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Assessment of Knowledge and Preventative Practices about COVID-19 Among OPD Patients

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Abstract

Background: The COVID-19 pandemic has significantly impacted public health globally. Understanding the knowledge and preventative practices among patients is crucial for controlling the spread of the virus. This study aimed to assess the knowledge and preventative practices regarding COVID-19 among outpatient department (OPD) patients at Combined Military Hospital (CMH), Dhaka Cantonment. **Material & Methods:** This descriptive cross-sectional study included 71 participants from the OPD of CMH, Dhaka. Data were collected through face-to-face interviews using a semi-structured questionnaire. The study assessed demographic characteristics, comorbidities, knowledge, and preventative practices. Data analysis was performed using SPSS version 23.0. **Results:** The majority of participants were aged 28-37 years (45.07%), with a mean age of 35.18 years. Females constituted 59.15% of the sample. Most participants were married (87.32%), and the predominant religion was Islam (91.55%). Educational levels varied, with 42.25% having completed SSC. Occupationally, 49.30% were housewives. Urban residents made up 76.06% of the sample. Common comorbidities included hypertension (15.49%) and diabetes mellitus (15.49%). High compliance was noted for wearing face masks (97.2%) and using hand sanitizer (91.5%). However, only 46.5% practiced social distancing, and 23.9% maintained good respiratory hygiene. Knowledge gaps were identified, with only 59.2% knowing common COVID-19 symptoms. **Conclusions:** The study highlights significant gaps in knowledge and adherence to preventative practices among OPD patients at CMH, Dhaka. Targeted educational interventions are needed to improve compliance with critical preventative measures. Addressing these gaps is essential for enhancing public health strategies and controlling the spread of COVID-19.

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INTRODUCTION

The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has rapidly evolved into a global public health crisis, significantly impacting public health and healthcare systems worldwide. As of July 2024, the World Health Organization (WHO) reports over 600 million confirmed cases and over 6 million deaths globally, underscoring the severe burden on healthcare infrastructures.[1] The pandemic's global spread has exposed vulnerabilities in healthcare systems, highlighting the critical need for effective public health strategies and robust healthcare infrastructure.

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Understanding public knowledge and preventative practices is paramount in controlling the spread of COVID-19, as these factors significantly influence the effectiveness of public health interventions.[2] Bangladesh, with its high population density and limited healthcare resources, has faced substantial challenges in managing the COVID-19 pandemic. The country's first confirmed case was reported in March 2020, and since then, it has seen fluctuating infection rates, with several waves of outbreaks overwhelming the healthcare system.[3] The Bangladeshi government and healthcare institutions have implemented various measures, including lockdowns, social distancing mandates, and public health campaigns, to curb the spread of the virus.[4] However, these measures' effectiveness largely depends on public adherence to preventative practices and the healthcare system's ability to manage and treat COVID-19 cases. The role of healthcare facilities, particularly outpatient departments (OPDs), has been crucial in managing public health during the pandemic. OPDs serve as the first point of contact for many patients, providing essential health services and playing a vital role in early diagnosis and management of COVID-19 cases.[5] The closure of OPDs in many hospitals worldwide during the early days of the pandemic had significant repercussions on patients with chronic illnesses, who experienced reduced access to necessary healthcare services.[6] This disruption highlighted the importance of maintaining OPD services to manage not only COVID-19 but also other critical health conditions. Assessing knowledge and preventative practices among patients is essential to improve health education and public health strategies. Studies have shown that public awareness and adherence to preventative measures, such as wearing masks, maintaining social distancing, and practicing hand hygiene, are critical in reducing the transmission of COVID-19.[7] For instance, a study conducted in Bangladesh found that the public's knowledge and perception towards COVID-19 were significantly influenced by the information disseminated through healthcare providers and media.[8] These findings underscore the necessity of continuous public health education and effective communication strategies to enhance the public's knowledge and compliance with preventative measures. The challenges faced by Bangladesh in dealing with the COVID-19 pandemic are multifaceted. The country's high population density has facilitated the rapid spread of the virus, while the limited healthcare infrastructure has struggled to cope with the increasing number of cases.[9] Additionally, socioeconomic factors, including poverty and lack of access to healthcare, have exacerbated the situation, making it difficult for many individuals to adhere to recommended preventative measures.[10] The strain on healthcare resources has also impacted the quality of care for non-COVID-19 patients, with many experiencing disruptions in their routine medical care.[11] In response to these challenges, the Bangladeshi government and healthcare institutions have implemented several measures to strengthen the healthcare system and enhance public health strategies. These measures include expanding testing and vaccination programs, improving healthcare infrastructure, and increasing public health education efforts.[12] However, the effectiveness of these measures largely depends on the public's knowledge and adherence to preventative practices. The

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present study aims to assess the knowledge and preventative practices about COVID-19 among outpatient department (OPD) patients at Combined Military Hospital (CMH) in Bangladesh. By evaluating patients' knowledge and practices, this study seeks to identify gaps in public health education and provide insights into improving health education strategies. Furthermore, understanding the factors influencing patients' knowledge and practices can inform targeted interventions to enhance public compliance with preventative measures and reduce the spread of COVID-19.

MATERIAL AND METHODS

This descriptive cross-sectional study was conducted to assess the knowledge and preventative practices regarding COVID-19 among patients at the outpatient department (OPD) of Combined Military Hospital (CMH), Dhaka Cantonment. The study included 71 patients attending the OPD from July 1, 2020 to December 31, 2021. Participants were selected based on informed written consent, age between 18 to 89 years, irrespective of sex and religion. Exclusion criteria included non-cooperative behavior, psychological abnormalities, and severe illness. Data collection took place from May 6, 2021, to May 19, 2021, involving face-to-face interviews using a semi-structured, pretested questionnaire. COVID-19 knowledge, preventative practices, and comorbidity status was gathered. Data were checked for completeness and consistency, then coded and entered into SPSS version 23.0 for analysis.

RESULTS

The study included 71 participants with a mean age of 35.18 years (SD ±12.95). The age distribution showed that the largest age group was 28-37 years, comprising 45.07% of participants, followed by 18-27 years at 26.76%, 48-57 years at 15.49%, 38-47 years at 8.45%, and those aged 58 and above at 4.23%. In terms of gender, 59.15% were female, and 40.85% were male. Regarding religion, the majority were Muslims (91.55%), with Hindus making up 7.04%, and Christians constituting 1.41%. Marital status data revealed that 87.32% of participants were married, while 12.68% were unmarried. Educational status showed a varied distribution with 42.25% having completed SSC, 22.54% HSC, 18.31% holding a graduate degree or higher, 11.27% with primary education, and 5.63% having no formal education. Occupationally, 49.30% of participants were housewives, 36.62% were active servicemen, 12.68% were retired, and 1.41% were involved in business. The majority of participants resided in urban areas (76.06%), while 15.49% were from sub-urban areas, and 8.45% lived in rural areas.

The study examined the family-related characteristics of the participants. The distribution of family members showed that the majority of participants (53.52%) had 3-4 family members, followed by 36.62% with 5-6 members, 7.04% with 1-2 members, and 1.41% with 7-8 members. In terms of family structure, 74.65% of participants lived in nuclear families, while 25.35% lived in joint families. Regarding monthly family income, 43.66% of participants reported an income between 30,000-39,000 BDT, 30.99% had an income between 20,000-29,000 BDT, 11.27% earned between 40,000-49,000

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BDT, 8.45% had an income between 10,000-19,000 BDT, and 2.82% each reported incomes in the ranges of 50,000-59,000 BDT and 60,000 BDT and above.

The study also investigated the comorbidity status among the participants. Of the 71 participants, 16.90% had a history of COVID-19 infection. Other comorbidities included bronchial asthma in 11.27% of participants, chronic obstructive pulmonary disease (COPD) in 5.63%, hypertension in 15.49%, diabetes mellitus in 15.49%, and coronary heart disease in 2.82%.

The study evaluated the participants' knowledge about COVID-19. The majority of participants (83.1%) recognized COVID-19 as a dangerous disease, while 16.9% did not. Regarding symptoms, 59.2% were aware of the common symptoms of COVID-19, and 40.8% were not. A significant proportion (88.7%) understood that using face masks can prevent infection, and 53.5% knew that washing hands with soap and water for at least 20 seconds can prevent COVID-19, while 46.5% did not. Only 39.4% of participants knew that COVID-19 can spread through coughing, sneezing, and talking, while 60.6% were unaware. Similarly, 29.6% recognized that touching the eyes, nose, or mouth can spread the virus, compared to 70.4% who did not. A high percentage (77.5%) knew that using hand gloves can prevent infection, and 91.5% understood the importance of using hand sanitizer. Regarding social distancing, 36.6% knew it was required for prevention, while 63.4% did not. Only 26.8% believed that there was a chance of contracting COVID-19 during bus or train journeys, whereas 73.2% did not. Lastly, 43.7% recognized that communal food consumption could be a source of infection, while 56.3% did not.

The study assessed the overall knowledge level of the respondents regarding COVID-19. The distribution of knowledge levels showed that 21.13% of the participants had excellent knowledge, while 35.21% had good knowledge. An equal percentage of participants (35.21%) had fair knowledge about COVID-19, and 8.45% had poor knowledge. None of the participants fell into the "no knowledge" category.

The study examined the preventive practices adopted by respondents to protect against COVID-19. A large majority of participants (97.2%) reported wearing face masks, while 2.8% did not. Handwashing with soap for at least 20 seconds was practiced by 69.0% of respondents, whereas 31.0% did not adhere to this practice. Social distancing was maintained by 46.5% of participants, while 52.1% did not follow this practice. Using tissues or handkerchiefs was reported by 38.0% of respondents, with 62.0% not practicing it. Avoiding touching the eyes, nose, mouth, or face was followed by 32.4%, while 67.6% did not practice this precaution. Regarding staying at home, 63.4% of respondents adhered to this guideline, while 36.6% did not. Vaccination against COVID-19 was reported by 47.9% of participants, with 52.1% not vaccinated. Good respiratory hygiene was practiced by 23.9% of respondents, whereas 76.1% did not follow this practice. Maintaining food hygiene was reported by 69.0% of participants, and 31.0% did not adhere to this practice. Lastly, covering foods was maintained by 74.6% of respondents, while 25.4% did not practice this precaution.

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Table 1: Distribution of participants by baseline demographics (N=71)

Variables	Frequency	Percentage
Age		
18-27	19	26.76%
28-37	32	45.07%
38-47	6	8.45%
48-57	11	15.49%
58 above	3	4.23%
Mean±SD	35.18±12.95	
Gender		
Male	29	40.85%
Female	42	59.15%
Religion		
Islam	65	91.55%
Hindu	5	7.04%
Christian	1	1.41%
Marital Status		
Married	62	87.32%
Unmarried	9	12.68%
Educational Status		
No Formal Education	4	5.63%
Primary	8	11.27%
SSC	30	42.25%
HSC	16	22.54%
Graduate and above	13	18.31%
Occupation		
Active Servicemen	26	36.62%
Retired	9	12.68%
Housewife	35	49.30%
Business	1	1.41%
Residence		
Urban	54	76.06%
Rural	6	8.45%
Sub-Urban	11	15.49%

Table 2: Distribution of family related characteristics among the participants (N=71)

Variables	Frequency	Percentage
Family members		
1-2	5	7.04%
3-4	38	53.52%
5-6	26	36.62%

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7-8	1	1.41%
Type of Family		
Nuclear	53	74.65%
Joint	18	25.35%
Monthly Family Income		
10000-19000	6	8.45%
20000-29000	22	30.99%
30000-39000	31	43.66%
40000-49000	8	11.27%
50000-59000	2	2.82%
60000 –above	2	2.82%

Table 3: Distribution of comorbidities among the participants (N=71)

Co-Morbidity Status	**Frequency**	**Percentage**
COVID-19	12	16.90%
Bronchial Asthma	8	11.27%
COPD	4	5.63%
Hypertension	11	15.49%
Diabetes Mellitus	11	15.49%
Coronary Heart Disease	2	2.82%

Table 4: Distribution of knowledge of the respondent about COVID-19 by different Variables

Variables	**True n (%)**	**False n (%)**
COVID-19 is a dangerous disease.	59 (83.1%)	12 (16.9%)
The common symptoms of COVID-19.	42 (59.2%)	29 (40.8%)
Using face mask can prevent infection.	63 (88.7%)	8 (11.3%)
Washing hands with soap water at least 20 seconds can prevent COVID-19.	38 (53.5%)	33 (46.5%)
Spread by coughing, sneezing, talking.	28 (39.4%)	43 (60.6%)
Touching eyes, nose or mouth.	21 (29.6%)	50 (70.4%)
Using hand gloves can prevent infection.	55 (77.5%)	16 (22.5%)
Using hand sanitizer.	65 (91.5%)	6 (8.5%)
Social distance is required for prevention.	26 (36.6%)	45 (63.4%)
Chance of COVID-19 into bus, train journey.	19 (26.8%)	52 (73.2%)
Communal food consumption source of infection of COVID-19.	31 (43.7%)	40 (56.3%)

Table 5: Distribution of the respondents by category of knowledge on COVID-19

Level of knowledge	**Frequency**	**Percentage**
Excellent	15	21.13%
Good	25	35.21%
Fair	25	35.21%
Poor	6	8.45%

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No	0	0.00%

Table 6: Distribution of preventive practices of respondents on COVID-19 by different variables (N=71)

Variables	Yes n (%)	No n (%)
Wearing face mask.	69 (97.2%)	2 (2.8%)
Wash hands with soap at least 20 seconds.	49 (69.0%)	22 (31.0%)
Maintaining social distance.	33 (46.5%)	37 (52.1%)
Use tissue, handkerchief.	27 (38.0%)	44 (62.0%)
Avoid touching eyes, nose, mouth, face.	23 (32.4%)	48 (67.6%)
Staying at home.	45 (63.4%)	26 (36.6%)
Vaccinated against COVID-19.	34 (47.9%)	37 (52.1%)
Practicing good respiratory hygiene.	17 (23.9%)	54 (76.1%)
Maintaining food hygiene.	49 (69.0%)	22 (31.0%)
Maintaining covering foods.	53 (74.6%)	18 (25.4%)

DISCUSSION

The present study aimed to assess the knowledge and preventative practices regarding COVID-19 among outpatient department (OPD) patients at Combined Military Hospital (CMH), Dhaka Cantonment. The demographic characteristics of the study population revealed a predominance of the 28-37 years age group, comprising 45.07% of participants, with a mean age of 35.18 years. This aligns with other studies indicating that middle-aged adults are significantly impacted by the pandemic, necessitating focused health education interventions for this demographic.[13] The gender distribution showed more females (59.15%) than males (40.85%), which is consistent with the finding that females are more likely to participate in health surveys and exhibit greater health-seeking behaviors during the pandemic.[14] The religious composition predominantly included Muslims (91.55%), reflecting the national demographic, and the majority were married (87.32%), which underscores the importance of family-centric health education programs. Educational attainment varied, with 42.25% having completed SSC, and 18.31% holding a graduate degree or higher, highlighting the need for educational interventions tailored to different literacy levels to enhance public health outcomes.[15] Occupationally, a significant proportion were housewives (49.30%) and active servicemen (36.62%), indicating a diverse cohort that requires varied communication strategies for effective dissemination of COVID-19 preventative measures.[16] Most participants resided in urban areas (76.06%), with fewer from sub-urban (15.49%) and rural areas (8.45%), highlighting urban areas as critical zones for implementing and monitoring public health interventions.[17] The family size distribution showed a majority having 3-4 members (53.52%), and a significant number living in nuclear families (74.65%), suggesting that family-based health education could be highly effective.[18] Monthly family income varied, with the most common range being 30,000-39,000 BDT (43.66%), indicating economic factors should be considered when planning health interventions.[19] The

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comorbidity analysis revealed significant occurrences of hypertension (15.49%), diabetes mellitus (15.49%), bronchial asthma (11.27%), and COPD (5.63%), which are consistent with global studies showing that these conditions increase the risk of severe COVID-19 outcomes.[20,21] Effective management of these comorbidities is crucial for improving patient outcomes and reducing the burden on healthcare systems. Knowledge about COVID-19 varied among participants; 83.1% recognized it as a dangerous disease, and 88.7% knew that using a face mask can prevent infection, which is higher than reported in similar studies in other regions.[10,22] However, only 59.2% knew the common symptoms, and 53.5% were aware of the efficacy of washing hands for at least 20 seconds, indicating gaps in basic knowledge that need to be addressed through targeted educational campaigns.[8] Knowledge about the spread of COVID-19 through coughing, sneezing, and talking was understood by 39.4%, and 29.6% knew the risks of touching the face, suggesting the need for continuous public health messaging.[23] Preventive practices were generally well-adopted, with 97.2% wearing face masks, 69.0% washing hands with soap for at least 20 seconds, and 63.4% staying at home, reflecting high compliance rates similar to other studies.[24] However, adherence to social distancing (46.5%), using tissues or handkerchiefs (38.0%), avoiding touching the face (32.4%), and practicing good respiratory hygiene (23.9%) was lower, highlighting areas for improvement.[25,26] Vaccination rates were also lower at 47.9%, indicating the need for increased vaccine promotion and accessibility.[27] In conclusion, while there is a high level of awareness and adherence to certain COVID-19 preventive measures among OPD patients at CMH, Dhaka, gaps remain in knowledge and compliance with other critical practices. These findings suggest a need for sustained and targeted public health interventions to address these gaps, particularly focusing on underrepresented and vulnerable groups. Future strategies should integrate comprehensive educational campaigns, leverage family and community networks, and address economic and logistical barriers to enhance the overall effectiveness of COVID-19 prevention efforts.

Limitations of The Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSIONS

In conclusion, the study conducted at the outpatient department of Combined Military Hospital (CMH), Dhaka Cantonment, provides valuable insights into the knowledge and preventative practices regarding COVID-19 among patients. The findings reveal significant gaps in knowledge and adherence to preventative measures, highlighting the need for targeted educational interventions and public health strategies. While there is a high level of compliance with certain practices such as mask-wearing and hand hygiene, other critical practices like social distancing and respiratory hygiene require further emphasis. The presence of comorbidities among the participants underscores the importance of managing these conditions to reduce the risk of severe COVID-19 outcomes. Future efforts should focus on continuous health education, leveraging community and family networks,

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and addressing economic and logistical barriers to enhance the effectiveness of COVID-19 prevention and control measures.

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