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RESEARCH ARTICLE

COVID-19 AND ATTITUDES OF GROUND-LEVEL PUBLIC HEALTH STAFF IN SRI LANKA

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Abstract

Introduction: Health care workers (HCW) face considerable mental and physical stress caring for patients with Covid-19. Their attitudes towards COVID-19 are important both in the prevention as well treatment of the disease.

Aims: To assess the attitudes toward coronavirus disease-2019 (COVID-19) among community healthcare workers at Regional Director of Health Services area Galle district, Sri Lanka.

Settings and Design: A cross-sectional study was carried out between August 2020 and January 2021 at the Regional Director of Health Services area Galle district, Sri Lanka.

Methods and Material: All community healthcare workers who were directly involved in COVID-19 in Galle district, Sri Lanka were recruited for the study, and the data was collected through a self-administered questionnaire. Descriptive analysis was done to describe the demographic factors and attitudes Chi-square test was used to assess the relationship between the level of attitude and demographic factors.

Statistical analysis used: Chi-square test.

Results: Of the community health workers 71%(n=84) had a positive attitude indicating a good attitude regarding the COVID-19 prevention strategies. Nearly 91%(n=107) of the population agreed to vaccination against COVID-19. There was no statistically significant association between attitude on COVID-19 with sex, age, marital status, educational level, service period, and category of occupation.

Conclusions: A majority of healthcare workers had positive attitudes toward COVID-19. Additional awareness and continuous knowledge updates are required for healthcare workers to sustain positive attitudes during the pandemic.

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Introduction

On 31st December 2019, the WHO Country Office for China was informed about cases of pneumonia of unknown cause in Wuhan, China. Authorities identified a new type of coronavirus, subsequently named COVID-19 (WHO, 2020 media briefing). On 30th January 2020, WHO Director-General declared the outbreak of COVID-19 a Public

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Health Emergency of International Concern (PHEIC), and on 11 March 2020, COVID-19 was declared as a pandemic (WHO, 2020 media briefing).

According to the WHO, the outbreak of coronavirus disease in 2019 (COVID-19) has been a pandemic that infected more than 3 million people at present and caused more than 200,000 deaths worldwide (WHO- COVID-19 Pandemic). This virus has low pathogenicity and high transmissibility capability (Tian. X et al 2020). Prevalence of MERS-CoV among Healthcare workers (HCW) who has had contact with Middle East Respiratory Syndrome patients ranged from 0.3% to 20.9% (Wu Y et.al, 2020). Therefore, the use of personal protective equipment is crucial to reducing transmission in COVID -19 which has a similar mechanism of transmission. Gowns and gloves are recommended as a contact precaution, and surgical masks are recommended for droplet prevention. However, these effective infection prevention and control practices depend on awareness and compliance, and attitude among healthcare workers at all levels (Assiri, A et al 2013), (Kim CJ et al, 2016).

Health care workers (HCW) face considerable mental and physical stress caring for patients with Covid-19. Several reports around the world suggested that this stress has led some physicians to take their own life <https://www.nst.com.my/world/world/2020/04/581620/french-doctor-commits-suicide-after-covid-19-diagnosis>, <https://www.nbcnewyork.com/news/coronavirus/nyc-emergency-room-doctor-dies-from-suicide-aftertreating-covid-19-patients/2391978/>.

Along this line, several studies have investigated the self-satisfaction of HCW and their personal feelings across several important domains (WHO MERS-CoV Research Group, 2013). These domains cover concerns around risks posed to family members, perception of risk at the workplace, and perception of the response of the government to the epidemic management (Abolfotouh M.et al,2020). Therefore, understanding the concern level across these different domains can be of importance to targeted mitigation strategies.

This study was carried out to assess the attitude toward coronavirus disease-2019 (COVID-19) among community healthcare workers at Regional Director of Health Services area Galle, of Sri Lanka. The findings will be useful in making recommendations for identified gaps and carry out additional interventions to improve the attitude among healthcare workers.

Subjects and Methods

A cross-sectional study was conducted from August 2020 to January 2021 in the Regional Director of Health Services area Galle, Sri Lanka. All Community healthcare workers who are directly involved in COVID-19 management, n=153: including 20 –Medical Officers of Health (MOH) 18- Additional Medical Officers of Health (AMOH), 14- Senior Public Health Inspectors (SPHI), and 101-Public Health Inspector (PHI) were recruited for this study. Of them, 118 HCWs consented to participate in the study and the principal investigator attended the MOH conference which was held on in each MOH office, and briefed the MOH's and PHIs on the aim of the study. Informed written consent was obtained and a questionnaire was distributed.

A self-administered questionnaire was used as the study instrument. An extensive literature search was done and experts in the subject area were consulted during the preparation of the questionnaire. The questionnaire was sent to three infectious disease specialists to give their opinions regarding its content. This was followed by a pilot study, which was carried out among 10 HCWs in an adjacent district. Based on the pilot study, some modifications were made to the questionnaire. The data of the pilot analysis was not used for the final sample of the study. The draft questionnaire was re-circulated among the panel of experts and necessary modification was made to incorporate suggestions of the experts. This ensured the face and content validity of the study instrument.

A structured questionnaire included two parts. The first section comprised demographic characteristics of the participants such as age, gender, marital status, occupation educational level, years of experience, and the second part was on attitude on COVID-19. The questionnaire was a 5-point Likert scale type. Participants were assured that the information collected would remain anonymous.

Data analysis

The attitude was based on 5 points Likert scale, in which the score of 1 to 5 was given from strongly agree to strongly disagree for questions number 1,2,4, and 5. Vice versa was given to question number 3. Bloom's cut-off-off, 60% was used to determine the calculation of the total mark out of 25 (Kaliyaperumal K.et al,2004). A score of >80% of the

mark (>20 scores) was considered a good attitude and 60% to 80% (20 to 15 scores) was considered as sufficient attitude and a score lower than 60% (<15 scores) was considered as negative attitude toward COVID-19 infection prevention strategies (Huynh G,2020).The higher the attitude scores were, the higher the probability of positive attitudes and the reverse applied for a low score. Data were analyzed using SPSS version 21 software. Descriptive analysis was reported as frequency, percentage, and mean scores.

The attitude was the dependent variable and demographic characteristics of the participants were independent variables. A Chi-square test was used to assess the relationship between the level of attitude and demographic relationships. All the differences of estimated variables were considered statistically significant if $P < 0.05$.

Ethical approval

Ethical clearance was obtained from the Ethical Review Committee of the Post Graduate Institute of Medicine, University of Colombo, Sri Lanka. Permission for data collection was obtained from the Regional Director of Health Services, in the Gall district. The research did not have any conflict of interest financially, commercially, logically, or in any other aspect as this research was self-funded. There was no economic concern about the outcome of the research to the investigator.

Results

The statement “COVID 19 will be transmitted to a healthcare worker if they handle a patient with the disease irrespective of whether they wear protective equipment or not” was disagreed with by 56.8% (n=67). The statement “The only hope to cure COVID 19 lies with herbal medicine” was disagreed by 47.5%(n=56) of the population. The statement “I will take COVID-19 vaccine when it is made available as it is the only way to protect myself against this deadly disease”, was agreed by nearly 90.7%(n=107). The statement “Evan if I wear PPE while working in the field there is a definite risk of my family get the disease through me” was disagreed by 62.7%(n=74) and 36%(n=43) did not respond to the statement. The statement “COVID-19 infection will never resolve in our lifetime” was disagreed with by 60%(n=71).

Table 1: Attitude score of the participant regarding COVID-19 (n=118)

	Attitude questions	Frequency(percentage)					
		Strongly agree	Agree	Neither agree/ disagree	Disagree	Strongly disagree	No response
1.	COVID-19 will be transmitted to a healthcare worker if they handle a patient with the disease irrespective of whether they wear protective equipment or not	00 (0.0)	00 (0.0)	37 (31.4)	67 (56.8)	00 (0.0)	14 (11.8)
2.	The only hope to cure COVID 19 lies with herbal medicine	00 (0.0)	00 (0.0)	42 (35.6)	56 (47.5)	00 (0.0)	20 (16.9)
3.	I will take the COVID vaccine when it is made available as it is the only way to protect myself against these deadly diseases.	01 (0.8)	107 (90.7)	10 (8.5)	00 (0.0)	00 (0.0)	00 (0.0)
4.	Even if I wear PPE while working in the field, there is a definite risk of my family get the disease through me.	00 (0.0)	00 (0.0)	00 (0.0)	74 (62.7)	01 (0.8)	43 (36.4)
5.	COVID-19 infection will never resolve in our lifetime.	00 (0.0)	01 (0.8)	42 (35.6)	71 (60.2)	00 (0.0)	04 (3.4)

According to table 2, there was 71% of the population had a good and moderate level of attitude.

Table 2: Attitude towards COVID-19 prevention strategies of the participant regarding COVID-19 (n=118)

Attitudinal towards COVID-19prevention strategies	Frequency	Percentage
Good attitude towards COVID-19	26	22
Moderate attitude	58	49
Negative attitude	34	29
Total	118	100

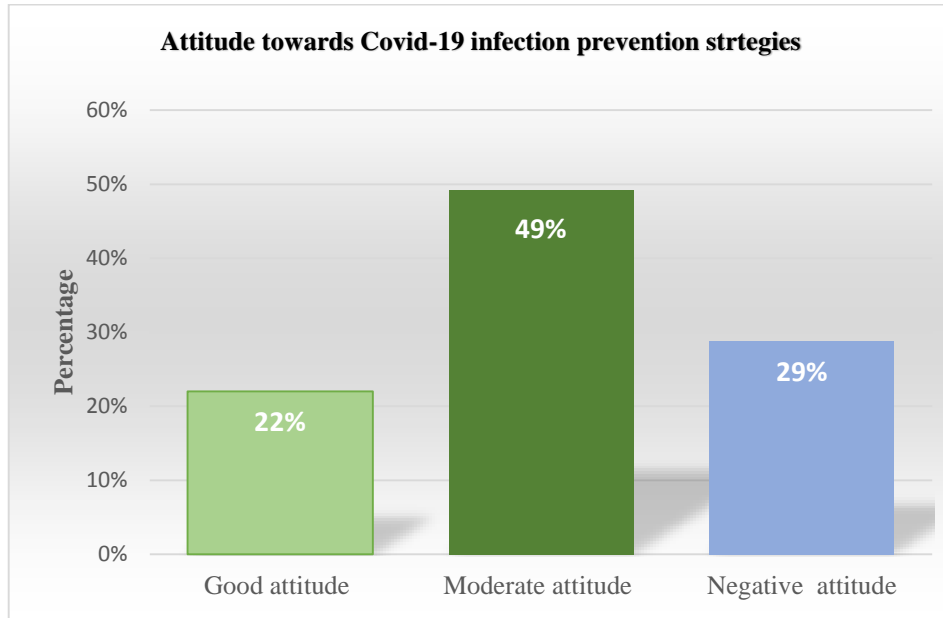


Figure 1: Attitude towards COVID-19infection prevention strategies (percentage)

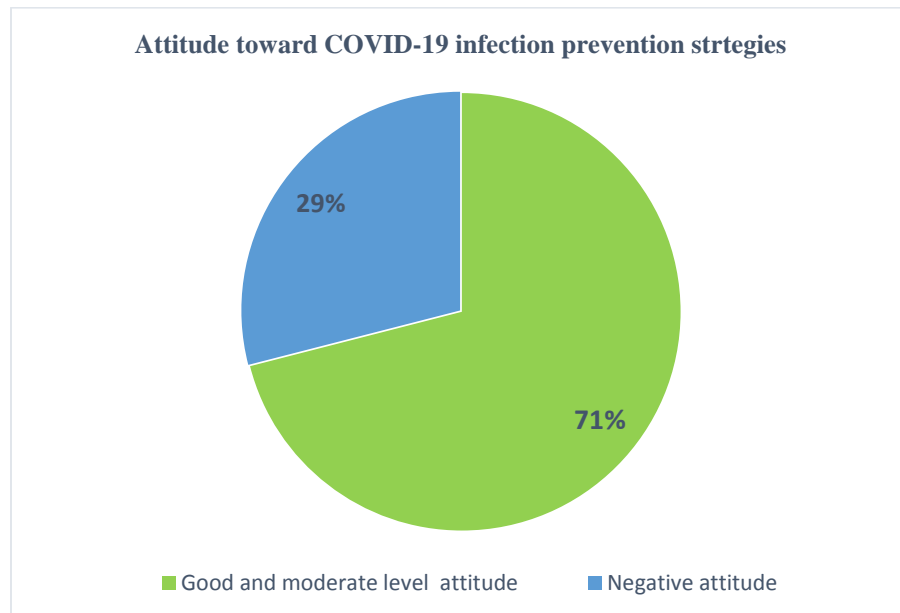


Figure 2: Attitude towards COVID-19 infection prevention strategies (Percentage)

There is no statistically significant association between attitude towards COVID-19 and sex, age, marital status, educational level, service period, and category of the occupation of the healthcare workers.

Table 3: Association of attitudes with selected sociodemographic factors (n=118)

Variable	Good attitude	Poor attitude	Total	chi-square, df, p-value, OR (95%CI)
Sex				1.15
Male	67(73.6)	24(26.4)	91	1
Female	17(63.0)	10(37.0)	27	0.28
				1.64(0.66-4.07)
Age				0.05
Less than 45 years	55(70.5)	23(29.5)	78	1
More than 45 years	29(72.5)	11(27.5)	40	0.82
				0.91(0.39-2.12)
Marital status				1.05
Single	24(64.9)	13(35.1)	37	1
married	60(74.1)	21(61.8)	81	0.305
				1.55(0.67-3.59)
Educational level				0.31
Advanced level	16(76.2)	05(23.8)	21	1
Diploma and higher	68(70.1)	29(29.9)	97	0.57
				1.36(0.45-4.07)
Service period in RDHS Galle				0
Less than 6 years	47(71.2)	19(28.8)	66	1
More than 6 years	37(71.2)	15(28.8)	52	0.994
				0.99(0.47-2.22)
Category				1.23
MOH	15(17.9)	13(46.4)	28	1
PHI	69(76.7)	21(23.3)	90	0.58
				1.53(0.76-4.78)

The study revealed that 71%(n=84) of the community health care workers have a positive attitude towards prevention strategies of this COVID-19, management protocol. This may be due to the government and media of Sri Lanka had good mass media coverage of this highly contagious virus in each news line and educational webinars. The health ministry of the country provided awareness and updates of the disease repeatedly to the government health care workers. These strict preventive practices could be primarily attributed to strict prevention and control measures implemented by local governments such as banning public gatherings. Further, there can be an influence on the worker's good knowledge regarding the high infectivity of the COVID-19 virus. A similar result was found in a study by Huynh, et al, 2020 In another similar study done by Asaad et al, also showed that the healthcare workers had a positive attitude towards the COVID-19 infection prevention guidelines (Asaad, A et.,2020).

The statement "COVID 19 will be transmitted to a healthcare worker if they handle a patient with the disease irrespective of whether they wear protective equipment or not" was disagreed with by 56.8% (n=67). 31.4%(n=37) had no idea about this and 11% (n=14) did not respond. This may be due to, the disease being a new disease and the way of transmission may have not been fully understood by the healthcare workers. Total dependency for cure on herbal medicine was disagreed by 47.5%(n=56) and 35.6% (n=42) neither agreed nor disagree with that idea. Since data collection was done in December 2020 and there was no vaccine available may have contributed to the responses. However, A majority of healthcare workers 90.7%(n=107) believed that if the vaccine is available, it is the best method of protection from the disease.

There was a good positive response to the statement "Evan if I wear PPE while working in the field there is a definite risk of my family contracting the disease through me" which was 62.7%(n=74) disagreeing. However, 36%(n=43) did not respond to the statement. This may be due to certain healthcare workers having thought of transmission of disease while handling such patients in the field. The statement "COVID-19 infection will never resolve in our lifetime" was disagreed by 60%(n=71) and 36%(n=42) did not respond. This shows the majority had hope of ending the pandemic soon. A study by Zhong et al, 2020 showed that nearly all respondents (97.1%) had confidence that China can win the battle against COVID-19.

There is no association between attitude towards COVID-19 with sex, age, marital status, educational level, service period, and category of the occupation of the healthcare workers. This is a good sign where any intervention to improve attitudes could be done uniformly without having effects of sociodemographic factors.

Limitations

This study had some limitations in interpreting the results because COVID-19 is a novel coronavirus and no research has been done in the Sri Lankan setting to compare. Further, the study was limited to one district and cannot be generalized to the entire country.

Conclusions and Recommendations

More than two-thirds of community healthcare workers in the Regional Director of Health Services area Galle district had good attitudes related to COVID-19. In a global pandemic situation of a novel disease like Covid-19 where new evidence is emerging continuously, regular education and update of new knowledge must be imparted to the healthcare workers.

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