Adherence to Covid-19 Prevention Protocols among Adults Residing in Kitui Central Sub-County, Kitui County, Kenya

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Abstract

INTRODUCTION

The COVID-19 pandemic wreaked worldwide havoc resulting in at least 6.9 million deaths. In Kenya, the government laid out behavioural and social mitigation strategies to control its spread. This study aimed to assess adherence to COVID-19 mitigation measures among adults residing in Kitui County, Kenya.

METHODOLOGY

A descriptive cross-sectional study was conducted among households in Kitui Central Sub-County, Kitui County, Kenya sampling 384 participants. Data was collected using a semi-structured questionnaire and observation checklist. Principal Component Analysis, Chi-square and multiple regression were used to assess associations and causation using SPSS version 25.

RESULTS

The response rate was 85%. Almost all (96.6%; n=315) of the participants had heard of COVID-19 and knew that wearing face masks prevents infection (98.5%; n=321). Television was the source of information for most (53.7%, n=175) participants. There was a significant difference (p<.05) between respondents who knew the COVID-19 prevention protocols and those who did not ($\chi 2=0.10$; df=1;p=.00).

CONCLUSION

There was a high level ofknowledge and a moderate level of practice of COVID-19 prevention protocols. Television was an important medium for community health education. Ministries of health can utilise mass media for continuous population education on COVID-19 and other infectious diseases.

Keywords: COVID-19, Disease Prevention and Control, Public Health, Protocols

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Introduction

The World Health Organization (WHO) declared COVID-19 a pandemic in March 2020 (1,2). The disease is principally transmitted by respiratory droplets with incubation and development time similar to the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV). It spreads rapidly in gatherings, and social places through respiratory droplets produced during coughing or sneezing and contact with infected surfaces or objects. Although the droplets cannot travel more than two metres, they remain in the air for up to three hours(1,3–5). In

the face of the pandemic strategies targeting human behaviour and social interactions were fronted as the most effective in prevention and control (6).

Globally, 340 million people were infected and over 5 million died from COVID-19 by January 2022 (7). The Kenya Ministry of Health, working with WHO laid down behavioural and social approaches to mitigate the spread of COVID-19. These measures were such as the mandatory wearing of face masks while in public spaces, washing hands frequently using soap and water for more than 20 seconds or using an alcohol-based hand rub, maintaining a distance of about 1 metre from others, choosing open, well-ventilated spaces over closed ones, and getting vaccinated among others(8).

Evidence indicates that there was a need for the wide dissemination of adequate information about COVID-19 to increase adherence to mitigation measures(12). This consequently improves the level of knowledge and the subsequent application of the prescribed interventions to reduce community transmission of COVID-19.

Kitui County reported more than 5000 cases with close to 200 deaths by January 2022. These numbers were higher than the cases in other sub-counties in Kitui county and were mostly locally transmitted (13). Therefore, this study aimed at assessing the adherence to COVID-19 preventive protocols among adult residents of Kitui Central Sub-County.

Methodology

Study design, area and population

The researchers adopted a descriptive cross-sectional design for this study. The study was conducted at Kitui Central Sub-County, in Kitui County, Kenya. The County has a population of 1.136 million people and the study area is one of the most densely populated (105,991) compared to other sub-counties.

The study population comprised adults residing in Kitui Central Sub-County. The adults' age, availability at the time of data collection, residence in Kitui Central Sub-County and consent to participate in the study, were the inclusion criteria. Those who were sick, or did not consent to participate in the study were excluded

Sampling technique

Convenience sampling technique was first used for the selection of the study location which had recorded majority of the covid-19 cases. Further cluster sampling was used whereby clusters for this study included bus stops, supermarkets, households and learning institutions. For the bus stop and supermarkets the researcher applied convenient sampling to select the participants. At the household's level, the researcher applied systemic random sampling to select a member of the household to participate in the study. At the learning institutions simple random sampling was applied to select one institution out of the four institutions of higher learning in Kitui central sub-county then clustered the students and applied simple random sampling to get the study subjects.

Data collection

The data collection tool was a semi-structured questionnaire and an observation checklist. The tools were pre-tested and amended focusing on feasibility and reliability before data collection.

Data analysis techniques

Statistical analysis was performed using the SPSS software. A Chi-square test was used to measure associations and multiple regression was used to measure the contribution of each independent variable to the regression model. The dimensional reduction was used to determine the correlation matrix, principal component and scree plot.

Ethical considerations

Approval to conduct this study was obtained from the University of Eastern Africa,

Baraton ethical review committee. An additional license was obtained from the National Commission for Science, Technology and Innovation (NACOSTI). Informed consent was obtained from all participants and all data was treated with confidentiality and privacy.

Results

The response rate was 85% from a possible sample of 384 adults. The majority of the respondents (58.3%, n=190) were male and 34.7 (n=113) were aged 20-29 years while 28.2% (n=92) were aged 30-39 years. Most (85.3%, n=278) were Christians with a few Muslims participating (6.1%, n=20). More than half of the respondents (51.2%, n=167) had achieved a tertiary level of education and 28.5% (n=93) had attained secondary-level education. Married participants were 50.9% (n=165) while 43.3% (n=141) were single. Table 1. The majority (34.0%, n=111) earned less than Ksh. 10,000 with the fewest respondents (2.8%, n=9) earning between Ksh. 40,000-49,999. On employment status, more respondents were unemployed (43.3%, n=141) compared to those who were employed (33.4%, n=109).

Table 1:
Demographic Characteristics of the Respondents in Kitui Central Sub-County, Kenya

Variable	Categories	N	%
Age of the respondent	Below 20 years	30	9.2
	20-29 years	113	34.7
	30-39 years	92	28.2
	40-49 years	48	14.7
	Above 50 years	38	11.7
	Missing	5	1.5
Gender	Male	190	58.3
	Female	136	41.7
Level of education	Tertiary level	167	51.2
	Secondary	93	28.5
	Primary	54	16.6
	No formal education	12	3.7
Marital status	Single	141	43.3
	Married	165	50.9
	Widowed/Separated	18	5.8
Religion	Christian	278	85.3
	Muslim	20	6.1
	Others (Hindu)	28	8.6
Income	Below Ksh. 10,000	111	34.0
	Ksh. 10,000-19,999	52	16.0
	Ksh. 20,000-29,999	22	6.7
	Ksh. 30,000-39,999	22	6.7
	Ksh. 40,000-49,999	9	2.8
	Ksh 50,000 and above	39	12.0
	Non-response	71	21.8
Employment status	Employed	109	33.4
	Self-employed	64	19.6
	Unemployed	141	43.3
	Non-response	122	3.7

Covid 19 prevention protocols

On knowledge of Covid 19 prevention protocols, 96.6% (n=315) of the respondents had heard about COVID-19 prevention protocols and hence were aware. More than half of those who were aware of the COVID-19 prevention protocols first sought information Television (53.7%, n=175) while the others heard from radios (22.1%, n=72), hospitals (2.5%, n=8), friends (7.1%, n=23) and least from churches (1.2%, n=4). Based on the respondents' understanding of what COVID-19 disease is, 52.5% (n=171) knew COVID-19 as a killer disease while 48.2% (n=48.2) knew it as a highly infectious disease. Table 2. Signs and symptoms reported were: fever (66.8%, n=218), coughing and sneezing (66.6%, n=217) and breathing problems (34.0%, n=111).

Table 2:
Knowledge of COVID-19 and Prevention Protocols among Adults Residing in Kitui Central Sub-County

Variable	Categories	N	%
Heard about COVID-19	Yes	315	96.6
Source of information	No	11	3.4
	Television	175	53.7
	Radio	72	22.1
	Friends	23	7.1
	Hospital	8	2.5
	Church	4	1.2
	Family	3	0.9
Knew what COVID-19 is	All	41	12.6
	Killer disease	171	52.5
Knowledge of the causes	Highly infectious disease	157	48.2
	Coronavirus	199	61.0
	Overcrowding	36	11.0
Knowledge of Signs and symptoms of COVID-19	Shaking of hands	27	8.3
	Fever	218	66.9
	Coughing/sneezing	217	66.6
	Breathing problems	111	34.0
	Sweating	40	12.3
	Loss of smell	39	12.0
Knowledge of transmission	Loss of appetite	12	3.7
	Contact with infected persons	145	44.5
	Infected air	141	43.3
	Infected surfaces	68	20.9
	Overcrowding	51	15.6
Knew if disease is preventable	Not washing hands	20	6.1
	Yes	321	98.5
Knowledge of prevention	No	5	1.5
	Putting on masks	263	80.7
	Social distancing	179	54.9
	Handwashing	176	54.0
	Vaccination	130	39.9
	Sanitizing	78	23.9
	Avoid body contact	76	23.3

Mode of transmission was reported as contact with an infected person or surface (36.7%), handshaking (15%), inhaling infected air (42.8%) and being in overcrowded areas (4.5%).

All most all respondents (98.5%; n=321) knew that COVID-19 was preventable through putting on face masks (80.7%, n=263), social distancing (54.9%, n=179), proper hand washing (54.0%, n=176%), vaccination (39.9%, n=130), sanitizing (23.9%, n=78) and avoiding body contact (23.3%, n=76).

More than half (59.2%) of the respondents practised hand washing with soap and running water always, 50.3% always used face masks. Fifty per cent used alcohol-based hand sanitisers sometimes. All the other practices were below 50% and did not observe any of the recommended measures. Figure 1.

Checklist results

The checklist results in Table 4 shows that out of the 13 item in 7 items, were adhering to COVID-19 protocols with more than 50% responses with the highest of 68.7% with face masks. It was also observed that 63.5% did not have COVID-19 IEC materials within the premises/household while 52.8% did not disinfect frequently touched surfaces.

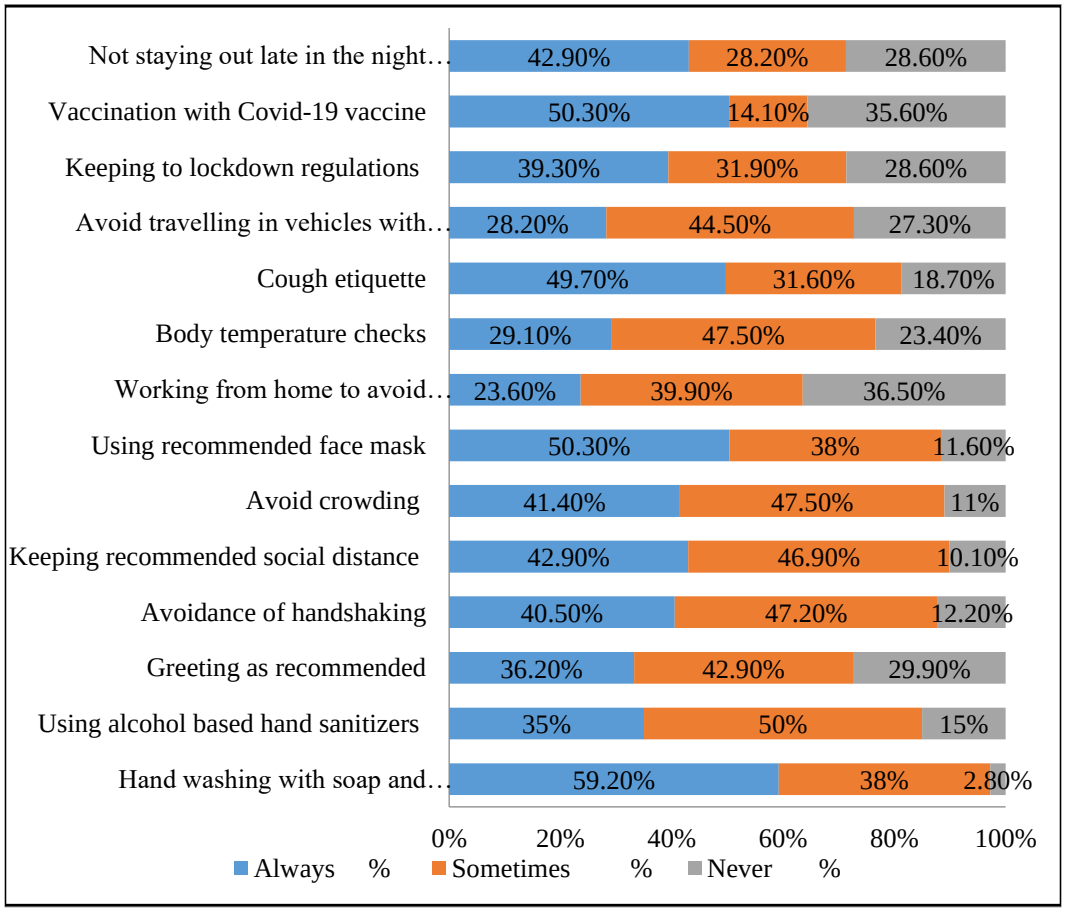

Figure 1:
Practices of the COVID-19 Prevention Protocols among Adults Residing in Kitui Central Sub-County

Discussion

Despite the implementation of mandatory prevention protocols in Kenya during the 2020 Covid 19 pandemic, Kitui County still reported more than 5000 cases and nearly 200 deaths (13). This study assessed the residents' adherence to COVID-19 preventive protocols in Kitui Central Sub-County, Kenya.

Knowledge of COVID-19 and the prevention protocols

According to the findings of this study, 97.5 % (318) of the respondents had heard about COVID-19 prevention protocols and hence were aware. More than half (53.7%; 175) of those aware of the protocols reported that their first source of information was the Television while the others 46.1% (151) heard from other sources. The respondents stated that COVID-19 was a killer disease, contagious, originated in China, has no cure, affects the respiratory system, is a worldwide disease and can be prevented. These results agree with (16) who argue that to a larger extent, populations should be aware of the condition in terms of its causation factor, modalities of transmission between and among people, the varied clinical presentation of the disease progression in infected persons, management interventions and prevention measures.

The study also established the participants were aware of the signs and symptoms of COVID-19 as fever, coughing, loss of appetite, loss of smell, chest pain and sour throat. These results agree with WHO's advice for the Public (17) which stated similar presentations. There was a significant difference between the respondents who knew the COVID-19 prevention protocols and those who did ($\chi 2$ = 0.103; df = 1; p =0.001). According to the WHO(17), adherence to COVID-19 prevention measures is influenced by peoples' knowledge about the disease.

Practices of the COVID-19 prevention protocols

A majority (59.2%;193) of the respondents practised hand washing with soap and running water always, followed by 50.3% (164) who were using the recommended face mask always.

Table 3:
Participant's Responses to the Check List

Statement	Yes %	Inappropriately %	No %
Has face masks	68.7%	5.2%	26.1%
Has put on a face mask	54.0%	9.8%	43.6%
Does not reuse face masks	54.0%	2.5%	43.6%
Puts on the face mask appropriately	52.1%	11.3%	36.2%
Practices hand washing	54.3%	14.7%	40%
Has a designated hand washing point with soap and running water	56.7%	9.8%	33.4%
Sanitizes hands using alcohol, based sanitisers	49.4%	8.9%	41.7%
Has recommended hand sanitiser	48.5%	5.8%	45.7%
Disinfects frequently touched surfaces	37.1%	10.1%	52.8%
Coughs/sneezes into the elbow	52.5%	11%	36.5%
Practices social distancing	46.3%	7.7%	46%
Has been fully vaccinated for COVID-19	48.5%	12.9%	38.7%
Has COVID-19 IEC materials within the premises/household	29.4%	7.1%	63.5%

Other 50% (163) were using alcohol-based hand sanitisers sometimes. This indicates a laxity in adherence to the prevention protocols in this population since all the other practices were below 50% with some who never practice any adherence. It was also established that there was a significant association between adherence to COVID-19 prevention protocols and level of education among the respondents ($\chi 2 = 65.363$; df = 1; p-value = 0.00). This agrees with Zhan*et al*(7) who reported that persons with higher education exhibited better behaviour regarding the uptake of disease prevention strategies.

Conclusions

Adherence to COVID-19 prevention protocols was associated with awareness and practice for this population. Awareness was associated with the level of education. Knowledge was associated with the level of education and income level. COVID-19 prevention protocols and practice were both associated with the level of education.

Recommendations

The county government departments of education and health need to promote formal education coupled with campaigns to raise awareness on diseases of public health importance like COVID-19. This will greatly contribute to the combat of such diseases.

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