



ATTITUDE & BELIEF OF HEALTH CARE WORKERS TOWARDS HYDROXYCHLOROQUINE CHEMOPROPHYLAXIS VERSUS PERSONAL HYGIENE PRACTICES IN EARLY PHASE OF COVID 19 PANDEMIC – A WEB BASED SURVEY IN PRE-VACCINE TIME.

Medical Science

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ABSTRACT

Objective: The objective of the study was to assess the attitude & beliefs of Health Care Workers (HCWs) regarding personal hygiene practices & hydroxychloroquine chemoprophylaxis as a preventive measure of COVID-19 infection.

Design: Predesigned & validated survey proforma was circulated among individual as well as groups of HCWs through social-media from a period of 9th May to 30th June and responders who completed full questionnaire were included in the analysis

Setting: The study was a web based survey among HCWs belonging to Public or Government hospital, private tertiary care hospitals having >50 beds & nursing home with 1-50 beds.

Participants: The study included HCWs of >18 years of age consisting of doctors, nurses, allied health care professionals who completed the survey.

Result: Among total 262 responders 123 (46.95%) were attending/visiting COVID-19 cases directly during the survey. Total 166 (63.36%) doctors, 80 (30.53%) nurses, 3 (1.15%) house-keeping and rest from other category participated in the survey. All responders (100%) adopted at least one or multiple methods of personal hygiene for infection control. Having shower after duty and using hand sanitizer were most commonly preferred practices among HCWs. Only 88 (33.59%) responders had taken Hydroxychloroquine at the time of survey and majority 172 (65.65%) deferred any kind of chemoprophylaxis. Majority 227 (86.64%) practiced some precaution at their staying place as well.

Conclusion: During early pandemic majority of the Indian HCWs had a higher attitude and belief towards personal hygiene as the best preventive measure towards COVID-19 infection rather than belief on hydroxychloroquine chemoprophylaxis which is still advised for caregivers and close contacts in existing national guideline.

KEYWORDS

INTRODUCTION:

COVID 19 is mainly transmitted mainly via droplets. There was no clear guidelines or recommendations available for prevention of COVID-19 during the initial phases of pandemic in India for HCWs, the most vulnerable group to acquire and spread COVID-19. Hence HCWs had different attitude, belief & followed many personal hygiene practices and chemoprophylaxis for prevention of COVID-19 infection. We conducted the survey when the ICMR suggested Hydroxychloroquine for prophylaxis. Health care workers are supposed to be the most informed group in the community to deal with the new virus and their practices are expected to be changed as per new guidelines and intervention. Though a number of studies suggest that there is little association between knowledge of health benefits and actual performance of a behaviour [1-5], especially when compared to other factors that determine behaviour [6-7]. It has been observed in general population during Middle East Respiratory Syndrome outbreak the knowledge of proper hand washing improved the practice of general population [8]. Our Study aimed at assessing preferences of infection control practice versus hydroxychloroquine chemoprophylaxis among HCWs [9].

METHODS:

This web based one time online survey was done among HCWs with a predesigned and validated proforma (Annexure 1.) which was circulated through social media.

Study setting: The proforma was circulated in different groups and individuals those belong to health care system like Public or Government hospitals, private tertiary care hospital >200 beds, 50-199 beds, nursing home 1-50 beds.

Study period: The proforma was circulated from a period of 9th May to 30th June. and complete responses were analysed.

Study population: Health care staff comprising doctors, nurses, allied health professionals, house-keeping staff working in different Health care Institutions in India were invited online to participate in the survey.

INCLUSION CRITERIA:

Health care worker of >18 years of age from any level participating and responding to the survey and completing the questionnaire were included in study.

EXCLUSION CRITERIA:

Responders who did not complete the questionnaire were excluded from the study.

Sample size: There was no prefixed limit for sample size. All responders who completed the questionnaire

Study tools: Predesigned and validated questionnaire comprising 10 questions made in online survey (Survey heart application) were circulated through Social media to concerned groups. (Annexure 1)

Technique: The data was collected and was analysed in numbers and percentages.

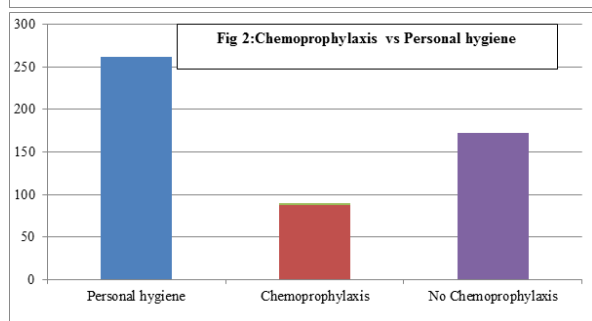
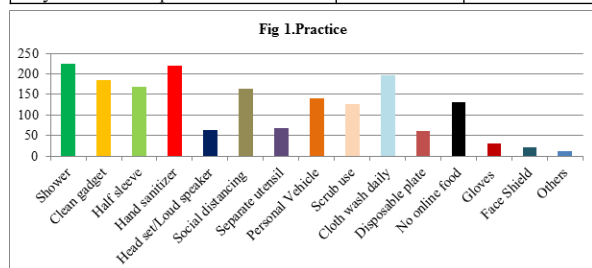
RESULTS:

262 responders included (53.82 % male and 46.18% female) majority (91.98%) belonged to age group 18 to 49 years (Table 1). There were 166 (63.36%) doctors, & 80 (30.53%) nurses, 3 (1.15%) house-keeping and rest from other category. Majority (46.95%) were working in private tertiary care (>200 bed) hospital, 73 (27.86%) had >10 years of work-experience and 123 (46.95%) were attending/visiting COVID-19 cases during survey. Interestingly 100% responders adopted at least one or multiple methods of personal hygiene for infection control (Fig 1) but only 88 (33.59%) were taking Hydroxychloroquine, 2 (0.76%) Chloroquine and majority 172 (65.65%) deferred any kind of chemoprophylaxis (Fig 2). Among HCWs 201 (76.72%), 35 (13.36%) & 20 (7.63%) were living in the same place, different place & in hospital respectively. Majority 227 (86.64%) followed some precaution at staying place also and among those not following majority (80%) were not taking care of COVID-19 patients directly (p=0.0006). Majority 180 (68.97%) attended infection control training programme/webinar/guideline reading.

Table 1. Demography of the population

Total	262	100%
Male	141	58.32%
Female	121	46.16%
18-49 years	241	91.98%
50-64 years	19	7.25%
≥65 years	02	0.76%
Doctor	166	63.36%

Nurse	80	30.53%
Allied health professional	09	3.44%
House keeping	03	1.15%
Others	04	1.53%
Public or Govt. Hospital	107	40.84%
Private tertiary care>200beds	123	46.95%
Secondary care Hospital 51-199 bed	19	7.25%
Nursing Home 1-50 bed	13	4.96%
>10 years work experience	73	27.86%
6-10 years work experience	40	15.27%
2-5 years work experience	79	30.15%
1-2 years work experience	46	17.56%
<1 year work experience	24	9.16%



DISCUSSION:

Promotion of hygiene is the cornerstone of human response during outbreaks. At the time of Ebola outbreak in 2014 people felt the necessity of hygiene practices however at the start of the Ebola outbreak there was limited evidence about what types of hygiene promotion activities were effective in outbreaks generally [10-11]. Similarly during the early phase of COVID 19 pandemic there was limited data on different hygiene practices adopted by people specially HCWs who were the most vulnerable population for infection.

Our study showed different hygiene practices adopted by HCWs comprising comparable number of male and female responders. Majority of them belonged to 18 -49 year age group i.e more younger population which actually reflects the age distribution of health care staff in different health institutions of India. Again Younger populations may be showing more interest in online survey.

There was 63.36% responders from doctor community and nurses were one third of the population, allied health professionals and others were <10% which may have significant impact on the overall hygiene behaviour due to skewing.

Responders were from all kind of health sectors though majority worked in private care /tertiary care with >200 beds which indicates that majority of the population in this study were probably sensitised to hygiene practices prior to the study but public or Government hospital HCWs shared 40.48% of the total population.

Forty six percent of responders were directly visiting /attending suspected or confirmed COVID 19 cases in last 2 weeks of this survey. HCWs directly attending/visiting COVID-19 cases practiced more precautions even at their staying place. This study also reflects the knowledge seeking behaviour of majority of the HCWs for prevention of the new infection at early phase of pandemic. Evidence shows that there is differential impact of formal and informal information for personal hygiene practices and social distancing. Qiuyan Liao, Benjamin Cowling et al. showed in their study during pandemic Influenza A (H1N1) in Hong Kong in 2010 that trust in formal

(government/media) information about influenza was associated with greater reported understanding of A/H1N1 cause and A/H1N1 prevention self-efficacy, which in turn were associated with more hand hygiene. Trust in informal (interpersonal) information was negatively associated with perceived personal A/H1N1 susceptibility which was negatively associated with perceived self-efficacy but positively associated with influenza worry which was in turn associated with greater social distancing [12]. The impact of formal ICMR notification on chemoprophylaxis on acceptance and maintenance of hygiene practices of for prevention of COVID 19 was unknown. This survey showed that Indian HCWs had a higher attitude and belief towards personal hygiene as preventive measure towards COVID-19 infection rather than belief on Hydroxychloroquine chemoprophylaxis and all of them practiced one or more hygiene precautions irrespective of chemoprophylaxis status. The reason for personal hygiene been preferred over chemoprophylaxis could be because majority of study population belonged to doctor followed by nurses community who have access for regular updates /publications and training on the new disease prevention and treatment. A recently published article mentioned that enhanced hand hygiene and surface decontamination are key to safety in addition to standard precautions. American medical Association advises clinical staff to clean workspaces and personal items such as stethoscopes, mobile phones, keyboards, dictation devices, landlines, nametags, and other items with hospital-provided disinfectants or alcohol-based disinfectants.[13]. An outbreak investigation conducted by S.C.-Y. Wong, R.T.-S. Kwong et al. in Hong Kong of a patient with COVID-19 who was nursed in an open cubicle of a general ward for more than 35 hours before the diagnosis was made showed that none of the healthcare close contacts developed disease due to vigilant basic infection control measures. So strict Infection control practices are the only way to curb COVID 19 transmission. [14]. Our survey indicated that HCWs had more belief on hygiene practices. Though this survey is relatively old due to rapidly evolving research and advancements in prophylaxis and management of COVID 19 disease. We are presently having effective vaccines for COVID 19. There is existing guideline where hydroxychloroquin is included as chemoprophylaxis for care givers and close contacts [15]. This survey provides an insight into the actual practice of HCWs which clearly shows lower acceptability of chemoprophylaxis compared to personal hygiene pre-vaccine time.

This type of survey also points towards possible targeted intervention that could be adopted by different institutions for different category of HCWs for ensuring better infection control practices.

Limitations:

This study based on one time response of HCWs so it has following limitations:

1. This study cannot differentiate or compare the preference of hygiene practices across different age groups as well as different levels of health care personnel and institution though it reflects a cumulative data about the adopted hygiene practices in pandemic situation.
2. The data might be skewed for more doctor and nurses population and may not represent the practices and preferences of allied health care personnel well.
3. We could not follow up the responders to know about the effectiveness of their adopted hygiene practice.

ANNEXURE 1

Questionnaire:

1. Age
18- 49 years, 50-64 years, 65 years and above
2. Sex
Male, Female
3. Category
Doctor, Nurse, Allied health professionals, House keeping, Others
4. Place of work
Public or Govt. Hospital, Private care:tertiary care >200 bed, Secondary care Hospital 51 to 199beds, Nursing Home 1-50 beds
5. Work experience:
Less than 1 year, 1-2 years, 2-5 years, 6-10 years, more than 10 years.

6. Are you visiting/attending any proven or suspect COVID 19 cases in the last 2 weeks?
Yes/No
7. Where did you stay in last 2 weeks?
Same place, different place, within the hospital, Others
8. Any special precautions taken at staying place?
Yes/No
9. What was the type of precaution taken?
Showers after coming from hospital, cleaning gadgets and belongings, bare below elbow (half sleeves, no watch, no rings), Using mobile phone (speaker or headset), Maintained social distance with family members and room mates, separate utensil/rest room, using mask while going outside home, using N95 mask while going outside home, using personal vehicle for transport, using separate dress or scrub in hospital, washing used clothes everyday, using disposable plastic cover for mobile phone, maintaining minimum 2 meter distance from another person while taking food, avoiding online ordering of food, quarantine for few days after each COVID duty, using gloves while going outside, using face shield while going outside.
10. Did you take any drug prophylaxis?
Hydroxychloroquine, Chloroquine, No I did not take any drug prophylaxis.
11. Have you attended any COVID 19 infection control training programme/webinar/guideline reading
Yes, No
12. Are you satisfied with your adopted personal hygiene measures?
Yes, No

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