

## No Role of HCQ in COVID-19 Prophylaxis: A Survey amongst Indian Doctors

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### ABSTRACT

The COVID-19 pandemic is being tackled on two fronts—prevention and treatment. In addition to behavioural strategies and vaccines (eagerly awaited), pharmacotherapy is also being employed in certain regions as a preventive strategy. In India, hydroxychloroquine (HCQ), ivermectin, a variety of vitamin supplements are being used, with HCQ being the most popular among healthcare professionals. In addition to the evidence-based recommendations, it is important to ascertain the situation on the ground. We conducted a multicentric survey among physicians from a wide range of specialities to ascertain the usage on HCQ and its effects of COVID-19 prevention. We did not find any significant impact of HCQ on the prevention of COVID-19 ( $p=0.54$ ) independent of the duration of its usage. This pilot project has the potential to act as a backbone for a larger study exploring the impact of pharmacological intervention on COVID-19 prevention.

**Keywords:** COVID-19; Survey; Physicians; HCQ

### INTRODUCTION

Hydroxychloroquine (HCQ), a drug traditionally used to treat malaria and rheumatoid disorders has been proposed as a prophylaxis for SARS-COV-2 infection, in view of its anti-viral properties *in vitro*. The Indian Council of Medical Research announced advisories recommending the prophylactic use of HCQ for all asymptomatic healthcare workers [1]. Though many Indian Healthcare Professionals (HCP) regarded this advisory as useful, many HCP were apprehensive not only about the lack of evidence indicating its beneficial role in prophylaxis of SARS-COV-2 infection but also about the side effects of HCQ, particularly cardiac as cautioned by the US FDA [2]. In light of recent randomised trials and meta-analysis failing to document any positive impact of HCQ on SARS-COV-2 infection and related outcomes both as pre- and post-exposure strategy, a real-life data on health-care providers would help complement the existing database [3-7].

### OBJECTIVE

We conducted a pilot study of Indian doctors to try and assess the benefit of HCQ in COVID 19 prophylaxis.

### METHODS AND FINDINGS

After ethical committee approval, a survey questionnaire was sent to 300 doctors working in five tertiary care hospitals in Kolkata, India treating both COVID and non-COVID patients regarding HCQ prophylaxis and its effect if any on the incidence of COVID infection amongst them.

Data was entered into an excel sheet and then converted to a Comma Separated Values (CSV) format prior to analysis. Analysis was performed using python 3.8.6 software (Windows 10 64 bit, USA). A total of 281 responses were obtained of whom 146 physicians (51.96%) were on HCQ prophylaxis, while 135 (48.04%) were not.

The risk of contracting COVID-19 was significantly higher amongst doctors from medical specialties compared to those from non-medical specialties ( $p<0.001$ , level of significance ( $\alpha$ ) =0.95). HCQ prophylaxis was not associated with a reduction in the risk of contracting COVID-19 ( $p=0.54$ ); level of significance ( $\alpha$ ) =0.95). Duration of HCQ prophylaxis had no impact in preventing COVID infection (Table 1).

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**Table 1:** Physicians on HCQ Prophylaxis.

Physicians on HCQ Prophylaxis?					
Yes (n=146)			No (n=135)		
Developed COVID?			Developed COVID?		
	Yes	No		Yes	No
	16	130		19	116
Percentage	10.96%	89.04%	Percentage	14.04%	85.93%
Hypothesis testing:					
$H_0$ : HCQ prophylaxis has no effect on contracting COVID-19 infection					
$H_A$ : HCQ prophylaxis influences development of COVID-19 infection					
Chi square value ( $\chi^2$ )	Critical value	Level of significance ( $\alpha$ )	P-value	Degree of freedom	
0.37	3.84	0.95	0.54	1	
Impact of Speciality on contracting COVID-19					
Medicine (n=164)			Non-Medicine (117)		
Developed COVID?			Developed COVID?		
	Yes	No		Yes	No
	32	132		3	114
Percentage	19.51%	80.49%	Percentage	2.56%	97.44%
Hypothesis testing:					
$H_0$ : Medical speciality has no effect on contracting COVID-19 infection					
$H_A$ : Type of medical speciality influences development of COVID-19 infection					
Chi square value ( $\chi^2$ )	Critical value	Level of significance ( $\alpha$ )	P-value	Degree of freedom	
16.47	3.84	0.95	<0.001	1	

## DISCUSSION AND CONCLUSION

This unique pilot study of Indian doctors provides a strong indication that HCQ has no role in COVID 19 prophylaxis. This is a call to all physicians who are unfortunately lulled into a false sense of security by using HCQ, that until robust scientific data becomes available, they should put their faith on non-pharmaceutical prophylaxis for COVID 19.

The incidence of COVID 19 was higher in medical specialties as surgical specialties had less exposure to infected patients due to cancellation of routine surgeries. However larger studies are required amongst HCP deployed in COVID and non COVID areas. As of now the available data as well as recommendations from CDC do not support the use of HCQ as a pre-exposure prophylaxis for COVID-19.

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