https://africanjournalofbiomedicalresearch.com/index.php/AJBR
Afr. J. Biomed. Res. Vol. 27 (October 2024); 927 - 932

Research Article

Healthcare Seeking and Self-Medication Trends Pre- and Post-COVID-19: Insights from a Tertiary Care Hospital in Hubli, Karnataka.

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Abstract

Background: The COVID-19 pandemic has significantly impacted healthcare-seeking behaviours and self-medication practices worldwide. This study aims to evaluate changes in healthcare-seeking and self-medication trends among individuals visiting the outpatient department of a tertiary care hospital, before and during the pandemic.

Methods: A cross-sectional survey was conducted involving 400 adults who visited the outpatient department from January to March 2022. Data were collected using a semi-structured, pre-tested, and validated questionnaire covering socio-demographic details, pre-existing conditions, healthcare-seeking behaviours, and self-medication practices. Statistical analysis was performed using SPSS version 25, with significance set at $p < 0.05$.

Results: The mean age of participants was 38.9 ± 18.8 years. Before the pandemic, 59% of participants engaged in self-medication. During the pandemic, 66% continued self-medicating, with 35% using medications for COVID-19 symptoms and 49% for prevention. A shift in healthcare facility usage was observed, with 50% opting for government facilities and increased use of teleconsultations. Delays in seeking medical care were more common among older adults and those with pre-existing conditions. The study found significant associations between demographic factors and self-medication practices, with younger individuals more likely to self-medicate for COVID-19 symptoms and older individuals more focused on preventive measures.

Conclusion: The COVID-19 pandemic led to notable changes in healthcare-seeking and self-medication practices, including increased reliance on government facilities and alternative healthcare methods. Delays in care were significantly associated with age and pre-existing conditions. The findings underscore the need for targeted interventions to address self-medication and improve access to healthcare services during public health crises.

Keywords: Self-medication, healthcare-seeking behaviour, COVID-19, outpatient department, teleconsultation, pandemic impact

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Receiving Date: 30/09/2024 Acceptance Date: 17/10/2024

DOI: https://doi.org/10.53555/AJBR.v27i3.2085

INTRODUCTION

Self-medication, the practice of using drugs without a prescription or professional advice, is prevalent globally and has been a significant public health concern. This practice involves individuals diagnosing and treating their health issues, often using over-the-counter medications, herbal remedies, or leftover prescription drugs. In India, self-medication is a common phenomenon due to factors such as high medication costs, easy

availability of over-the-counter drugs, and limited access to healthcare professionals [1][2].

The dynamics of self-medication are influenced by multiple factors, including socioeconomic status, healthcare access, and cultural beliefs about medicine. In India, where healthcare access can be uneven, self-medication often becomes a pragmatic choice for many individuals. This is particularly true in areas where healthcare infrastructure is inadequate or where there is a lack of trust in the formal healthcare system [2]. Previous studies have highlighted that self-medication in India is commonly driven by the desire for quick relief from minor ailments, perceived minor illnesses, and the ease of access to medications [1][3].

The outbreak of the COVID-19 pandemic in early 2020 introduced unprecedented challenges to healthcare systems worldwide, including in India. The pandemic not only strained healthcare resources but also significantly altered health behaviours and practices. The imposition of lockdowns, the fear of contracting the virus, and restrictions on movement led to significant changes in how individuals managed their health. Many people turned to self-medication as a coping mechanism due to disrupted access to healthcare services and concerns about exposure to the virus in healthcare settings [4][5]. Additionally, the rapid spread of misinformation about COVID-19 treatments further fueled self-medication practices, as individuals sought to protect themselves using various over-the-counter drugs and supplements.

The shift towards self-medication during the COVID-19 pandemic has been documented in various studies, revealing both an increase in self-medication practices and a shift in the types of medications used. For instance, there was a notable increase in the use of antipyretics, antibiotics, and even antiviral drugs without proper medical supervision [6][7]. This trend raises concerns about potential risks, including adverse drug reactions, drug interactions, and ineffective treatment of underlying conditions.

This study aims to assess the prevalence, patterns, and determinants of self-medication before and during the COVID-19 pandemic in a tertiary care hospital in Hubli. By comparing these practices across different periods, the study seeks to elucidate how the pandemic has altered self-medication behaviours and identify factors contributing to these changes. This research is crucial for developing strategies to manage self-medication effectively, enhancing patient education, and improving healthcare policies to address the challenges posed by future public health emergencies.

Objectives

1. To assess the prevalence and patterns of self-medication.
2. To identify the factors influencing self-medication practices.
3. To identify the delays and perceived barriers to seeking medical care during the COVID-19 pandemic.

Methodology

Research Design: The study employed a facility-based cross-sectional survey design to gather data on self-medication practices among individuals visiting the outpatient department (OPD) at tertiary care hospital, Hubballi.

Study Population: The study targeted individuals aged 18 years and older who visited the OPD at tertiary care hospital, Hubballi. This demographic was selected to capture a comprehensive view of self-medication practices across different adult age groups.

Sample Size Calculation: Due to the lack of prior studies specific to this context, a pilot study was conducted with 20 participants, revealing a self-medication prevalence of 50%. Based on this prevalence and an absolute precision of 0.05, the sample size was calculated using the formula:

Thus, the final sample size was determined to be 400 participants to ensure the reliability and validity of the study results.

$\mathbf{N=4PQ/d^2}$, With P=50%, Q=100-P= 50%, d (absolute precision) =0.05

N= 4(0.5) (0.5)/0.0025 = 400. The final sample size was taken as 400.

Study Settings: The research was conducted at the OPD of a tertiary care hospital..

Duration of Study: The data collection period spanned three months, from January 2022 to March 2022.

Study Instrument: Data collection was facilitated through a semi-structured, pre-tested, and pre-validated questionnaire. The questionnaire was designed to capture a wide range of information across four sections:

- **Section A:** Socio-demographic details, including age, occupation, and place of residence.
- **Section B:** Information on comorbidities, risk factors, previous healthcare centre visits before the pandemic, and frequency of such visits.
- **Section C:** Details about illness management and healthcare-seeking behaviour during the pandemic, including any delays in seeking medical care.
- **Section D:** Information on self-medication practices, including the use of medications for illnesses, COVID-19 symptoms, and preventive measures against COVID-19.

Validation Procedure: The questionnaire underwent validation by two internal validators who reviewed and provided feedback. Modifications were made based on their suggestions, and the finalized questionnaire was pilot-tested on 20 individuals to ensure its reliability and comprehensiveness before full-scale implementation.

Ethical clearance: the research was approved by the institutional ethical committee.

Method of Data Collection: Data were collected through face-to-face interviews conducted with individuals visiting the OPD at tertiary care hospital. Participants were asked to complete the questionnaire using Google Forms, which facilitated efficient data capture and management.

Statistical Analysis: Data collected via Google Forms were extracted into Google Sheets and analyzed using SPSS version 25. Continuous variables were described using mean and standard deviation, while categorical variables were expressed as proportions. Statistical significance was assessed using appropriate tests of significance, with a p-value of less than 0.05 considered indicative of statistical significance.

Results

The current research was done on 400 adult patients visiting the outpatient department of, tertiary care hospital. The mean age of the participants was 38.90+/-18.765 years majority of the participants were males and most were professionals in occupations. Most of the participants had studied till graduation and above. (Table 1)

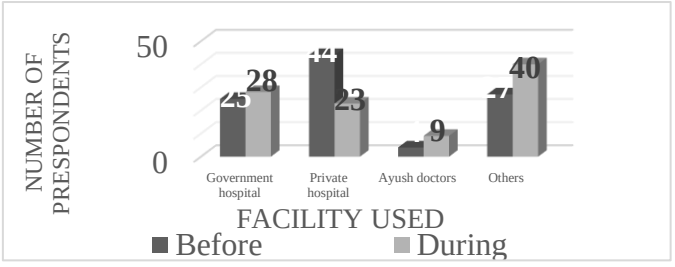
Table 1: Sociodemographic characteristics of the participants.

Variable	Categories	Frequency	Per cent
Gender	Female	176	44
	Male	224	56
Occupation	Clerical, shop-owner, farmer	36	9
	Professional	80	20
	Semi-professional	55	13.8
	Semi-skilled Worker	34	8.5
	Skilled worker	48	12
	Unemployed	128	32
	Unskilled worker	19	4.8
Education	Graduate or postgraduate	179	44.8
	High school certificate	52	13
	Illiterate	30	7.5
	Intermediate or diploma	63	15.8
	Middle school certificate	20	5
	Primary school certificate	23	5.8
	Profession or Honours	33	8.3
Place of residence	Rural	174	43.5
	Urban	226	56.5
Socioeconomic status	APL	221	55.3
	BPL	179	44.8
Type of family	Joint family	116	29
	Nuclear family	284	71
Pre-existing illness/Comorbidity	No	213	53.3
	Yes	187	46.8

Before the pandemic, most respondents preferred visiting private hospitals, with **44%** choosing them for their healthcare needs, while **25%** went to PHCs or government hospitals, and **20%** opted for medical college hospitals. However, during the COVID lockdown, there was a notable shift as more people turned to government hospitals for care. This period also saw a rise in the use of alternative methods such as teleconsultations and the reliance on old prescriptions, reflecting a significant change in how individuals managed their health during the pandemic. (Figure 1)

During the pandemic, the frequency of visits for pre-existing conditions doubled, from every 78 days to every 158 days. While 59% of people were self-medicating before the pandemic, this practice remained steady. Among those who got sick during the pandemic (66%), 36% self-medicated, 23% visited hospitals, 22% used teleconsultation, and 18% took OTC drugs based on pharmacist advice. Remarkably, only 1% chose not to seek any medical care and waited for natural recovery. Additionally, 33% experienced health emergencies in their families; of these, 64% sought immediate medical care, leaving 36% without prompt treatment.

Figure 1: Comparison of facilities used for healthcare seeking.



During the pandemic, 50% of people used government facilities for their healthcare. Despite 66% sticking with their usual facility, 34% switched, primarily due to appointment denials at private hospitals (75%), fear of COVID-19 at government hospitals (15%), or other issues like financial and transport difficulties (10%). 52% delayed seeking care, mainly due to fears of COVID infection. Additionally, 89 felt their condition was not serious enough to warrant immediate care, and 70 were afraid of COVID testing. 3% used old prescriptions from friends or family, while 46% struggled to buy OTC drugs. Despite these challenges, 35% self-medicated for COVID symptoms and 49% took medicines regularly to prevent infection.

Delay in seeking medical care was significantly associated with age ($p<0.001$). The mean age of the participants who perceived delay in seeking medical care was 45.44 years. The other factors are represented in Table 2.

Table 2: Factors associated with delay in seeking medical care during the pandemic

Variable	Categories	Delay in seeking medical care		Chi-Square Value	p-value
		Yes	No		
Gender	Female	87 (49.4%)	89 (50.6%)	0.676	>0.05
	Male	120 (53.6%)	104 (46.4%)		
Type of family	Joint Family	68 (58.6%)	48 (41.4%)	3.089	>0.05
	Nuclear Family	139 (48.9%)	145 (51.1%)		
Place of residence	Rural	94 (54%)	80 (46%)	0.637	>0.05
	Urban	113 (50%)	113 (50%)		
Socio Economic Status	BPL	90 (50.3%)	89 (49.7%)	0.281	>0.05
	APL	117 (52.9%)	104 (47.1%)		
Pre-existing illness	Yes	144 (77%)	43 (23%)	89.706	<0.001
	No	63 (29.6%)	150 (70.4%)		

The association was also evaluated for the self-medication practice for non-Covid illness, COVID-like illness, and regular self-medication to prevent the acquisition of Covid 19 infection during the pandemic. (Table 3, Table 4, Table 5)

Table 3: Factors associated with Self-medication for non-Covid illness.

Variable	Categories	Self-medication for non-Covid illness		Chi-Square Value	p-value
		Yes	No		
Gender	Female	101(57.4%)	75(42.6%)	0.096	>0.05
	Male	132(58.9%)	92(41.1%)		
Type of family	Joint Family	80(69%)	36(31%)	7.714	<0.01
	Nuclear Family	153(53.9%)	131(46.1%)		
Place of residence	Rural	108(62.1%)	66(37.9%)	1.847	>0.05
	Urban	125(55.3%)	101(44.7%)		
Socio Economic Status	BPL	103(57.5%)	76(42.5%)	0.067	>0.05
	APL	130(58.8%)	91(41.2%)		
Pre-existing illness	Yes	125(66.8%)	62(33.2%)	10.667	<0.001
	No	108(50.7%)	105(49.3%)		

Table 4: Factors associated with Self-medication for Covid-like symptoms.

Variable	Categories	self-medication for COVID-like symptoms.		Chi-Square Value	p-value
		Yes	**No**		
Gender	Female	56(31.8%)	128(68.2%)	1.191	>0.05
	Male	83(37.1%)	141(62.9%)		
Type of family	Joint Family	54(46.6%0	62(53.4%)	10.036	<0.001
	Nuclear Family	85(29.9%)	199(70.1%)		
Place of residence	Rural	58(33.3%)	116(66.7%)	0.273	>0.05
	Urban	81(35.8%)	145(64.2%)		
Socio Economic Status	BPL	56(31.3%)	123(68.7%)	1.716	>0.05
	APL	83(37.6%)	138(62.4%)		
Pre-existing illness	Yes	64(34.2%0	123(65.8%)	0.043	>0.05
	No	75(35.2%)	138(64.8%)		

Table 5: Factors associated with self-medication to prevent Covid-19

Variable	Categories	self-medication to prevent Covid-19		Chi-Square Value	p-value
		Yes	**No**		
Gender	Female	88(50%)	88(50%)	0.071	>0.05
	Male	109(48.7%)	115(51.3%)		
Type of family	Joint Family	51(44%)	65(56%)	1.825	>0.05
	Nuclear Family	146(51.4%)	138(48.6%)		
Place of residence	Rural	93(53.4%)	81(46.6%)	2.172	>0.05
	Urban	104(46%)	122(54%)		
Socio Economic Status	BPL	84(46.9%)	95(53.1%)	0.699	>0.05
	APL	113(51.1%)	108(48.9%)		
Pre-existing illness	Yes	123(65.8%)	64(34.2%)	38.369	<0.001
	No	74(34.7%)	139(65.3%)		

There was a significant association between self-medication practice for COVID-19 symptoms and the age of the participants (t value -2.953, $p<0.05$). the mean age of the participants who self-medicated for treatment of COVID-19 symptoms was lesser than those who did not. There was also a significant association between age and Self-medication practices to prevent COVID-19 (t-4.354, p value<0.01). the mean age of the participants who self-medicated regularly to prevent COVID-19 was higher than those who did not.

Discussion

This research examined self-medication patterns and determinants among individuals visiting the outpatient department of tertiary care hospital, before and during the COVID-19 pandemic. The findings reveal significant changes in self-medication behaviours due to the pandemic, influenced by various demographic and healthcare-related factors.

The current study found that 66% of participants engaged in self-medication before and during the pandemic. Before the pandemic, 59% of participants practised self-medication. A similar study by Deshpande and Vora reported a self-medication prevalence of 58.5% among adults in India [1]. During the pandemic, self-medication rates remained steady, but there was a marked increase in the use of government healthcare facilities and alternative methods like teleconsultations. This shift reflects broader trends reported by Gupta and Agarwal, who observed increased reliance on alternative healthcare methods and government facilities due to pandemic-related restrictions [4].

Additionally, this study found that 35% of participants self-medicated for COVID-19 symptoms, and 49% used medications to prevent infection. This aligns with findings from Sharma and Gupta, who noted an increase in self-medication for COVID-19-related symptoms and preventive measures due to disrupted healthcare services and fear of infection [3].

It was observed that younger participants were more likely to self-medicate for COVID-19 symptoms, whereas older participants were more likely to self-medicate to prevent COVID-19. Sharma and Kaur similarly found that age significantly influenced self-medication practices, with younger individuals being more prone to self-medicate for acute symptoms while older individuals engaged more in preventive practices [8]. This highlights the role of age in shaping health behaviours, particularly during health crises.

The current study also found a significant association between self-medication for non-COVID illnesses and pre-existing comorbidities. This is consistent with Chaudhury and Sharma, who reported that individuals with chronic conditions were more likely to self-medicate, reflecting their increased need for

continuous health management despite limited access to healthcare facilities [5].

A notable finding was the association between delay in seeking medical care and age. Older participants were more likely to delay seeking care, corroborating Gupta and Singh's study, which found that older adults were more prone to delaying medical visits due to fear of COVID-19 exposure [11]. This delay was also significantly associated with pre-existing illnesses, mirroring Rao and Rao's findings that individuals with chronic conditions faced more significant delays in accessing care during the pandemic [9].

The shift in healthcare facility utilization was observed in this study. An increased preference for government hospitals and alternative methods like teleconsultations, reflects broader trends documented by Kaur and Yadav. Their study noted a shift from private to government hospitals during the pandemic, driven by the need for accessible and affordable care amid fears of infection [10]. The decreased visits to private hospitals due to appointment denials and financial constraints also align with findings from Singh and Kumar, who reported similar issues affecting healthcare accessibility during the pandemic [12].

Limitations

While this study provides valuable insights, limitations include the reliance on self-reported data and the cross-sectional design, which restricts the ability to infer causality. The study's setting in a single tertiary care hospital may also affect the generalizability of the findings.

Conclusion

This study highlights significant changes in self-medication practices during the COVID-19 pandemic, influenced by demographic factors and shifts in healthcare utilization. Understanding these patterns provides crucial insights for developing strategies to manage self-medication and improve healthcare delivery in future public health crises. Educational initiatives focusing on the risks of self-medication and the importance of professional medical advice are crucial. Strengthening telehealth services and ensuring equitable access to healthcare facilities can help mitigate the challenges identified during the pandemic.

Funding: not funded

Conflicts of interest: none declared

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