

## Hydroxychloroquine (HCQs) Prophylaxis for COVID 19: Awareness, Perception and Unwanted Effects among Health Care Workers Subjected to Chemoprophylaxis

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### Abstract:

The Indian Council of Medical Research, under the Ministry of Health and Family Welfare, has recommended chemoprophylaxis with HCQs for asymptomatic healthcare workers treating patients with suspected or confirmed COVID-19. All healthcare workers in a mid-zonal level hospital were subjected to HCQs prophylaxis and completed 8 weeks of prophylaxis. A study was conducted to assess awareness, perception and side effects related to HCQs prophylaxis. It was an observational questionnaire-based study. A set of leading questions typed in English and Hindi was circulated among all healthcare workers which included Doctors, Nurses, Paramedical staffs and auxiliary staffs and their responses were analyzed using statistical method. About 90% of the participants were compliant on HCQ chemoprophylaxis, and among the rest, the primary reason for not taking the medicine was fear of side effects. 70 % participants felt that HCQ chemoprophylaxis should continue until the time a definite treatment for COVID-19 is out, whereas 20% felt that they have taken adequate and should discontinue chemoprophylaxis. About 35 % participants had experienced minor side effects following HCQ chemoprophylaxis out of which, giddiness (14.2% participants) was the most common. Majority of them don't want to compromise on PPE & public health measures like frequent washing of hands, respiratory etiquettes and social distancing despite on chemoprophylaxis. HCQs as chemoprophylaxis for COVID 19 has to be given under medical supervision with an informed consent and frequent monitoring needs to be done by medical supervisor and intake of HCQs should not instill a sense of false security.

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### I. Introduction:

WHO announced cluster of cases of pneumonia of unknown etiology reported from Wuhan city of Hubei province, China [1] and later confirmed it to be a type of Human Coronavirus (popularly version two of SARS-Cov2) is a RNA virus belonging to the genus *Betacoronavirus* of the subfamily *Orthocoronavirinae*[2]. It rapidly spreads across the world and causes acute, highly lethal pneumonia coronavirus disease 2019 (COVID-19) with clinical symptoms similar to those reported for SARS-CoV and MERS-CoV. On 11<sup>th</sup> Mar 2020 WHO declares COVID 19 a global pandemic[3]. At the time of writing this article there are 94,73,214 cases worldwide with 4,84,249 confirmed deaths spanning over 216 countries and India is 4<sup>th</sup> worst hit country with 4,90,401 cases and 15,301 deaths[4]. There are yet to identify and definitive treatment for COVID 19 and many drugs have been tried for chemoprophylaxis including Hydroxychloroquine (HCQs) and Chloroquine. The Indian Council of Medical Research, under the Ministry of Health and Family Welfare, has recommended chemoprophylaxis with HCQs (400 mg twice on day 1, then 400 mg once a week thereafter) for asymptomatic healthcare workers treating patients with suspected or confirmed COVID-19, and for asymptomatic household contacts of confirmed cases [5]. All healthcare workers in a mid zonal level hospital were subjected to HCQs prophylaxis and completed 8 weeks of prophylaxis. A study was conducted to assess awareness, perception and side effects related to HCQs prophylaxis.

### II. Material and Methods:

This study was conducted in a mid zonal hospital in eastern UP of India. It was an observational questionnaire based study. A paper consisting of set of leading questions typed in English and Hindi was circulated among all healthcare workers which included Doctors, Nurses, Paramedical staffs and auxiliary staffs. 106 volunteer healthcare workers took part in the study anonymously and marked their answers. Answers were entered in an excel sheet and statistical analysis was done.

**III. Results:**

The total study sample consisted of 106 health care workers, the distribution of which is given as per table 1. 16 out of 106 (15.1%) responded that there is a definitive treatment available for COVID-19. 87.7% of the participants had previously heard of Hydroxychloroquine. 34% of the study participants responded that HCQ is used for both treatment as well as the chemoprophylaxis for COVID-19 (figure 1). About 90% of the participants were on HCQ chemoprophylaxis, and among the rest, the primary reason for not taking the medicine was fear of side effects. 92 (86.8%) of the subjects had tried to gain more knowledge about HCQ from various sources, own their own.

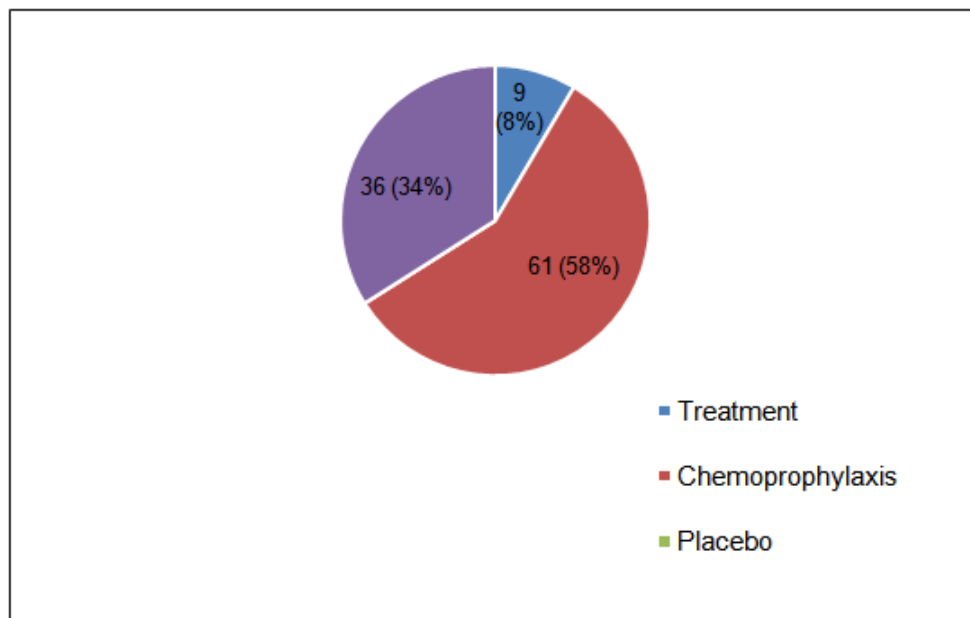
Awareness of the participants regarding various aspects of HCQ chemoprophylaxis was assessed by the questionnaire and the responses are as depicted in figure 2. 60% of the participants responded that their family members should also be started on HCQ chemoprophylaxis. 75 participants felt that HCQ chemoprophylaxis should continue until the time a definite treatment for COVID-19 is out, whereas 22 felt that they have taken adequate and should discontinue chemoprophylaxis.

37 participants had experienced some side effects following HCQ chemoprophylaxis out of which, giddiness (14.2% participants) was the most common (table 2). However, it was found that only 21.6% of these reported their side-effects to a competent medical authority. Out of the 86 individuals who responded that frequent medical check-ups are necessary to monitor for side effects, 14 were of the opinion that it should be carried out daily, 44 weekly and the rest monthly. The participants were also asked about what they considered the single best monitoring tool for side effects. Majority considered vital parameters to be the most effective among the options provided (table 3).

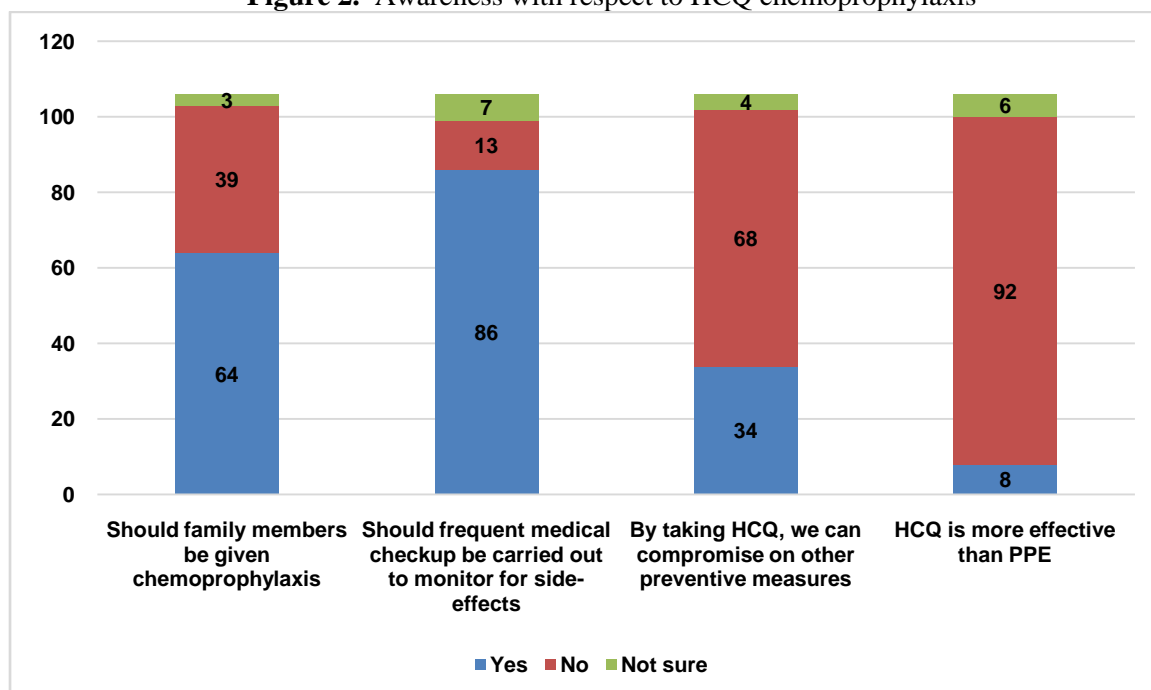
**Table 1.** Characteristics of the participants

<b>Profession</b>	<b>n (%)</b>
Doctor	12 (11.3%)
Nurses	17 (16%)
Paramedics	41 (38.7%)
Auxiliary staff	36 (34%)
<b>Total</b>	<b>106 (100%)</b>

**Figure 1.** Awareness regarding the authorised use of HCQ



**Figure 2.** Awareness with respect to HCQ chemoprophylaxis



**Table 2.** Side effects experienced

Side-effect	n (%) of Total Sample
Giddiness	15 (14.2%)
Palpitation	6 (5.7%)
Nausea	5 (4.7%)
Abdominal Pain	4 (3.8%)
Allergy	2 (1.8%)
Visual Disturbances	2 (1.8%)
Vomiting	1 (0.9%)
Diarrhoea	1 (0.9%)
Other minor side-effects	1 (0.9%)
No side-effects	69 (65.1%)

**Table 3.** Desired Tool for monitoring side effects

Tool	N
Visual Inspection	16
Vital Signs	33
Blood parameters	15
ECG	18
Ocular examination	4
Total	N=86

#### IV. Discussion:

Now the ministry of home and family welfare of India on 22<sup>nd</sup> May 2020 through the Joint Monitoring Group and National Task Force has recommended the prophylactic use of HCQs in all asymptomatic healthcare workers involved in containment and treatment of COVID19 and asymptomatic healthcare workers working in non-COVID hospitals/non-COVID areas of COVID hospitals/blocks. They also recommended the prophylactic use of HCQs in asymptomatic frontline workers, such as surveillance workers deployed in containment zones and paramilitary/police personnel involved in COVID-19 related activities along with all asymptomatic

household contacts of laboratory confirmed cases [6]. As we will begin the 2<sup>nd</sup> phase of Chemoprophylaxis as per guidelines we conducted the survey among our own healthcare workers to know the compliance, perception and side effects pattern. Based on our study most of the individuals are willing to continue HCQs as chemoprophylaxis till definitive treatment of COVID 19 is discovered. However there are very few minor side effects noticed among the participants after 8 weeks, of which giddiness is most common and no life threatening adverse effects noted. Individuals are desirous of frequent health checkup while on prophylaxis. Majority of them don't want to compromise on public health measures like frequent washing of hands, respiratory etiquettes and social distancing despite on chemoprophylaxis. PPE is still superior choice between chemoprophylaxis and PPE.

The study has brought forth that there is adequate awareness among the healthcare workers regarding the approved use of drug for chemoprophylaxis against COVID-19. They also value the importance of PPE and other preventive measures above the use of chemoprophylaxis alone. At the same time, there are a rather significant proportion of individuals who experienced side effects due to the medication. Hence, HCQs as chemoprophylaxis for COVID 19 has to be given under medical supervision with an informed consent and frequent monitoring needs to be done by medical supervisor and intake of HCQs should not instill a sense of false security.

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