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Social and Behavioral Insights into the Use of Complementary and Alternative Medicines during the COVID-19 Pandemic

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Abstract: The COVID-19 pandemic highlighted the need for diverse healthcare approaches, prompting many to explore complementary and alternative medicines (CAMs). This study provides social and behavioral insights into complementary and alternative medicine (CAM) use among the adult population in Dhaka, Bangladesh, during the pandemic. A descriptive cross-sectional survey was conducted online via Facebook Messenger with 494 respondents. Among them, 71.9% were CAM users, and 28.1% were non-users. Of the 355 CAM users, 80.56% combined dietary and mind/body/energy-based methods, while 83.9% engaged in physical exercise. Additionally, 38.9% used CAMs daily, with 87.3% using them primarily to boost immunity. Friends and family were the main sources of information for 64.8% of respondents. The study also revealed that 56.9% of users were satisfied with the outcomes. Significant associations were found between satisfaction levels and CAM use frequency, weekly/daily usage, or mind/body/energy-based CAM duration ($p \leq 0.05$). This research offers valuable behavioral and social insights into CAM usage during the pandemic and suggests the need for further research and the integration of CAMs with conventional healthcare to optimize responses to future health crises.

Keywords: Complementary and alternative medicines, CAMs, COVID-19, Dhaka, Bangladesh.

CHAPTER 1: INTRODUCTION

1.1 Background

CAM encompasses a wide range of approaches and techniques to healthcare and products that are not a component of conventional medical practice but are often considered safe and effective for use (Tabish, 2008). For many years, numerous societies throughout the world have adopted these techniques for the prevention and management of chronic health problems as well as acute ailments, including respiratory infections (Tabish, 2008). The alternative medicine is different from the complementary medicine (Cronkleton, 2022). Complementary medicines refer to the medicines that are used in conjunction with conventional medicines (e.g., meditation, yoga, naturopathy, diet and nutritional therapy, etc.) (Cronkleton, 2022). Again, alternative medicines are those used instead of conventional medicines; for instance, Traditional Chinese Medicine (TCM), Ayurveda, Homeopathy, etc. (Cronkleton, 2022). Conventional medicines, often known as allopathic medicines/Western medicines/modern medicines, can be defined as medicines developed by scientific research by medical professionals to treat symptoms and illnesses (Cronkleton, 2022). Pharmaceutical medications, psychotherapy, radiotherapy, etc., are examples of conventional medicines (Cronkleton, 2022).

The entire world was affected by the COVID-19 pandemic, causing substantial morbidity and mortality (Charan et al., 2020). The effectiveness of traditional therapies for COVID-19 had been investigated in nations with a rich heritage of traditional medicine (Charan et al., 2020). Likewise, in Bangladesh, many people used CAMs during the COVID-19 pandemic (Ahmed et al., 2020). It is known that over 97 World Health Organization member countries have national strategies on the use of CAMs (World Health Organization, 2019).

The Government of Bangladesh promises to modernize Unani, Ayurveda, and homeopathic medical treatment as an alternative to the popular allopathic medicines (DGHS, 2012). Although allopathic medicine has made much progress, notably synthetic medications and antimicrobials, CAMs are still practiced and used nationwide (DGHS, 2012). Bangladesh is an ideal place for cultivating and using herbal medicines due to its geographical position and climatic conditions (DGHS, 2012). The World Health Organization (WHO) assists Bangladesh with

financial and technical assistance to develop the Unani, Ayurveda, and homeopathic medical systems (DGHS, 2012).

Individuals throughout the world endured many difficulties due to limiting lifestyle variables such as the state of lockdown during the COVID-19 pandemic, and the general public and patients used that period as a forced domestic retreat to develop resilience via basic preventative actions and self-care (Seifert et al., 2020). That's why people can use CAMs to enhance the quality of life in extreme situations like any pandemic crisis in the future, which may cause stress, worry, anxiety, and sadness in individuals and society worldwide (Alschuler et al., 2020).

Moreover, in this research, the main focus of this paper is to find out the status of the use of CAMs, such as the prevalence of use of CAMs, the patterns of CAM usage by users, the factors influencing CAM usage, the levels of satisfaction regarding the outcomes of using CAMs and the socio-demographic characteristics of the respondents. So far reviewed, not much research has been done on this topic in Bangladesh. We carried out this research to ascertain the adult population's usage of CAMs in Dhaka, Bangladesh, during the COVID-19 pandemic.

1.2 Research Objectives

To identify the prevalence of use of CAMs among the adult population of Dhaka city during the COVID-19 pandemic

To determine the pattern of CAM usage among the CAM users

To find out the factors influencing the use of CAMs among the CAM users

To identify the socio-demographic characteristics of the respondents

To assess satisfaction levels with CAM use among users.

1.3 Rationale

This study highlights the importance of understanding the social and behavioral aspects of complementary and alternative medicine (CAM) use, particularly in the context of the COVID-19 pandemic (Ahmed et al., 2020). CAM offers a holistic, patient-centered approach to health, incorporating psycho-emotional, functional, social, and spiritual dimensions (Paudyal

et al., 2021). Research suggests that practices such as exercise, stress reduction, healthy eating, and mindfulness can positively affect immunity (Umesh et al., 2021). A strong immune system is crucial in preventing viral infections, and CAM techniques are often used to enhance immunity and exhibit antiviral effects (Kretchy et al., 2021). Mindfulness meditation and yoga have demonstrated notable immune-boosting benefits, while herbal remedies have been effective in alleviating respiratory distress during the pandemic (Nugraha et al., 2020). In Bangladesh, factors such as fear of COVID-19, limited access to healthcare, and the increasing influence of digital media have driven widespread use of CAMs, although sometimes inappropriately (Ahmed et al., 2020). This study seeks to explore the patterns of CAM usage, the social and behavioral factors influencing this behavior, and the outcomes of CAM use, filling a critical research gap in understanding how these practices were adopted during the pandemic in Bangladesh.

1.4 Review of Literature

Studies on Complementary and Alternative Medicines (CAMs) during health crises highlight the growing reliance on these practices to support immunity and overall health (Romero-García et al., 2024; Chatterjee, 2023). During the COVID-19 pandemic, many individuals worldwide turned to CAMs like dietary supplements, physical exercises, and mind/body practices to mitigate the virus's effects (Karaman Özlü et al., 2022). In Bangladesh, although limited research exists on CAM use during the pandemic, evidence suggests that traditional remedies and alternative practices were widely adopted to manage stress and boost immunity (Ahmed et al., 2020). Global research emphasizes CAMs' benefits for mental well-being and immune function, particularly when conventional healthcare is stretched (Gureje et al., 2015). However, most studies focus on general health outcomes and popularity, with little attention to their effectiveness or integration with mainstream healthcare systems (Chatterjee, 2023; Karaman Özlü et al., 2022; Ahmed et al., 2020). The lack of evidence-based guidelines for CAMs often leads to varied practices and outcomes. This study aims to address this gap by examining the use of CAMs in Dhaka during the COVID-19 pandemic, providing insights into their role in public health crises and contributing empirical evidence for future healthcare strategies and policies in Bangladesh.

CHAPTER 2: METHODS

2.1 Study Design

This study was a cross-sectional, descriptive study conducted through an online survey. It aimed to gather data on the prevalence and patterns of Complementary and Alternative Medicine (CAM) use among adult citizens of Dhaka city.

2.2 Study Area

The study was carried out in various areas of Dhaka city. Adult citizens of Dhaka aged 18 years and above were included in the study, which spanned four months, from September 1, 2021, to December 31, 2021.

2.3 Data Source

The data were collected using a self-administered online questionnaire, distributed through Google Forms. The questionnaire was initially created in English, and then translated into Bengali. It was pretested online among a subset of the adult population of Dhaka city who were not part of the main study. The finalized questionnaire was used to gather data from the study participants. There were three parts to the questionnaire. The first part addressed the anthropometric and socio-demographic information. (Q1-Q13). The questions in the second part focused on the prevalence of CAM usage. (Q14-Q19). The third part was related to the questions on the patterns, factors influencing the use of CAMs, and the satisfaction levels regarding the outcomes of using CAMs. The satisfaction levels were measured using a five-point Likert scale (Aasa, 2016).

2.4 Sampling Methodology

The following standard formula was used to estimate the sample size: $n = z^2 pq / d^2$. Here, n = desired sample size, z = confidence interval (1.96 for 96% confidence interval), p = 0.258; assumed target population, the proportion of the target population estimated to possess the specific traits, $q = (1 - p) = (1 - 0.258) = 0.742$; i.e. the proportion of the population not possessing the particular specific traits, d = marginal error or precision = 0.05. So, $n = (1.96)^2 \times (0.258 \times 0.742) / (0.05)^2 = 353.2 = 353.2 + 14.1.28$ (after increasing 40% non-response) $= 494.48 \approx 494$. So, the desired sample size was 494. *In a study carried out in India, the percentage

of respondents who were using CAMs during the COVID-19 pandemic was 25.8%.⁹

2.5 Data Collection

Data were collected by sending links to Google Forms via Facebook Messenger and email. As it was online-based research, the CHERRIES (Checklist for Reporting Results of Internet E-Surveys) checklist was utilized to improve its quality (Eysenbach, 2004). To eliminate missing or inconsistent data, the data were first examined for accuracy, consistency, and completeness. The computer software then received corrected data.

2.6 Analytical Approach

The data were analyzed using SPSS (Statistical Package for Social Sciences) Statistics 22.0, statistical software. Simple frequency distribution was used to analyze descriptive data. Cross tabulation was applied to find out the relationship between dependent and independent variables. Statistical significance was set at 95% of the confidence interval. Chi-Square tests were tried to see any association between the socio-demographic or anthropometric characteristics of the study respondents and CAM users or non-users. Additional Chi-Square tests were applied to exclude any association between the frequency and patterns of use of CAMs and the levels of satisfaction regarding the outcomes of using CAMs.

2.7 Ethical Consideration

Approval from the Ethical Review Committee of the State University of Bangladesh was taken (2021-08-18/SUB/H-ERC/0009). Prior to participating, all respondents gave their informed consent for interviews and surveys. The study maintained participant confidentiality by anonymizing responses and employing data security protocols. The participants were informed that they could withdraw from the study at any time without facing any negative consequences. Ethical standards were maintained throughout the study by minimizing potential harm.

2.8 Limitations

The study was conducted online to avoid close physical

contact during the lockdown period of the COVID-19 pandemic in Dhaka city. Problems like people's unwillingness to participate, limited access to specific portals, lack of follow-up data, etc., were encountered because the study was conducted online.

CHAPTER 3: RESULTS

It was found that among the 494 respondents, 51.81% respondents were female. The mean age of the respondents was 31.67 ± 9.53 years, with a minimum of 19 years and a maximum of 68 years. Most respondents follow Islam as their religion (84.41%) and 56.48% were married. The educational status of the respondents shows that the majority, 72.06%, were university graduates or equivalent. 33.2% of the respondents were private employees, and 15% were students. 69.23% of the respondents were employed, and 35.6% of the respondents were from extended families. The mean number of members was 7.77 ± 3.298 , with a minimum of 3 members per family and a maximum of 16 members per family. Again, the mean annual family income was 822719.55 ± 636408.132 BDT, minimum 180000 BDT, maximum 2000000 BDT. Table 1: Association between the socio-demographic characteristics of the respondents and CAM users or non-users (n=494)

Socio-demographic Characteristics	CAM Users N=355 (71.86%)	CAM Non-users N=139 (28.84%)	Total N=494 (%)	p-value
Total	355 (71.9%)	139 (28.1%)	494 (100.0%)	
Age				
18-30 years	174 (69.9%)	75 (30.1%)	249 (100.0%)	0.437
31-40 years	98 (71.0%)	40 (29.0%)	138 (100.0%)	
41-50 years	40 (72.7%)	15 (27.3%)	55 (100.0%)	
51-60 years	28 (84.8%)	5 (15.2%)	33 (100.0%)	
61-70 years	15 (78.9%)	4 (21.1%)	19 (100.0%)	
Sex				
Male	173 (72.7%)	66 (27.3%)	238 (100.0%)	0.694
Female	182 (71.1%)	74 (28.9%)	256 (100.0%)	
Religion				
Islam	295 (70.7%)	122 (29.3%)	417 (100.0%)	0.249
Hinduism	52 (81.3%)	12 (18.8%)	64 (100.0%)	
Christianity	6 (66.7%)	3 (33.3%)	9 (100.0%)	

Buddhism	2 (50.0%)	2 (50.0%)	4 (100.0%)	
Marital Status				
Unmarried	135 (67.5%)	65 (32.5%)	200 (100.0%)	0.082
Married	209 (74.9%)	70 (25.1%)	279 (100.0%)	
Divorced	5 (55.6%)	4 (44.4%)	9 (100.0%)	
Widowed	6 (100%)	0 (0.0%)	6 (100.0%)	
Educational Status				
No formal education	1 (100.0%)	0 (0.0%)	1 (100.0%)	0.327
Primary school graduate	2 (100.0%)	0 (0.0%)	2 (100.0%)	
SSC or equivalent	5 (45.5%)	6 (54.5%)	11 (100.0%)	
HSC or equivalent	68 (70.1%)	29 (29.9%)	97 (100.0%)	
University graduate	257 (72.4%)	98 (27.6%)	355 (100.0%)	
Postgraduate	22 (78.6%)	6 (21.4%)	28 (100.0%)	
Occupation				
Student	49 (66.2%)	25 (33.8%)	74 (100.0%)	0.433
Housewife	38 (73.1%)	14 (26.9%)	52 (100.0%)	
Businessman/Self-employed	56 (67.5%)	27 (32.5%)	83 (100.0%)	
Government employee	20 (64.5%)	11 (35.5%)	31 (100.0%)	
Private employee	123 (75.0%)	41 (25.0%)	164 (100.0%)	
Healthcare Professionals	30 (78.9%)	8 (21.1%)	38 (100.0%)	
Teacher	8 (100.0%)	0 (0.0%)	8 (100.0%)	
Media Professionals	6 (60.0%)	4 (40.0%)	10 (100%)	
Legal Professionals	8 (88.9%)	1 (11.1%)	9 (100%)	
Teacher	8 (100.0%)	0 (0.0%)	8 (100%)	
Engineer	9 (64.3%)	5 (35.7%)	14 (100%)	
Scientist/Researcher	8 (72.7%)	3 (27.3%)	11 (100%)	
Annual Family Income (BDT)				
≤400000	13 (76.5%)	4 (23.5%)	17 (100.0%)	0.284
400001-700000	182 (74.9%)	61 (25.1%)	243 (100.0%)	
700001-1000000	115 (68.9%)	52 (31.1%)	167 (100.0%)	
1000001-1300000	36 (65.5%)	19 (34.5%)	55 (100.0%)	
1300001-1600000	9 (81.8%)	2 (18.2%)	11 (100.0%)	
1600001-1900000	0 (0.0%)	0 (0.0%)	0 (100%)	
1900001≥2200000	0 (0.0%)	1 (100.0%)	0 (0.0%)	

Among the 494 respondents, 71.9% (355) were CAM users, and 28.1% (139) were non-users. Again, among

the 355 CAM users, 80.56% were dietary and mind/body/energy-based CAM users, 11.27% were only mind/body/energy-based CAM users, and 8.17% were dietary CAM users. There were no significant statistical associations between the socio-demographic characteristics of the respondents and CAM users or non-users ($p \text{ value} \geq 0.05$).

Table 2: Distribution of the respondents according to the type of CAMs used by the users

Types of CAM used by the users	Respondents	
	N	%
Dietary CAMs		
Vitamins or other nutritional supplements	275	77.5
Dietary supplements	254	71.5
Dietary traditional medicines	60	16.9
Homeopathy/ Naturopathy/ Herbal medicine	70	19.7
Mind/ body/ energy based CAMs		
Physical exercise	298	83.9
Yoga/ Meditation/ Energy healing techniques	176	49.6
Aromatherapy	4	1.1
Massage	11	3.1
Chiropractic treatment	2	0.6
Holistic nursing	3	0.8
Hypnosis	2	0.6
Body based traditional medicine practices/ Martial art practices	16	4.5
*Multiple responses		

Table 2 shows that among CAM users, 83.9% did physical exercise, 77.5% took vitamins or other nutritional supplements, and 71.5% took dietary supplements.

Table 3: Distribution of the respondents according to their frequency of using CAMs, per week CAMs using status, per day CAM using status and duration of use of mind/ body/ energy based CAMs.

Frequency and patterns of using CAMs	Respondents	
	N	%
Total	355	100.0
Frequency of using CAMs		
Always	145	40.85

Frequently	133	37.46
Sometimes	58	16.34
Rarely	19	5.35
Per week CAMs using status		
1-2 days per week	43	12.1
3-4 days per week	71	20.0
5-6 days per week	96	27.0
Everyday	138	38.9
Only Fridays/holidays	7	2.0
Per day CAM using status		
Once a day	155	43.66
Twice a day	89	25.07
Thrice a day	64	18.03
Four times a day	30	8.45
More than four times a day	17	4.79
Total	326	100.0
Duration of use of mind/ body/ energy based CAMs		
Less than 20 minutes	16	4.91
20-30 minutes	149	45.71
45 minutes-1 hour	141	43.25
2 hours	18	5.52
More than 2 hours	2	0.61

Table 3 depicts that among the 355 CAM users, 40.85% used always, and 37.46% used frequently. 38.9% used it every day, and 27.0% used it 5-6 days per week. The majority (43.66%) used it once a day, and 25.07% used it twice a day. Again, among the 326 mind/ body/energy-based CAM users, 45.71% used for 20-30 minutes, and 43.25% used for 45 minutes-1 hour.

Among the CAM users, 87.3% reported using CAMs to boost immunity, 73.0% used them to improve nutrition, and 69.3% used them to modify lifestyle and manage body weight during the lockdown. Additionally, 54.4% used CAMs to improve mental and physical health. Other reasons included improving sleep quality and preventing sleep disturbances (25.4%), enhancing lung function (31.0%), unavailability of appropriate modern medicines (11.3%), routine use prior to the pandemic (7.9%), COVID-19 symptom relief (22.0%), and post-COVID-19 care (23.1%). Regarding sources of information about CAMs, the majority of respondents (64.8%) were informed about CAMs by friends and family members, while 52.1% received information from doctors. Other sources included dietitians/nutritionists (31.8%), self-medication (29.6%), pharmacists (2.5%), and other health workers (2.0%). A five point Likert Scale was employed to assess the levels of satisfaction and this showed the outcome of using CAMs during the COVID-19 pandemic (Aasa, 2016).

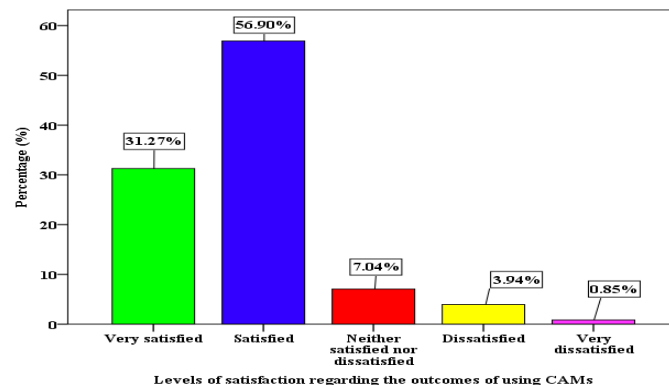


Figure 1: The respondents' distribution according to their levels of satisfaction regarding the outcomes of using CAMs (n=355)

Table 4: Association between the frequency and patterns of CAM usage and satisfaction levels

Frequency and Patterns of CAM Use	Very Satisfied (%)	Satisfied (%)	Neither (%)	Dissatisfied (%)	Very Dissatisfied (%)	Total	p-value
Frequency of Use							
Always	68 (46.9%)	74 (51.0%)	2 (1.4%)	1 (0.7%)	0 (0.0%)	145	0.000
Frequently	38 (28.6%)	93 (69.9%)	1 (0.8%)	1 (0.8%)	0 (0.0%)	133	
Sometimes	5 (8.6%)	29 (50.0%)	18 (31.0%)	3 (5.2%)	3 (5.2%)	58	
Rarely	0 (0.0%)	6 (31.6%)	4 (21.1%)	9 (47.4%)	0 (0.0%)	19	
Total (%)	111 (31.3%)	202 (56.9%)	25 (7.0%)	14 (3.9%)	3 (0.8%)	355	
Per Day Usage							
Once a day	54 (34.8%)	70 (45.2%)	18 (11.6%)	10 (6.5%)	3 (1.9%)	155	0.032
Twice a day	24 (27.0%)	59 (66.3%)	5 (5.6%)	1 (1.1%)	0 (0.0%)	89	
Thrice a day	16 (25.0%)	44 (68.8%)	2 (3.1%)	2 (3.1%)	0 (0.0%)	64	
Four times a day	10 (33.3%)	19 (63.3%)	0 (0.0%)	1 (3.3%)	0 (0.0%)	30	
Total (%)	111 (31.3%)	202 (56.9%)	25 (7.0%)	14 (3.9%)	3 (0.8%)	355	
Per Week Usage							
1-2 days per week	3 (7.0%)	22 (51.2%)	8 (18.6%)	10 (23.3%)	0 (0.0%)	43	0.000
3-4 days per week	13 (18.3%)	44 (62.0%)	11 (15.5%)	1 (1.4%)	2 (2.8%)	71	
5-6 days per week	29 (30.2%)	63 (65.6%)	2 (2.1%)	1 (1.0%)	1 (1.0%)	96	
Every day	65 (47.1%)	70 (50.7%)	2 (1.4%)	1 (0.7%)	0 (0.0%)	138	
Only Fridays/holidays	1 (14.3%)	3 (42.9%)	2 (28.6%)	1 (14.3%)	0 (0.0%)	7	
Total (%)	111 (31.3%)	202 (56.9%)	25 (7.0%)	14 (3.9%)	3 (0.8%)	355	
Duration of CAM Use							
Less than 20 minutes	4 (25.0%)	8 (50.0%)	0 (0.0%)	4 (25.0%)	0 (0.0%)	16	0.002
20-30 minutes	44 (29.5%)	81 (54.4%)	16 (10.7%)	7 (4.7%)	1 (0.7%)	149	
45 minutes - 1 hour	47 (33.3%)	85 (60.3%)	6 (4.3%)	1 (0.7%)	2 (1.4%)	141	
2 hours	10 (55.6%)	7 (38.9%)	0 (0.0%)	1 (5.6%)	0 (0.0%)	18	
More than 2 hours	0 (0.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2	
Total (%)	105 (32.2%)	183 (56.1%)	22 (6.7%)	13 (4.0%)	3 (0.9%)	326	

Table 4 presents the satisfaction levels associated with various patterns of Complementary and Alternative Medicine (CAM) use. Higher satisfaction was seen with frequent use, with 69.9% of frequent users and 51.0% of always users being satisfied, and 28.6% and 46.9% being very satisfied, respectively. Per-day usage showed similar trends, with 66.3% of twice-a-day users and 45.2% of once-a-day users being satisfied, and 34.8% of once-a-day users and 27.0% of twice-a-day users being very satisfied. Weekly usage revealed that daily users had the highest satisfaction (47.1% very satisfied), and duration of use showed the highest satisfaction for those using CAM for 2 hours (55.6% very satisfied). Statistical significance was observed for frequency ($p=0.000$), per-day usage ($p=0.032$), weekly usage ($p=0.000$), and duration ($p=0.002$).

CHAPTER 4: DISCUSSION

CAMs were used by a large number of individuals in Dhaka city during the COVID-19 pandemic. Researchers stated that CAMs are used by more than 80% of people on the planet (Obalum & Ogo, 2011). Since COVID-19's first appearance, many individuals from many cultures have been using CAMs (Vaishali & Geetha, 2018) to maintain their immunological capability against it (Niveditha et al., 2020). A researcher expressed that the use of CAMs is extensive and deeply ingrained in the cultures of South Asian nations (Ahmad, 1992). Their use has also been seen among the people of Bangladesh during the pandemic (Dong et al., 2020).

According to the result of the present study, among the 494 respondents, the majority (71.9%) was CAM users, and 28.1% were non-users (Sharma et al., 2017). This result concurs with a study where researchers found that most participants (65.54%) used CAMs (Alyami et al., 2020). Again, the current study revealed that among the 355 CAM users, 80.56% were both dietary and mind/body/energy-based CAM users, 11.27% were only mind/body/energy-based CAM users, and 8.17% were only dietary CAM users. Additionally, 83.9% did physical exercise, 77.5% took vitamins or other nutritional supplements, and 71.5% took dietary supplements, similar to some studies conducted in Saudi Arabia, Iran, and South Korea, where most users used almost the same types (Hwang et al., 2020; Dehghan et al., 2022).

Another study found that among the respondents, the majority (56.9%) used food/vitamin supplements, and 49.7% used dietary supplements (Puataweepong et al., 2012). Research conducted in 2020 revealed that most women consumed nutritional supplements containing vitamins and/or minerals (Hammersen et al., 2020). They

were followed by yoga and homeopathy, and antioxidants, acupuncture, and mistletoe treatment, for example, were additional forms that were less popular (Hammersen et al., 2020).

A study carried out in Pakistan estimated that up to 80% of the respondents utilized CAM therapies regularly (Shaikh et al., 2009). 84% of the respondents in research conducted in Iran said they used at least one sort of CAM therapy during the COVID-19 pandemic (Dehghan et al., 2022). Around 61% of those who took part in that study took nutritional supplements (Dehghan et al., 2022). In a research conducted in Bangladesh, a COVID-19-positive patient was given a mixture of CAMs throughout Ramadan and after Ramadan ended (Ahmed et al., 2020). The patient was deemed a one-of-a-kind case since he took allopathic, homeopathic, and natural medicines all at the same time, ostensibly without harm, and subsequently was entirely healed (Ahmed et al., 2020).

Chinese herbal medicine's impacts, which were considered a type of alternative medicine for Severe Acute Respiratory Syndrome (SARS), were evaluated by the meta-analysis of a researcher who discovered that it could drastically lessen the frequency of death, the fever duration, manifestations, and radiological anomalies of the chest, and recurring fungal infections in patients (Liu et al., 2004). Such outcomes demonstrate that treating SARS patients with a mix of Chinese herbal treatments and contemporary medications may be effective (Dehghan et al., 2022). Researchers discovered that 76.1% employed CAMs during the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) outbreak in Korea in 2015 (Hwang et al., 2020). In addition, another researcher found that the usage of CAM was on the rise in Iran, especially among patients with chronic conditions, with 75.4% using at least one kind of CAM (Ghaedi et al., 2017).

In the current study, among the 355 CAM users, 40.85% used it always, and 37.46% used it frequently. Among the users, the majority (38.9%) used CAMs every day, and 27.0% used it 5-6 days per week. Again, the majority (43.66%) used once a day, and 25.07% used twice a day. In addition, among the mind/body/energy-based CAM users ($n=326$), the majority (45.71%) used it for 20-30 minutes, and 43.25% used it for 45 minutes to 1 hour.

Previously, a study demonstrated that increasing immunity was the most frequent rationale for utilizing CAMs, consistent with the most popular CAM forms (Hammersen et al., 2020). Socioeconomic factors, including work and education, also showed variations in

their relationships with the causes of CAM use, and they were especially noticeable among those with the lowest levels of education, for whom boosting the immune system and raising quality of life were, respectively, of utmost importance (Hammersen et al., 2020). The distribution of the respondents according to their reasons for using CAMs in the research showed that among the CAM users, 87.3% used CAMs to boost immunity, 73.0% to improve nutrition, and 69.3% used them to modify their lifestyle and manage body weight during the lockdown.

According to India's AYUSH government, alternative treatments such as Ayurveda, homeopathy, and Unani practice might increase immunity against the deadly new coronavirus (Vaishali & Geetha, 2018). Research confirmed that since appropriate allopathic approaches were lacking to manage coronavirus infection, the mainstream media reported a surge in CAM demand in the population (Paudyal et al., 2021). Some researchers conducted a narrative review on meditation and Ayurvedic medicine's contribution to coronavirus infection in 2021 and stated that although vaccination could generate specific immunity in a host, non-specific approaches to boosting general host immunity were also necessary (Umesh et al., 2021). Investigators also affirmed that when many individuals do not have access to conventional treatment, CAMs, which have been proven safe, ensure everyone has access to care (Tangkiatkumjai et al., 2017).

Researchers discovered that yoga and medical herbs could help with immune disorders caused by infections and mutant cells and are recommended as "immune boosters" because of their antibacterial, antiviral, anti-inflammatory, and immune-boosting properties (Paudyal et al., 2021). In addition, it was stated that the herbal medicines suppressed the activation of inflammatory gene expression, lowered the risk of cytokine-associated toxicity (Nugraha et al., 2020).

Furthermore, it was added that once inflammation has subsided, the T lymphocytes can do their work, large granular lymphocytes ought to eliminate the antigenic substances, and T cells include the virus and cancer cells (Nugraha et al., 2020). World Health Statistics 2014 showed that herbal medications and traditional remedies are the major, often only, source of healthcare for millions (World Health Organization, 2014).

Research showed that CAM usage for preventing coronavirus infection was widespread, with views on COVID-19's demography and disease playing a role in the usage based on prior experiences (Kretchy et al., 2021). During Norway's statewide lockdown, 38.4% of

study participants as healthcare professionals delivered CAM therapies to their patients, and 96.4% had adjusted (Stub et al., 2020). They were offered video (57.4%) or telephone consultations with healthcare professionals (46.6%) (Stub et al., 2020). In the present study, among the CAM users, 64.8% were informed about CAMs by friends and family members, and 52.1% were informed by a doctor. This result aligns with the research carried out in Ethiopia, where 49.6% of the study participants were informed about CAMs by friends and families as well (Emiru et al., 2021).

Several studies determined that the use of CAMs was effective in combating COVID-19, and users were satisfied with the outcomes (Alyami et al., 2020; Dehghan et al., 2022; Paudyal et al., 2021). However, researchers also informed that CAM must be integrated with the conventional system to reduce the disastrous impacts of COVID-19, and all available therapy options must be channeled to fight COVID-19 (Shinde & Bawaskar, 2021). In this research, a five-point Likert scale was employed to assess the levels of satisfaction regarding the outcomes of using the CAMs (Kaur et al., 2019). Among the 355 CAM users, the majority (56.90%) were satisfied, and 31.27% were very satisfied. These findings are similar to research in which 99.4% of patients were satisfied with the outcomes of CAMs, and the majority of patients (91.8%) believed that therapies with CAMs had a good influence on their health (Kaur et al., 2019).

The present study found no significant association between the respondents' socio-demographic characteristics and CAM users or nonusers (p value ≥ 0.05). These findings are similar to two studies where the researchers could not find any associations between socio-demographic characteristics and CAM users or nonusers (Puataweepong et al., 2012). Notable variations between CAM users and nonusers regarding gender, marital status, education, and employment could be found in a study conducted where among the respondents, 40% used CAMs (Al, 2021). Again, significant statistical associations were found between levels of satisfaction and the frequency of CAM use, weekly CAM usage status, daily CAM usage status, or the duration of using mind/body/energy-based CAMs ($p \leq 0.05$).

CHAPTER 5: CONCLUSION

The study found that a significant portion of Dhaka's population used CAMs during the COVID-19 pandemic, with many adopting both dietary and mind/body-based practices. Consistent with global trends, participants also used vitamins, supplements, and exercise, primarily to

boost immunity. Additionally, many sought to manage body weight, improve lifestyle, and enhance nutrition. High satisfaction levels among CAM users suggest positive outcomes. While our findings contribute to the understanding of CAM use during the pandemic, it is clear that CAMs should complement conventional medicine for effective COVID-19 treatment. Although no significant socio-demographic differences were found between CAM users and non-users, other studies have reported variations based on factors like gender, education, and occupation. In conclusion, CAM use in Dhaka during the pandemic mirrors global trends, especially for immunity, and was generally accepted as a health-maintenance strategy. However, further research and integration with conventional treatments are essential to fully realize the potential of CAMs in addressing future public health crises.

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