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Assessing Knowledge and Self-Medication Practices Among Residents of Moriba Town Bo Southern Sierra Leone during the Covid-19 Pandemic

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Abstract

Background: The COVID-19 pandemic exacerbated self-medication (SM) practices worldwide, especially in regions with limited healthcare access, like Moriba Town, Sierra Leone. This study aims to assess knowledge of SM and its causes during the pandemic among residents of Moriba Town.

Methods: A cross-sectional community-based survey was conducted in Moriba Town, Bo, Southern Sierra Leone. A sample of 246 adult participants was selected using a multistage systematic sampling technique. Data were collected using electronic questionnaires via Kobo-collect and analyzed using SPSS version 26. Descriptive statistics and chi-squared tests were employed to explore associations between socio-demographic factors and SM practices.

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Results: From the results, 26.02% engaged in SM, with a higher prevalence among females (57.32%). The most common reasons for SM were healthcare facility charges (93.50%), emergency illness (1.63%), and delaying hospital services (0.41%), during the pandemic. Knowledge of SM was generally high, particularly among older age groups and individuals with a business or informal occupation. Amoxicillin (22.36%) and pain relievers (13.82%) were the most self-medicated drugs. Social networks, especially family members (47.17%), were the primary sources of SM information.

Conclusion: SM practices were widespread in Moriba Town during the COVID-19 pandemic, driven by economic barriers and limited healthcare access. Despite high knowledge of SM risks, gaps in public understanding of proper medication use were evident. Interventions focusing on healthcare affordability and public education on the safe and proper use of medications are necessary to mitigate inappropriate SM practices in similar settings.

Keywords: Self-medication, COVID-19 pandemic, Healthcare access, Moriba Town, Sierra Leone, Public health interventions.

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1.0 Introduction

The widespread practice of SM, wherein individuals diagnose and treat their health conditions without professional guidance, remains a significant concern globally (Kazemioula et al., 2022). This detrimental practice gained increased focus due to the COVID-19 pandemic (Tan et al., 2023). SM is especially prevalent in low-income areas with limited access to healthcare services like Moriba Town, Sierra Leone(Moseray et al., 2024). SM was prevalent in these communities, even before the COVID-19 pandemic exacerbated healthcare challenges(Afolabi, 2014; Belete, 2017; Lukovic et al., 2014). Factors such as scarce healthcare facilities, economic constraints, and deep-rooted cultural beliefs compelled residents to resort to self-diagnosis and over-the-counter medications (Abdelwahed et al., 2023; Chaudhry et al., 2022; Kazemioula et al., 2022; Moseray et al., 2024; Onchonga et al., 2020). Common ailments like headaches and minor infections often led to self-medication, perpetuating a norm in vulnerable populations (Fagbola, 2022; Onchonga et al., 2020; Shrestha et al., 2022). However, this practice was riddled with issues such as inappropriate antibiotic use, inconsistent dosage adherence, and a lack of awareness about potential side effects (Bandyopadhyay et al., 2018; Eibs et al., 2020). The arrival of the COVID-19 pandemic brought about a notable rise in SM practices (Kelly et al., n.d.; Parara et al., 2021). Fear and misinformation surrounding the virus led to a surge in panic buying of medications, including unproven treatments, without proper medical advice (Fagbola, 2022; Moseray et al., 2024). Notably, drugs like hydroxychloroquine, hailed as potential COVID-19 treatments despite inconclusive

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evidence, became widely used globally (Casarões & Pública, 2021; Ho et al., 2022; Mehta et al., 2020). Disruptions in the supply chain further compounded the problem, causing shortages of essential medications and forcing individuals to turn to unregulated sources and alternative remedies (Barber, 2023; Monk, 2021).

Additionally, the proliferation of information and misinformation on social media platforms during the pandemic played a pivotal role in increasing SM practices (Banerjee & Health, 2021; Schellack et al., 2022). With limited access to accurate medical guidance, residents often relied on unverified information online, leading to inappropriate and potentially hazardous SM choices (Murahwa, 2020). Consequently, the pandemic exacerbated existing challenges, highlighting the urgent need to comprehend the evolving landscape of self-medication in the community (Al Meslamani, 2023; Seethalakshmi et al., 2022).Numerous investigations have been carried out to evaluate the understanding, behaviors, and related aspects of SM during the epidemic (Chaudhry et al., 2022; Fagbola, 2022; Tan et al., 2023). For instance, research conducted in Pakistan sought to evaluate the traits, customs, and related elements of public SM during the Covid-19 epidemic. The study discovered that the anxiety brought on by the pandemic and the scarce supply of primary healthcare services had significantly increased the need to self-medicate (Chaudhry et al., 2022). Similarly, the proportion of self-prescribed antibiotics, analgesics, vitamins, and minerals for COVID-19 therapy and prevention was evaluated in South Trinidad research. According to the study, there was a substantial correlation between the usage of

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self-prescribed medicine with separated spouses and individuals between 36-55 years (Fagbola, 2022). These researches emphasize how critical it is to comprehend and deal with SM during the COVID-19 epidemic to guarantee the efficient and safe administration of drugs.

In light of these challenges, it is imperative to conduct a comprehensive investigation into the knowledge and practices of SM in vulnerable localities like Moriba Town. This study aims to unravel the intricate web of SM behaviors, taking into account historical practices and the unique challenges posed by the COVID-19 pandemic. By identifying the factors that influence SM choices and understanding the impact of the pandemic on these behaviors, this research seeks to provide actionable insights for public health interventions. The ultimate goal is to implement targeted awareness campaigns, improve healthcare accessibility, and formulate evidence-based policies. These efforts are geared towards promoting responsible SM practices, ensuring the well-being of Moriba Town residents, and serving as a valuable model for similar communities facing comparable challenges worldwide.

2.0 Methodology

2.1 Study Design and Setting:

During the peak of the COVID-19 pandemic, a community-based cross-sectional study was conducted in Moriba Town, Southern Sierra Leone. Moriba Town represents both urban and semi-urban lifestyles and is located at latitude 7.95806° or 7° 57' 29" north and longitude -11.73515° or 11° 44' 7" west in Bo City, Southern Sierra Leone. Bo City, located approximately 160 miles southeast of Freetown, has a population of 306,000. The city covers an area of 51.71 square kilometers with a population density of 87.29 persons

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per square kilometer. The Moriba town section is home to various ethnic groups, including the Mende, Temne, Fula, Madingo, and Loko. The primary economic activities in the area include backyard gardening, petty trading, and commercial bike (okada) riding (Moseray et al., 2024)·(Jalloh et al., 2021).

Study Population, Sample Size Calculation, and Sampling Technique

The study involved consenting adults who resided in Moriba Town. The minimum sample size for the study was determined using the Cochrane formula, a commonly utilized method for calculating sample sizes in cross-sectional studies.(Chinedum Okoye et al., 2022). The formula is as follows:

$n = N * p (1 – p) \div (N – 1) * e^2 + p (1-p)$

Where:

n = sample size

e = margin of error (e.g., for a 95% confidence level, e is 0.05)

p = Assumed prevalence (e.g., the proportion of residents that self-medicated during COVID-19)(Moseray et al., 2024)

The data for the adult population size utilized in this study was sourced from the National Electoral Commission of Sierra Leone website in 2018, amounting to 14,907 people (Commission, 2018), at a 95% confidence level with a 5% margin of error. No record of SM prevalence was found in the study population. With an expected prevalence of 22%, these inputs resulted in a sample size of 246 people. The study used a systematic sampling method that involved selecting progressively smaller units at each stage (Bhandari Pritha., 2021). Information from a substantial and broadly dispersed population, like the residents of the Moriba Town Section, is frequently obtained using this method (Moseray et al., 2024)·(Bhandari

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Pritha., 2021). The sampling process involved three stages:

I. The population was divided into primary sampling units (PSUs) - the streets within the Moriba Town Section. A systematic sample of these PSUs was then selected using a random starting point and a consistent interval.

II. Each selected PSU was further subdivided into secondary sampling units (SSUs) - the households on each street. A systematic sample of these SSUs was then chosen using the same method as in the first stage.

III. In the final stage, an ultimate sampling unit (USU) was chosen from each selected SSU, represented by an adult respondent within each household. A simple random sample of these USUs was chosen using a lottery method.

A multistage systematic sampling technique was used for the Moriba Town survey. Streets and households were chosen systematically, and one adult respondent was selected randomly from each household. The total sample size was 246 participants, calculated for a 95% confidence level with a 5% margin of error using the Relief Electronic Sample Size Calculator (Moseray et al., 2024)·(Qualtrics, 2023).

2.2 Data Collection

The data for the study was collected using electronic questionnaires through Kobo-collect, a mobile data collection tool that helped minimized errors and inconsistencies in data collection processes. The questions in the questionnaire were closed-ended and focused on SM knowledge, causes, and practices. The electronic questionnaire was developed by three public health experts and was formulated to accurately capture respondents' knowledge of SM, its causes, and related practices, allowing the research

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team to derive meaningful insights. To ensure data validity and reliability, post-literature reviews were done, followed by intense meetings (Belete, 2017; Quispe-Cañari et al., 2021; Sadio et al., 2020).

2.3 Data Analysis

After two weeks of gathering data, the entire set of 246 samples was uploaded to the Kobo-collect humanitarian server. The samples were then retrieved and brought into Microsoft Excel 2016 for data cleaning (Moseray et al., 2024). The data was numerically encoded as "1" for "Yes", "0" for "No" and "Don't know" for categorical questions answered with Yes/No. Following data cleaning, further analysis was conducted using the SPSS Version 26.0 (Moseray et al., 2024)·(Nie et al., 1970). Descriptive statistics, including frequencies and percentages, were employed for data analysis. The relationship between various variables was explored using the chi-squared test, with a significance level set at 0.05. To measure knowledge, participants were asked 10 closed-ended questions related to awareness, sources, and causes of SM. If a participant selected NO, it was counted as a lack of knowledge. The total count of options selected was used as a measure of knowledge of the variable under investigation. The scores on each question were added up to calculate the overall degree of knowledge for each participant. The participants' scores were then aggregated to obtain the overall degree of knowledge in Moriba town section Bo. Based on the aggregated scores, a categorical scale was created to measure the degree of knowledge, with four options: low (below 3-score), moderate (between 4-5 score), high (5-7 score), and very high (>7-score). The economic level was assessed based on the number of meals eaten per day.

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This assessment ranged from no meal a day to three or more meals a day.

2.4 Ethical Consideration

Since we dealt with human respondents, all consents were sorted following the declaration of Helsinki. Firstly, we sought and received clearance from the Research and Ethical Institute at Njala University's School of Postgraduate and Community Health Sciences before beginning the project. In addition, we made an engagement with the stakeholders of the Moriba town section to get verbal permission from the appropriate local authorities. The interviewer thoroughly briefed all participants about the goal of the research, its value to the community, the confidentiality precautions in place, and the processes for completing the questionnaire. We ensured that each participant fully understood the research and its implications before providing their informed consent, demonstrating our respect and consideration for their involvement.

3.0 Results

All 246 participants (100%) completed the survey. The average and median age of the sample population were 46.87 and 47.25 years, respectively. The standard deviation (SD) was 12.27 years (Moseray et al., 2024). The level of SM knowledge is presented in percentages (Table 1.0).

3.1 Self-Medication Practices Prevalence and Its Associated Influencers

Table 1.0 shows the sociodemographic distribution of the prevalence of SM practices and associated factors influencing SM. Among the 246 participants, more than half (n=141, 57.32%) were females, married (n=125, 50.81%) and have at least two meals daily (n=128, 52.03%). Most were 28-37 years (n=63, 25.61%) and 18-27 years (n=64, 26.02%); the majority were illiterate (n=110,

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44.71%). Business profession (n=88,35.77%) and unemployment (n=77,31.30%) were the majority occupation among the study group (Moseray et al., 2024).

A chi-square analysis was conducted to assess the relationship between SM practices in the three months before data collection (dependent variable) and participants' sociodemographic characteristics (independent variables). The analysis revealed that all sociodemographic factors, except for sex, were significantly associated with SM practices (p-value < 0.05). Sex did not show a significant correlation with SM practices (p-value > 0.05).

3.2 Assessment of Self-Medication Knowledge Among Sociodemographic Groups

Table 2.0 analyzes SM knowledge among 246 individuals from various sociodemographic groups.

In the sex category, out of the 141 females (57.32%), the majority have very high knowledge (n=59, 41.84%) while (n=45, 31.91%) have high knowledge. A smaller portion (n=33, 23.4%) have moderate knowledge, and (n=4, 2.84%) have low knowledge. Similarly, among the 105 males (42.68%), most presented a very high SM knowledge (n=49, 46.67%), while (n=43, 40.95%) showed high knowledge. Only (n=12, 11.43%) and (n=1, 0.95%) had moderate and low knowledge, respectively. SM was more common among females (33/63) compared to males (30/63) based on proportion.

A significant percentage of the study sample have high knowledge of SM across all age - categories (34% - 39%), with only a handful with poor knowledge regarding SM (1-5%) across all age groups except participants within 18-27 years who revealed a poor

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knowledge (n=17, 26.98%). Participants 38 years and older were more involved in the SM practices (24.14% to 36.07%)(Moseray et al., 2024). Furthermore, a high level of SM knowledge was observed in cohabiting (n=11, 44.00%), married (n=60, 48.00%), and single-parent households (n=28, 42.42%), unlike divorced (n=4, 50.00%), and widow households (n=9, 40.91%). In addition, educational status showed knowledge variations for illiterate; (n=46, 41.82%) illustrated a very high SM knowledge, (n=41, 37.27%) had high knowledge, (n=21, 19.09%) moderate knowledge and (n=2, 1.82%) low knowledge. Tertiary education (n=15, 48.39%) had very high knowledge, (n=11, 35.48%) high knowledge, (n=5, 16.13%) moderate knowledge and none (n=0, 0%) with low knowledge. In terms of occupational status, among participants involved in business, the majority (n=45, 51.14%) had very high knowledge, followed by (n=25, 28.41%) high knowledge, with (n=16, 18.18%) moderate knowledge, and (n=2, 2.27%) having low knowledge. For employed participants, most (n=16, 61.54%) also exhibited very high knowledge, with (n=7, 26.92%) having high knowledge, (n=3, 11.54%) having moderate knowledge, and none (n=0, 0%) with low knowledge. Participants who were housewives, students, and unemployed participants, displayed varying levels of knowledge. Economic status, based on meals per day, participants having three or more meals a day to having no meal a day. The single participant who reported no meals per day had moderate knowledge (n=1, 100%). Among participants with three meals a day, the majority had a very high knowledge (n=32, 48.48%), (n=6, 9.09%) to (n=24, 36.36%) had high to moderate knowledge,

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whilst (n=4, 6.06%) showed low knowledge. A chi-square test was conducted to determine the association between the dependent variable (knowledge of SM practices) and the independent variables (respondents' sociodemographic characteristics). The analysis showed that age, occupational, marital status, and economic status were significantly association with SM practice knowledge (p-value < 0.05) at a 95% confidence level. However, educational status showed no association with the dependent variable (p-value > 0.05) (Table 2.0).

3.3 Causes of Self-Medication

Table 3.0 presents the causes of SM. Health facility charges (n=230, 93.50%) were the most highlighted factors influencing SM practice. Other factors, such as emergency illness and delaying hospital services, constitute a minimal portion of the causes, (n= 4, 1.63%) and (n= 1, 0.41%), respectively. Furthermore, (n= 6, 2.44%) did not specify a cause for their SM practices with none also reporting distance to health facility (n= 0, 0.00%) as a cause to SM.

3.4 Common Self-Medicated Drugs Used During COVID-19 Pandemic

Figure 1 provides insight into the common medications participants reported using to self-treat perceived COVID-19 symptoms. A vast majority (n= 182, 73.98%) did not use any medication to treat for COVID-19 virus nor practice SM whilst (n= 64, 26.02%) that practiced SM (Moseray et al., 2024)SM participants commonly used drugs to cure themselves of the COVID-19 virus, including Amoxicillin (n= 55, 25.70%), Over-the-counter pain relievers (n= 34, 15.89%), Chloramphenicol (n=11, 5.14%), Metronidazole (n=8, 3.74%), Tetracycline

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(n=6, 2.80%), and Anti-malaria drugs (n = 3, 1.40%).

Subsequently, participants were asked of who prescribed the SM drugs. The largest proportion, accounting for 32.81% (n=21), involves individuals prescribing drugs for themselves followed by friends at 29.69% (n=19). Healthcare workers from health facilities are responsible for 20.31% (n=13). Pharmacists and drug vendors contributed 10.94% (n=7) and 6.25% (n=4) (See figure 2.0).

3.5 Sources of Self-Medication Information

Table 4.0 presents the sources of drugs SM. Almost half of the respondents (n= 150, 47.17%) indicated that they rely on their family members for SM information. Additionally, over a quarter (n= 87, 27.36%) turned to friends for advice, and one-sixth (n= 52, 16.35%) did not specify any particular source. A smaller segment (n= 23, 7.23%) uses other sources of advice, such as television, newspapers, traditional healers or books. Lastly, (n= 6, 1.89%), rely on social media such as the internet, Facebook etc, for potential information.

3.5 Common Self-Medicated COVID-19 SYMPTOMS

Figure 3.0 shows participants knowledge of COVID-19 SM symptoms with observations as follows: Cough (37.60%), Fever (33.98%), Breathlessness (26.04%), and Others (2.37%).

4.0 Discussion

Lack of understanding and skepticism towards the health system are the primary drivers of SM in West Africa, especially amidst the COVID-19 pandemic (ADEBIYI, 2023; Owa-Onibiyo et al., n.d.; Tope et al., n.d.). A meta-analysis of global studies before the COVID-19 pandemic showed that

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SM rates range from 19% to 82%, depending on the specific region and demographics studied (Alhomoud et al., 2017). Studies also show that in West Africa, SM practices are influenced by socioeconomic and cultural factors (Fagbola, 2022; Wegbom et al., 2021). Our study found significant associations of SM practices with age, marital status, occupation, and religion but no association with sex (p-value < 0.05). When compared with a Nigerian study in (2021) [45], the findings were partially consistent due to the significant association it had with sex. Moreover, several prior studies conducted in Kuwait and Ethiopia suggest higher SM rates among females (Gelayee, 2017; Mitra et al., 2019) which is not common with the present results that indicated a minimal gender difference (n = 33 – 30) (Niclós et al., 2018) in SM practices which may have been influenced by the sample size. In terms of age, the recent report revealed an increased SM practice among participants aged 38-47 years. This does not align with a 2023 Egyptian study which showed a high prevalence of SM among young people (mostufa abd Elsamad et al., 2023). Furthermore, similar to prior studies(Hoai & Dang, 2017; Kretchy et al., 2021), the current study result shows that individuals with lower education levels and certain occupations, such as business professionals or unemployed individuals, exhibit higher SM rates.

Furthermore, the present study highlighted a large proportion of participants with a high level of SM knowledge. Notably, females demonstrated higher levels of SM knowledge compared to their male counterparts, with individuals aged 38–44 years and 28–37 years exhibiting the highest levels of knowledge. Research conducted in Uganda

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and Kenya revealed that 35-40 years adults possess a higher level of health literacy (Kaduka et al., 2012; Nawagi et al., 2018). This can be attributed to their active involvement in managing their medications while balancing work and family responsibilities. Consequently, they are more likely to come across health information that enriches their knowledge of medications and SM methods. On the contrary, a study conducted in South Africa revealed that the younger population, specifically those aged 18-25, have a greater knowledge of SM (Subashini & Udayanga, 2020). This may be attributed to their increased access to health information on the internet and their inclination to use over-the-counter medications. The observed differences in knowledge of SM based on age could be linked to variances in access to information and engagement with healthcare systems (Zhang et al., 2021).

Additionally, the high level of SM knowledge among women compared to men has also been observed in studies carried out in countries such as Ethiopia and Nigeria, where women assume the responsibility of caregivers in the households. Since it is often the women who are charged with the burden of looking after the health of their relatives, there is a high probability that they would learn more about self-care methods and medications. Women would therefore practice more of SM as they seem to have a greater knowledge of the health care available at the household level (Mitra et al., 2019)·(Ajibola et al., 2018; Akande-Sholabi et al., 2021).

Nevertheless, a study conducted in Ghana revealed that cultural norms permitting men to make their own health decisions

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independently and as a result influenced higher rates of SM among men compared to women.(Cobbold & Morgan, 2022) which contradicted the current study. This illustrates that gender-based differences of SM knowledge are not uniform across Africa, but are influenced by diverse cultures and social frameworks (Merino et al., 2024; Osokpo & Riegel, 2021).

The overall high level of SM knowledge noted in the current study has emerged from trends reported from Africa where SM has reached alarming proportions, especially in regions where healthcare provision is minimal. For instance, in Nigeria, it was documented that many people resorted to SM due to the huge expenses involved in seeking medical attention and the lack of relevant medical facilities (Etobe et al., 2024; Okolo & Nwankwo, 2019). This justifies a general increase in public awareness and knowledge of self-care practices. However, the relationship between the prevalence of SM and knowledge is not always straightforward. In many cases, high rates of SM co-exist with a limited understanding of the risks associated with medications (okunola, 2020). For instance, research in Tanzania has shown that although many people practice SM, their knowledge of appropriate dosages and potential side effects is often inadequate, leading to significant health risks (Horumpende et al., 2018; Mabilika et al., 2022; Marwa et al., 2018). In contrast, the current study suggests a higher level of understanding, which may indicate more effective public health education efforts or greater access to reliable health information in this particular population.

Comparing these findings with other regions, globally, high SM knowledge is often associated with higher education levels and

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specific occupations. For instance, studies in various countries indicate that individuals with tertiary education generally have higher SM knowledge (Ayalew, 2017). This contrasts with the findings in the present study, where educational status does not significantly affect SM knowledge; this may be due to the type of data collection methods adopted in the aforementioned compared to the systematic review solicited. Nevertheless, the latest findings revealed significant associations of SM knowledge with sociodemographic and economic factors such as age, sex, etc. These results were common with studies carried out in Africa. For example, studies from Nigeria and Ethiopia reported that individuals engaged in business or informal occupations tend to have higher SM knowledge (Adewoye et al., 2019; Iyeke & Festus Dafe, 2016).

In addition, a study on SM practices during the COVID-19 pandemic in Sierra Leone has provided valuable insights into the common medications used by participants to self-treat perceived COVID-19 symptoms. The study found that a majority of participants (60.16%) did not use any medication, possibly because they did not experience significant symptoms, sought medical treatment, or relied on non-pharmaceutical interventions. The most frequently mentioned medication was Amoxicillin, an antibiotic, used by 22.36% of participants followed by 13.82% that used over-the-counter painkillers likely used to alleviate pain and reduce fever. This suggests a potential misunderstanding about the viral nature of COVID-19 or the influence of misinformation. However, the use of other drugs like Chloramphenicol, Metronidazole, Tetracycline, and anti-malaria drugs, which

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are not recommended for COVID-19 treatment, indicates significant gaps in public knowledge. Globally, the COVID-19 pandemic heightened health concerns, leading many to choose SM due to limited healthcare access, fear of the virus, or misinformation from various sources. For instance, a study in India reported the widespread use of antibiotics and antimalarials for self-treating COVID-19 symptoms, driven by misinformation and panic (Nasir et al., 2020). Similar trends were observed in Nigeria, where misinformation and inadequate healthcare access led to high rates of inappropriate SM (Adesina et al., 2022). More so, a West African study in Ghana shares a common finding with the current study where antibiotics and other non-recommended medications were used to treat COVID-19 symptoms, reflecting a broader regional trend of self-reliance and misinformation (Hackman et al., 2024). The widespread use of inappropriate medicines presented in the current study underscores the urgency of addressing these issues at a regional level.

Furthermore, friends and medical professionals such as pharmacies or drug vendors and nurses were the common sources from which participants solicited advice for prescriptions. Globally, the internet has become a significant source of health information, contributing to the increase in self-prescription (Zheng et al., 2023). In Sierra Leone, as in other regions, this reliance on online sources and personal networks indicates a need for reliable, accessible health information to combat misinformation. Also, family members stand as the most common source of SM information. This strong trust in familial ties when it comes to health-related decisions underscores the critical role

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families play in shaping health behaviors (Dyregrov & Selseng, 2022).

Globally, the influence of family and friends on SM practices is well-documented (Buabeid et al., 2022; Dyregrov & Selseng, 2022; Yeika et al., 2021). For example, a study conducted in Pakistan revealed that a substantial number of individuals depended on advice from family and friends for SM, underscoring the significant influence of personal networks on health decision-making (Ibrahim et al., 2023). Similarly, research in Nigeria reported that family and friends were primary sources of SM information, with professional healthcare advice being sought less frequently (Amuzie et al., 2022). These findings align with the results emphasizing the pervasive influence of close personal networks on SM practices.

The current study further revealed common symptoms that were self-medicated. Cough, fever, and breathlessness were highlighted as the most self-treated COVID-19 symptoms among the studied population.

In addition, the awareness of COVID-19 symptoms has been a crucial aspect of the pandemic response worldwide. Studies from various countries have shown similar patterns of symptom recognition (Almaqhawi et al., 2023; Ding et al., 2021). For instance, studies in the United States and the United Kingdom reported high awareness of symptoms such as cough and fever, highlighting the success of public health campaigns (Geldsetzer, 2020; Vihta et al., 2022). These findings are consistent with the latest results, indicating that public health messaging about COVID-19 symptoms has been effective worldwide.

In West Africa, public health campaigns have been instrumental in raising awareness about COVID-19 symptoms. A study in Ghana (Ussif et al., 2023) reported high awareness

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of symptoms like cough and fever, similar to the trends observed in Sierra Leone. These findings highlight the success of coordinated efforts to disseminate crucial health information and the importance of sustaining these efforts to combat misinformation and enhance public understanding of the disease. Nevertheless, the recent study on SM conducted during the COVID-19 pandemic in Sierra Leone has both notable strengths and limitations that are essential for accurately interpreting its findings. One significant strength of the study is its large sample size of 246 participants, which enhances the reliability of the findings and provides a comprehensive overview of SM practices and awareness in the community. Another strength is the detailed sociodemographic analysis, which allows for a deeper understanding of how different groups perceive and engage in SM. This level of detail can help public health officials design targeted interventions and educational campaigns, making the study highly relevant to public health efforts. Additionally, the use of chi-square tests to assess the association between sociodemographic variables and SM practices adds a layer of statistical rigor to the findings. This approach helps identify significant relationships and trends that can inform future public health policies and interventions. However, the study has several limitations that should be considered. The reliance on self-reported data introduces the potential for response bias, as participants might overestimate or underestimate their symptoms, knowledge, or practices. Sampling bias is another concern, as the study sample may not be fully representative of the broader population. Certain demographic groups could be overrepresented or underrepresented, leading

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to skewed results that may not accurately reflect the experiences and behaviors of the entire population. Finally, the lack of detailed qualitative data due to the use of closed-ended questions may limit the depth of understanding regarding the reasons behind SM practices and the perceptions of COVID-19 symptoms and treatment. Including open-ended questions or conducting in-depth interviews could provide richer insights into these aspects.

5.0 Conclusion

In conclusion, the study assessing the knowledge of SM among adult residents of Moriba Town Section during the COVID-19 pandemic in Sierra Leone provides valuable insights into local health practices and awareness. The findings reveal a significant level of awareness among participants regarding common COVID-19 symptoms, such as cough, fever, and breathlessness, reflecting effective public health messaging in the region. Overall, this study contributes valuable insights into local health behaviors during the pandemic and underscores the importance of tailored interventions to support informed health decisions among residents of Moriba Town Section, Sierra Leone. Nevertheless, health education can play a key role even when medications are not prescribed by addressing the underlying behaviors and misconceptions that lead to SM. By educating the public about the risks of using non-prescribed drugs, the importance of following medical guidance, and how to recognize when professional help is needed, people can make more informed decisions. This knowledge may also deter them from turning to SM in the first place, encourage consulting healthcare providers, and promote safer alternatives when faced with health issues.

6.0Authors Contribution

Contributions to the submitted work were made in all areas by all authors, including conception, study design, execution, data collection, analysis, and interpretation.

7.0 Consent

All authors chose and consented that the manuscript would be submitted to the journal and participants also consented that, their anonymized responses would be published.

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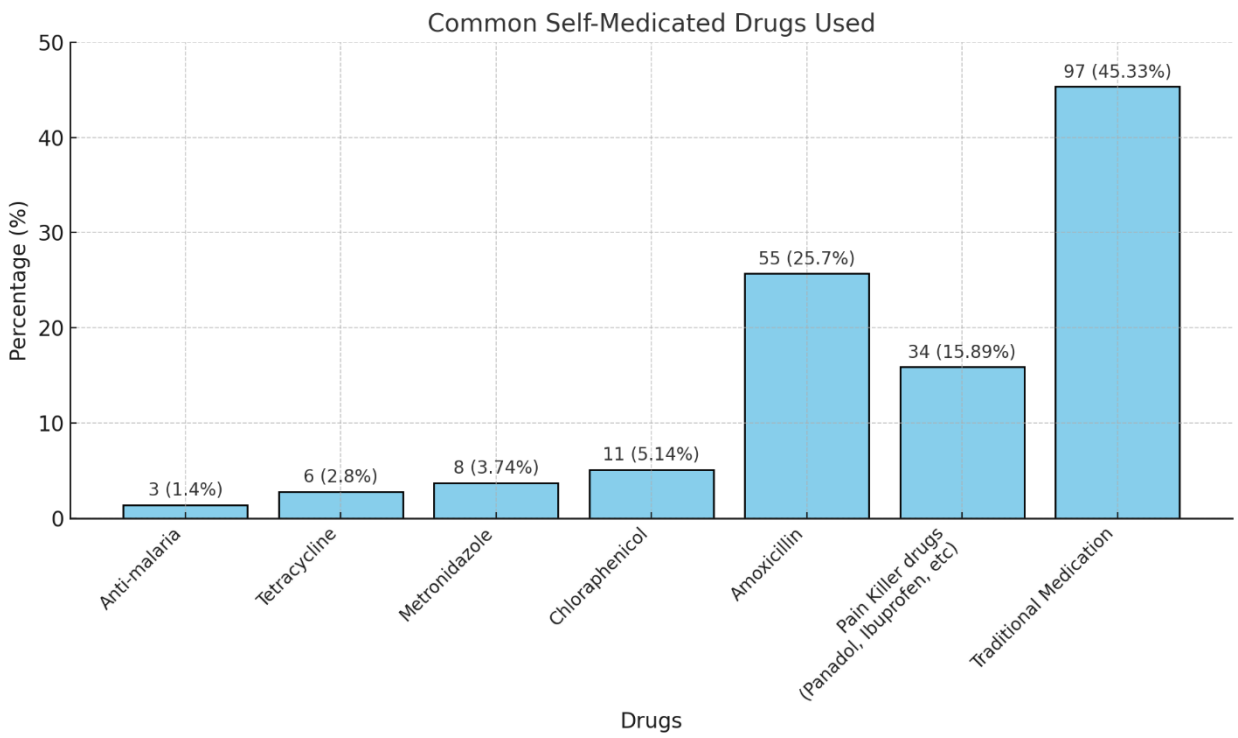

Figure 1.0**. Common drugs used to self-medicate against COVID-19 Pandemic**

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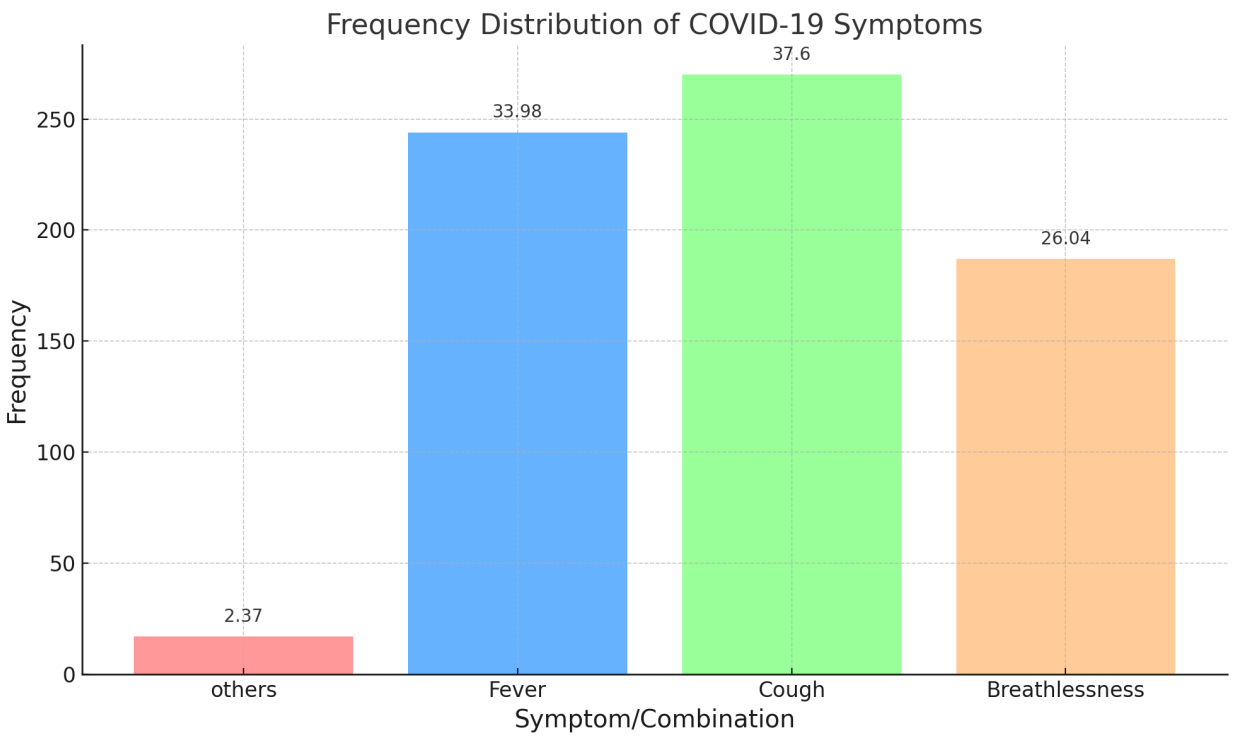

Figure 3.0. **Common self-medicate COVID-19 Symptoms Reported**

Table 1.0 **Demographic Distribution of Self-Medication**

	N (246)	YES n (%)	NO n (%)	χ2 Statistic	p-value

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Overall Prevalence		63(25.61%)	183(74.39%)		
Sex					
Female	141 (57.32%)	33 (23.40%)	108 (76.60%)	0.5940	0.4409
Male	105 (42.68%)	30 (28.57%)	75 (71.43%)		
Age in Years					
18-27	63 (25.61%)	9 (14.29%)	54 (85.71%)		
28-37	64 (26.02%)	18 (28.12%)	46 (71.88%)	8.0195	0.0456
38-47	61 (24.80%)	22 (36.07%)	39 (63.93%)		
48 and above	58 (23.57%)	14 (24.14%)	44 (75.86%)		
Marital Status					
Cohabiting	25 (10.16%)	12 (48.00%)	13 (52.00%)		
Married	125 (50.81%)	29 (23.20%)	96 (76.80%)		
Divorce	8 (3.25%)	5 (62.50%)	3 (37.50%)	15.4770	0.0038
Single	66 (26.83%)	11 (16.67%)	55 (83.33%)		
Widow	22 (8.94%)	6 (27.27%)	16 (72.73%)		
Educational Status					
Illiterate	110 (44.71%)	28 (25.45%)	82 (74.55%)		
Literate with no formal education	26 (10.57%)	13 (50.00%)	13 (50.00%)		
Primary	15 (6.10%)	2 (13.33%)	13 (86.67%)	10.4119	0.0340
High School	64 (26.02%)	14 (21.88%)	50 (78.12%)		
Tertiary	31 (12.60%)	6 (19.35%)	25 (80.65%)		
Occupational Status					
Business	88 (35.77%)	20 (22.73%)	68 (77.73%)	15.9849	0.0030

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Employed	26 (10.57%)	15 (57.69%)	11 (42.31%)		
Housewife	23 (9.35%)	4 (17.39%)	19 (82.61%)		
Student	32 (13.00%)	7 (21.88%)	25 (78.12%)		
Unemployed	77 (31.30%)	17 (22.08%)	60 (77.92%)		
Economic Status					
No meal a day	1 (0.41%)	0 (0.0%)	1 (100.00%)		
One meal a day	51 (20.73%)	15 (29.41%)	36 (70.59%)	5.6376	0.1306
Two meals a day	128 (52.03%)	38 (29.69%)	90 (70.31%)		
Three meals a day	66 (26.83%)	10 (15.15%)	56 (84.85%)		

Standard Deviation (SD) = 12.27years; Average Age: 46.87years; Median Age: 47.25years

Table 2.0. Self-Medication Knowledge Distribution Among Socio-Demographic Groups

Variable	N (246)	High	Low	Moderate	Very High	X^2/p-Value
Sex						
Female	141 (57.32%)	45 (31.91%)	4 (2.84%)	33 (23.4%)	59 (41.84%)	7.46
Male	105 (42.68%)	43 (40.95%)	1 (0.95%)	12 (11.43%)	49 (46.67%)	0.06

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Age in Years						
18-27	63 (25.61%)	22 (34.92%)	1 (1.59%)	17 (26.98%)	23 (36.51%)	
28-37	64 (26.02%)	25 (39.06%)	1 (1.56%)	6 (9.38%)	32 (50.00%)	18.56
38-47	61 (24.80%)	21 (34.43%)	1 (1.64%)	5 (8.20%)	34 (55.74%)	0.03
48 and above	58 (23.57%)	20 (34.48%)	2 (3.45%)	17 (29.31%)	19 (32.76%)	
Marital Status						
Cohabiting	25 (10.16%)	6 (24.00%)	1 (4.00%)	7 (28.00%)	11 (44.00%)	
Married	125 (50.81%)	47 (37.60%)	1 (0.80%)	17 (13.60%)	60 (48.00%)	
Divorce	8 (3.25%)	4 (50.00%)	0 (0.00%)	1 (12.0%)	3 (37.50%)	21.04
Single	66 (26.83%)	26 (39.39%)	1 (1.52%)	11 (16.67%)	28 (42.42%)	0.05
Widow	22 (8.94%)	5 (22.73%)	2 (9.09%)	9 (40.91%)	6 (27.27%)	
Educational Status						
Illiterate	110 (44.71%)	41 (37.27%)	2 (1.82%)	21 (19.09%)	46 (41.82%)	
Literate with no formal education	26 (10.57%)	7 (26.92%)	2 (7.69%)	4 (15.38%)	13 (50.00%)	
Primary	15 (6.10%)	8 (53.33%)	1 (6.67%)	3 (20.00%)	3 (20.00%)	12.72
High School	64 (26.02%)	21 (32.81%)	0 (0.00%)	12 (18.75%)	31 (48.44%)	0.39
Tertiary	31 (12.60%)	11 (35.48%)	0 (0.00%)	5 (16.13%)	15 (48.39%)	
Occupational Status						
Business	88 (35.77%)	25 (28.41%)	2 (2.27%)	16 (18.18%)	45 (51.14%)	
Employed	26 (10.57%)	7 (26.92%)	0 (0.00%)	3 (11.54%)	16 (61.54%)	
Housewife	23 (9.35%)	7 (30.43%)	2 (8.70%)	4 (17.39%)	10 (43.48%)	25.64
Student	32 (13.00%)	8 (25.0%)	0 (0.0%)	9 (28.12%)	15 (46.88%)	0.01
Unemployed	77	41	1	13	22	

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	(31.30%)	(53.25%)	(1.30%)	(16.88%)	(28.57%)	
Economic Status						
No meal a day	1 (0.41%)	0 (0.00%)	0 (0.00%)	1 (100.00%)	0 (0.00%)	36.03 0.4 x 10^{-4}
One meal a day	51 (20.73%)	11 (21.57%)	0 (0.00%)	21 (41.18%)	19 (37.25%)	
Two meals a day	128 (52.03%)	53 (41.41%)	1 (0.78%)	17 (13.28%)	57 (44.53%)	
Three meals a day	66 (26.83%)	24 (36.36%)	4 (6.06%)	6 (9.09%)	32 (48.48%)	

Table 3.0. **Causes of Self-Medication**

Causes	Frequency	Percentage (%)
Emergency illness	4	1.63
Distance to Health Facility	0	0.00
Delaying hospital services	1	0.41
Health facility charges	230	93.50
No response	6	2.44

Table 4.0: **Common Sources of Self-Medication Knowledge**

Source of Information	Frequency	Percentage (%)
None	52	16.35
Others (Television, Newspaper)	23	7.23

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Family relatives	150	47.17
Friends	87	27.36
Social media (Internet)	6	1.89

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