmed by patients even though they are better equipped [16]. Hence, the best strategy for a low-resourced setting like Africa and Uganda in particular wouldbe to mitigate the spread by quickly improving the awareness, knowledge and attitude and the adherence of the population to the preventive measures in place [13]. However, there is a paucity of data on public knowledge and attitudes toward the prevention of COVID-19 [16]. It is, therefore important that a survey like this be carried out so that evidence-based plans are put in place to address inadequacies identified.

METHODOLOGY

Study design

A quantitative cross-section study was conducted to assess the knowledge, perception and practice towards COVID-19 among patients admitted at Hoima Regional Referral Hospital.

Area of Study

The study was conducted at Hoima Regional Referral Hospital. The hospital is approximately 110 kilometres (68 mi), by road, north-west of Mubende Regional Referral Hospital. This is approximately 198 kilometres (123 mi), by road, north-west of Mulago National Referral Hospital, in Kampala, Uganda's capital city. The coordinates of Hoima Regional Referral Hospital are 01°25'41.0"N, 31°21'16.0" E (Latitude: 1.428051; Longitude:31.354451). Hoima Hospital is a public hospital, funded by the Uganda Ministry of Health, and general carein the hospital is free. It is one of the thirteen Regional Referral Hospitals in Uganda. Thehospital is one of the fifteen internship hospitals in Uganda where graduates of Ugandan medical schools can serve one year of internship under the supervision of qualified specialists and consultants. The bed capacity of Hoima Hospital was reported to be 280 in 2013. Of the 337gazetted staff positions, only 251 were filled as of March 2011, leaving 85 vacant positions. Established in 1935, the facility initially functioned as a district hospital. In 1994, it wasupgraded to Regional Referral status for the Bunyoro sub-region. It also serves patients fromnearby Eastern Democratic Republic of the Congo. In 2019, the Ugandan Ministry of Healthestimated the hospital's catchment population to number approximately 3 million people.

Study population

The study was conducted among patients admitted at Hoima Regional Referral Hospital.

Inclusion criteria

It included all patients at Hoima Regional Referral Hospital who were available at the time of collecting data and willing to participate in the study.

Exclusion criteria

Those who declined to participate in the study.

Sample size determination

The sample size was determined using Kish Leslie's formula (1965).

$$n = \frac{\left(\frac{Za}{2}\right)^2 p(1-p)}{e^2}$$

Where n is the required sample size, p is the approximate number of patients who came to health facilities for COVID-19 screening in the study area at Hoima Regional Referral Hospital, and eis the permissible error in the estimate. Until this study was conducted there were no published data about p. So a 50% proportion was used to get the maximum sample size by taking into account a 90% confidence interval ($Z\alpha/2=1.96$), marginal error (d) of 10%. In line with the above consideration, the minimum calculated sample size was 96 respondents. The researcher was able to interview 150 respondents in this study.

Sampling procedure

A simple random sampling technique was used to choose respondents to participate in the study, from whom data was collected.

Dependent variables.

The prevalence of COVID-19

Independent variable.

The independent variables include sociodemographic factors, knowledge and practices towards COVID-19.

Data collection method and tools.

Data was collected using an interviewer-administered questionnaire. The researcher met with the targeted respondents that took part in the study, after obtaining permission for data collection from respondents. Each participant was required to give informed consent before enrolling in the study. The researcher assisted the respondents in filling the questionnaires by explaining to the respondents for clarification. The properly filled questionnaires were then collected and then data was taken for analysis. The researcher used a structured questionnaire and participants were asked similar questions and from options, they picked the best alternative.

Data entry and cleaning.

The data in the questionnaire was checked for completeness, cleaned and sorted to eliminate obvious inaccuracies and omissions. The data was then coded and entered into a computer.

Data analysis

The data collected was statistically analyzed using Microsoft Excel version 2019. The analyzed data was presented in the form of tables and graphs which formed a basis for discussion and conclusions.

Quality control

To ensure quality control the researcher conducted a pre-test using 10 questionnaires in the targetpopulation and

data was collected before the actual study to help in the reconstruction of the questionnaire where necessary.

Ethical considerations.

Participants were given information regarding the research to seek consent. Each participant's choice to participate or not was respected and data collected from participants was kept confidential. The participants' names were not included while filling out the questionnaire to maintain privacy. It was communicated that the information obtained from the participants would be kept under lock and key to only be used for research purposes [17].

RESULTS

Table 1: Demographic Characteristics of the Participants

VARIABLE	FREQUENCY	PERCENTAGE
Age-group		
<15	3	2
15-30	49	33
30-50	79	53
>50	19	13
Gender		
Male	92	62
Female	58	39
Highest level of Education		
None	7	4
Primary	17	12
Secondary	29	19
Tertiary	98	65
Occupation		
Civil servant	13	8
Peasant/farmer	35	23
Self-employed	17	11
Student	77	51
Others	10	7
Religion		
Catholics	47	31
Anglican	41	27
SDA	12	8
Moslem	27	18
Others	24	16

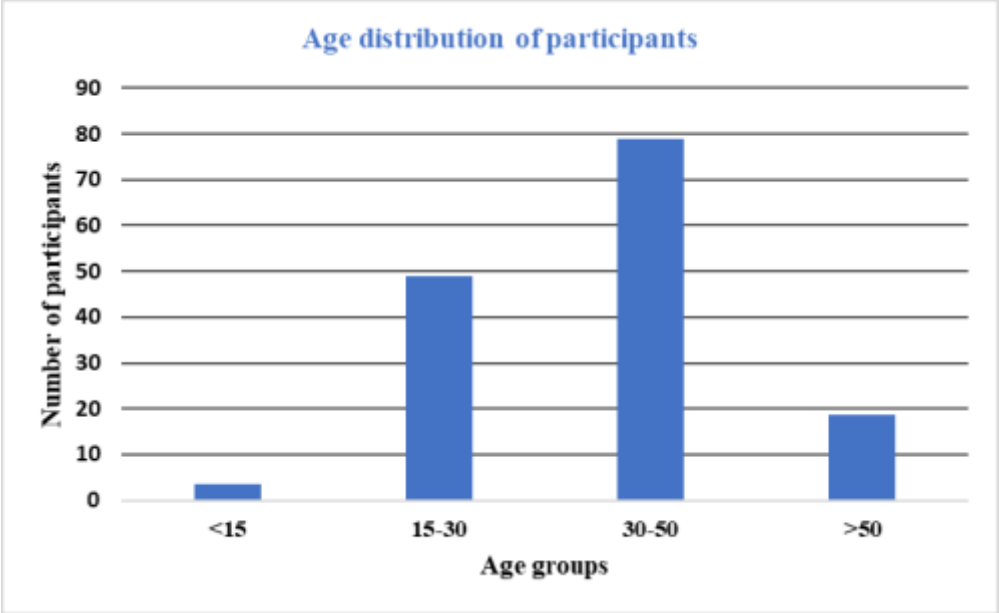
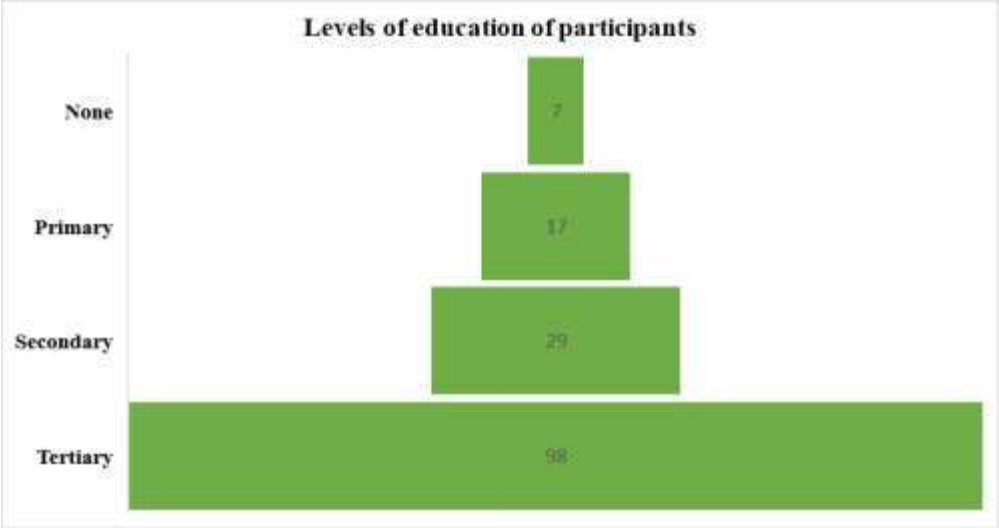


Figure 1: Age distribution of participants



Figures 2: Levels of education of participants

The majority of study participants (62%) were men, and 53% of them were between the ages of 30 and 49. Most of the participants in the study lived in urban regions (85% of them), according to their place of residence. 65% of study participants had tertiary education, which constituted the majority. This is likely a result of the fact that the majority of participants were students: 4.4% had no formal education at all, while 19% had completed elementary school and 11.5% had completed secondary school. Most participants (51%) identified as students, while 8.3% identified as civil servants when asked about their occupations. 25% were farmers or peasants. Seven per cent of people held other jobs, while 11% were self-employed. Catholics made up the majority of respondents (31.3%), followed by Anglicans (27%). SDAs made up 8% and Muslims 18% while 16% of respondents belonged to other religions.

Table 2: Knowledge of the Participants about COVID-19

Knowledge Questions	Frequency		Percentage	
What causes COVID-19?				
Bacteria	0		0	
Fungi	0		0	
Virus	148		98	
I don't know	3		2	
	Yes	**No**	**Yes**	**No**
Do you know the most common symptoms of COVID-19?	60	90	40	60
Do you know an asymptomatic person can transmit the disease?	26	124	17	83
Do you have the latest information on COVID-19?	100	50	67	33
Do you know no effective drug for COVID-19?	108	42	72	28
Do you know which group of individuals are more affected?	93	57	62	38
Do you know patients without fever can transmit COVID-19 to others?	44	106	29	71
Do you know COVID-19 can be spread through respiratory droplets?	69	81	46	54
Do you believe that no prevention is required for children and adults?	89	61	60	40
Do you know that avoiding crowded places helps to prevent COVID-19?	122	29	81	19
Do you know that isolation and treatment of people who are infected with COVID-19 are an effective way to reduce the spread of the virus.	114	36	76	24
Do you know suspected individuals should be isolated in a proper place and observed for 14 days?	115	35	77	23

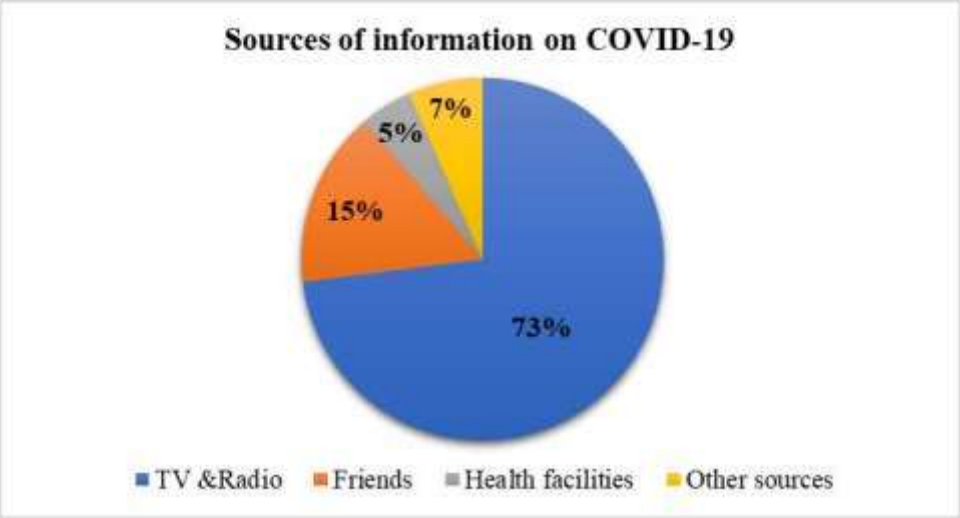


Figure 3: Sources of information on COVID-19

The majority of participants (98%) were aware that a virus was the cause of COVID-19. The COVID-19 epidemic was known to all of the survey participants. Radio and television were the main information sources for the majority of research participants (73%) while friends and healthcare institutions were the least common. The school, social media, etc., were additional information sources. The study's participants had an average of 51% good knowledge and 49% bad knowledge, respectively. The key COVID-19 symptoms of fever, cough, sore throat, muscle soreness, and difficulty breathing were poorly understood by a large percentage of respondents. Additionally, 81% of the participants knew that avoiding crowded areas was useful in the prevention and management of COVID-19. Contrarily, 83% of the participants failed to correctly respond to the question on the likelihood of illness transmission by asymptomatic individuals.

Table 3: Attitudes of the Participants towards COVID-19

Participants' attitude towards COVID-19				
	Yes		**No**	
Perception Questions	**Freq**	**%**	**Freq**	**%**
Do you believe eating garlic helps to prevent infection with the new coronavirus?	42	28	108	72
Do you believe COVID-19 cannot affect young people?	74	49	76	51
Do you believe exposing yourself to the sun or temperatures higher than 25˚ C prevents COVID-19?	32	21	118	79
Do you believe MoH measures are helpful to combat COVID-19?	104	70	46	31
Do you have confidence that Ethiopia can win the battle against the COVID-19 virus?	109	73	41	27
Do you think that you will go to the quarantine centre if you develop the sign and symptom of COVID-19?	116	77	34	23

As seen in the table above, the majority of study participants (80%) thought that conventional treatments, such as eating garlic, weren't effective in preventing the spread of the novel coronavirus. A majority of research participants—about 50%—believed that COVID-19 cannot afflict young people and that they will not visit a quarantine facility if they contract the illness. The majority of study participants believed that Uganda could defeat COVID-19 thanks to the efforts implemented by the Ministry of Health.

Table 4: Practices of the Participants regarding COVID-19

Practice	Yes		No	
	Freq	%	Freq	%
In recent days, have you gone to any crowded place?	94	63	56	38
In recent days, have you worn a mask when leaving home?	104	69	46	31
In recent days, have you touched your mouth, nose, and eyes frequently?	103	69	47	31
Do you touch anyone for greeting when you get in your home/friend home/family home/working area?	94	63	56	38
Do you cover your nose and mouth with a tissue during sneezing or coughing?	125	84	25	16
Do you use soap or hand sanitizer to wash your hands continuously?	134	89	16	11
Do you wash your hands frequently according to WHO recommendation?	113	75	37	25
Do you close the pipe after you finish your hand washing to avoid recontamination?	16	10	134	90
Did you stand two meters away when you speak in front of others	68	45	82	55

In the current analysis, 42% of practices were deemed to be subpar. Ninety-four (63%) of the study's participants said they frequented crowded areas. The percentage of survey participants who did not wear a face mask is also greater, however, the majority of respondents (69%) did so when they left their homes. Avoiding recontamination from pipes or any other water container materials after hand washing and exercising physical distance-keeping were the other less often used preventive strategies (10%). In the study, almost 55% of participants did not maintain the advised space when speaking in front of others.

DISCUSSION

The global spread of the coronavirus pandemic poses a serious threat to all humans, regardless of race, economic status, or geographical location [18]. The epidemic affectspractically every country on the planet, affecting the vast majority of human activities, including the economic and healthcare systems [16]. Because effective treatment and vaccines are currently unavailable, particularly in African nations, prevention is the sole method for combating the infection [19]. As a result, effective COVID-19 prevention and control is achieved by enhancing the knowledge, attitude, and practice of high-risk population groups toward COVID-19 [13].

Demographic Characteristics of the Participants

This study had 150 study participants in total. The majority of study participants (62%) were men, and approximately 53% were between the ages of 30 and 49. In terms of where the study participants lived, the majority (85%) of them lived in cities. The majority of study participants

(65%) were tertiary educated. This is most likely because the majority of the participants were students. 19% had a secondary education, 12% had a primary education, and 4% had no formal education at all. In terms of occupation, the majority of participants (51%) were students, while 8.3% were civil servants. 3% were farmers or peasants. 11% were self-employed, with the remaining 7% working in various occupations. The majority (31%) of respondents were Catholics, 27% were Anglicans, 8% were SDAs, 18% were Muslims, and 16% belonged to other religions.

Knowledge of the Participants about COVID-19

The current study indicated that study participants were well-versed in COVID-19. This proportion of sources of information on COVID-19 in the current study is higher than in another study conducted in Ethiopia [14]. This high level of awareness among survey participants stems in part from their extensive exposure to information on thevirus provided by the government and the media since the outbreak's inception. Media such as television and radio are an important source of information (73%) for raising awareness aboutthe pandemic. More than half of the research participants (51%) had high knowledge of the COVID-19 pandemic, whereas the remaining 48.7% had poor knowledge of the disease. This conclusion contrasts with findings from studies in Iran [20] and [21], which found knowledge scores of 81% and 90%, respectively. The possible explanation for this disparity is that nearly all participants in previous studies have an academic degree or higher; and would actively grasp knowledge, and respond actively to the severe condition of the pandemic and the overwhelming news reports by gathering information from reliable sources such as official health-related websites. Furthermore, the magnitude of poor knowledge (49%) in this study was found to be higher than in previous studies from Kenya [22], Bangladesh [23], and China [5], which is primarily due to differences in access to electricity and internet for accessing social media and other reliable sources of information. This study also indicated that only 17% of respondents were aware that an asymptomatic person can transmit the disease, owing to the country's obsession with knowledge acquisition. Most of Uganda's populace was overwhelmed by frequent announcements and mortality news as a result of the epidemic; nevertheless, precise information from a health and medical standpoint was still insufficient, and as a result, most people have varied perspectives and opinions of the virus [24]. As a result, the community focuses solely on publicly and consistently publicized information; for example, the majority (81%) of research participants believed that avoiding crowded settings aids in the prevention of COVID-19. Furthermore, the abundance of information may have generated confusion and difficulty in determining correct information [25]. Such information gaps will have serious consequences. Due to a lack of public awareness, almost 60% of respondents stated that no prevention approach was required for children and adults. Only 40% of study participants were aware of COVID-19's key clinical symptoms, which included fever, cough, sore throat, muscle soreness, and difficulty breathing. In comparison, 76% of respondents in a Nigerian study understood the key clinical symptoms and transmission methods [25]. Furthermore, around 30% of those polled believed that COVID-19 would not be transferred if persons did not have a fever. This indicates the ineffectiveness of social media in raising knowledge about the COVID-19 pandemic among Ugandans; for example, some media platforms frequently overestimate the risk connected with the COVID-19 pandemic and frequently equate the disease with simply fever [26].

Attitudes of the Participants towards COVID-19

In this study, the study participants' attitudes look prejudiced. Almost half of

those polled (49%) said COVID-19 did not affect young people. This is primarily due to community misconceptions. More than a quarter of participants in this study claimed that eating garlic and exposing oneself to the sun or temperatures higher than 25˚C helps to avoid infection with the new coronavirus. This is mostly due to a strong reliance and certainty in scientifically untested traditional medicine. In the current study, the majority (70%) agreed that adhering to MoH procedures is beneficial in combating COVID-19. This outcome is consistent with previous research from Nigeria [3] and Saudi Arabia [27]. The majority of respondents (73%) believe Uganda will win the struggle against COVID-19. This conclusion is consistent with KAP study findings from China [5], Malaysia [12], Bangladesh [23], and India [28]. The researchers in earlier studies ascribed the observed positive opinions to the severe measures taken by their governments (such as transportation restrictions and city and county lockdowns) in minimizing the virus's spread. However, the optimistic attitude shown in this study is not based on sound thinking; rather, it stems from the belief that Africans are resistant to the disease, as well as religious beliefs. On the contrary, according to an Egyptian study report, the majority (88%) of respondents were pessimistic and worried that the country would lose the war against the pandemic due to the low condition of most Egyptian hospitals [29].

Practices of the Participants Regarding COVID-19

Overall, participants in this survey claimed that they were only partially following the recommendations for limiting the spread of COVID-19. The majority of participants reported using a mask before leaving the house, washing their hands for at least 20 seconds with soap using hand sanitiregularlyasis, and covering their nose and mouth with a hand or tissue while sneezing or coughing. However, the majority of respondents stated that they were not avoiding crowded places, often touching their lips, nose, and eyes, greeting relatives, or keeping the suggested two-meter space from other individuals. This conclusion supports recent findings from Ethiopia [14] and [30]-[33].

CONCLUSION

The study population's knowledge, attitude, and preventative activities such as appropriate hand washing, avoidance of handshaking, and physical distance were poor to protect oneself from this extremely infectious pandemic virus. Notably, there is startlingly little information, a negative attitude, and insufficient practice in tackling the COVID-19 epidemic, all of which must be corrected immediately. Despite their shortcomings, social media and the internet aided in the acquisition of necessary knowledge. Poor practice is associated with poor knowledge, a low educational level, and contact with verified COVID-19 cases, whereas poor knowledge, a low educational level, and travel history are all associated with poor practice.

Recommendations

Therefore, there is an urgent need for health education activities aimed at enhancing COVID-19-related knowledge, attitude, and practice, especially among illiterates, those with a history of travel and contact, and generally among poor populations. The population's attitudes and practices toward COVID-19 should be assessed in further research, which could make use of open-ended questions, in-depth interviews, or focus group discussions. This will help shed more light on COVID-19's biopsychological effects in a nation with a weak health system and economy.

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