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FACTORS ASSOCIATED WITH HOME-BASED CARE SERVICES IN THE CONTROL OF COVID-19 INFECTION IN SHEEMA MUNICIPALITY, SHEEMA DISTRICT. A RESTROSPECTIVE STUDY.

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Abstract

Introduction

Home-based care (HBC) provides various services to ensure safety in homes, such as physical therapy, occupational therapy, nursing, personal care support, and transportation.

Objective

The study analyzed COVID-19 suspects' use of Home-Based Care, identified social, demographic, economic, and environmental factors, and established policies for HBC agencies.

Methodology

A study involving 394 participants aged 10-80 with mild COVID-19 symptoms in-home care examined factors related to HBC services and COVID-19 infection control using logistic regression analyses.

Results

Of the 394 study participants, 80.2% could control their COVID-19 infection. HBC-related factors were washing hands with soap and water, keeping a safe distance from coworkers, wearing masks, taking precautions, touching the mouth, nose, or eyes with dirty hands, and people who could not recall or found it difficult to break bad habits. Participants who used masks when they were out of the house most of the time (about 75% of the time) had a 95% lower chance of controlling their COVID-19 infection, according to the multivariate analysis (aOR=0.05; 95%CI (0.0-0.41); p=0.005). The odds of controlling a COVID-19 infection were 98% lower for participants who occasionally (about 25% of the time) used masks when they were outside (aOR=0.02; 95%CI (0.0-0.3); p=0.005) and 92% lower for participants who mainly (approximately 75% of the time) followed precautions when making purchases to prevent virus contamination.

Conclusion

HBC significantly impacted COVID-19 infection control, with 80.2% of participants using services, highlighting its importance in maintaining continuity of care, especially for vulnerable individuals.

Recommendations

The study suggests that global implementation of evidence-based practice guidelines and federal policy changes can enhance preparedness for future disasters and pandemics. Uganda's Ministry of Health should strengthen these strategies, including HBC services, to mitigate COVID-19's negative effects.

Keywords: *HBC Services, COVID-19, Socio-economic factors, and Vulnerable individuals.*
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Introduction

The COVID-19 pandemic has had a major effect on healthcare systems and the economy globally 2, with over 1,202,320 confirmed cases and 2,674,078 deaths registered. In Uganda, 168,776 cases were registered, with 85% of them being managed through Home-Based Care (HBC) interventions3. However, the absence of additional information, technological know-how, and funding made it difficult to apply HBC initiatives 4.

Global health systems faced hitherto unheard-of difficulties as a result of the COVID-19 pandemic, necessitating creative methods of infection prevention and control.5. Home-based care (HBC) has become a vital tactic to supplement overburdened healthcare facilities in resource-

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constrained environments like Sheema Municipality, Sheema District.3. To handle mild-to-moderate COVID-19 cases, ease hospital overcrowding, and stop the illness from spreading, HBC services are essential.

Despite the benefits, the effectiveness of HBC services in controlling COVID-19 infection is affected by several elements, such as the degree of knowledge and adherence to infection prevention guidelines, availability of resources (e.g., protective equipment and isolation space), community perceptions, caregiver capacity, and the socio-economic status of households6. Nevertheless, little is known about the precise elements affecting the success and challenges of home-based care services in rural municipalities like Sheema7. This gap in knowledge hinders the development of targeted interventions and policies to optimize HBC services as a sustainable model for managing infectious diseases in such settings. Consequently, being aware of the elements connected to the effectiveness of home-based care in controlling COVID-19 infection in Sheema Municipality is essential for improving public health strategies and ensuring better preparedness for future pandemics8.

Hypotheses Used

v Utilizing a home-based care approach to manage the COVID-19 epidemic and other health emergencies was more cost-effective than traditional health facility services.

v The existence of Geographic, Socioeconomic, Cultural, and Environmental factors positively affected the application of the home-based care approach to managing public health crises.

v The scientific research policies, reforms, and practices were closely related to the success of the home-based care strategy in controlling pandemics and health emergencies.

Methodology

Study Design

This study used a cross-sectional study design, utilizing mixed methods of data collection for the quantitative and qualitative approaches. This helped the researcher to determine the impact of demographic and socioeconomic factors and the level of home-based care utilization in the COVID-19 control. This is because cross-sectional studies involve data collection that covers a one-off period, and recording of observations are recorded at one point in time or over days, weeks, or months.9. When data was collected at more than one point in time, and then later on, the study was considered to be longitudinal.

Study area/setting

The study was carried out in Sheema Municipality in southwestern Uganda, and the largest in Sheema10. This Municipality was found to be under Sheema District and bordered by Buhweju District in the north, Bushenyi District in the west, Mitooma District in the southwest, Ntungamo District in the south, Rwampala District in the southeast, and Mbarara city in the east. Sheema municipality is located approximately 301 kilometers from Kampala city via Masaka and Mbarara road along Mbarara Bushenyi highway, taking 5 hours and 15 Minutes using a bus drive. It was found to be at an elevation of (4,630Ft) 1,410 m and has a population of 80,375 in the Ankole sub-region. 11. The coordinates of the study area included: Latitude: S 0 35'3", Longitude: E 30 23'16", Altitude: 1491.6m, Accuracy: 4.66m. Data collection was done from 1st June to 30th June 2024.

Study population

The study group was the 80,375 residents of Sheema Municipality. Out of the 398 sample size population who were eligible for the study, data were gathered from 394 household members who consented to participate in the study upon receiving home care for COVID-19. Study results were analyzed based on results provided by the 394 study participants in Nyanga ward, Sheema Municipality, Sheema district, Kabwohe Division.

Selection criteria

Inclusion criteria

All participants who were residing in the study area, aged 10 to 80 years, who suffered from COVID-19, confirmed and cured of COVID-19 infection during the pandemic period (December 20219 to December 2022) were included in the study.

Exclusion criteria

All the new household members with chronic illness after the COVID-19 pandemic from 2023 to the study date, and all those who had suffered from chronic infections before December 2019. All those children born during the COVID-19 pandemic lockdown and children below 10 years of age during the pandemic period were not included in the study.

Sample size determination

The Slovin (1960 sample size determination formula for calculating quantitative data was used, guided by the sample population formula given here12;

$$\mathbf{n} = \frac{\mathbf{N}}{\mathbf{1 + N\,(e\,2)}}$$

Where **n** stood for the study's sample size, **N** for the population's size of 80,37511, and **e** for the precision level (0.05). Substituting the parameters of the collected data in this method allowed the researcher to determine the sample size for the 394 participants in the study.

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Sampling Procedure

Quantitatively, a multistage random sampling method was employed at every stage, starting from the Municipal health office level after official introduction to the District Health Officer, to division level, ward level, village level, and Household level. For qualitative data, purposive sampling was used.

Measurement Level

Both nominal and ordinal (categorical/statistical) levels of measurement were used to understand the study's measurement variables. At the nominal level, the researcher was able to name or label the categorical data because there was no order between values, values don't overlap (discrete), and are not usually used for evaluating calculations but rather for grouping participants.

At the Ordinal level, the researcher dealt with the data that had interval points with unequal values, because here, there was no way to measure the numerical value of one response to the next. For example, the researcher could not be able to determine how much the respondents who answered question 3 differed in importance from those who answered question 5

Data collection tool

Qualitative Data was collected using the semi-structured tools (both closed and open-ended questions) and Focus group discussions.

Quantitative data was collected using a Questionnaire tool to collect primary data from study participants 13. These included semi-structured questionnaires, the Key Informant interviews (KIIs) and Focus Group Discussions (FGDs); and both the interviews targeting males and females in the age range of 10 to 809.

Pilot interview

A pilot test ensured the validity of the research instrument before the study, detected flaws early, and identified areas for instrument adjustments, as well as in terms of added value and credibility to the research.14. A sample of 40 from Rutooma cell in Rutooma ward, Kabwohe Division, Sheema municipality, representing 10% of the sample size, was administered. The results, comments, and recommendations from the pilot study were used to address the omissions and irrelevant questions in the study tools, hence enhancing the questionnaires' reliability.

A qualitative research supervisor evaluated the researcher's interviewing skills and provided feedback. The validated interview guide remained unchanged, and the collected data were used for analysis. This helped to refine the researcher's interviewing skills, including listening, reflecting, probing, paraphrasing, and summarizing.

Data collection procedure

The study participants were identified by the researcher in consultation with the District and Municipal leadership, including VHTs. Data was collected by the researcher himself with the help of 3 research assistants who were pre-trained for 2 days for translation, where and when necessary. The researcher carefully visited the targeted households with the targeted study participants.

The interviews

The researcher introduced the study topic, objectives, and informed consent form to participants, building rapport and trust. Participants were asked to sign informed consent forms, and participant codes were used to ensure confidentiality. In-depth face-to-face interviews were conducted to gather information on participants' experiences with Home-Based Care services during the COVID-19 pandemic.

Validity of the study

The researcher first piloted the data collection tools before real data collection to confirm their validity to guard against errors. Using professional judges (Research Supervisors and Experienced researchers), the data collection instruments were pretested for scrutiny, and the necessary recommendations were given.

These judges evaluated the relevance of the questions to the study objectives and awarded marks, which in turn were used to determine the validity by the following formula;

$$CVI = \frac{K}{N}$$

Where **CVI** represents the content validity Index, **K** represents the number of items rated by all judges and **N** for the total number of items in the instrument. The instrument was ranked as valid as long as CVI was higher than the recommended value of 0.70 (Mugenda et al., 2003)

Reliability

The researcher ensured data reliability by carrying out various measures before fieldwork and data analysis were done. Reliability meant a measure of the extent to which a research tool or instrument gave the same results after repeated experiments or trials had been carried out using the same tool (De Vellis, 1991). This was achieved by using the Cronbach's Alpha Coefficient formula as given below;

$$\alpha = \frac{k}{k-1}\left(1 - \frac{SD2\ i}{SD2\ t}\right)$$

Where **α** represented Cronbach's coefficient alpha, **k** represented the number of items in the test, **SD2 I** represented the variance of individual item scores, and **SD2 t** represented the variance of the observed total test scores. Where the calculated reliabilities were found to be higher

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than the recommended value of 0.70, then the instruments were judged as reliable (Mugenda et al., 2003).

Credibility

Trustworthiness was ensured by selecting participants who met the inclusion criteria and following the interview guide. An accurate understanding of questions and research objectives was ensured. Credibility was applied to ensure truth value. Data assurance was established through peer debriefing and member checks. Member checking involved rephrasing and summarizing during interviews, while peer debriefing involved reviewing transcripts with the supervisor.

Transferability

Transferability refers to the analogy of generalizing and the ability to relate the findings to other contexts or other participants. Generalization was not the aim of this qualitative research, but rather to gain a detailed understanding of the participants' lived experience.

Dependability

Dependability refers to the likelihood of similar results if the study were repeated. The researcher maintained a detailed audit trail, stored raw data, and engaged a supervisor to ensure accurate participant information capture. Interview details were recorded, documented, and sent for verification.

Confirmability

This ensures data accuracy, significance, and importance, ensuring participant information is accurately represented and not influenced by the researcher's imagination. The researcher ensured data safety and grounded findings and interpretations using verbatim participant quotations for further analysis.

Data management and analysis

The researcher first examined the filled questionnaires to check for completeness and consistency. The gathered information was coded, themes were produced, and the qualitative data underwent thematic analysis.

Regarding numerical data, it was analyzed by exporting it to STATA version 14, and the analyzed (at univariate, bivariate levels, and multivariate levels) data were presented using frequency distribution tables for purposes of interpretation and understanding. Using proportions, percentages, and frequencies, descriptive analyses were performed to generate summaries for categorical variables such as education level, religion, marital status, and employment status. After summarizing continuous data like age, the results were displayed as tables, graphs, and narratives, and correlations between the independent factors and the outcome variable were examined.

Cross-tabulation was also employed to evaluate the connection between the various independent variables and home-based care services in the control of COVID-19 infection. ANOVA was used for a statistical association test. The measure of association was the prevalence ratio at a 95% confidence interval.

Qualitative data

To investigate the factors related to home-based care services in the management of COVID-19, qualitative data analysis was conducted. Information from KIIs and FGDs was recorded using a tape and transcribed verbatim. Data analysis was done thematically by identifying emerging concepts and themes based on the specific objectives of the study. The concepts and themes were summarized in tabular form, and summary statements with representative quotes were developed for each theme and area of interest. The entire analysis was facilitated by ATLAS.ti, version 9.

For **Multivariate analysis,** the researcher used a logistic regression model to determine the significant factors that influence home-based care services in the control of COVID-19 infection.

Ethical considerations

The study protocol was approved by Bishop Stuart University's Research Ethics Committee under BSU-REC-2023-236, dated 12/02/2024. REC Permission for data collection during the research period was from 12/02/2024 to 12/02/2025.

Uganda National Council for Science and Technology (UNCST) further approved the study under the research registration number: SS2402ES dated 22 July 2024; and the study period being 22/07/2024 to 22/07/2025.

The researcher made sure that the participants' voluntary participation principle (they shouldn't be forced to take part in any research study) was followed. Bishop Stuart University's (BSU) University Internal Review Board (IRB) reviewed the entire study.

The main goal of the study was clearly stated in this, and confidentiality was guaranteed because the data was always presented in a form that did not link the participants' identities to any responses, ensuring that they were treated with the utmost confidentiality.

Participants signed informed consent forms, were assured of confidentiality through the use of participant codes, and had the right to withdraw at any time.

Control of bias

By carefully creating questions and expressing them neutrally to prevent influencing respondents to provide a specific response, the researcher was able to regulate and

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eliminate bias. To lessen selection bias, participants were chosen at random from the target group. Before the survey was sent, specialists examined it to identify any potential biases.

Study Results

Participants' socioeconomic and socio-demographic traits

Findings in Figure 1 indicate that of the 394 participants, 51.3% were male (n=202) while 48.7% were female (n=192). On average, the study participants were aged (Mean ± sd) [38.5 ± 14.04] years. The majority of participants completed a secondary level of education, 152(38.6%), and were Farmers, 224(56.9%) too. Household income of more than 100,000 Ugandan shillings was 369 (93.7%), Anglican faith was 199 (53.8%), and married ones were 154 (46%).

Proportion of COVID infection control using home-based care services

The response rate during this study was 394 /398 x 100 = **98.9%**

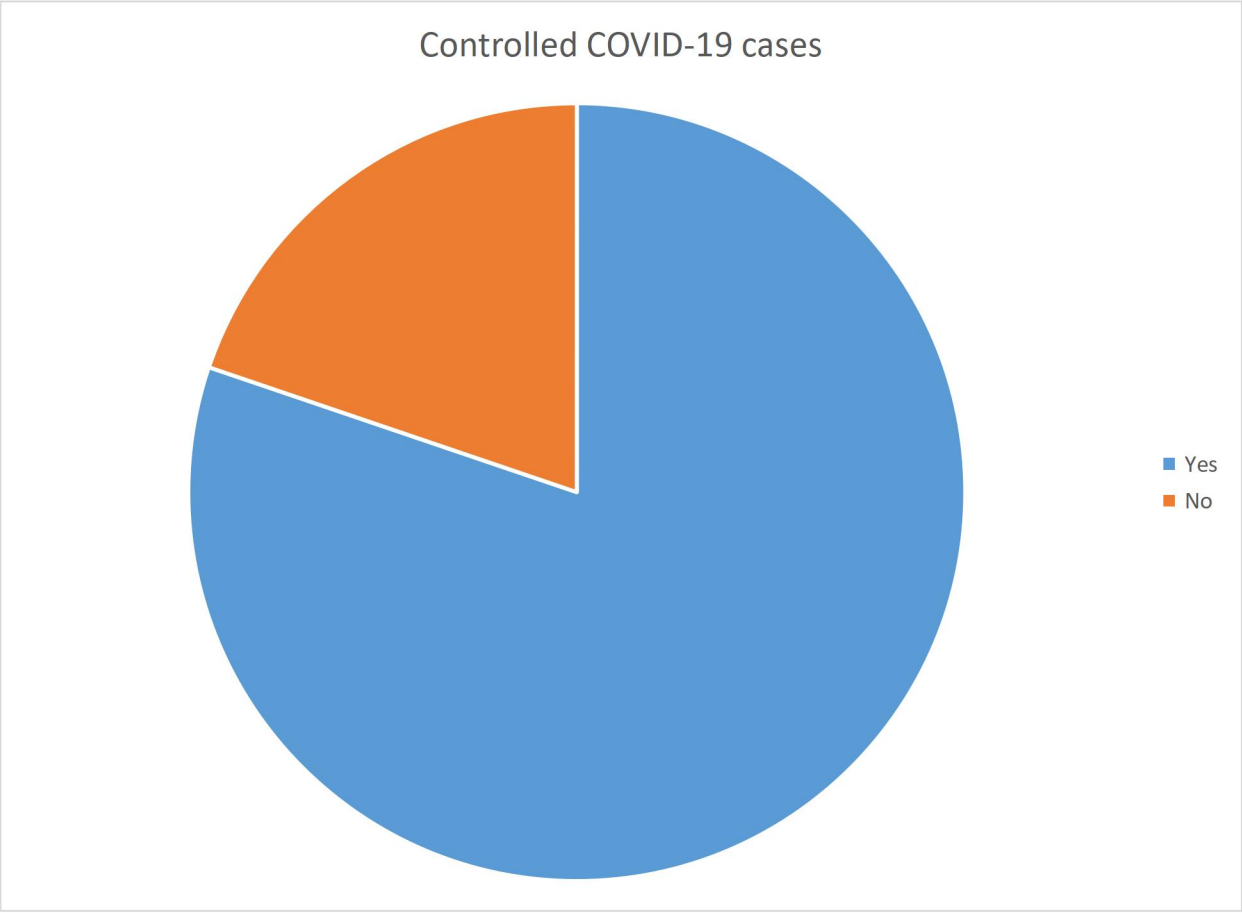

Fig 1. Proportion of COVID infection control using home-based care services

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Table 1. Socio-Demographic Characteristics of Respondents (n=394)

Characteristics	Category	n(%)
Age in years. The average ± standard deviation Age in years. Age median	38.5 ± 14.043 36 years	
Household size (Mean ± standard deviation)	3.01 ± 1.8	
Sex	Male	202 (51.27)
	Female	192 (48.73)
Education level	Tertiary	113(28.68)
	Secondary	152(38.58)
	Primary	115(29.19)
	None	14(3.55)
Occupation	Farmer	224(56.85)
	Business	129 (32.74)
	Formally employed	41 (10.41)
Average monthly household income (UGX)	>1M	24 (6.09)
	>100,000	369 (93.65)
	<100,000	1 (0.25)
Religion	Catholic	148 (37.56)
	Anglican	199 (50.50)
	Moslem	47 (11.92)
Marital status	Single	68 (17.25)
	Married	170 (43.14)
	Divorced	48 (12.18)
	Widowed	38 (09.64)
	Cohabiting	70 (17.76)

Level of Utilization of Home-Based Care services in the control of COVID-19

Study findings show that the majority, 88%, were aware of the COVID-19 outbreak, 51% rarely shook hands while greeting people, and 35.5% mostly washed their hands with soap and alcohol-based sanitizer. When coughing or sneezing, 40.2% of participants made sure to cover their face with a handkerchief or bent elbow, 49.5% made sure to wash their hands before touching their eyes, nose, or mouth, and 52.4% always made sure to wash or disinfect their hands for at least 20 seconds. When eating with coworkers at work, 46% of respondents always kept a minimum distance of one meter, and 27.1% of respondents always kept a minimum distance of one meter at work. 45.9% of people never left the house without a reason. In 2020–2022, 64.4% of people never went to social events (such as seeing friends, attending places of worship, traveling to malls, the theater, etc.). 42.3% always wore masks while in public, and 44.3% always kept a minimum of one meter between them (for example, when grocery shopping or attending social events). 46.4% always ensured that both their nose and mouth were covered, 39.1% always kept their mask properly in a separate bag/dustbin after using it, 36.2% mostly sanitized their items (eg purse/mobile phone, etc) with sanitizer when they come home, 46.8% mostly took precautions when buying things to avoid virus contamination, 39.5% mostly obeyed government restrictions regarding the COVID-19 pandemic, Majority 97.4% of family members were not provided with COVID-19 screening kits, 47.4% strongly agreed that in case they develop COVID-19 like symptoms, they will contact the hospital/helpline/authority regarding it and 42% strongly agreed that if the participants come in contact with COVID positive/suspect person, they need to stop going to work and confine themselves to the home away from friends and family members. Details are demonstrated below

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Table 2: Level of Utilization of Home-Based Care services (HBC) among the isolated COVID-19 suspects in the control of COVID-19 (n=394)

Characteristics	Category	n(%)
Knowledge about covid-19 outbreak	Yes	346 (88.04)
	No	47 (11.96)
How often did you shake hands while greeting people in those days?	Always *(more than 90% time)*	17 (4.35)
	Mostly *(approx. 75% time)*	115 (29.41)
	Commonly *(approx. 50% time)*	51 (13.04)
	Occasionally *(approx. 25% time)*	10 (2.56)
	Rarely *(less than 10% time)*	198 (50.64)
How often did you wash/sanitize your hands with soap and water/ alcohol-based sanitizer?	Always *(more than 90% time)*	114 (32.39)
	Mostly *(approx. 75% time)*	125 (35.51)
	Commonly *(approx. 50% time)*	42 (11.93)
	Occasionally *(approx. 25% time)*	42 (11.93)
	Rarely *(less than 10% time)*	29 (8.24)
How often did you ensure that you washed /sanitized your hands for at least 20 seconds?	Always *(more than 90% time)*	176 (52.38)
	Mostly *(approx. 75% time)*	93 (27.68)
	Commonly *(approx. 50% time)*	28 (8.33)
	Occasionally *(approx. 25% time)*	39 (11.61)
How often did you ensure that you covered your face with a handkerchief/ bent elbow while coughing/sneezing?	Always *(more than 90% time)*	71 (33.18)
	Mostly *(approx. 75% time)*	86 (40.19)
	Commonly *(approx. 50% time)*	23 (10.75)
	Occasionally *(approx. 25% time)*	22 (10.28)
	Rarely *(less than 10% time)*	12 (5.61)
How often did you ensure that you cleaned your hands before touching your eyes/nose/ mouth?	Always *(more than 90% time)*	66 (17.46)
	Mostly *(approx. 75% time)*	187 (49.47)
	Commonly *(approx. 50% time)*	68 (17.99)
	Occasionally *(approx. 25% time)*	28 (7.41)
	Rarely *(less than 10% time)*	29 (7.67)
How often did you maintain a minimum distance of one meter at your workplace?	Always *(more than 90% time)*	104 (27.08)
	Mostly *(approx. 75% time)*	78 (20.31)
	Commonly *(approx. 50% time)*	82 (21.35)
	Occasionally *(approx. 25% time)*	97 (25.26)
	Rarely *(less than 10% time)*	23 (5.99)
How often did you maintain a minimum distance of one meter while eating food with your colleagues at your workplace?	Always *(more than 90% time)*	172 (45.87)
	Mostly *(approx. 75% time)*	59 (15.73)
	Commonly *(approx. 50% time)*	98 (26.13)
	Occasionally *(approx. 25% time)*	25 (6.67)
	Rarely *(less than 10% time)*	21 (5.60)

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Table 2: Level of Utilization of Home-Based Care services (HBC) among the isolated COVID-19 suspects in the control of COVID-19 (n=394). Continued.

Characteristics	Category	n(%)
How often did you avoid going out of the house unnecessarily?	Always *(more than 90% time)*	172 (45.87)
	Mostly *(approx. 75% time)*	59 (15.73)
	Commonly *(approx. 50% time)*	98 (26.13)
	Occasionally *(approx. 25% time)*	25 (6.67)
	Rarely *(less than 10% time)*	21 (5.60)
How often did you attend social gatherings in the years 2020-2022? (Like meeting friends, going to religious places, visiting malls, theatres, etc)?	Never	246 (64.40)
	Once	55 (14.40)
	Twice	21 (5.50)
	Thrice	12 (3.14)
	More than three times	48 (12.57)
How often did you maintain a minimum distance of one meter in public spaces (eg, grocery shopping, social gatherings, etc)?	Always *(more than 90% time)*	172 (44.33)
	Mostly *(approx. 75% time)*	54 (13.92)
	Commonly *(approx. 50% time)*	67 (17.27)
	Occasionally *(approx. 25% time)*	86 (22.16)
	Rarely *(less than 10% time)*	9 (2.32)
How often did you wear masks while going out of your home?	Always *(more than 90% time)*	164 (42.27)
	Mostly *(approx. 75% time)*	85 (21.91)
	Commonly *(approx. 50% time)*	85 (21.91)
	Occasionally *(approx. 25% time)*	24 (6.19)
	Rarely *(less than 10% time)*	30 (7.73)
While wearing a mask, how often did you ensure that both your nose and mouth were covered?	Always *(more than 90% time)*	179 (46.37)
	Mostly *(approx. 75% time)*	165 (42.75)
	Commonly *(approx. 50% time)*	16 (4.15)
	Occasionally *(approx. 25% time)*	6 (1.55)
	Rarely *(less than 10% time)*	20 (5.18)
How often did you keep your mask properly in a separate bag/dustbin after using it?	Always *(more than 90% time)*	141(37.80)
	Mostly *(approx. 75% time)*	146 (39.14)
	Commonly *(approx. 50% time)*	66 (17.69)
	Occasionally *(approx. 25% time)*	8 (2.14)
	Rarely *(less than 10% time)*	12 (3.22)
How often did you sanitize your items (eg, purse/mobile phone, etc) with sanitizer when you come home?	Always *(more than 90% time)*	137 (35.40)
	Mostly *(approx. 75% time)*	140 (36.18)
	Commonly *(approx. 50% time)*	26 (6.72)
	Occasionally *(approx. 25% time)*	40 (10.34)
	Rarely *(less than 10% time)*	44 (11.37)

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How often did you take precautions when buying things to avoid virus contamination?	Always (more than 90% time	57 (15.08)
	Mostly (approx. 75% times	177 (46.83)
	Commonly (approx.50% times	75 (19.84)
	Occasionally (approx. 25% times	47 (12.43)
	Rarely (less than 10% time	22 (5.82)

Table 2: Level of Utilization of Home-Based Care services (HBC) among the isolated COVID-19 suspects in the control of COVID-19 (n=394). Continued.

Characteristics	**Category**	**n(%)**
How often did you obey government restrictions regarding the COVID-19 pandemic?	Always (more than 90% time	51(30.54)
	Mostly (approx. 75% times	66 (39.52)
	Commonly (approx.50% times	30 (17.96)
	Occasionally (approx. 25% times	19 (11.38)
	Rarely (less than 10% time	1(0.60)
Were your family members provided with COVID-19 screening kits?	Yes	5 (2.59)
	No	188 (97.41)
In case you develop COVID-19-like symptoms, you will contact the hospital/helpline/authority regarding it	Strongly agree	99 (47.37)
	Agree	58 (27.75)
	Can't say	5 (2.39)
	Disagree	35 (16.75)
	Strongly disagree	12 (5.74)
If you come in contact with COVID COVID-positive/suspect person, you need to stop going to work and confine yourself at home away from friends and family members.	Strongly agree	70 (41.92)
	Agree	57 (34.13)
	Can't say	29 (17.37)
	Disagree	9 (5.39)
	Strongly disagree	2 (1.20)

Home-Based Care's Positive and Negative Effects on COVID-19 Infection Control at the Household Level

During COVID-19 control, the researcher inquired about the characteristics of home-based care. Table 4.3's findings showed that 37.5% of participants were unaware that COVID-19 is spread through handshakes, 9% said it's hard to break the habit of not washing or sanitizing hands frequently, 32.2% said it's not important to wash hands for at least 20 seconds, 31% were unaware that coughing into one's elbow prevents infection from spreading to others, 43.4% were unaware that touching one's eyes, nose, or mouth with dirty hands can spread the virus, 66.3% said social distancing is not important in the prevention of COVID, and 59.1% said that a lack of space was the primary reason for not maintaining social distance in the workplace, 29.7% of respondents stated that they used to go outside primarily to exercise or take a walk, while 46.9% cited a lack of space as the primary reason for not keeping social distance in public settings. The absence of availability was cited by 44.5% of participants as the primary reason they did not use masks when they left the house. The results also showed that breathing difficulties accounted for 31.6% of the participants' refusal to cover their mouths and noses when wearing masks. Additionally, participants stated that they lack an appropriate location to dispose of the mask (25.5%), which is the primary reason they do not properly store it in separate bags or bins after wearing it. When people go home from work, their primary excuse for not cleaning their personal belongings (such as their purse, cell phone, etc.) is that they are too exhausted (32.8%). Wearing a face mask (36.9%) and choosing home delivery (34.3%) were the main precautions people took when buying groceries from nearby retailers or vendors. Table 3 illustrates the specifics.

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Table 3: Home-Based Care's Positive and Negative Effects on COVID-19 Infection Control at the Household Level

Characteristics	Category	n(%)
What is/are the reasons (s) why it was difficult for you to avoid shaking hands during the COVID-19 pandemic?	Not applicable	93 (25.48)
	Didn't know that COVID spreads through handshakes	137 (37.53)
	Avoiding handshaking would not prevent COVID infection	85 (23.29)
	Avoiding handshaking would not prevent COVID infection	33 (9.04)
	Difficult to change the habit	13 (3.56)
	Looks rude not to do so when the opposite person extends a hand for a handshake	33 (9.04)
What is/are the reasons (s) for not washing/sanitizing hands at frequent intervals?	Not applicable	67 (18.82)
	Didn't know that washing hands prevents the spread of COVID	62 (17.42)
	Frequent hand-washing will not prevent COVID infection	71(19.94)
	It leads to the wastage of water and resources	43 (12.08)
	Difficult to change the habit	76 (21.35)
	Non-availability/shortage of water/sanitizer	7 (1.97)
	Lack of time	10 (2.81)
	Cumbersome to sanitize hands too many times	19 (5.34)
What is/are the reasons (s) for not coughing/sneezing into a handkerchief/bent elbow?	Not applicable	4 (2.27)
	Don't know that coughing into the elbow stops the spread of infection to others	54 (30.68)
	It is not important in preventing the spread of disease	4 (2.27)
	Sometimes I forget	84 (47.73)
	Difficult to change the habit	30 (17.05)
What is/are the reasons (s) for touching eyes/nose/mouth without cleaning hands?	Not applicable	106 (30.81)
	Didn't know that touching the eyes/nose/ mouth with unclean hands can cause the spread of COVID-19	133 (38.66)
	Not important in preventing COVID	15 (4.36)
	Don't remember	58 (16.86)
	Difficult to change the habit	32 (9.30)
What is/are the reasons (s) for not maintaining social distance in the workplace?	Not applicable	2 (1.12)
	Don't know that at least a 1-2 m distance should be maintained	19 (10.67)
	Social distancing is not important in the prevention of COVID-19	118 (66.29)
	Difficulty in talking	21(11.80)
	Overcrowding	18 (10.11)
What is/are the reasons (s) for not maintaining at least one meter	Not applicable	3 (1.70)
	Don't know that at least a 1–2 m distance should be	30 (17.05)

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distance while having food with colleagues?	maintained	
	Social distancing is not important in the prevention of COVID-19	1 (0.57)
	Lack of space	104 (59.09)
	Difficulty in talking	19 (10.80)
	Overcrowding	19 (10.80)

Table 3: Cont'd Home-Based Care's Positive and Negative Effects on COVID-19 Infection Control at the Household Level

Characteristics	**Category**	**n(%)**
What is/are the reasons for going out of the house?	Not applicable	5 (2.86)
	Work	26 (14.86)
	Grocery shopping	29 (16.57)
	Walking/exercising	52 (29.71)
	Socializing	5 (2.86)
	Visiting religious places	39 (22.29)
	Entertainment (Club, visiting friends, etc.)	19 (10.86)
What is/are the reasons (s) for not maintaining social distancing in public spaces?	Not applicable	8 (4.57)
	Don't know that at least a 1–2 m distance should be maintained	11(6.29)
	Social distancing doesn't help in preventing COVID	37 (21.14)
	Lack of space	82 (46.86)
	Difficulty in talking	19 (10.86)
	Overcrowding	18 (10.29)
What is/are the possible reasons for not wearing masks while going out of the home?	Not applicable	3 (1.83)
	I didn't know wearing a mask prevents the spread of COVID	9 (5.49)
	I believe masks are useless	24 (14.63)
	Lack of availability	73 (44.51)
	Not comfortable	21(12.80)
	Difficult to breathe	31(18.90)
	Doesn't look good	3 (1.83)
What is/are the reasons (s) for not covering both nose and mouth while wearing masks?	Not applicable	1 (0.58)
	Don't know that both the nose and the mouth have to be covered	32 (18.71)
	Not useful to cover the nose and mouth	20 (11.70)
	Not comfortable wearing it	62 (36.26)
	Difficult to breathe	54 (31.58)
	Due to a loose fit, it slides down	2 (1.17)
What is/are the reasons (s) for not keeping the mask properly in separate bags/bins after using it?	Not applicable	2 (0.81)
	Don't know if it should be kept properly in a separate bag/bin	32 (12.96)

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	Don't know how to dispose of the mask	54 (21.86)
	Not important to dispose of it properly	46 (18.62)
	Too tired after work	50 (20.24)
	Don't find a suitable place to dispose of the same	63 (25.51)
What is/are the reasons (s) for not cleaning personal items (e.g., purse/mobile phone, etc) when you reach home?	Not applicable	3 (1.61)
	Don't know that I should clean it after work	47 (25.27)
	Not useful to clean it	8 (4.30)
	Not needed as there is no contact with COVID-positive patients	45(24.19)
	Too tired to do so	61(32.80)
	Using sanitizer on personal items like a mobile will damage it	22 (11.83)

Table 3: Cont'd Home-Based Care's Positive and Negative Effects on COVID-19 Infection Control at the Household Level

Characteristics	**Category**	**n(%)**
What precaution(s) do you take while purchasing groceries from local stores/vendors?	Not applicable	2 (1.14)
	Opting for home delivery	60 (34.29)
	Shopping at a time when it is less busy	34 (19.43)
	Wearing a face mask	64 (36.57)
	Carrying hand sanitizer or wipes with you, using mobile pay/debit cards/credit cards for making payments	12 (6.86)
	Buying 1–2 worth of groceries at a time	2 (1.71)

Strategies to better Home Home-Based Care services to control COVID-19 infection

Findings in table 4 show that 89.6% of participants were the majority and had no any health monitoring applications on their phone, the results further show that the main reasons for not using the health monitoring apps were not applicable (26.2%) because they did not have the apps on their phones, they did not know about the apps(26.2%) and they did not find it useful (24.4%), Study findings further indicate that participants did not obey government restrictions because they were not effective (42.8%) and 29% of the participants reported that they did not know about government restrictions.

Table 4: Strategies to better Home Home-Based Care services to control COVID-19 infection

Characteristics	**Category**	**n(%)**
Did you have any health monitoring apps on your phone?	Yes	17 (10.37)
	No	147 (89.63)
What is/are the reasons (s) for not using the health monitoring app?	Not applicable	44 (26.19)
	Don't know about it	44 (26.19)
	Don't find it useful	41 (24.40)
	Don't have space in the phone for it	4 (2.38)
	Don't have a smartphone	35 (20.83)
What is/are the reasons (s) for not obeying government restrictions?	Not applicable	38 (26.21)
	Don't know about government restrictions	42 (28.97)
	They are not effective	62 (42.76)
	Other reasons	3 (2.07)

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Bivariate logistic regression and Multivariate study of the variables linked to home-based care services in the control of COVID-19 infection

To obtain a parsimony model, that is, to get a simple model with important variables. Variables that are deemed essential were included by using the forward model building. By incorporating an additional variable into the model at each stage, the model was gradually enhanced. After adjusting for the other variables in the model, the variable that had the biggest impact was added until no further model improvement was seen.

Bivariate logistic regression analysis

According to the results of the bivariate logistic regression analysis, the following factors are linked to home-based care services in the prevention of COVID-19 infection: awareness of the COVID-19 outbreak, How often you wash your hands with soap and water or use an alcohol-based hand sanitizer Regularity of preserving a one-meter minimum distance at work, How often masks are worn when leaving the house, donning a mask and appropriately covering one's mouth and nose, How often participants used hand sanitizer to clean their personal belongings (such as their pocketbook, cell phone, etc.) after returning home, Taking care while purchasing items to prevent the spread of viruses and the reason or reasons for touching the mouth, nose, or eyes without washing your hands.

Thus; participants who had knowledge about covid-19 outbreak were more than 3 fold more likely to control COVID-19 infection than those who did not.

Unadjusted Odds Ratio (UOR); (UOR=2.64; 95%CI (1.37-5.10; p=0.004), The likelihood of controlling a COVID-19 infection was 58% lower for participants who primarily washed or sanitized their hands with soap and water or alcohol-based sanitizer roughly 75% of the time than for those who consistently did so more than 90% of the time (UOR=0.42; 95% CI (0.19-0.89); p=0.024).

The results additionally showed that participants who frequently (approximately 50% of the time) maintained a minimum distance of one meter at their workplace had a 4.8-fold higher chance of controlling COVID-19 infection than those who consistently maintained a minimum distance of one meter at their workplace. Participants who primarily maintained a minimum distance of one meter at their workplace had a 2-fold higher chance of controlling COVID-19 infection than those who always maintained a minimum distance of one meter at their workplace (UOR=1.89; 95%CI (1.01-3.5); p=0.048).

Individuals who wore masks approximately 75% of the time when they were out of the house had a 60% lower chance of contracting COVID-19 than those who wore them more than 90% of the time. Similarly, those who wore masks less than 10% of the time had a 79% lower chance of controlling COVID-19 infection (UOR=0.40; 95%CI (0.22 – 0.76); p=0.005). Compared to those who consistently used masks more than 90% of the time, participants who wore masks around 75% of the time were 43% less likely to manage their COVID-19 infection (UOR=0.57; 95%CI (0.34-0.96); p=0.036).

The results also indicate that those who sanitized their items with sanitizer when they came home were 91% less likely to control COVID-19 infection (UOR=0.090; 95%CI (0.03-0.26); p≤0.001) than those who sanitized their items with sanitizer frequently (approximately 50% of the time) were 94% less likely to control COVID-19 infection (UOR=0.06; 95%CI (0.02-0.24); p≤0.001), followed by those who sanitized their items with sanitizer occasionally (UOR=0.05; 95%CI (0.02-0.16); p≤0.001) and those who sanitized infrequently (less than 10% of the time) were 94% less likely to control COVID-19 infection (UOR=0.02; 95%CI (0.02-0.21); p≤0.001) than those who did so to their items such as purse/mobile phone, etc. with sanitizer when they come home.

Additionally, participants who primarily followed the precautions when purchasing items to prevent virus contamination had an 84% lower chance of controlling COVID-19 infection (UOR=0.16; 95%CI (0.048-0.55); p=0.003), while those who only occasionally followed the precautions were 73% less likely to control Participants who rarely followed precautions when purchasing items to prevent virus contamination had an 88% lower chance of controlling COVID-19 infection (UOR=0.27; 95%CI (0.07-0.98); p=0.046) than those who consistently followed precautions when purchasing items to prevent virus contamination (UOR=0.12; 95%CI (0.03-0.52); p=0.005).

Participants were 34% less likely to control their COVID-19 infection if they were unaware that touching their mouth, nose, or eyes with dirty hands could spread the virus. UOR=0.66; 95%CI (2.03- 6.62); p=0.000), those who said that preventing COVID is not important were 29% less likely to control COVID-19 infection (UOR=0.71; 95%CI (1.35- 8.46); p=0.024), those who said they couldn't remember were 65% less likely to control COVID infection (UOR=0.35; 95%CI (3.49- 9.66); p=0.000), and those who said it's hard to break the habit were 19% less likely to control COVID-19 infection (UOR=0.81; 95%CI (3.13-18.1); p=0.002)). As shown in Table 4.4, other factors did not significantly affect the adoption and utilization of health care.

Summary Bivariate analysis

Determining the factors linked to home-based care services in the management of COVID-19 infection in Sheema municipality was the main objective of this part. The

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findings of a bivariate study utilizing logistic regression analysis are shown, along with the unadjusted/crude estimates. According to the bivariate study, the following home-based factors affect COVID-19 control: Knowledge of the COVID-19 outbreak, how often participants wash their hands with soap and water or use alcohol-based hand sanitizer, how often they keep a minimum of one meter between themselves and others at work, how often they wear masks when they leave the house, how often they sanitize their items (such as their purse, cell phone, etc.) when they return home, and how often they take precautions when making purchases to prevent virus contamination and reason(s) for touching eyes/nose/mouth without cleaning hands.

Analysis of multivariate logistic regression

To determine which aspects of home-based care were more closely linked to COVID management than the others, a multivariate analysis was conducted. The findings of the multivariable logistic regression analysis are presented in this section.

All components with p-values below the 0.05 cutoff point in the bivariate analysis were incorporated into the multivariate model at the multivariate level (Table 4.5). For every categorical variable, a reference category was chosen. Participants who washed or sanitized their hands with soap and water or alcohol-based sanitizer most of the time (approximately 75% of the time) had an 88% lower chance of controlling COVID-19 than those who did so consistently (more than 90% of the time) (aOR=0.12; 95%CI (0.02-0.46)); p=0.002). Participants in this study reported that "Every household should have a jellycan of water, soap, and maintain hand washing." Additionally, participants who rarely (less than 10% times) maintained a minimum distance of one meter at the workplace were 99.4% less likely to control COVID infection (aOR=0.006; 95%CI (0.0-0.5); p=0.023) than participants who always (more than 90% times) maintained a minimum distance of one meter at the workplace. These qualitative findings were gathered from interview guides, open-ended questionnaires, and focus group discussions (FGDs) to supplement the quantitative findings.

Additionally, the multivariate analysis showed that participants who wore masks when they went out of their homes most of the time (about 75% of the time) had a 95% lower chance of controlling their COVID-19 infection (aOR=0.05; 95%CI (0.0-0.41); p=0.005) than those who wore masks when they went out of their homes more than 90% of the time. In a similar vein, participants who wore masks occasionally (roughly 25% of the time) while leaving the house had a 98% lower chance of controlling COVID-19 infection (aOR=0.02; 95%CI (0.0-0.3); p=0.005) than those who wore them consistently (more than 90% of the time) and infrequently (less than 10% of the time) (aOR=0.02; 95%CI (0.0-0.17); p=0.001), compared to those who always (more than 90% times) wore masks while going out of home. In Qualitative analysis, participants said that "every village member should wear masks, compulsory wearing of masks was enforced."

Participants who made efforts to prevent virus infection before purchasing items were 92% less likely to control In contrast to those who always (more than 90% of the time) followed precautions when purchasing items to prevent virus contamination, those who frequently (approximately 50% of the time) followed precautions when purchasing items to prevent virus contamination were 95% less likely to control COVID-19 infection (aOR=0.08; 95%CI (0.03-0.24); p≤0.001). Compared to those who always (more than 90% of the time) followed precautions when purchasing items to prevent virus contamination, those who infrequently (less than 10% of the time) followed precautions when purchasing items to prevent virus contamination had a 95% lower chance of controlling COVID-19 infection (aOR=0.05; 95%CI (0.014- 0.16); p≤0.001) compared to those participants who always (more than 90% times) adhered to precautions when buying things to avoid virus contamination.

Interviewees for the qualitative study stated that "every village member was advised to refrain from unnecessary movements, avoid crowded places, and avoid greetings by shaking hands and sanitization." Individuals who were unaware that touching the mouth, nose, or eyes with dirty hands can spread the virus were 4% less likely to control COVID infection (aOR=0.96; 95%CI (1.18–20.8), p≤0.001), were 55% less likely to control COVID infection (aOR=0.45; 95%CI (1.4–5.8), p=0.028), and were 52% less likely to control COVID-19 infection (aOR=0.48; 95%CI (1.5–9.8); p=0.006).

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Table 5: Bivariate and Multivariate analysis of factors associated with home-based care services in the control of COVID-19 infection

Characteristics	category	UOR (95%CI)	p-value	aOR(95%CI)	P-value
Age	14-24	**1**			
	25-45	0.69 (0 .33 - 1.47)	0.338		
	46-60	0.86 (0.35- 2.01)	0.745		
	61 and above	0.91 (0.27- 2.94)	0.869		
Level of Education	None	1			
	Tertiary	0.83 (0.17- 3.98)	0.810		
	secondary	0.81 (0.17- 3.83)	0.788		
	Primary	0.45 (0.096- 2.13)	0.316		
Sex	Male	1			
	Female	0.94 (0.56- 1.54)	0.802		
Marital status	Single	1			
	Married	2.04 (0.85- 4.89)	0.110		
	Divorced	0.54 (0.22- 1.39)	0.208		
	Widowed	0.39 (0.15- 1.02)	0.055		
	Cohabiting	0.40 (0.15- 1.1)	0.070		
Knowledge about covid-19 outbreak	No	1			
	Yes	2.64 (1.37- 5.10)	**0.004***	1.65(0.11-24.6)	0.714
How often did you wash/sanitize your hands with soap and water/ alcohol-based sanitizer	Always *(more than 90% time)*	1		**1**	
	Mostly *(approx. 75% time)*	0.42 (0.19-0.89)	**0.024***	0 .12(0.02- 0.46)	**0.002****
	Commonly *(approx. 50% time)*	0.55 (0.16- 1.9)	0.343	0.26(0.02-2.98)	0.278
	Occasionally *(approx. 25% time)*	2.95 (0.36- 23.9)	0.311	2.89(0.20- 41.8)	0.435
	Rarely *(less than 10% time)*	0.9 (0.18-4.45)	0.902	0 .53(0.023-12.4)	0.692
How often did you maintain a minimum distance of one meter at your workplace?	Always *(more than 90% time)*	1		**1**	
	Mostly *(approx. 75% time)*	1.89 (1.01- 3.5)	**0.048***	1.2(0.14- 10.2)	0.865
	Commonly *(approx. 50% time)*	4.82 (1.8- 12.9)	**0.002***	0.59(0.05-6.68)	0.677
	Occasionally *(approx. 25% time)*	1.4 (0.52-3.81)	0.510	1.57(0.06- 36.2)	0.776
	Rarely *(less than 10% time)*	2.9 (0.9- 9.45)	0.074	0 .006(0.0- 0.5)	**0.023****

Statistically significant (p<0.05) at bivariate analysis **statistically significant (p<0.05) at multivariate analysis.

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Table 6: Level of Utilization of Home-based care services among Isolated COVID-19 Suspects in the Control of COVID-19 (n=394)

Characteristics	Category	UOR (95%CI)	p-value	aOR(95%CI)	P-value
How often did you wear masks while going out of your home	Always *(more than 90% time)*	**1**		**1**	
	Mostly *(approx. 75% time)*	0.40 (0.22- 0.76)	**0.005***	0.05(0.0-0.41)	**0.005****
	Commonly *(approx. 50% time)*	2.36 (0.93- 6.02)	0.070	0.34(0.03- 4.32)	0.407
	Occasionally *(approx. 25% time)*	0.43 (0.16- 1.16)	0.097	0 .02(0.0-0.3)	**0.005****
	Rarely *(less than 10% time)*	0.21 (0.09- .47)	**0.000***	0 .02(0.0- 0.17)	**0.001****
While wearing a mask, how often did you ensure that both your nose and mouth were covered	Always *(more than 90% time)*	1		1	
	Mostly *(approx. 75% time)*	0.57 (0.34-0.96)	**0.036***	0.68(0.19- 2.37)	0.550
	Commonly *(approx. 50% time)*	1.41 (0.30- 6.52)	0.661	3.47(0.16-7.78)	0.433
	Occasionally *(approx. 25% time)*	1.01 (0 .11- 8.93)	0.995	1.22(0 .9-1.92)	0.175
	Rarely *(less than 10% time)*	1.81 (0.39- 8.22)	0.441	3.72(0.23-5.8)	0.351
How often did you sanitize your items (eg, purse/mobile phone, etc) with sanitizer when you come home?	Always *(more than 90% time)*	1		1	
	Mostly *(approx. 75% time)*	0.090 (0.03-0.26)	**0.000***	0.64(0.36- 1.13)	0.126
	Commonly *(approx. 50% time)*	0.06 (0.02-0.24)	**0.000***	1.79(0.37- 8.7)	0.468
	Occasionally *(approx. 25% time)*	0.05 (0.02- 0.16)	**0.000***	0.51(0.04-6.12)	0.597
	Rarely *(less than 10% time)*	0.06 (0.02-0.21)	**0.000***	3.81(0.76- 18.9)	0.102
How often did you take precautions when buying things to avoid virus contamination?	Always *(more than 90% time)*	1		1	
	Mostly *(approx. 75% time)*	0.16 (0.048-0.55)	**0.003***	0 .08(0.03 - 0.24)	**0.000***
	Commonly *(approx. 50% time)*	0.27 (0.07-0.98)	**0.046***	0.05(0.02-0.22)	**0.000***
	Occasionally *(approx. 25% time)*	0.38 (0.08- 1.61)	0.189	0.05(0.01-0.16)	**0.000***
	Rarely *(less than 10% time)*	0.12 (0.03- 0.52	**0.005***	0.05(0.014-0.16)	**0.000***

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Table 6 cont'd: Bivariate and Multivariate analysis of factors associated with home based care services in the control of covid-19 infection cont..

Characteristics	Category	UOR (95%CI)	p-value	aOR(95%CI)	P-value
What is/are the reasons (s) for touching eyes/nose/mouth without cleaning hands?	Not applicable	**1**		**1**	
	Didn't know that touching eyes/nose/ mouth with unclean hands can cause the spread of COVID	0.66 (2.03- 6.62)	**0.000***	0.96(1.18- 20.8)	**0.028****
	Not important in preventing COVID	0.71 (1.36- 8.46)	**0.024***	1.95(0.08-43.9)	0.674
	Don't remember	0.35 (3.49- 9.66)	**0.000***	0.45(1.4-5.8)	**0.000****
	Difficult to change the habit	0.81 (3.13- 18.1)	**0.002***	0.48(1.5-9.8)	**0.006****

**Statistically significant (p<0.05) at bivariate analysis **statistically significant (p<0.05) at multivariate analysis*

Qualitative analysis

The researcher used mixed approaches while collecting the study data, namely Quantitative and Qualitative. For the quantitative approach, he used closed questions, while for the qualitative approach, he used open-ended questions to capture the participants' information. The responses from the open-ended questions were transcribed and organized the responses in a spreadsheet**. Explored the data** and got a sense of the responses by reading through them, coded for analysis, and the results were presented thematically.

Regarding the question about other home remedies used during the COVID-19 pandemic, The following were mentioned by the participants; *Fruits, steam bathing using herbs and hot water, ginger and lemon mixed with hot water, using Covidex, doing physical exercises, washing hands with water and soap, change of diet (vegetables), wearing masks, sanitizing and stay at home*"

For the question regarding household members at high risk of COVID-19: Participants reported "Children*, old persons, HIV positive patients, pregnant mothers, sick people (Hypertensive, diabetic, cancer, etc*)"

Regarding the question of problems experienced by the participants with Home home-based care strategy, Participants reported:

Financial constraints since there was no work, being lonely/bored, high prices for products, a lack of enough food, unemployment, and a lack of transport means

Regarding the question about proposals to improve Home Based Care services in case of another pandemic, Participants stated that:

Alerting people immediately when another outbreak is detected, health education, sensitization, and awareness of the public awareness should be paramount. The Government should train and recruit more health workers, and the public should obey the government's prevention guidelines.

As per the policies and rules for the village communities used to control the COVID-19 pandemic, participants specified that:

Every household should have a jell can of water, soap and maintain hand washing, every village member should wear masks, compulsory wearing of masks was enforced, and every village member was advised to refrain from unnecessary movements, and avoided crowded places and avoided greetings by shaking hands and sanitization.

As regards how participants would want home-based care to be implemented at the household level, participants indicated that:

Health education, Enhanced community engagement, sensitization and awareness, general cleanliness all the time, emphasizing hand washing with water and soap, provision of testing kits and sanitizers to the household members, encouraging household members to do physical exercise all the time, unnecessary movements should be stopped, and also social distancing should be emphasized.

Discussion

Theme 1: Socio-demographic and socio-economic (none was significant)

Theme 2: Home-Based Care Strategy Utilization Level in COVID-19 Control:

Wash/sanitize your hands with soap and water/ alcohol-based sanitizer: The study findings show that washing/sanitizing hands with soap and water/ alcohol-based sanitizer controlled the COVID infection. This could be explained by 52.38% of participants always washing with water & soap/sanitizing hands more than 90% of the

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time for at least 20 seconds, and 27.68% of the participants mostly practicing this approximately 75% time for at least 20 seconds. The findings **underscore the effectiveness of regular, proper hand hygiene** as a fundamental public health measure in infection control. These results are incongruent with studies elsewhere15,16. Many factors, including Environmental factors that control viral transmission, include: air, temperature, humidity, food, water and sewage, bugs, inorganic surfaces, and social distancing.

Maintaining a minimum distance of one meter at the workplace, the study findings revealed that maintaining a minimum distance of one meter at the workplace is associated with control of COVID-19 infection. This could be explained by 45.87% of participants always ensuring social distance in all aspects, more than 90% time, and 15.73% mostly practicing the same 75% time. The findings support the effectiveness of maintaining physical distance as a preventive measure at workplaces, with a significant portion of participants adhering to social distancing practices consistently, which probably helped to reduce the spread of COVID-19 among them.
These results are consistence with studies elsewhere. The main route of viral transmission was the respiratory tract through aerosols, as to why masks and social distancing were effective in ceasing air transmission17. Proper cleaning of surfaces and hand disinfection were required, especially in healthcare units18. Food would be handled properly, and food handlers would work based on hygienic protocols, while Water and sewage transmission and transmission through insects appear less important than other environmental factors.

Wearing masks while going out of home, the study findings revealed that wearing masks while going out of home is associated with COVID-19 infection control. This could be explained by 46.37% always wearing masks covering both mouth and Nose more than 90% time and 42.75% mostly practicing the same 75% time. The research highlights the significance of using masks appropriately—that is, covering one's mouth and nose in addition to wearing a mask—as a successful public health strategy against COVID-19.
These results are consistent with studies by Lotfinejad et al. (2021); the backup preparedness plan didn't even have a pandemic in it because when you create your emergency preparedness plan, you create it for things that could happen, such as a snowstorm, a flood, a fire, a power outage15. No one had really a solid pandemic plan for their emergency preparedness plan. We never had a backup of N95s or regular even surgical masks to provide our nurses because it just was never something that we required or needed. HBCPs are described as not being well-connected or prioritized in terms of public health resources. Community-based organizations were found to be more available as a support to acquire PPE than government resources. With being a home care provider, we weren't high up on the supply chain list to get equipment, but without the equipment, we couldn't walk into a patient's house, so it was a real catch-22 to where I even had to reach out to a religious mission, who got us our first PPE equipment.

Taking precautions when buying things to avoid virus contamination; the study findings revealed that Taking precautions when buying things to avoid virus contamination is associated with COVID-19 infection control. This could be explained by 46.83% mostly taking precautions when buying things to avoid virus contamination 75% time and 15.08% always practicing the same more than 90% time. The findings highlight the importance of maintaining preventive practices during routine activities such as buying goods, which are often underestimated as points of exposure; with the majority of participants demonstrating consistent and frequent precautionary behavior when engaging in activities like shopping, where virus exposure risk can be higher.
These results are consistence with studies by Medicare19: The support networks placed patients' mental and physical health at risk20. The disruption in social networks was noted particularly around regular caregiving and community supports especially formal or informal caregiving that supplemented the home-based care they received21. Patients without strong social support networks were observed to be at greater risk for health breakdown during the COVID-19 pandemic. According to UNESCO; the COVID-19 pandemic forced most governments around the world to temporarily close educational institutions in an attempt to contain the spread of the coronavirus (COVID-19) disease, infecting more than 91% of the world's student population. Hence strict restrictions on people moving out to search for food and home items to prevent the spread of the COVID-19 virus.
The Uganda Ministry of Health has advised certain COVID-19 patients to stay at home to avoid overwhelming the existing health system. This is particularly beneficial for asymptomatic, mild, or non-severe patients, who are responsible for avoiding the spread of the virus to others22.

Lack of knowledge that touching eyes/nose/ mouth with unclean hands was important, participants who did not remember and difficulty in changing the habits rarely 7.67% less than 10% times. Those who mostly remembered to wash before touching their eyes/mouth/ nose were 49.47% mostly 75% times and those who always did so were 17.46% doing it more than 90% times. This is consistence with studies by Kasirye et al. (2018),: The lack of knowledge on this virus led to the implementation of

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uncertain strategies and measures to fight the pandemic18. Many factors including Environmental factors that control viral transmission include; air, temperature, humidity, food, water and sewage, insects, inanimate surfaces, hand hygiene, and social distancing23

Conclusions

According to the study, 80.2% of participants who used HBC services were able to effectively control COVID-19 infection. Important protective factors included handwashing, maintaining social distancing at work, wearing masks, taking precautions when shopping, and avoiding touching one's face with dirty hands. Nevertheless, participants had trouble changing their behavior, primarily because COVID-19 is asymptomatic and they had trouble following standard operating procedures. The study emphasizes that home-based care programs are essential to pandemic management, especially because they support vulnerable communities and provide continuity of care for individuals who might not otherwise have access to facility-based services.

Generalizability

The findings of this study could be egeneralised to areas with similar settings as the study was guided by clear objectivity and ethical standards. The quantitative findings demonstrate the clear contextual data generated from the field study participants.

Limitations

The investigator came across several limitations. These included;

Data was likely generalizable which necessitated suggesting further studies after data collection.

The questions were probably difficult for some responders to complete well due to lack of formal education. This necessitated the researcher to use the research assistants who interpreted and explained to such respondents in local language.

Some respondents were likely to hide or withhold vital information that they were not willing to disclose. This was prevented by clearly explaining the objectives and values of the study. In addition, assurance of confidentiality of what they responded helped them gain confidence in the researcher and were able to give all the desired relevant responses.

Because of all these limitations enlisted above, the researcher experienced the high costs of ensuring that these limitations are mitigated. However; using the well-made budget, the researcher was in position to lobby for funding successfully.

Recommendations

Global implementation of evidence-based practice guidelines and federal policy changes, focusing on Based Care Practice, can enhance preparedness for future disasters and pandemics.

Furthermore, consideration for HBCP agencies in PPE allocation and CMS reimbursement for excess cost must be considered, as many are small private agencies and are not able to withstand the financial strain caused by the increased resource demand of pandemics. If home-based and community care modalities are prioritized financially and culturally in these ways, some of the most deleterious effects of COVID-19 on all vulnerable populations may be ameliorated.

The Ministry of Health Uganda should strengthen implementation of evidence based Disease Emergency Response and Preparedness strategies like Home based care services.

Suggestions for further research

Further studies should suggest policy and practice recommendations to improve home-based care, facilitate aging-in-place, and support HBCP in disaster contexts. For example some participants were not seeing the importance of wearing masks, social distancing and Hand Washing, etc.

Further studies should also focus on the appropriate management of COVID -19 wastes from the HBCP to be able to have evidence based disposal methods that do not risk nature.

Further study should also focus on how to manage stress & self-care strategies during COVID-19 and other related future pandemics.

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This study was self-funded to fulfill the academic requirement for a master of Public Health.

Conflict of interest

There was no conflict of interest from the start to the end of this study.

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Author contributions

Akankwasa Johnson – Principle investigator of the study, Francis Kazibwe and Gershom Atukunda were the study supervisors. Waswa Bright Laban is the head of the department – Public Health and Biomedical Sciences.

Data availability

This data is freely available for access by any scholar.

LIST OF ACRONYMS

HBC: Home Based care
ANC: Antenatal Care
GBV: Gender-Based Violence.
HIV: Human Immunodeficiency Virus.
MOH: Ministry of Health.
UBOS: Uganda Bureau of Statistics.
UDHS: Uganda Demographic and Health Survey.
UNAIDS: The United Nations program to combat AIDS.
UNICEF: The United Nations Children Emergency Fund.
WHO: The World Health Organization. **KII:** Key Informant Interviews.
ITNs: Insecticide Treated Mosquito nets.
PHEIC: Public health emergency of international concern.
AFENET: African Field Epidemiology Network.
HBC: Home Based Care.
FGDs: Focus Group Discussions.
SDGs: Sustainable Development Goals.
UNCST: Uganda National Council of Science and Technology.

OPERATIONAL DEFINITIONS

- **Home-based care services.** Health care supportive services provided by a professional caregiver in somebody's homestead
- **Therapeutics (Medicine, rest, mental health):** Taking medicine in the recommended dosage and time and; Managing stress using health means such as exercise, reading & praying.
- **Nutrition:** Beginning right after admission, Frequent feeding increases nutrition and energy intake. At least three meals—breakfast, lunch, and dinner—as well as two nutritious snacks help people consume less sugar. A balanced diet that includes foods high in energy, plant and animal proteins, and foods that provide protection (plate), Increase your consumption of vegetables and fruits. In particular, foods high in vitamin C, such as lemons, oranges, limes, tomatoes, and green leafy vegetables, might strengthen immunity. Encourage drinking enough water, ideally eight glasses or more.
- **Self-Isolation:** A state or period of remaining apart from others, especially to avoid catching or transmitting an infectious disease.
- **COVID interventions:** These include; Community Surveillance, community-based Screening (symptomatic), Contact tracing, Referral protocol (home –facility, community – CTU, EMS), Home Based care, Community Engagement, IPC measures, Home/facility visits and inspection and enforcement, Monitor, document, adaptation, Risk Communication

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REFERENCES

1. Szymanski EP, Miller RK. Home-Based Care Services and Community-Based Resources. Geriatr Home-Based Med Care Princ Pract Second Ed [Internet]. 2024 Nov 25 [cited 2025 Apr 28];25-48. Available from: https://link.springer.com/chapter/10.1007/978-3-031-68786-0_3 https://doi.org/10.1007/978-3-031-68786-0_3
2. Berardi C, Schut F, Paolucci F. The dynamics of international health system reforms: Evidence of a new wave in response to the 2008 economic crisis and the COVID-19

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Original Article

pandemic? Health Policy (New York) [Internet]. 2024 May 1 [cited 2025 Apr 28];143:105052. Available from: https://www.sciencedirect.com/science/article/pii/S0168851024000629 https://doi.org/10.1016/j.healthpol.2024.105052

3. Augustine O, Bosco O, Opollo MS, Akello AR, Francis K, Bernard O. Mortality and associated factors among hospitalized COVID-19 patients in Lira regional referral hospital, a cross-sectional study. medRxiv [Internet]. 2024 Oct 6 [cited 2025 Apr 28];2024.10.05.24314935. Available from: https://www.medrxiv.org/content/10.1101/2024.10.05.24314935v1 https://doi.org/10.1101/2024.10.05.24314935
4. Olum R, Bongomin F. Uganda's first 100 COVID-19 cases: Trends and lessons. Int J Infect Dis. 2020 Jul 1;96:517 8. https://doi.org/10.1016/j.ijid.2020.05.073
5. Filip R, Gheorghita Puscaselu R, Anchidin-Norocel L, Dimian M, Savage WK. Global Challenges to Public Health Care Systems during the COVID-19 Pandemic: A Review of Pandemic Measures and Problems. J Pers Med [Internet]. 2022 Aug 1 [cited 2025 Apr 28];12(8):1295. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC9409667/ https://doi.org/10.3390/jpm12081295
6. Ul Hussan A, Nasir Rur, Rehman S, Fatima A, Javed W, Ahmad M, Et Al. Investigating The Socio-Demographic Pattern of COVID-19 Suspected Cases: A District Level Study. Oxid Commun [Internet]. 2024 [cited 2025 Apr 28];47(4):918-26. Available from: https://openurl.ebsco.com/contentitem/aph:182496268?sid=ebsco:plink:crawler&id=ebsco:aph:182496268&crl=c
7. Alhumaid S, Al Mutair A, Al Alawi Z, Alsuliman M, Ahmed GY, Rabaan AA, et al. Knowledge of infection prevention and control among healthcare workers and factors influencing compliance: a systematic review. Antimicrob Resist Infect Control [Internet]. 2021 Dec 1 [cited 2025 Apr 28];10(1):1-32. Available from: https://link.springer.com/articles/10.1186/s13756-021-00957-0 https://doi.org/10.1186/s13756-021-00957-0
8. Zhang H li, Wu C, Yan J ran, Liu J hua, Wang P, Hu M yi, et al. The relationship between role ambiguity, emotional exhaustion, and work alienation among Chinese nurses two years after COVID-19 pandemic: a cross-sectional study. BMC Psychiatry. 2023 Dec;23(1).https://doi.org/10.1186/s12888-023-04923-5
9. Mchopa AD. Research Methods: Qualitative and Quantitative Approaches By: OLIVE M. MUGENDA AND ABEL G. MUGENDA. AFRICAN CENTRE FOR TECHNOLOGY STUDIES (ACTS) PRESS, NAIROBI - KENYA, 2003. ISBN: 9966-41-107-0. 256 PP. J Co-op Bus Stud [Internet]. 2021 Apr 1 [cited 2025 Feb 28];5(1):856-9037. Available from: https://journals.mocu.ac.tz/index.php/jcbs/article/view/148
10. Namutebi and CBJ. Parliament Approves 16 New Districts [Internet]. New Vision; 2010 [cited 2025 Apr 28]. Available from: http://www.newvision.co.ug/D/8/13/718487
11. NATIONAL POPULATION AND HOUSING CENSUS 2024 FINAL REPORT VOLUME 1 (MAIN) REPUBLIC OF UGANDA.
12. O.Nyumba T, Wilson K, Derrick CJ, Mukherjee N. The use of focus group discussion methodology: Insights from two decades of application in conservation. Methods Ecol Evol [Internet]. 2018 Jan 1 [cited 2025 Feb 28];9(1):20-32. Available from: https://onlinelibrary.wiley.com/doi/full/10.1111/2041-210X.12860 https://doi.org/10.1111/2041-210X.12860
13. Mugenda OM., Mugenda AG. Research methods : quantitative and qualitative approaches. 1999;256.
14. Cresswell T. Geographic thought : a critical introduction. 2024 [cited 2025 Feb 28];322. Available from: https://books.google.com/books/about/Geographic_Thought.html?id=l-ztEAAAQBAJ
15. Lotfinejad N, Peters A, Tartari E, Fankhauser-Rodriguez C, Pires D, Pittet D. Hand hygiene in health care: 20 years of ongoing advances and perspectives. Lancet Infect Dis [Internet]. 2021 Aug 1 [cited 2025 Apr 28];21(8):e209-21. Available from: https://www.thelancet.com/action/showFullText?pii=S1473309921003832 https://doi.org/10.1016/S1473-3099(21)00383-2
16. Pittet D. Hand hygiene: From research to action. J Infect Prev. 2017 May 1;18(3):100-2. https://doi.org/10.1177/1757177417705191

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Original Article

17. Sun KS, Lau TSM, Yeoh EK, Chung VCH, Leung YS, Yam CHK, et al. Effectiveness of different types and levels of social distancing measures: a scoping review of global evidence from an earlier stage of COVID-19 pandemic. BMJ Open [Internet]. 2022 Apr 11 [cited 2025 Apr 28];12(4):e053938. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC9002256/ https://doi.org/10.1136/bmjopen-2021-053938
18. Tso R V., Cowling BJ. Importance of Face Masks for COVID-19: A Call for Effective Public Education. Clin Infect Dis [Internet]. 2020 Nov 19 [cited 2025 Apr 28];71(16):2195-8. Available from: https://dx.doi.org/10.1093/cid/ciaa593 https://doi.org/10.1093/cid/ciaa593
19. Home Health Care Agencies | Provider Data Catalog [Internet]. [cited 2025 Apr 28]. Available from: https://data.cms.gov/provider-data/dataset/6jpm-sxkc
20. Kawuki J, Chan PSF, Fang Y, Chen S, Mo PKH, Wang Z. Knowledge and Practice of Personal Protective Measures Against COVID-19 in Africa: Systematic Review. JMIR Public Heal Surveill [Internet]. 2023 [cited 2025 Apr 28];9:e44051. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC10198719/ https://doi.org/10.2196/44051
21. Mehtar S, Preiser W, Lakhe NA, Bousso A, TamFum JJM, Kallay O, et al. Limiting the spread of COVID-19 in Africa: One-size mitigation strategies do not fit all countries. Lancet Glob Heal. 2020 Jul 1;8(7):e881-3. https://doi.org/10.1016/S2214-109X(20)30212-6
22. Mwine P, Atuhaire I, Ahirirwe SR, Nansikombi HT, Senyange S, Elayeete S, et al. Readiness of health facilities to manage individuals infected with COVID-19, Uganda, June 2021. BMC Health Serv Res [Internet]. 2023 Dec 1 [cited 2025 Apr 28];23(1):441. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC10159667/ https://doi.org/10.1186/s12913-023-09380-0
23. Ssempiira J, Kasirye I, Kissa J, Nambuusi B, Mukooyo E, Opigo J, et al. Measuring health facility readiness and its effects on severe malaria outcomes in Uganda. Sci Rep. 2018 Dec 1;8(1). https://doi.org/10.1038/s41598-018-36249-8

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