

Knowledge, Attitude, and Practices of Healthcare Workers on the Use of Hydroxychloroquine Prophylaxis against COVID-19 Infection

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ABSTRACT

Introduction/aim: Coronavirus has created critical situations around the world. It became a global challenge to adopt preventive measures and start a supportive therapy. The use of hydroxychloroquine as prophylaxis was advised by the Indian Council of Medical Research (ICMR). In view of this recommendation, this study was planned to know the perspective of healthcare workers (HCWs) on hydroxychloroquine. The knowledge, attitude, and practice of HCWs on the use of hydroxychloroquine prophylaxis against coronavirus disease-2019 (COVID-19) had been assessed in this study.

Materials and methods: A validated e-questionnaire including 20 questions was shared with the HCWs via the identified WhatsApp groups as well as the official mail IDs. Data were collected online through Google forms and analyzed by using descriptive analysis.

Results: A total of 76 HCWs participated in this study, whereas 42% of them were working in COVID-19-assigned areas. Twenty-nine (38%) HCWs agreed that the standard precautions could avoid cross-transmission of COVID-19 infection but a few of them consider hydroxychloroquine prophylaxis as a standard precaution.

Conclusion: Hydroxychloroquine was advised by ICMR for COVID-19 prophylaxis; however, a small proportion of HCWs considered it as a standard precaution against COVID-19 infection along with washing hands, using a face mask, use of personal protective equipment kit, and social distancing.

Keywords: Coronavirus, Healthcare, Hydroxychloroquine, Prophylaxis.

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INTRODUCTION

Coronavirus disease, also known as coronavirus disease-2019 (COVID-19), is a pandemic caused by a novel human coronavirus (SARS-CoV-2) previously known as 2019-nCoV. Global efforts have been exerted to prevent the spreading of the disease through political decisions together with personal behaviours.^{1,2} Healthcare workers (HCWs) are at the frontline of COVID-19 pandemic. There is no proven treatment or vaccination against SARS-CoV-2 as of now. So, they are exposed to pathogens, long working hours, fatigue, occupational stigma, etc.³ Strong infection control measures are the primary interventions to minimize the spread of the virus in both healthcare settings and the community.^{4,5} A poor understanding of the disease among HCWs can result in a delayed identification and treatment leading to the rapid spread of infections. This has resulted in availing few practices like hydroxychloroquine (HCQ) prophylaxis to prevent the COVID-19 while working in a hospital setting. There is a lack of literature on the same, and further studies may reveal the efficacy of HCQ in containing COVID-19 infection.

MATERIALS AND METHODS

Study Design

An online cross-sectional survey among HCWs working in a tertiary care hospital in Northern India.

Study Population

All HCWs (doctors, nurses, paramedics, general duty assistants, housekeeping) in a tertiary care hospital aged 18 years and above after informed consent.

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Methodology

The study was conducted after approval from the Institutional Ethics committee. Informed consent was obtained in the form of a link shared on hospital networking emails/social networking sites among hospital HCWs. The questionnaire was designed in English and was translated into the local language (Hindi, Punjabi) by subject experts identified. The questionnaire was again back-translated to the English language for comparison with the original one in English. The predefined questionnaire was validated before administering it to the HCWs.

An online data collection tool was designed and executed using Google Forms (via docs.google.com/forms). The data were captured in the form of demographic details. There were eight knowledge-based, five attitude-based, and seven practice questions, which were asked in this questionnaire with the option

of selection of multiple answers in each question. The Google Form link to the questionnaire was shared with the enrolled participants via the identified WhatsApp groups as well as the official mail IDs. The collected data were analyzed by using descriptive analysis.

RESULTS

A total of 76 HCWs opted in this study (Fig. 1). Knowledge: 33 (43%) of the participants quoted social/news media and regulatory agencies as the source of information in COVID-19. A majority of them marked cough, fever, sore throat, headache, diarrhea, and myalgia as the common symptoms associated with COVID-19 infection (Fig. 2). Thirty-two (42%) out of 76 were currently working in COVID-designated areas of the hospital.

Out of 76 HCWs, 53 (70%) and 13 (17%) answered that HCQ prophylaxis is recommended by Indian Council of Medical Research (ICMR) and World Health Organization (WHO), respectively. Nine (22%) out of 40 doctors and 11 (48%) out of 23 nursing staff believed that HCQ prophylaxis is recommended for all HCWs, whereas 10 (25%) doctors and 2 (9%) nursing staff believed that HCQ prophylaxis is recommended for HCWs working in COVID area. In response to a maximum duration of HCQs, 7 weeks is found to be the most common answer (Fig. 2). Twenty-nine (38%) HCWs agreed that hand washing, using a face mask, using personal protective equipment (PPE), and social distancing are the standard precautions to avoid cross-transmission of COVID-19 infection, while 14 (18%) agreed that hand washing, using a face mask, using PPE, social distancing, and HCQ prophylaxis are necessary altogether. Attitude: This consisted of five questions (Table 1). Practice: Thirty-nine (51%) have taken HCQ prophylaxis advised by colleagues (5%), doctor (14%), hospital administration (22%), and self (8%). Fourteen (18%) experienced adverse effects on HCQ prophylaxis such as blurred vision, vomiting, abdominal cramps, diarrhea, gastritis, mood swings, insomnia, palpitations, and nightmares. Ten (13%) discontinued the HCQ prophylaxis due to several reasons such as adverse drug reactions (ADRs), WHO recommendations, and lack of evidence (Flowchart 1).

DISCUSSION

The purpose of this study was to assess the knowledge, attitude, practice, and use of HCQ prophylaxis among doctors, nurses, and other supporting staff of a hospital. We found that social/news media and regulatory agencies constitute a major source of information in COVID-19. A similar study was conducted in

Nigeria revealing the use of social media and TV as the major tools for information. Right after the WHO declared COVID-19 as a pandemic, they uploaded various guidelines and information online about COVID-19. Such information is reliable and eliminates the misinformation or misconception about a disease.⁵

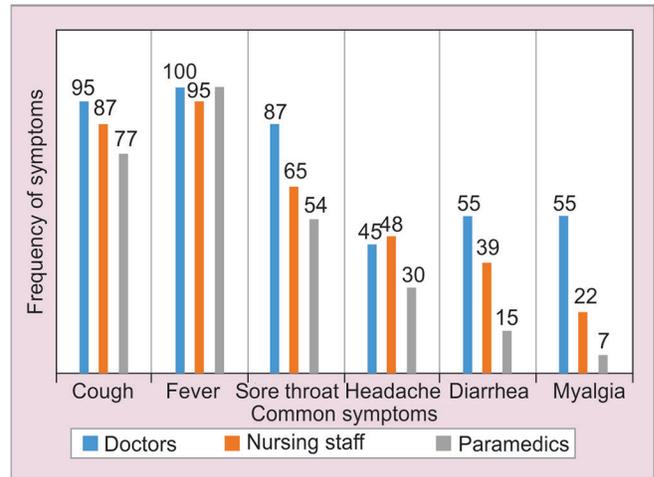


Fig. 1: Profession of HCWs

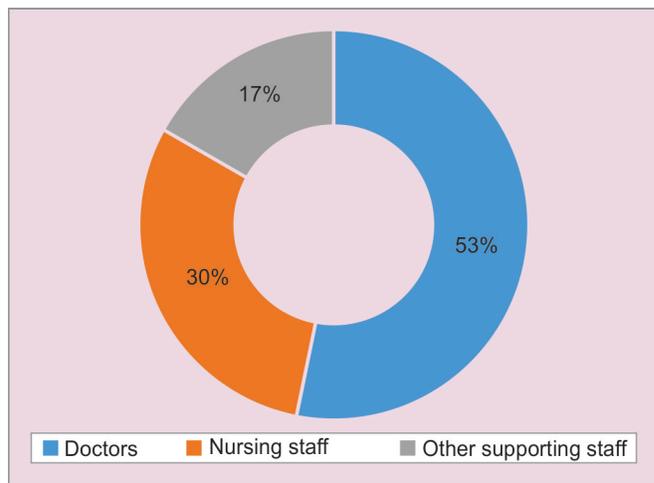
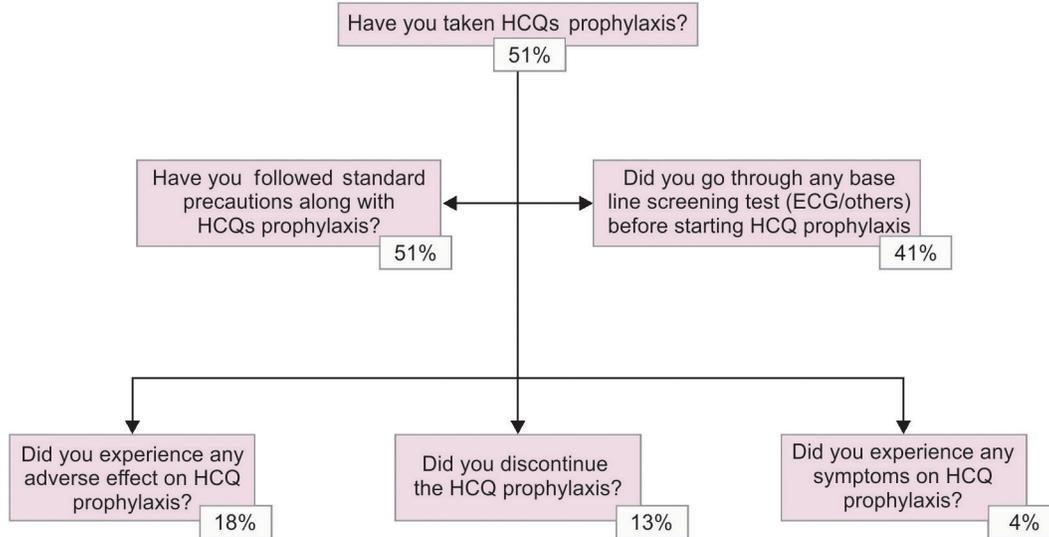


Fig. 2: Common symptoms of COVID-19

Table 1: Attitude questions

Questions	Agree (%)	Disagree (%)	Neither agree nor disagree (%)	Strongly agree (%)	Strongly disagree (%)
Do you think the HCQ prophylaxis is important in all HCWs?	29	18	45	4	4
Do you think the HCQ prophylaxis will provide a complete protection against COVID-19 infection?	13	33	41	1	12
Do you think the standard precautions are equally important after HCQ prophylaxis?	23	5	4	63	5
Do you think taking HCQ prophylaxis will help you to combat COVID-19 infection even though working in COVID area?	21	20	45	5	9
Do you think India is in a good position to contain COVID-19 infection?	32	30	22	5	11

Flowchart 1: Practice questions



We found that the doctors had a higher knowledge of symptoms and perhaps the reasons can be the professional expertise and direct involvement with patients. Similarly, a study by Bhagavathula et al. showed a sound knowledge regarding COVID-19 in doctors in comparison with other HCWs. They also created awareness against the symptoms of the disease and use preventive measures to stop the transmission of COVID-19.⁶ Another study illustrates similar trends representing broad knowledge of doctors compared to nurses and paramedical staff.⁷ This study is aligned with the study by Singh et al.; most of the participants believed that HCQs are recommended by ICMR, whereas only 38% believed it is for all HCWs and 81% believed that the maximum duration of HCQ prophylaxis is for 7 weeks.^{8,9} Whereas 42% of participants of the study are currently working in the COVID area, only 38% of them had knowledge regarding precautionary measures such as hand washing, using a face mask, using PPE, and social distancing as standard precautions for COVID-19. We found more awareness on personal protection in this study in comparison with a study by Jindal et al., which revealed poor knowledge regarding the use of masks and PPE.¹⁰

Similar to other studies, our findings in the attitude of HCWs show that 33% of the respondents agreed that HCQ prophylaxis is important in all HCWs; 14% of participants thought HCQ prophylaxis will provide a complete protection against COVID-19 infection; 26% believed that taking HCQ prophylaxis will help you to combat COVID-19 infection even though working in the COVID area; and 85% believed that standard precautions are equally important after HCQ prophylaxis.⁸

In the context of practice, a total of 51% have taken HCQ prophylaxis. Of them, 18% experienced ADRs on HCQ prophylaxis; therefore, 13% discontinued the HCQ. Similarly, in another study, 21% did not complete the drug course and 13% had experienced mild ADRs.¹¹⁻¹⁴ The safety profile of HCQs for prophylaxis of COVID-19 was a major concern in concordance with various other studies.¹⁵

CONCLUSION

The knowledge, attitude, and practices (KAP) revealed a difference in knowledge among doctors, nursing staff, and other supporting with regard to symptoms of COVID-19 and recommendations of

HCQ prophylaxis. HCQ was advised by ICMR; however, a small proportion of HCWs considered it as a standard precaution against COVID-19 infection along with washing hands, using a face mask, use of PPE kit, and social distancing. The pandemic brought to light various drugs for pre-exposure prophylaxis of COVID-19. Continued education of HCWs on proven preventive practices (handwashing, masking, social distancing) is recommended for the prevention of COVID-19 pandemic. However, the scarcity of evidence on chemoprophylaxis of COVID-19 remains unfolded till proven.

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