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An exploratory study to assess the knowledge of quarantine and self-reported preventive practices for prevention of COVID 19 infection among the citizens of Pune city

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Abstract

Background: Lockdown, which one-third of the world has currently experienced, is nothing new. Lockdown is a form of quarantine, a practice used to try to stem the spread of disease for hundreds of years by controlling humans. They were particularly common in ports in the age of commerce and empire: when humans gathered and traded in new environments, diseases often flourished. An effective lockdown and quarantine regime could dent the impact of the corona virus (Covid-19) by 90 per cent, bringing it within manageable limits for India's limited healthcare infrastructure.

Methods: In this study a quantitative approach with Non-experimental exploratory research design was used. The setting of the study was selected urban area of Pune city. Sample size was 200 adults. Non probability purposive sampling technique was used. Structured questionnaire and self-reported check list for practices were used for the data collection. Validity of the tool was done by experts and reliability was done by test-retest method. Reliability coefficient for knowledge questionnaire was 0.78 & for self-reported practices was 0.8, so tool was reliable. Pilot study was found feasible. The survey questionnaire was prepared in Google forms, which is easy to fill by the participants. The survey link was given to all the participants after their consent. Analysis was done by using descriptive and inferential statistics.

Results: This study shows that 71.5% of participants were from the age group of 19 to 38 years, 62.5% were females, 40% were graduate, 45% were working and 51.5% were married. Out of 200, 196 participants had good knowledge about quarantine. Only 4 participants had average knowledge about quarantine. On an average 79% of participants had always practiced preventive measures. More than 85% of participants had used mask, washed hands frequently, used sanitizer to maintain the hand hygiene, did not visit the public places, minimize the visitors at home and maintained social distancing etc.

Conclusions: From the above findings, the researcher concluded that majority of participant that is 92% had good knowledge about quarantine and more than 79% had practices preventive measures to prevent COVID 19.

Keywords: Quarantine, knowledge, preventive practices, COVID 19

Introduction

Corona virus disease 2019 (COVID-19) is a new infectious disease that emerged in late December 2019, apparently in Wuhan, China. The disease is caused by a novel virus, SARS-CoV-2, which belongs to the Corona viridae family of viruses. The local disease then spread worldwide to reach more than 200 countries, causing a pandemic. On March 11th the World Health Organization (WHO) has announced COVID-19 as a global pandemic [1]. To mitigate the pandemic, countries around the world have implemented safety measures such as lockdown, social distancing, and mandatory 14-day quarantine periods for citizens and foreign visitors arriving from abroad [2]. To effectively curb the COVID-19 crisis, countries worldwide are continuously promoting different unprecedented preventive measures, including appropriate personal hygiene and public health measures [3]. Quarantine can be applied at the level of the individual, group or community. Interventions that aim to minimize transmission rates by impeding what is perceived as "normal" public life are commonly referred to as "lock-down."

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Public health authorities play a pivotal role in implementing public health interventions. Risk communication activities can modify influencing factors for the successful implementation of such measures.

Need of the study

To prevent any infection there is a need to break the chain of transmission of that infection. COVID 19 is transmitted through droplet so to prevent its transmission ICMR and WHO had given guidelines to follow by all the citizens. It is highly contagious disease that affects the respiratory system [1]. Quarantine and hygienic practices were given more importance for prevention of transmission of the disease. Home quarantine had played major role in controlling the outbreak of the disease [4]. Although the lockdown is necessary to prevent further spread of the disease, there are reasons to be concerned because prolonged home confinement during a disease outbreak could lead to dramatic changes in lifestyle behaviors of the population [5]. India is one of the countries affected with COVID 19 pandemic. Indian government had taken all the necessary precautions to control the pandemic. Government declared the lockdown from 20th March 2020. All efforts were directed towards providing health care to severely affected people and isolating the patients who require ambulatory care. Vaccine trials were conducted in the collaboration with Serum Institute of India. The COVID 19 pandemic introduces the change in lifestyle. Use of mask, sanitizer, and frequent hand wash, keeping distance between the persons, restriction to organize and attend the functions and so on. People were scared of death and were becoming panic as hospital beds were not available in most of the cities. Government was providing the information about preventive practices and quarantine to save the public.

This study aims to assess the knowledge regarding quarantine among the adults as they were exposed to different situations during pandemic. It was the need of the hour that everyone should have knowledge about quarantine and everyone should practice preventive behaviour. Many studies were conducted related to knowledge, attitude and practices about COVID 19 among health workers, students, teachers, company workers and general public. All studies show that participants had some knowledge as government was making efforts to provide health education by using mass media. The study done by Yi-Man Teng among quarantine hostel workers shows that 62.41% have good knowledge about COVID-19, 94.7% have a positive attitude towards COVID-19, but only 78.2% have good practices [6]. Lockdown has affected the teaching and learning process. All the students were facing problem to adapt new methods of teaching and learning. The study done by Amin N. Olaimat among college students showed that overall, 56.5% of the respondents showed good knowledge and almost 40.5% showed moderate knowledge about.

COVID-19 [7]. Because COVID-19 infection is a highly contagious disease and has affected a large population, the total number of deaths caused due to this virus has exceeded that caused by any of its predecessors [3]. So it was very important to create awareness among the people about prevention and best practices to control the transmission of COVID-19 infection. The study done by M. Zhang to assess the knowledge, attitude and practices among health care workers concluded that 89% health care workers demonstrated sufficient knowledge of COVID-19. Doctors

showed higher knowledge and positive attitudes as compare to paramedics [8]. Most of the patients were isolated at quarantine centres. They were worried about themselves as well as their family. Study done by Udaya Bahadur BC. among the quarantine people shows that patients were in need of psychological support. Perceived fear of contracting COVID-19, severity and death were prominent among the respondents. Respondents experienced stigma and discrimination in addition to being at the risk of disease and possible loss of employment and financial responsibilities. In addition, poor health services, and poor living condition at the quarantine centres adversely affected respondents' mental health [9]. Study done by Juliane Scholz regarding public communication related to quarantine showed that there was lack of awareness among the villagers. In order to improve the implementation of public health interventions, public health risk communication activities should be intensified to increase both the information level potentially leading to better compliance with community quarantine [10]. As there was no specific medicine available for COVID-19, non-pharmaceutical interventions are important and effective measures to mitigate the spread of the virus and to limit the pandemic's impact on societies. The most effective non-pharmaceutical intervention to interrupt chains of transmission within communities is the separation of ill (isolation) or possibly infectious (quarantine) persons from non-infected communities. Above literature shows that public awareness was very important to follow the preventive behaviour to control the transmission of COVID-19 infection. So, this study was conducted to assess the knowledge of adults and their preventive practices regarding COVID-19.

Objectives

- To explore the knowledge of quarantine among the citizens of Pune City.
- To assess the self-reported preventive practices for prevention of COVID 19 infection.

Methods

In this study a quantitative approach with Non-experimental exploratory research design was used. Research variable was knowledge of quarantine & self-reported preventive practices for prevention of COVID 19. The setting of the study was selected urban area of Pune city. Population was citizens residing in Pune city since last 5 years. Sample size was 200 people from selected area of Pune city. Non probability purposive sampling technique was used. Structured questionnaire and self-reported check list on preventive practices was used for the data collection. Online survey was conducted to assess the knowledge & self-reported practices regarding prevention of COVID 19 infection. English tool was translated into Marathi language for understanding of the participants. The survey questionnaire was prepared in Google forms, which is easy to fill by the participants. This survey questionnaire consists of three sections. First section was regarding demographic data of the participants, second section was having 20 questions about knowledge of quarantine and third section had 10 statements regarding self-reported COVID 19 preventive practices. The survey link was given to all the participants after their consent. Validity of the tool was done by experts from nursing field and reliability was done by test-retest method. Reliability coefficient for knowledge

questionnaire was 0.78 and for self-reported practices was 0.8, so tool was reliable. Pilot study was conducted on 10% of the total sample as there was no issue in conducting pilot study, study was found feasible. Data analysis was done by frequency and percentage.

Results

This section is divided into three parts.

Section I: Demographic data

Section II: Questionnaire to assess the knowledge of Quarantine

Section III: Check list to assess the self-reported practices for prevention of COVID 19 infection

Section I: Demographic data: Table No. I show that 71.5% of participants were from the age group of 19 to 38 years, 62.5% were females, 40% were graduate, 45% were working and 51.5% were married.

Table 1: Distribution of participants as per the demographic variables

Demographic variables		f	%
Age	19 to 38 years	143	71.5
	39 to 58 years	48	24
	59 to 78 years	9	4.5
	>79 years	0	0
Gender	Male	75	37.5
	Female	125	62.5
Education	Primary	14	7
	Secondary	22	11
	Higher Secondary	72	36
	Graduation	80	40
	Other	12	6
Working status	Working	90	45
	Not working	110	55
Marital status	Married	103	51.5
	Single	97	48.5

Section II: Knowledge of Quarantine

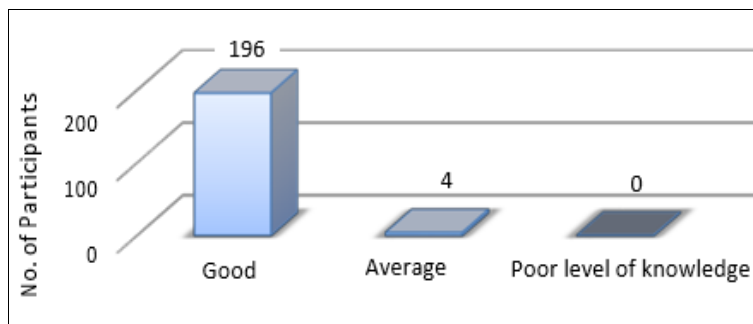


Fig 1: Distribution of participants based on the level of knowledge regarding quarantine

Figure No. 1 show that out of 200, 196 participants had good knowledge about quarantine. Only 4 participants had average knowledge about quarantine. It shows how

attentively people were listening the media and collecting the necessary information about COVID-19 to save themselves and their family members.

Section III: Check list to assess the self-reported practices for prevention of COVID 19 infection

Table 2: Distribution of participants based on self-reported practices

Sr. No.	Self-reported practices for prevention of COVID 19 infection	Always	Some times	Never
1.	Maintained at least one meter distance from others	174	25	01
2	Minimized visitors/ friends/relatives to the house	85	98	17
3	Frequent hand washing done with soap and water for at least 20 seconds at a time	177	22	01
4	Maintained alcohol-based hand hygiene in instances where hand washing facilities are inadequate	147	42	11
5	Avoided touching eyes, nose and mouth without washing hands	171	17	12
6	Used face mask whenever necessary	171	27	02
7	Did not go out of house unless it is too necessary	159	32	09
8	Changed the dress as soon as return from outside work	176	20	04
9	Did not visit the public places	135	47	18
10	Covered the nose & mouth while sneezing & coughing	188	09	03

Table No. II show that on an average 79% of participants had always practiced preventive measures. More than 85% of participants had used mask, washed hands frequently,

used sanitizer to maintain the hand hygiene, did not visit the public places, minimize the visitors, maintained the distance while going out etc.

Discussion

Quarantine is very old practice of preventing transmission of communicable diseases and controlling the cases. India has a history of epidemics like plague and cholera, when many people died due to epidemic and villages were vanished due to migration of people from the villages to farms or away from the residential places. Because of the lock down Indian Government could control the transmission of COVID 19. As it was the International Emergency situation, guidelines were given by World Health Organization and ICMR regarding the preventive measures and treatment. Media played important role in dissemination of information to the people. It helped to create awareness among the people regarding the preventive measures, treatment available and quarantine. This study was done to assess the knowledge and self-reported practices to prevent the COVID 19. Many studies support the findings of this study.

Study done by Khola Noreen among medical student's shows that two-thirds of the participants 71.7% had adequate knowledge, and almost all the students had positive attitudes 92.5%, and good practices 95.4% to COVID-19 [11]. A study done at Saudi Arabia by Abdullah shows that overall, 89.5% of the participants were aware of the COVID-19 global pandemic. The majority of the participants (55%) from Saudi Arabia utilized the Ministry of Health website, a source of information regarding COVID-19. 74.3% followed an appropriate preventive practice [12]. Study also shows that there was reduction in the physical activity which shows people preferred to be at home than going out and visiting others to prevent the transmission of infection [13]. There are studies done to assess the knowledge of participants which shows that participants had adequate knowledge regarding angina, fibroid uterus, COVID 19 second wave etc [14-17]. Above all studies show that more than 75% of the participants had adequate knowledge about COVID 19. Only treating the patient was not the solution to control the pandemic. It was very necessary to break the chain of transmission to reduce the new cases. It was only possible through practicing preventing measures and separating the patients from other healthy people by quarantine for the period of 14 days. This strategy has helped the India to control the pandemic though country had limited resources.

Conclusion

It was seen that people had good exposure of media during lockdown which has helped them to improve their knowledge. As there was a fear of death and beds were not available in the hospital for treatment home quarantine was very good option to prevent the transmission of infection. From the above findings, the researcher concluded that majority of participant that is 92% had good knowledge about quarantine and more than 79% had practiced preventive measures to prevent COVID 19.

Ethical Approval

Ethical approval was obtained from the Institutional Ethics committee, College of Nursing, Pune. Each and every subject was explained about the study, the research purpose and their written consents were obtained. The study did not collect the name of the respondents on the questionnaire form to ensure confidentiality. Voluntary participation and privacy were ensured during data collection.

Acknowledgement

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Author's Contribution

Dr. Anita contributed to the conception and design of the research proposal & tool. Dr. Anita interpreted the relevant literature and drafted the article. Researcher contributed in data collection process, review of literature and accepts accountability for the overall work.

Conflict of Interest

None declared

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