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ASSESSMENT OF SELF-MEDICATION PRACTICES AMONG THE HEALTH CARE WORKERS IN THE CONTEXT OF COVID-19 PANDEMIC IN A TERTIARY CARE TEACHING HOSPITAL IN NORTH INDIA

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ABSTRACT: Objective: To assess self-medication practices among healthcare workers in the context of the Covid-19 pandemic in a tertiary care teaching hospital of north India. **Background:** Self-medication practice is a common phenomenon worldwide but has been reported to be very common in developing countries like India. Self-medication practices have gained more significance with the emergence of the Covid-19 pandemic worldwide. When consumers self-medicate without consulting the caregiver, safety issues and irrational use of drugs arise. **Material and Methods:** This was a cross-sectional questionnaire-based observational study conducted among healthcare workers in a tertiary care teaching hospital. A questionnaire elucidating details of self-medication regarding the history of self-medication, type of self-medication used, and reason for taking self-medication in the context of Covid-19, etc., was provided to healthcare workers from different healthcare professional cadres. Descriptive statistics did a statistical analysis of the data. **Results:** The present study found that the overall prevalence of self-medication for the prevention and treatment of Covid-19 was 47.8%. The contributing factors for self-medication in the context of Covid-19 were fear of infection or contact with a suspected person 102(57.3%) followed by fear of discrimination 39(21.9%). The most commonly used drugs for self-medication were paracetamol in 172(96.6%) and antibiotics in 132 (74.1%). **Conclusion:** From the present study, it can be concluded that a high prevalence of self-medication practices is seen among healthcare professionals. Continuous awareness and sensitization are needed through media and other sources to create awareness regarding the deleterious effects of self-medication and to promote the rational use of medicines among healthcare workers.

INTRODUCTION: World Health Organization (WHO) has defined self-medication as the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms [1]. Self-medication can also be defined as taking one or more drugs by the individuals themselves without consulting the physician for diagnosis, prescription or surveillance of the treatment [2]. In developing countries, self-medication practices are very commonly seen [3]. Self-medication behaviour includes purchasing drugs without a prescription, using leftover doses from previous prescriptions, sharing drugs with other family members or social groups, or misusing the medical prescription by prolonging, interrupting, or modifying the dosage during the administration period [4-6].

With the advent of the Covid-19 pandemic, several medications have been proposed as potential candidates for this disease [7] most of which resulted in little or no benefit for the patients [8, 9] or even in harm [10].

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For example, hydroxychloroquine gained wide attention as a possible treatment for covid-19 due to favourable results found in *in-vitro* or small uncontrolled studies [11]. However, later randomized trials in hospitalized patients, such as the RECOVERY trial [12] and the solidarity trial [9], failed to find any clinical benefit compared to usual care. Healthcare workers were the frontline workers in managing the pandemic and were under constant psychological trauma as they were attending to the patients around the clock. Therefore, the fear of contracting the virus and massive misinformation regarding the various remedies for preventing and curing the covid-19 disease has led many people to self-medicate, especially during the covid-19 pandemic [13]. However, self-medication may lead to unintended consequences such as adverse events, unnecessary expenses, delay in attending professional evaluation, masking symptoms, and drug interactions [14, 15]. Self-medication is known as one of the triggers for antimicrobial resistance (AMR) [16]. The toxicity of drugs used for self-medication of Covid-19 has been documented in some studies [17].

Self-medication for covid-19 is of public health importance. There is a need to understand the practice and triggers of self-medication in the population because it is well known that the self-medication attitude and practice carries pharmacological and toxicological risks not only related to the potentially severe side-effects of the drug itself but also dangerous as a result of inappropriate treatment or failure to seek prompt medical care, thus leading to a postponement in diagnosis and in turn to unintended consequences [18]. The public interest will be best served when self-medication is responsible, only undertaken when it is appropriate to do so. Regarding self-medication in covid-19, the evidence is scarce in this region. Therefore, given the potential risk of adverse effects that could be associated with inappropriate use of drugs for what may seem like a minor ailment, we carried out this study to determine the prevalence of self-medication practices among healthcare workers, factors influencing self-medication, the side effects encountered and whether the medicines are used rationally or not.

MATERIALS AND METHODS: This was a cross-sectional questionnaire-based observational study conducted among 372 healthcare workers in a tertiary care teaching hospital from July to September 2021. The healthcare workers enrolled in the study were randomly selected from different professional cadres in the age group≥18 years. Ethical approval was taken before the commencement of the study vide no. IEC/GMC/Cat C/2021/537. A questionnaire elucidating details of self-medication regarding the history of self-medication, type of self-medication used, their reasons for resorting to self-medication etc. was provided to them. All participants were informed about the scope and purpose of the study and were informed that it shall be voluntary to participate in the survey. Informed consent was obtained in every case before being given the questionnaire. Descriptive statistics did a statistical analysis of data.

RESULTS: A total of 372 healthcare workers were interviewed. Among these, 178(47.8%) responded to have practiced self-medication. Age-wise distribution of respondents is shown in **Table 2**. Most healthcare workers who practiced self-medication were in the age group between 30 and 40 years, *i.e.*, 53(29.7%). Common contributing factors that led healthcare workers to self-medicate are shown in **Table 3**. These include fear of contracting an infection from a suspected person in 102(57.3%) followed by fear of discrimination in 39(21.9%) participants. Various drugs used for self-medication by healthcare workers are shown in **Table 4**. Commonly used drugs for self-medication include paracetamol in 172(96.6%), followed by antibiotics in 132(74.1%), and Vitamin C and multivitamins in 102 (57.3%). Common conditions that necessitated self-medication use during the outbreak are shown in **Table 5**. These include fever in 172(96.6%) and headache and migraine in 158(88.7%).

TABLE 1: CHARACTERISTICS OF STUDY PARTICIPANTS AND PREVALENCE OF SELF-MEDICATION

Total participants (Healthcare workers)	372
Participants who practiced self-medication (Prevalence of self-medication)	178 (47.8%)
Married (of those who practiced self-medication)	155 (87.07%)
Unmarried (of those who practiced self-medication)	23 (12.9%)

TABLE 2: AGE-WISE DISTRIBUTION OF SELF-MEDICATION PRACTICES DURING COVID-19

Age	Number (%)
18-30	19(10.6)
31-40	53(29.7)
41-50	29(16.3)
51-60	41(23.0)
>60	36(20.2)

TABLE 3: COMMON CONTRIBUTING FACTORS FOR SELF-MEDICATION

Factors	Frequency	Percentage
Fear of discrimination	39	21.9
Fear of infection or contact with a suspected person	102	57.3
Used it without any symptoms	23	12.9
Had confirmed positive covid-19 infection	14	7.8

TABLE 4: TYPE OF MEDICATION USED FOR SELF-MEDICATION

Drugs	Frequency	Percentage (%)
Vitamin C and multivitamins	102	57.3
Paracetamol	172	96.6
Anti-malarials	46	25.8
Antibiotics	132	74.1
Antivirals	22	12.3
Antiallergics	66	37.0

TABLE 5: COMMON CONDITIONS THAT NECESSITATED SELF-MEDICATION USE DURING THE OUTBREAK

Conditions	Frequency	Percentage (%)
Headache/Migraine	158	88.7
Fever	172	96.6
Cough and running nose	88	49.4
Muscle pain	112	62.9
Sore throat	92	51.6
Anosmia	26	14.6

DISCUSSION: The present study has shown that about 47.8% of healthcare workers practiced self-medication during the COVID-19 pandemic. Self-medication by healthcare workers during the Covid-19 pandemic has been reported in many studies [19-22].

However, this is, in contrast, to a study done in Kenya by Onchonga *et al* [20]. The difference in the prevalence of COVID-19 treatment and prevalence-related self-medication in these studies may be due to various factors like differences in the study participants, knowledge, perception, and beliefs about COVID-19, accessibility to medications without prescription; and the presence and enforcement of regulations on drug procurement in different countries. Almost half of the participants practiced self-medication in our study. Inappropriate use of medications for prophylaxis has potentially adverse implications [15]. In our study, the majority of the healthcare workers who practiced self-medication were in the age group between 30 and 40 years. This is consistent with other studies.

In the present study, fear of contracting an infection from a suspected person in 102(57.3%) was the main contributing factor, followed by fear of discrimination that led healthcare workers to self-medicate. Similar findings were reported in other studies [23, 24, 25].

Most healthcare workers worked round the clock in managing COVID patients. Due to overburden, associated anxiety, uncertainties about the novel infection, and long working hours with minimum rest, healthcare workers to self-medicate.

There was a significant association between marital status and the practice of self-medication in our study. Single healthcare workers were less likely to practice self-medication. This may be because they were less likely to bother about the possibility of spreading the virus to their spouses and children, as would have been expected in married HCPs [23].

The drugs commonly used by our study participants to prevent or treat COVID-19 were Ivermectin, Azithromycin, Vitamin C, Chloroquine, and Zinc. This observation corroborated the report of Osaigbovo *et al*. [26] which showed an increase in sales of anti-malarial, antibiotics, and multivitamins.

However, the pattern of self-medication in the present study is different from some other studies done by Sadio *et al*. and Wegbom *et al.* [21, 22]. This may be because different therapies are being developed and explored for daily prophylaxis and treatment of COVID-19. In addition, commonly used drugs for self-medications during COVID-19, such as hydroxychloroquine and Ivermectin, became scarce and unaffordable for those who genuinely required the medications for existing medical conditions such as patients with systemic lupus erythematosus and rheumatoid arthritis thereby putting their health at risk [27, 28].

CONCLUSION: From the present study, it can be concluded that despite good knowledge and risk associated with self-medication practices, a high prevalence of self-medication practices is still seen among healthcare professionals. Continuous awareness and sensitization is needed through media and other sources to create awareness regarding deleterious effects of self-medication and to promote the rational use of medicines. Stress on mental health programs and other physical and brain relaxing exercises and yoga should be laid upon in medical institutions to reduce healthcare workers' physical and psychological stress. However, more extensive studies need to be conducted to know the extent of self-medication practices in the context of the covid-19 pandemic. Education on the judicious and rational use of drugs is the need of the hour.

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