

Knowledge, Attitude and Practices (KAP) Regarding Novel Corona Virus (Covid -19) Pandemic amongst Health Care Assistants In Dakshina Kannada District-A Cross-Sectional Study

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Abstract

Background: The surge of coronavirus disease 2019 (COVID-19) cases reached over 100 countries with more than 100,000 cases in the month of March. Workplace health and safety is vital in every organization particularly in the healthcare settings. A poor understanding of the disease among healthcare assistants (HCAs) may result in delayed treatment and the rapid spread of infection. This study aimed to investigate the knowledge and perceptions of HCAs about COVID-19. The aim was to assess the levels of knowledge, attitude, and practices of the healthcare professionals.

Method: Cross-sectional, web-based study was conducted among HCAs about COVID- 19 during the first week of May 2020. A 31-item survey instrument was developed

and distributed randomly to HCAs in Dakshina Kannada using social media. A chi square test was used to investigate the level of association among variables at the significance level of $p < 0.05$.

Results: Out of 215 participants, a total of 187 HCAs completed the survey (response rate: 86.5%); 17.1% were males and 82.9% were females. Most of the HCAs were between the age group 30-60 years (70.1 %), and most were asha workers (32.1%) and attenders (25.1%). A significant proportion of HCAs had satisfactory knowledge of its transmission (77.5%), sign and symptoms (93.5%) and precautions (70%). A significant proportion of HCAs showed positive perceptions of COVID-19 prevention and control (88.7%). A significant proportion of HCAs have shown good practice of methods

of prevention and management of novel corona virus (90.1%).

Conclusion: Majority of HCAs had satisfactory knowledge, showed positive attitude and sufficient practice towards the prevention and control of COVID-19. To improve the knowledge educational interventions are needed to reach HCAs, and further studies are warranted. Although KAP of HCAs showed positive results, they should continue the efforts and improve KAP towards the fight against the novel corona virus.

Keywords: Coronavirus, outbreak, COVID-19, knowledge, perceptions, healthcare, Questionnaire infectious disease transmission.

Introduction

The emerging respiratory viruses known as Coronavirus (CoV) causes illness ranging from the common cold to severe acute respiratory syndrome (SARS)¹. It was declared as a global pandemic by WHO on 12th March 2020^{2,3}. The first case of COVID-19 in India, was reported on 30 January 2020.

India currently has the largest number of confirmed cases in Asia. Healthcare assistants (HCAs) as the frontline defense in treating patients with COVID-19 are more susceptible to this spreading infection⁴. Therefore, for the effective control of COVID 19 having proper knowledge regarding the origin of the diseases, mode of transmission, incubation period and signs and symptoms is of great importance⁵.

Knowledge of a disease may influence HCAs' attitudes and practices, and incorrect attitudes and practices directly increase the risk of infection⁶. Inadequate knowledge, attitudes, and practices (KAPs) of HCAs can pose a serious threat in the prevention and precaution of COVID-19⁷.

Various guidelines for healthcare assistants and online refresher courses have been developed by WHO and

various governmental organizations to enhance the knowledge and prevention strategies in the fight against COVID -19⁸.

Thus, this study aimed to investigate KAP concerning the signs and symptoms, prevention and management of COVID-19 disease among HCAs. If HCAs' KAP regarding the virus and the factors that affect their attitudes and practices can be determined promptly in the early stages of the epidemic, then this information can inform relevant training and policies during the outbreak and guide HCAs in prioritising protection and avoiding occupational exposure.

Materials and Methods

The study is a questionnaire-based comparative cross-sectional survey which was conducted among the Nurses, attenders, asha workers and dental assistants in Dakshina Kannada district. A 31-item questionnaire was incorporated in this study to assess the knowledge, attitude and practices by the nurses, attenders, asha workers and dental assistants in Dakshina Kannada district. The questionnaire was prepared in language of English and kannada and it was open ended and was self-administered. This study was ethically approved by Ethical committee conducted in KVG dental college, kurunjibag Sullia, Dakshina Kannada. The questionnaire was circulated as google forms. A total of 187 responses were included in the study.

Results

The important data regarding the practice taken by the dental professionals and medical professionals is illustrated in the form a table.

Table 1: Demographic Details

Characteristics	Participants (%)
Sex	
Male	17.1
Female	82.9
Age	
< 30 yrs	25.7
30-60	70.1
>60 yrs	4.3
Occupation	
Nurses	19.8
ASHA workers	32.1
Attenders	25.1
Dental assistants	23.0
Work experience	
<5yrs	19.8
5-9 yrs	63.6
>9 yrs	16.6
Whether a front line	
Front line HCW's	53.5
Non – front line HCW's	46.5
Over worked status	
< 8hrs	50.3
>= 8 hrs	49.7
Educational attainment	
Below SSLC	9.1
SSLC	31.6
PUC	20.3
Graduate	39.0
Belongs to which category	
Medical	63.1
Dental	36.9

Table 2: Knowledge of health care workers regarding the novel corona virus spread, symptoms and outbreak.

Questions	Asha Workers	Nurses	Attenders	Dental Assistants	P-Value
Corona virus is a type of diseases which spread through?	33 21.9%	59 39.1%	23 15.2%	36 23.8%	<0.0001**
What is the transmission level of COVID -19	36 24.8%	59 40.7%	21 14.5%	29 20.0%	<0.0001**
What is the incubation period of COVID 19	36 21.4%	60 35.7%	32 19.0%	40 23.8%	<0.0001**
COVID 19 is transmitted through	33 22.3%	60 40.5%	19 12.8%	36 24.3%	<0.0001**
Hand sanitization, covering nose and mouth while coughing, avoiding sick contacts and social distancing can help in the prevention of COVID-19 transmission	36 20.0%	58 32.2%	46 25.6%	40 22.2%	0.631
What are the symptoms of COVID-19	35 20.0%	59 33.7%	41 23.4%	40 22.9%	0.139
COVID -19 first originated in which country	36 19.8%	60 33.0%	47 25.8%	39 21.4%	0.017*
Only Washing hands with soap and water can help in prevention of COVID-19 transmission	31 23.7%	56 42.7%	16 12.2%	28 21.4%	<0.0001**
Which drug is used as prophylaxis for COVID -19	34 19.7%	59 34.1%	40 23.1%	40 23.1%	0.082
Do reinfection can happen in COVID 19 patient	34 19.4%	58 33.1%	44 25.1%	39 22.3%	0.632
Which age group individuals are severely affected by COVID -19	37 20.8%	60 33.5%	47 24.9%	43 20.8%	0.055

Table 3: Attitude of the health care workers towards the prevention and management of novel corona outbreak

Questions		Nurses	ASHA Workers	Attenders	Dental assistants	P-Value
What is the level of your fear for COVID-19	mild	75.0%	2.8%	5.6%	16.7%	<0.0001**
	moderate	6.3%	40.6%	30.5%	22.7%	
	severe	8.7%	30.4%	26.1%	34.8%	
Are you feeling fatigue due to work after the outbreak of COVID -19	mild	17.6%	17.6%	11.8%	52.9%	0.018*
	moderate	18.9%	32.7%	28.3%	20.1%	
	severe	36.4%	45.5%	0.0%	18.2%	
Do you believe that government measures can successfully defeat COVID -19	Strongly believe	19.4%	35.8%	20.6%	24.2%	0.002**
	doubtful	21.1%	0.0%	63.2%	15.8%	
	Not possible	33.3%	33.3%	33.3%	0.0%	
According to you patients should disclose their exposure history	yes	19.7%	32.8%	25.1%	22.4%	0.221
	no	0.0%	0.0%	33.3%	66.7%	
	Hide few details	100.0%	0.0%	0.0%	0.0%	
Do you think COVID-19 is fatal	yes	22.2%	24.7%	28.5%	24.7%	<0.0001**
	no	3.8%	80.8%	0.0%	15.4%	
	I don't know	33.3%	0.0%	66.7%	0.0%	
As a health care worker how much you are at risk of getting affected by COVID -19	High risk	27.1%	33.3%	14.7%	24.8%	<0.0001**
	Moderate risk	0.0%	30.9%	49.1%	20.0%	
	Low risk	66.7%	0.0%	33.3%	0.0%	
Transmission of the disease among HCWs is associated with	correct	19.7%	34.1%	23.1%	23.1%	0.082
	incorrect	21.4%	7.1%	50.0%	21.4%	
Are you suffering from occupational stress	yes	28.4%	25.0%	12.5%	34.1%	<0.0001**
	sometimes	14.7%	29.3%	45.3%	10.7%	
	no	4.2%	66.7%	8.3%	20.8%	
What do you think during the outbreak, eating well-cooked and safely handled meat is safe	yes	21.7%	28.9%	25.3%	24.1%	0.095
	no	9.1%	63.6%	9.1%	18.2%	
	I don't know	0.0%	50.0%	40.0%	10.0%	

Table 4: practice of the methods of prevention and management of novel corona virus by the health care workers

Questions		Nurses	ASHA Workers	Attenders	Dental Assistants	P
Are you following the quarantine rule with your family	Yes	21.0%	33.5%	21.6%	23.9%	0.002**
	No	0.0%	0.0%	75.0%	25.0%	
	sometimes	0.0%	14.3%	85.7%	0.0%	
What is the frequency of your	incorrect	0.0%	14.3%	28.6%	57.1%	0.118

hand washing	correct	20.6%	32.8%	25.0%	21.7%	
Did you attend any training programmes for COVID -19 prevention and management	Yes	20.1%	33.5%	23.5%	22.9%	0.058
	no	12.5%	0.0%	62.5%	25.0%	
How is the availability of PPE kit	More than sufficient	20.0%	0.0%	0.0%	80.0%	0.002* *
	sufficient	17.9%	34.1%	27.2%	20.8%	
	Less than sufficient	55.6%	11.1%	0.0%	33.3%	
How is the availability of COVID -19 rapid test kits	More than sufficient	0.0%	0.0%	0.0%	100.0%	<0.00 01**
	sufficient	14.5%	37.1%	25.8%	22.6%	
	Less than sufficient	59.1%	4.5%	22.7%	13.6%	
	Not available	33.3%	0.0%	33.3%	33.3%	
What kind of means you are using for hand sanitization	only using soap	0.0%	0.0%	50.0%	50.0%	<0.00 01**
	only using alcohol - based sanitizer	2.9%	52.9%	41.2%	2.9%	
	using both soap and alcohol - based sanitizer	23.8%	27.8%	21.2%	27.2%	
Are you using the Personal protection equipment before coming in any kind of sick patients	all patients	44.6%	33.8%	4.6%	16.9%	<0.00 01**
	high risk category patients	6.0%	56.7%	29.9%	7.5%	
	COVID -19	7.3%	0.0%	43.6%	49.1%	

	positive tested patients					
Which type of mask you are using for the treatment of the sick patients	FFP3 or FFP2 mask	47.4%	5.3%	10.5%	36.8%	0.002* *
	N95 mask	16.0%	36.4%	26.5%	21.0%	
	surgical mask	66.7%	0.0%	0.0%	33.3%	
	cloth mask	0.0%	0.0%	66.7%	33.3%	
What is mass disinfection protocol you are following	fumigation	27.4%	16.4%	5.5%	50.7%	<0.00 01**
	chlorination	13.6%	47.7%	35.2%	3.4%	
	any of the above	33.3%	8.3%	41.7%	16.7%	
	both of the above	7.1%	35.7%	50.0%	7.1%	
Are you following proper sterilization of the work area	yes	21.8%	34.7%	20.0%	23.5%	<0.00 01**
	sometimes	19.8%	32.1%	25.1%	23.0%	
What are the clinical measures you are going to take after re-joining	Incorrect	20.0%	10.0%	50.0%	20.0%	<0.23 6
	correct	19.8%	33.3%	23.7%	23.2%	

Out of 215 participants, a total of 187 HCAs completed the survey (response rate: 86.5%); 17.1% were males and 82.9% were females. Most of the HCAs were between the age group 30-60 years (70.1 %), and most were asha workers (32.1%) and attenders (25.1%). A significant proportion of HCAs had satisfactory knowledge of its transmission (77.5%), sign and symptoms (93.5%) and precautions (70%). A significant proportion of HCAs showed positive perceptions of COVID-19 prevention and control (88.7%). A significant proportion of HCAs have shown good practice of methods of prevention and management of novel corona virus (90.1%).

Discussion

The currently emerging COVID-19 transmission has raised tensions for everyone, including health officials and health systems, an important question arises regarding

how we manage information to help frontline HCAs in times of public health crisis. This study was conducted in the early stages of the COVID-19 outbreak in critically affected area Dakshina Kannada district. The analysis of HCAs' knowledge and the factors affecting their attitudes and practices could provide a reference for preventing further spread of the epidemic among HCAs.

Knowledge attitude and practices of COVID-19 pandemic varied across different categories of HCAs. The present study revealed that HCAs have satisfactory knowledge about COVID-19 and showed positive attitude and good practices for the prevention and management of COVID-19 transmission.

The highest number of the study respondents were asha workers (32.1%), and attenders (25.1%). About (63.6%) respondents had over 9 years of work experience.

Frontline HCAs accounted for 53.5% of the respondents, approximately half of the respondents worked less than 8 hours per day, and most of the respondents had a college degree (39.0%), as shown in Table I. Table II, III and IV presents the results for knowledge attitudes and practices related to the COVID-19 pandemic in HCAs.

Of all the HCAs surveyed in this study, 80.3% demonstrated sufficient knowledge of COVID-19. A significant proportion of HCAs had satisfactory knowledge of its transmission (77.5%), sign and symptoms (93.5%) and precautions (70%). Nurses showed higher knowledge scores (36.2%) than dental assistants (22.3%), asha workers (21.2%) and attenders (20.1). Knowledge is a prerequisite for establishing prevention beliefs, forming positive attitudes, and promoting positive behaviours, practices and individuals cognition and attitudes towards disease affect the effectiveness of their coping strategies and behaviours to a certain extent ⁶.

The present article found that knowledge directly affected attitudes. The greater the HCAs' knowledge, the more confident they were in defeating the virus. Nurses having better knowledge than other HCAs' showed mild degree of fear (75%) whereas dental assistants, asha workers and attenders showed moderate degree of fear. This was in accordance with the study done by Minghe Zhou et al who related the knowledge to the degree of fear and concluded that knowledge affects the attitude positively⁹. Most of the HCAs' showed positive attitude towards the government measures for the management of the diseases and have positive believe that government will overcome this pandemic successfully. The motivation and optimism demonstrated by the HCAs is mostly due to the materials and policies provided by the government regarding the management of COVID-19 outbreak thus making them more confident in their ability to defeat the virus.

Around 69% of the surveyed HCAs were afraid of becoming infected at work. Most of the nurses worked more than 8 hours and they were more prone for fatigue (91%) working in the isolation ward and ICU, where patients are seriously ill and have difficulty in breathing. Nurses and attenders assist patients in their daily tasks such as patient consultation, infusion, dressing changes, and surgery. They must also handle various emergency situations, and they may become infected with the virus if they are not careful. The current study found that 67.5% of nurses and 69.5% of dental assistants are suffering from occupational stress. This may explain why nurses and dental assistants felt more tired than other allied health workers during the outbreak¹⁰.

In the current study most of the participants reported good adherence to safety practices (90.1%). 90.0% of HCAs followed proper sterilization of the work area which included proper hand washing and use of sanitisers and proper donning procedures of the used PPEs. 92.5% of the HCAs got sufficient number of PPEs from the hospitals and around 85% of HCAs got sufficient amount of rapid test kit this is due to the efforts of the Ministry of Health in providing the sufficient amount of equipment's for the safety practices and they deserve commendation at this juncture ¹¹.

In the current study 96.2% of HCAs showed correct hand hygiene practices and 86.6% of HCAs revealed using N95 mask during practice. A related study among doctors in India revealed that 94% used face masks appropriately and 95% regularly resorted to hand hygiene¹². Interestingly, we observed that good practices were uniformly followed by the entire spectrum of HCWs and HCAs population with incognizant differences between the professional and non-professional groups. This was in contradiction to the results observed in Pakistan where pharmacists adhered to infection control practices more than other HCWs And

HCA¹³. In the present study HCAs practices were found to be satisfactory and the practice significantly correlated with their knowledge and attitude. A significant proportion of HCAs showed good knowledge and positive perceptions of COVID-19 prevention and control (88.7%) and thus demonstrated the good practice of methods of prevention and management of novel corona virus (90.1%). Most of the HCAs (95.7%) attended training programmes for COVID -19 prevention and management. This could be one of the reasons for good practice measures by the HCAs. This finding is comparable to a similar cross-sectional study done in India on health care workers 93% practiced safety precautions correctly most of the times. Similarly, positive correlation was recognized between adequate knowledge and positive attitude¹¹.

Conclusion

This study found out that there is a positive correlation between knowledge regarding COVID-19 among healthcare assistants, positive attitude and appropriate clinical practices. Education and training on protection and protective measures are required to improve positive attitude and better practices at work during the COVID-19 pandemic response.

References

1. Yin Y, Wunderink RG. MERS, SARS and other coronaviruses as causes of pneumonia. *Respirology* 2018;23(2):130-137.
2. Eurosurveillance Editorial Team. Note from the editors: World Health Organization declares novel coronavirus (2019-nCoV) sixth public health emergency of international concern. *Eurosurveillance*. 2020 Feb 6;25(5):200131e
3. Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta Bio Medica: Atenei Parmensis*. 2020;91(1):157.
4. Wang D, Hu B, Hu C, Zhu F, Liu X, Zhang J, Wang B, Xiang H, Cheng Z, Xiong Y, Zhao Y. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus–infected pneumonia in Wuhan, China. *Jama*. 2020 Mar 17;323(11):1061-9.
5. Erfani A, Shahriarirad R, Ranjbar K, Mirahmadizadeh A, Moghadami M. Knowledge, attitude and practice toward the novel coronavirus (COVID-19) outbreak: a population-based survey in Iran. *Bull World Health Organ*. 2020 Mar 30;30(10.2471).
6. McEachan R, Taylor N, Harrison R, Lawton R, Gardner P, Conner M. Meta-analysis of the reasoned action approach (RAA) to understanding health behaviors. *Annals of Behavioral Medicine*. 2016 Aug 1;50(4):592-612.
7. Olum R, Chekwech G, Wekha G, Nassozi DR, Bongomin F. Coronavirus disease-2019: knowledge, attitude, and practices of health care workers at Makerere University Teaching Hospitals, Uganda. *Frontiers in public health*. 2020 Apr 30;8:181.
8. World Health Organization. Emerging respiratory viruses, including COVID-19: methods for detection, prevention, response and control. Available from: <https://openwho.org/courses/introductionto-ncov>. 2020.
9. Zhang M, Zhou M, Tang F, Wang Y, Nie H, Zhang L, You G. Knowledge, attitude, and practice regarding COVID-19 among healthcare workers in Henan, China. *Journal of Hospital Infection*. 2020 Jun 1;105(2):183-7.
10. Chen Q, Liang M, Li Y, Guo J, Fei D, Wang L, He L, Sheng C, Cai Y, Li X, Wang J. Mental health care for medical staff in China during the COVID-19 outbreak. *The Lancet Psychiatry*. 2020 Apr 1;7(4):e15-6.

11. Gopalakrishnan S, Kandasamy S, Almohammed OA, Abraham B, Senthilkumar M. Knowledge, attitude and practices associated with COVID-19 among health care workers: A cross-sectional study in India.
12. Chatterjee SS, Bhattacharyya R, Bhattacharyya S, Gupta S, Das S, Banerjee BB. Attitude, practice, behavior, and mental health impact of COVID-19 on doctors. *Indian Journal of Psychiatry*. 2020 May;62(3):257.
13. Saqlain M, Munir MM, Rehman SU, Gulzar A, Naz S, Ahmed Z, Tahir AH, Mashhood M. Knowledge, attitude, practice and perceived barriers among healthcare workers regarding COVID-19: a cross-sectional survey from Pakistan. *Journal of Hospital Infection*. 2020 Jul 1;105(3):419-23.