

Original Research Article

Awareness and attitude of domestic workers toward COVID-19 and vaccination: a cross-sectional study

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Received: 28 October 2022

Revised: 08 December 2022

Accepted: 13 December 2022

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ABSTRACT

Background: The coronavirus disease (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has affected millions of the people all over the world as it was declared as a global pandemic by World Health Organization. The present investigation was conducted in Gejha village of Gautam Buddha Nagar to study the awareness and knowledge level of the domestic workers about COVID-19 and its prevention through vaccination.

Methods: Total three hundred participants both male and female were selected for the study. A brief interview and group discussion were conducted with domestic workers and questionnaire was used during the study for analysis of their knowledge about COVID-19.

Results: The present study revealed that approximately 98% respondents were aware about the clinical symptoms of COVID-19 and 94% respondents accepted that washing hands, wearing face mask and social distancing are essential to protect against COVID-19. Approximately 98% domestic workers showed their hesitancy for vaccination. They have raised doubts on the efficacy of vaccines and its side effects on health.

Conclusions: To fight against pandemic, there is an urgent need of multidimensional approaches and coordinated efforts to address the misconceptions related with the safety and effectiveness of vaccines among the domestic workers.

Keywords: Attitude, Awareness, Domestic worker, Vaccination

INTRODUCTION

The incidence of emerging infectious diseases in human-beings has increased in the recent past and may continue in the near future. Several factors are responsible for the emergence of such diseases such as increasing population, pollution, malnutrition, social practices, prevalence of immunosuppressive diseases and change in the climate conditions. Public health related crises cause adverse impacts on health, economy and national security of the nation. India has witnessed several outbreaks such as H₁N₁, H₅N₁, avian influenza, Ebola, SARS, Zika and Nipah in the last decade which were successfully tackled with research and control measures.¹ The repeated emergence, global scale of transmission, infection and

higher risk of death in susceptible groups have been the major causes of concern. The emergence of novel coronavirus (CoV) [severe acute respiratory syndrome-CoV-2 (SARS-CoV-2)] causes COVID-19 which was first identified in Wuhan, China in December 2019.² Later, this disease was recognized as a public health emergency of international concern by World Health Organization (WHO) and they declared COVID-19 a global pandemic.^{3,4} COVID-19 is not just a medical pandemic but also disrupting the social order being a social event.⁵ COVID-19 is caused by a single-stranded RNA virus belonging to the *Coronaviridae* family and it has shown unprecedented morbidity and mortality in human-beings.⁶ The coronavirus disease has affected almost 221 countries till now. The coronavirus infection

in humans occurs mainly through air droplets, close contact with infected persons, either asymptomatic or influenza like symptoms such as runny nose, sore throat, cough, fatigue, shortness of breath and fever.^{7,8} The incubation period of COVID-19 ranges from 2-14 days and asymptomatic infected persons can transmit the virus during this period. The COVID-19 pandemic is unprecedented and scientists from all over the world are collaborating to understand the exact behaviour of the coronavirus, transmission dynamics of the disease, diagnostics and innovative technologies to tackle the fight against the COVID-19. Dr. Tedros Adhanom Ghebreyesus, Director General, WHO said “We are not just fighting an epidemic, we are fighting an infodemic.” Hence, there is a challenge to identify reliable information while filtering out misinformation. India with its 1.36 billion population residing in densely populated areas in resource-constrained environment is at constant risk for any emerging outbreaks that can cause rapid spread of infection. COVID-19 is an infectious disease that poses a significant threat to public health. The preventive measures play an essential role in reducing infection and controlling the spread of the disease. There is an urgent need to make common people aware of this pandemic and also be conscious about the challenges brought by it. Ssebuufu reported awareness, attitude, and practice towards measures for prevention of the spread of COVID-19 in Uganda.⁹ Azlan discussed knowledge, attitude and practices towards COVID-19 in Malaysia.¹⁰ Varshney studied psychological impact of COVID-19 in Indian Community.¹¹

Multiple vaccines have been developed by Oxford-AstraZeneca (Covishield/Vaxzevria), Pfizer-BioNTech (Comirnaty), Moderna, Johnson and Johnson (Janssen), Bharat Biotech (Covaxin), Gamaleya Research Institute of Epidemiology and Microbiology (Sputnik V), which have been approved in different countries and are given on priority basis to susceptible population and persons with co-morbidities.¹² However, less knowledge and fear have been reported in people about the vaccines specifically in weaker section of the society. Media and communication channels are key influencers of people's decision and help to shape their understanding on health risk and treatment. Effective health communication is a key factor in fighting against COVID-19 pandemic. Media can exert a strong influence over human behaviour and public policy.¹³ A cross-sectional study was conducted in Gejha village of Gautam Buddha Nagar district to assess awareness level of domestic workers on COVID-19. The domestic workers are the part of unorganized workforce of India. This workforce in India come from weaker and vulnerable section of the society, mostly from poor economic background with low educational status. Domestic workers were involved in cooking, washing of utensils and clothes, sweeping and mopping related work. During COVID-19 outbreak, many rumours, misinformation and myths about the efficacy and safety of vaccines were disseminated in society through social media. Unfortunately, no efforts

have been made till date to study the awareness and knowledge level of the domestic workers of Gejha village. Thus, this study was undertaken to analyse the opinion of the domestic workers about COVID-19 during the pandemic. As assessment of public knowledge is important in identifying gaps and strengthening of the ongoing prevention efforts.

Aims and objectives

The major objective of the present investigation was to understand the awareness of the domestic workers about the COVID-19. To assess the knowledge level of domestic workers about the prevention of COVID-19 through vaccination.

METHODS

Study site

The present study was conducted in Gejha village of Gautam Buddha Nagar district, Uttar Pradesh, India during February-April, 2022 to assess the awareness and knowledge level of the domestic workers about COVID-19 and vaccination.

Selection criteria of the respondents

Due to large number of domestic workers in the Gejha village, it was selected as a suitable area for the awareness related study. The systematic survey was conducted in the Gejha village before selection of domestic workers for present study. Three hundred domestic workers were selected by systematic random sampling technique for the study in which 235 and 65 were female and male respondents respectively. Respondents were in between the age-group of 20-50 years. The entire study was based on the interview and group discussion with the domestic workers to assess their awareness and knowledge about COVID-19 and its prevention by vaccination. During the study, respondents were identified mainly on the basis of the following criteria: (a) a person who was resident of Gejha village and working as domestic help in residential societies of Gautam Buddha Nagar (b) willingness of the respondents for participation in the study.

Interview and group discussion with the respondents

A brief interview and group discussion was made with the domestic workers of Gejha village for documentation of their knowledge about COVID-19 and vaccination. The self-made validated questionnaire was used during the study for collection of the opinion of workers. To measure the level of awareness and knowledge of the domestic workers residing in Gejha village a knowledge index was prepared by considering various parameters.¹⁴ Finally, the questionnaires were collected and responses of the domestic workers were summarized as given in the Tables 1 to 3.

Statistical analysis

All the results of quantitative variables were reported by mean and figures in parentheses indicate percentage of the respondents.

RESULTS

The present study was conducted in the Gejha village of Gautam Buddha Nagar district in which three hundred domestic workers were selected for the study and they were in between the age group of 20-50 years. Interview and group discussion were conducted to assess the awareness and knowledge level of the respondents about the COVID-19. The self-validated questionnaire was developed as per the guidelines and questionnaire was initially drafted in English and later translated from English to Hindi. The respondents were clearly informed about the background and objectives of the study. Respondents were informed that they are free to withdraw any time, without giving a reason and all the information and opinions provided by them would be kept as anonymous and confidential. The informed consent was obtained before proceeding with the questionnaire. There were three sections in questionnaire. The first section was related with the socio-economic background of the respondents. The second section assessed participants' knowledge of COVID-19 such as its mode of

transmission, clinical symptoms and treatment. The third section was related with the type of media resources by which they could get the details of COVID-19 and participants' attitude towards vaccination. Respondents were asked to state their level of agreement as agree or disagree.

Table 1: Socio-economic status of the respondents of Gejha village.

Variables	Number of respondents
Gender	
Male	65 (21.67)
Female	235 (78.33)
Age (years)	
20-30	61 (20.33)
30-40	156 (52)
40-50	83 (27.67)
Education	
Illiterate	143 (47.67)
Primary level	132 (44)
Secondary level	21 (7)
Graduation	4 (1.33)
Monthly income (Rupees)	
Rs. 10,000-20,000/-	266 (88.67)
Rs. 20,000-30,000/-	34 (11.33)

Figures in parentheses indicate percentage of the respondents.

Table 2: Responses of participants during interview and group discussion.

Questions raised during interview and group discussion	Responses of the participants (%)	
	Strongly agree	Disagree
Coronavirus spreads from person to person through respiratory droplets when infected person cough and sneeze	232 (77.33)	68 (22.67)
The main clinical symptoms of COVID-19 are fever, fatigue, cough, myalgia and shortness of breath	294 (98)	6 (2)
Washing hands, face mask and social distancing are essential to protect against COVID-19	282 (94)	18 (6)
In a public place after nose-blowing, coughing or sneezing, people must wash their hands with soap and water or use hand sanitizer	286 (95.33)	14 (4.67)
Old persons with chronic diseases such as heart or lung diseases and diabetes are at higher risk of developing serious complications from COVID-19	293 (97.67)	7 (2.33)
Healthy food and drinking water can enhance body immunity and resistance to combat COVID-19	288 (96)	12 (4)
Use of medicinal plants and ayurvedic formulations such as kadha, giloy, tulsi, turmeric can boost immunity against COVID-19	285 (95)	15 (5)
Isolation and treatment of the people infected with SARS-CoV-2, are effective ways to reduce the spread of virus	252 (84)	48 (16)
To prevent transmission of COVID-19, people must avoid going to crowded places	262 (87.33)	38 (12.67)
COVID-19 will be successfully controlled by following government guidelines and vaccination	175 (58.33)	125 (41.67)

Table 3: Use of information resources for awareness generation and opinion of respondents about vaccine.

Information resources	Number of respondents (%)	
	Strongly agree	Disagree
Radio	241 (80.33)	59 (19.67)
Television	293 (97.67)	7 (2.33)
Mobile	64 (21.33)	236 (78.6)
Fellow workers	93 (31)	207 (69)
Opinion about vaccination		
Vaccines are safe and can prevent the spread of COVID-19	14 (4.67)	286 (95.33)
Willingness for vaccination	5 (1.66)	295 (98.33)
Go for vaccination, if it is safe and effective and asked by the employer that it is mandatory	295 (98.33)	5 (1.66)
During the pandemic they have experienced depression, anxiety, food and job insecurity	300 (98.33)	0 (1.66)

During the present investigation, maximum 78% respondents were female engaged in domestic work, rest 22% were male. Approximately 15% respondents had their own house but 85% participants were staying in rented house. It was observed that 48% of domestic workers had no formal education and they were uneducated, 44 and 7% had primary and secondary level school education and only 1% participants did their graduation. In terms of nature of work, respondents were involved in the washing of utensils and clothes, cooking, sweeping and mopping related work. The monthly income of 89% respondents was in between ten to twenty thousand rupees per month whereas 11% respondents had monthly income in between twenty to thirty thousand rupees per month (Table 1).

During the interview, respondents (98%) were aware about the clinical symptoms of COVID-19 such as fever, fatigue, cough, myalgia and shortness of breath and coronavirus can transmit from one person to another through respiratory droplets when infected person cough and sneeze. Domestic workers (94%) accepted that washing hands, wearing mask and social distancing are essential to protect against COVID-19. Respondents (95%) revealed that they are using medicinal plants and ayurvedic formulations such as kadha, giloy, tulsi and turmeric to boost their immunity against COVID-19. But 42% respondents were not agreeing that COVID-19 will be successfully controlled by following government guidelines and vaccination (Table 2).

Maximum respondents 98 and 80% said they got information about COVID-19 and its preventive measures through television and radio, however 31% respondents revealed that they were informed about the disease by fellow workers. Most of the participants 98% said that they would take a vaccine if it is safe and effective and asked by the employer that it is mandatory (Table 3). Respondents revealed that they have experienced depression, anxiety, food and job insecurity during the pandemic which can lead to some adverse mental health outcomes.¹⁵ Results suggest that more emphasis should be focus to target less educated poor section of society to

improve their knowledge about vaccines against COVID-19 through awareness raising interventions. The clear communication by the government officials is crucial to build public confidence in vaccine programmes.

DISCUSSION

The urban population specially the domestic workers are under the increased risk of COVID-19 outbreak as they reside within denser population which possess a challenge to maintain social distancing and hygiene. The disparities in healthcare services have negative consequences on the well-being of those living mainly in villages or slum areas with poor hygiene practices and lower literacy. The community participation is essential for collective and socially acceptable response against COVID-19. The hand hygiene, face masks and social distancing can potentially minimize the infection rate and mortality in the community. The public adherence to preventive measures established by the government is of prime importance to prevent the spread of disease. Evidence shows that public knowledge is important in tackling pandemics.¹⁶ The findings of the present paper revealed that most of the domestic workers had knowledge about COVID-19 and its prevention strategies. They have gained information about the COVID-19 disease and its transmission by different media platforms such as television, radio, mobile etc. Mass media resources such as radio, television and mobile are important tools in creating awareness among large masses. In the present study, positive association was observed between knowledge, educational background and age of the respondents. During pandemic both central and state government have communicated awareness on coronavirus and its control measures in different languages for masses through their website, television and other social media platforms.

Approximately 98% domestic workers showed their hesitancy for vaccination as they were not sure about the safety of vaccines. World Health Organization (WHO) strategic advisory group of expert members defined vaccine hesitancy as a 'delay in acceptance or refusal of

vaccination despite availability of vaccination services.¹⁷ Misinformation about vaccines safety show barriers in achieving community immunity.¹⁸ The anti-vaccination activists are campaigning in different countries against the need for a vaccine and some are denying the existence of COVID-19.¹⁹ The monitoring of social media platforms is needed to confirm and improve the quality of information delivered to the masses.²⁰ There is an urgent need that government, public health officials and advocacy groups should develop vaccine literacy among the domestic workers. The coordinated efforts are required to work strategically to address the issues associated with the rumors of safety and effectiveness of vaccines among the masses.

The government and non-governmental organizations should work together for development of simple, cost effective and well-structured public health intervention programmes, which include instruction and education delivered together to the masses and it can play a significant role in minimizing the infection. Effective health communication is a key factor in fighting against COVID-19 pandemic. The findings of the present paper can help government health officials and policymakers in fabrication of public health interventions, awareness and policy improvements pertaining to the COVID-19 outbreak. The present investigation was conducted with only three hundred domestic workers which reflected small sample size. However, in future this study can be extended with a larger number of participants to know their awareness and knowledge level regarding the booster dose etc. Further, awareness programmes are required to enhance the knowledge of domestic workers of Gejha village regarding the infection prevention and importance of vaccines as they are the only tools in the battle against infectious diseases.

CONCLUSION

Findings of the present paper indicates that there is an urgent need to improve the awareness level of the domestic workers residing in Gejha village to remove their hesitancy for vaccination. Awareness campaigns should aim to explain a vaccine's level of effectiveness, how vaccines work and their regulatory approval based on safety and efficacy to achieve community immunity. Further, action plans have to be chalked out by government and non-governmental organizations in order to increase the knowledge of the domestic workers about the need of vaccination for community at grass root level. The government needs to invest more in medical infrastructure including medical staff, laboratory, research, and development. Hence, this study provides better understanding of the current situation, obstacles and solution for policy formulation by decision-makers to fight against COVID-19. The present study also highlights need of dissemination of reliable informations in society based on scientific evidences to check the infodemic of misinformation about COVID-19 and vaccines. The results of this study may be useful for

policy makers to focus on change in attitude and behaviour among stakeholders in future for any such interventions.

ACKNOWLEDGEMENTS

The author would like to express her gratitude to all the participants of Gejha village for sharing their knowledge on COVID-19 and its preventive measures. The present study was financially supported by National Council for Science and Technology Communication (NCSTC), Department of Science and Technology (DST), New Delhi, Government of India under YASH project scheme.

Funding: The study was financially supported by National Council for Science and Technology Communication (NCSTC), Department of Science and Technology (DST), New Delhi, Government of India under YASH project scheme

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Kapoor RT. Awareness and attitude of domestic workers toward COVID-19 and vaccination: a cross-sectional study. *Int J Community Med Public Health* 2023;10:264-9.