

INDIAN JOURNAL OF NURSING STUDIES

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Editorial



It is almost ten months, our guest named COVID-19 is with us. Usually the guests stay for a day or two or a week or a month but sometimes situations develop in such a way, they stay on longer. But, surely if we know how to send them back we can, and we all are trying to do that. Well! talking about this guest who seemingly gave us lot of trouble has also taught us many things, hard learnt lessons of our lives, and one very important thing this gave us is “An opportunity for a New Beginning”. But we need to dig deep in to the “global chaos” the COVID-19 pandemic has created to find the gems of wisdom that it has enriched us with. When we find that treasure the whole world will be stepping into “A New Phase of Civilization”. In fact, we have already started taking steps towards this new horizon. Our education system is completely changed, our eating habits, our greeting habits(Namaste), our way of living, our spending habits (there is hardly any money available to spend on lavish living).....have changed for the good. So, let us look at brighter side of this pandemic and let's not focus on the structures that are collapsing due to it, rather direct our efforts and intentions in supporting the rise of a holistic, healthy and harmonious new civilization giving a new dimension to human evolution!

This special issue of Indian Journal of Nursing Studies, is in the form of an e-journal. In this you will find a mixed bag of personal experiences of some of the nurses who themselves suffered with corona infection, views of the authors on the impact of this huge pandemic on the lives of common man, guidelines for functioning effectively, protecting themselves and others from the deadly impact of this virus. There are some reviews and surveys, data collected on line on various aspects of COVID-19 pandemic.

Hope you will find it interesting and useful. Do give your feed back on this special issue.

Usha Mullick Ukande

AWARENESS TOWARDS COVID-19 AMONG GENERAL PEOPLE OF RAJASTHAN STATE RESIDENTS DURING THE RAPID RISE PERIOD OF THE COVID-19 OUTBREAK: A QUICK ONLINE CROSS-SECTIONAL SURVEY



*Sandeep Garg ** S.R. Gajendra Singh *** Amar C. Yadav **** Sunil Kumar Tailor

Abstract The 2019-20 coronavirus is an ongoing pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case of the 2019-20 coronavirus pandemic in India was reported on 30 January 2020, originating from China. As of 14 April 2020, the Ministry of Health and Family Welfare has confirmed a total of 10,815 cases, 1,190 recoveries (including 1 migration) and 353 deaths in the country. Experts suggest the number of infections could be much higher as India's testing rates are among the lowest in the world. The infection rate of COVID-19 in India is reported to be 1.7, significantly lower than in the worst affected countries. To facilitate outbreak management of COVID-19 in India, there is an urgent need to understand the public's awareness of COVID-19 at this critical moment. In this study, we investigated the awareness towards COVID-19 of general people of Rajasthan residents during the rapid rise period of the COVID-19 outbreak. This study attempted to assess the attitude towards COVID-19 among general people of Rajasthan state residents during the rapid rise period of the COVID-19 outbreak.

This was a cross-sectional, observational study carried out in Rajasthan from April 7 to April 14. An online survey was conducted using a structured questionnaire using a non-probability snowball sampling technique. A total of 258 responses were received. The samples included general people of Rajasthan state residents during the rapid rise period of the COVID-19 outbreak. Because it was not feasible to do a community-based national sampling survey during this special period, we decided to collect the data online. An online structured questionnaire was developed by using Google forms, with a consent form appended to it. The link of the questionnaire was sent through e-mails, WhatsApp and other social media to the contacts of the investigators. Percentage was used to present the data.

During this coronavirus pandemic, most of the educated people and health professionals are aware of this infection, possible preventive measures, the importance of social distancing and government initiatives were taken to limit the spread of infection. In this study it is found that most of people are not aware about the COVID-19. There is a need to intensify the awareness program about COVID-19 pandemic. In this article World Health Organisation (WHO) guideline also attached to aware about the myths towards COVID-19.

Key Words: Awareness, COVID-19, Pandemic

Introduction

The 2019-20 coronavirus is an ongoing pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus

2 (SARS-CoV-2). The outbreak was identified in Wuhan, China, in December 2019, declared to be a Public Health Emergency of International Concern on 30 January 2020, and recognised as a

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pandemic by the World Health Organization on 11 March 2020. As of 14 April 2020, more than 1.94 million cases of COVID-19 have been reported in 210 countries and territories, resulting in more than 121,000 deaths. More than 465,000 people have recovered, although there may be a possibility of relapse or reinfection. The case fatality rate varies significantly between countries.¹

The virus is known to primarily spread between people during close contact, often via small droplets produced by coughing, sneezing, or talking. While these droplets are projected into the air upon exhalation, they usually fall to the ground or onto surfaces rather than being infectious over long distances. People may also become infected by touching a contaminated surface and then touching their face. The virus can survive on surfaces for up to 72 hours. It is most contagious during the first three days after the onset of symptoms, although spread may be possible before symptoms appear and in later stages of the disease. Common symptoms include fever, cough and shortness of breath. Complications may include pneumonia and acute respiratory distress syndrome. The time from exposure to onset of symptoms is typically around five days, but may range from two to fourteen days. There is no known vaccine or specific antiviral treatment. Primary treatment is symptomatic and supportive therapy.²

The first case of the 201920 coronavirus pandemic in India was reported on 30 January 2020, originating from China. As of 14 April 2020, the Ministry of Health and Family Welfare have confirmed a total of 10,815 cases, 1,190 recoveries (including 1 migration) and 353 deaths in the country. Experts suggest the number of infections could be much higher as India's testing rates are among the lowest in the world. The infection rate of COVID-19 in India is reported to be 1.7,

significantly lower than in the worst affected countries.³

The outbreak has been declared an epidemic in more than a dozen states and union territories, where provisions of the Epidemic Diseases Act, 1897 have been invoked, and educational institutions and many commercial establishments have been shut down. India has suspended all tourist visas, as a majority of the confirmed cases were linked to other countries.⁴

According to Ministry of Health and Family Welfare Corona-virus disease (COVID-19) outbreak situation is as follows.⁵

Corona-virus disease (COVID-19) outbreak situation (Till 17 April 2020)

Countries, areas or territories with cases	Confirmed Cases	Confirmed Deaths	Recovered
Globally	22,27,011	1,50,601	5,63,674
India	13,835	452	1,777
Rajasthan	1229	17	93

To facilitate outbreak management of COVID-19 in India, there is an urgent need to understand the public's awareness of COVID-19 at this critical moment. In this study, we investigated the awareness towards COVID-19 of general people of Rajasthan residents during the rapid rise period of the COVID-19 outbreak.

Objective

This study attempted to assess the attitude towards COVID-19 among general people of Rajasthan state residents during the rapid rise period of the COVID-19 outbreak

Review of literature:

Zhong, et al., (2020) conducted an online cross-sectional survey to investigate Chinese residents' KAP towards COVID-19 during the rapid rise period of the outbreak. A self-developed online KAP questionnaire was completed by the participants. Assessments on residents' attitudes and practices towards COVID-19 included questions on confidence in winning the battle against COVID-19 and wearing masks when going out in recent days. Results shows that among the survey completers (n=6910), 65.7% were women, 63.5% held a bachelor degree or above, and 56.2% engaged in mental labor. The overall correct rate of the knowledge questionnaire was 90%. The majority of the respondents (97.1%) had confidence that China can win the battle against COVID-19. Nearly all of the participants (98.0%) wore masks when going out in recent days. In multiple logistic regression analyses, the COVID-19 knowledge score was significantly associated with a lower likelihood of negative attitudes and preventive practices towards COVID-2019. Most Chinese residents of a relatively high socioeconomic status, in particular women, are knowledgeable about COVID-19, hold optimistic attitudes, and have appropriate practices towards COVID-19. Researcher concluded that health education programs aimed at improving COVID-19 knowledge are helpful for Chinese residents to hold optimistic attitudes and maintain appropriate practices. Due to the limited sample representativeness, we must be cautious when generalizing these findings to populations of a low socioeconomic status.⁶

Wang, et al., (2020) conducted a survey to better understand their levels of psychological impact, anxiety, depression, and stress during the initial stage of the COVID-19 outbreak. Researcher

conducted an online survey using snowball sampling techniques. This study included 1210 respondents from 194 cities in China. Results shows that 53.8% of respondents rated the psychological impact of the outbreak as moderate or severe; 16.5% reported moderate to severe depressive symptoms; 28.8% reported moderate to severe anxiety symptoms; and 8.1% reported moderate to severe stress levels. Most respondents spent 2024 h per day at home (84.7%); were worried about their family members contracting COVID-19 (75.2%); and were satisfied with the amount of health information available (75.1%). Female gender, student status, specific physical symptoms, and poor self-rated health status were significantly associated with a greater psychological impact of the outbreak and higher levels of stress, anxiety, and depression. Specific up-to-date and accurate health information (e.g., treatment, local outbreak situation) and particular precautionary measures (e.g., hand hygiene, wearing a mask) were associated with a lower psychological impact of the outbreak and lower levels of stress, anxiety, and depression ($p < 0.05$). Researcher concluded that during the initial phase of the COVID-19 outbreak in China, more than half of the respondents rated the psychological impact as moderate-to-severe, and about one-third reported moderate-to-severe anxiety. Our findings identify factors associated with a lower level of psychological impact and better mental health status that can be used to formulate psychological interventions to improve the mental health of vulnerable groups during the COVID-19 epidemic.⁷

Roy, et al., (2020) conducted a study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. An online survey was conducted using a semi-structured questionnaire using a non-probability snowball sampling

technique. A total of 662 responses were received. Results showed that the responders had a moderate level of knowledge about the COVID-19 infection and adequate knowledge about its preventive aspects. The attitude towards COVID-19 showed peoples' willingness to follow government guidelines on quarantine and social distancing. The anxiety levels identified in the study were high. More than 80 % of the people were preoccupied with the thoughts of COVID-19 and 72 % reported the need to use gloves, and sanitizers. In this study, sleep difficulties, paranoia about acquiring COVID-19 infection and distress related social media were reported in 12.5 %, 37.8 %, and 36.4 % participants respectively. The perceived mental healthcare need was seen in more than 80 % of participants. Researcher concluded that there is a need to intensify the awareness and address the mental health issues of people during this COVID-19 pandemic.¹⁰

Asaad AM et al., (2019) conducted a study to investigate the knowledge and attitude of health care workers toward MERS-CoV in south western Saudi Arabia. This cross sectional study was conducted on HCWs in primary health care centres and hospitals at Najran. A questionnaire containing 14 knowledge and 8 attitude items was completed by all 870 participants. Results show that overall, > 80% of health care workers were aware about MERS-CoV etiology, mode of transmission, risk factors, and signs and symptoms. Knowledge scores revealed 51% of participants had sufficient knowledge. Physicians and nurses had significantly better knowledge compared with other HCWs. Participants who worked at institutions with established infection control programme scored significantly better on knowledge questions. Concerning attitude, > 70% of HCWs exhibited a positive attitude toward MERS-CoV. Researcher

concluded that the HCWs in Najran region showed a high level of knowledge and positive attitude toward MERS-CoV. There was a noticeable difference in knowledge level between different professions. Periodic educational interventions and professional campaigns are still needed. Any interventions should be directed towards the non-physician and non nursing professions.⁸

Almutairi, Khalid., (2015) conducted a study to identify awareness, attitudes, and practices related to MERS-CoV among the public in Saudi Arabia. A cross-sectional study of 1147 adult subjects recruited from various shopping malls in Riyadh was conducted. All the subjects were interviewed using a questionnaire that tested their knowledge, attitudes, and use of precautionary measures in relation to the MERS-CoV pandemic. The majority of the participants showed high levels of concern and had utilized precautionary measures. After adjusting for other variables, gender was the only significant predictor of the level of concern ($P < .001$), while knowledge was the significant predictor of both the level of concern and precaution ($P < .001$). High concern translated into a higher compliance with precautionary recommendations. Frequent communication between health care providers and the public is recommended to help dispel myths about the disease and to empower the public with the information needed to help the Saudi government in containing the disease outbreak.⁹

Material and Methods

The present study is a cross-sectional, survey carried out in Rajasthan from April 7 to April 14. An online survey was conducted using a structured questionnaire using a non-probability snowball sampling technique. A total of 258 responses were received. The samples included general people of

Rajasthan state residents during the rapid rise period of the COVID-19 outbreak. Because it was not feasible to do a community-based national sampling survey during this special period, we decided to collect the data online.

An online structured questionnaire was developed by using Google forms, with a consent form appended to it. The link of the questionnaire was sent through e-mails, WhatsApp and other social media to the contacts of the investigators. The participants were encouraged to roll out the survey to as many people as possible. Thus, the link was forwarded to people apart from the first point of contact and so on. On receiving and clicking the link the participants got auto directed to the information about the study and informed consent. After they accepted to take the survey they filled up the demographic details. Then a set of several questions appeared sequentially, which the participants were to answer. This Google form contained a brief introduction on the background, objective, procedures, voluntary nature of participation, declarations of anonymity and confidentiality, and notes for filling in the questionnaire.

The questionnaire consisted of two parts: demographics and Attitude scale. Demographic variables included gender, age, area of residence, occupation and any family member confirmed with 2019-Noval Corona Virus. Three point likert scale (Agree, Not sure, and Disagree) consist of total 30 statements were prepared to assess awareness towards COVID-19. The questionnaire was initially designed in English and translated into Hindi by Google translator to match with the local colloquial Hindi terminology used by physicians and health educators in the community. Percentage was used to present the data.

Findings

Section I: Percentage distribution of respondents as per socio demographic profile.

Table No.1 Percentage distribution of respondents N= 258

Demographic Variable	% of respondents
Gender	
Male	65.9
Female	34.1
Age of person	
Up to 19	13.6
20-39	80.2
40-59	5
60-79	0.8
80 and More than 80	0.4
Area of residence	
Urban	54.3
Rural	45.7
Occupation	
Un employed	25.6
Agricultural worker	4.7
Self employed	8.9
Health worker	55.4
Retired	1.2
Employed	4.3
Any family member confirmed positive with 2019-Noval Corona Virus	
Yes	4.7
No	95.3

Table no 1 represents the distribution of respondents, according to the demographic variables.

Here, distribution of respondents according to gender shows that in the study group, 65.9% were

males and 34.1% were females.

Distribution of respondents according to age shows that in the study group 13.6% of them belonged to the age up to 19 years, 80.2% belonged to the age between 20 to 39 years, 5% belonged to the age between 40-59 years, 0.8 % belonged to the age between 60 to 79 years and 0.4% respondents belonged to the age 80 and more years.

Allocation of respondents according to their residence in the study group 54.3% belonged to urban and 45.7% belonged to Rural area.

Distribution of respondents according to their

occupation in the study group 25.6% were unemployed, 4.7% were agricultural worker, 8.9% were self-employed, 55.4% were health workers, 1.2 % was retired person and 4.3% were employed.

Distribution of respondents according to their family member confirmed with 2019-Noval Corona Virus shows that 95.3% respondents do not have family member confirmed positive with 2019-Noval Corona Virus and 4.7% respondent have family member confirmed positive with 2019-Noval Corona Virus.

Section II: Awareness towards COVID-19

Table no 2 shows awareness of participants about COVID-19 pandemic and Content of facts is sourced from World Health Organization Guideline.

Items	Percentage			Facts (According to WHO)
	Agree	Not Sure	Dis agree	
Warmer climates or weather will kill the virus or prevent it from spreading	33.3	42.2	24.4	This is a myth. The World Health Organisation (WHO) has observed that this infection can be transmitted in any and all areas regardless of climate.
I think drinking alcohol do not protect me against COVID-19 and can be Dangerous	71.7	12.8	15.5	Drinking alcohol does not protect you against COVID-19 and can be dangerous
If I am young and healthy, I don't need to follow precautionary	11.6	6.2	82.2	If you are young and healthy, it doesn't mean you can escape the

Items Percentage				Facts (According to WHO)
	Agree	Not Sure	Dis agree	
steps or physical distancing Coronavirus cannot be transmitted in areas with hot and humid climates	13.6	37.2	49.2	disease. The new coronavirus can be transmitted in areas with hot and humid climates.
Inhaling steam can kill the virus	30.2	43.8	26	There is absolutely no reason to believe this and if you are not careful, you might wind up with a bad steam burn.
Taking a hot bath prevent the new coronavirus disease	36.4	35.3	28.3	Taking a hot bath does not prevent the new coronavirus.
The Indian immune system is better than the west and thus Indians will survive COVID-19 infection better	55	26	19	For a virus that our bodies have not seen before, such as the novel coronavirus, it doesn't seem likely that there should be any component of immunity that might protect Indians but not others.
Clapping hands creates vibrations that destroy the coronavirus	19.8	32.9	47.3	Clapping hands creates sound waves. The sound that is created is sensed through the vibrations of our eardrums which then create oscillations in the fluid in our inner ear. A virus is about a million times smaller than the size of the eardrum and would hardly even sense these vibrations. There is absolutely no reason to believe That this could be true.

Items Percentage				Facts (According to WHO)
	Agree	Not Sure	Dis agree	
Ginger, lemon, honey, and Indian spices are good for treating /fighting COVID-19	51.2	29.8	19	It boost the immunity but does not treat the covid-19
The new coronavirus cannot be transmitted through mosquito bites	44.2	27.9	27.9	The coronavirus cannot be transmitted through mosquito bites.
I think hand dryers are effective in killing the new coronavirus	20.9	28.3	50.8	Hand dryers are not effective in killing the coronavirus.
I think thermal scanners are effective in detecting people infected with the new coronavirus	46.5	36	17.4	Thermal scanners can detect if people have a fever but cannot detect whether or not someone has the coronavirus.
I feel that spraying alcohol or chlorine all over body can kill the new Coronavirus	35.3	29.8	34.9	Spraying alcohol or chlorine all over your body will not kill viruses that have already entered your body.
The new coronavirus does not affect children and younger people	5.8	12	82.2	It is myth that the new coronavirus does not affect children and younger people. Chance of infection among children and younger people is less because of their Immunity
Corona virus can survive for days on metal surfaces	59.3	26.7	14	No. It is generally survives for 3-4 hours; Its life span can increase to 8-10 hours on indoor metal objects
I think everyone should wear masks	77.5	5	17.4	Masks are recommended for those people who have cough as

Items Percentage				Facts (According to WHO)
	Agree	Not Sure	Dis agree	
				they prevent the infection from spreading.
Corona virus is an airborne infection	31	24.8	44.2	Evidences suggested that it is a droplet infection. There is a higher chance of getting infected if you are close proximity with an infected person
Gargling with hot water can protect you against corona virus	60.5	29.1	10.5	While drinking warm water or gargling may help symptoms if you have a sore throat, there's no evidence that it will protect against coronavirus infection
There is a chance, no matter how small, I could get corona Infection if I will go outside	82.9	8.9	8.1	There is a chance, if you come in contact with infected person
Pets can spread the new coronavirus	40.3	31.4	28.3	Noval corona virus is now a human virus. There is no evidence that companion animals/pets such as dogs or cats Can transmit the coronavirus
Vitamin C can protect from coronavirus	40.7	43.8	15.5	There is some evidence to suggest that vitamin C can protect you from certain viral infections, such as the influenza or rhino viruses the predominant cause of the common cold but not the

Items Percentage				Facts (According to WHO)
	Agree	Not Sure	Dis agree	
				COVID-19 virus. The novel coronavirus and the influenza virus are quite different,”
Meat and poultry products are unsafe	70.2	18.2	11.6	It is now a human virus and can spread through human to human contact or fluid droplets. It has nothing to do with its animal source
Washing Fruits & Vegetables with Soap is Safe	52.3	20.9	26.7	There is no evidence to prove that Coronavirus can spread through food items, as of now. However, there are some precautions and generic guidelines you can follow to keep your food safe and free of germs. All the fruits and vegetable
				produce that is purchased from the market can be rinsed in running water, followed by rubbing with hands.
Vaccines against pneumonia protect against coronavirus	15.9	48.4	35.7	Vaccines against pneumonia, such as pneumococcal vaccine and Haemophilus influenzae type b (Hib) vaccine, do not provide protection against the coronavirus.

Discussion

A new form of coronavirus has caused a pandemic across the world. The rapid spread of the virus has been accompanied by an equally rapid spread of myths and half-information about the novel coronavirus. In this report, we take a look at some of the most widely shared myths about the contagion, treatments for the Covid-19 disease and preventive steps to keep yourself safe from the novel coronavirus have proliferated. It is very important to refrain from placing the belief in any miraculous cures or conspiracy theories about Covid-19. And so, in this research we take a look at some widely shared myths about the novel coronavirus and weight their standing on the scale of scientific relevance.

In this survey it is found that so many people have wrong perception about COVID-19. It is found that 33.3% people feel that warmer climates or weather will kill the virus or prevent it from spreading, 30.2% people think that inhaling steam can kill the virus, 36.4% respondents think taking a hot bath prevent the new coronavirus disease, 55% people consider that the Indian immune system is better than the west and thus Indians will survive COVID-19 infection better, 19.8% respondents think that clapping hands creates vibrations that destroy the coronavirus, 51.2% people think Ginger, lemon, honey, and Indian spices are good for treating/fighting COVID-19, 20.9% persons think hand dryers are effective in killing the new coronavirus, 56.5% people think thermal scanners are effective in detecting people infected with the new coronavirus, 35.3% feel that spraying alcohol or chlorine all over body can kill the new coronavirus, 59.3% people feel that corona virus can survive for days on metal surfaces, 77.5% respondents think everyone should wear masks, 31% people think corona virus is a airborne infection, 60.5% people feel gargling with hot water can protect theirself against corona virus, 40.3%

people feel that pets can spread the new coronavirus, 40.7% respondents feel vitamin C can protect from coronavirus, 70.2% people think meat and poultry products are unsafe, 52.3% persons consider that washing fruits & vegetables with soap is safe and 15.9% respondents think that vaccines against pneumonia protect against coronavirus.

Conclusion

During this coronavirus pandemic, most of the educated people and health professionals are aware of this infection, possible preventive measures, the importance of social distancing and government initiatives were taken to limit the spread of infection. However, there are increased worries and apprehensions among the public regarding acquiring the COVID-19 infection. There is a need to intensify the awareness program about COVID-19 pandemic.

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AWARENESS AND ATTITUDE TOWARDS COVID-19 IN NURSING STUDENTS OF RAJASTHAN, INDIA



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Abstract COVID-19 is posing a big threat to humankind globally and India is not an exemption. Nursing students who are future direct health care providers have less awareness toward COVID-19. Therefore, present study aims to assess awareness and attitude towards COVID-19 in nursing students of Rajasthan, India. A Descriptive survey research design was selected to conduct the study. 484 nursing students from various nursing colleges of Rajasthan were included as participants in the study through random online Google doc survey. In the present study 52.48% nursing students had moderately adequate awareness level, 41.53% had adequate awareness level while only 5.99% had scored inadequate awareness level. Majority of nursing students, 65.70% had positive attitude level while 34.30% had negative attitude level towards COVID-19. The mean awareness score percentage was 75.18% while mean attitude score percentage was 72.42%. Findings revealed that significant association was found between scores of awareness regarding COVID-19 among nursing students with demographic variables like nursing course, type of institute and proper PPE use during COVID-19 and significant association was also between the attitude scores of COVID-19 among nursing students with demographic variables like age, nursing course, participation in COVID-19 survey and proper PPE use during COVID-19. There was moderate positive correlation $r = 0.3807$ between awareness and attitude level and it was found statistically significant at $p < 0.05$ level. Awareness and attitude is very important among nursing students as they are future nurses so our study concluded with urgent need for inclusion of Covid-19 related course for nursing students in their curriculum.

Keywords: Awareness, Attitude, COVID-19, Nursing Students.

Introduction

Corona viruses are named for their appearance, the spikes that protrude from their surfaces, resembling a crown or the sun's corona. They can infect both animals and people, and can cause illnesses of the respiratory tract. At least four types of coronaviruses cause very mild infections every year, like the common cold. Most people get infected with one or more of these viruses at some point in their lives. Another coronavirus that circulated in China in 2003 caused a more dangerous condition known as Severe Acute Respiratory Syndrome, or SARS. The virus was contained after it

had sickened 8,098 people and killed 774. Middle East Respiratory Syndrome, or MERS, first reported in Saudi Arabia in 2012, is also caused by a coronavirus. The new virus has been named SARS-CoV-2. The disease it causes is called Covid-19. It appears to be less often fatal than the coronaviruses that caused SARS or MERS, but significantly more so than the seasonal flu.¹

There are many types of human coronaviruses including some that commonly cause mild upper-respiratory tract illnesses. COVID-19 is a new disease, caused by a novel (or new) coronavirus that has not previously been seen in humans. On February 11, 2020

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the World Health Organization announced an official name for the disease that is causing the 2019 novel coronavirus outbreak, first identified in Wuhan China. The new name of this disease is coronavirus disease 2019, abbreviated as COVID-19. In COVID-19, 'CO' stands for 'corona,' 'VI' for 'virus,' and 'D' for disease. Formerly, this disease was referred to as "2019 novel coronavirus" or "2019-nCoV".²

Pneumonia of unknown cause detected in Wuhan, China was first reported to the WHO Country Office in China on 31 December 2019. The outbreak was declared a Public Health Emergency of International Concern on 30 January 2020. On 11 February 2020, WHO announced a name for the new Corona virus disease: COVID-19.³

Till September 29, 2020 total confirmed COVID-19 cases in the world were 33,206,004 with total confirmed death were 999,239, affecting whole world globally.⁴

On January 30 first case was detected in Kerala state in India in a student who returned from Wuhan, China. 2nd and 3rd cases were also found from Kerala in students who returned from Wuhan, China. Then on March 2nd two more cases reported from Delhi with travel history from Italy and in Hyderabad with travel history from United Arab Emirates (UAE). Jointly on same day one tourist from Italy also found COVID-19 positive in Jaipur, Rajasthan.⁵

Till September 29th, 2020 total active cases in India from COVID-19 were 947576 (15.42%) with 5101397(83.01%) cured or discharged and 96318 (1.57%) deaths.⁶

Among the overall Covid-19 count of India which was over 40,000 as on April 30, the health care workers themselves constituted over 2,000 which means they were 5 per cent of the total infected cases at that time. At that time, 30,000 health care workers were found to be infected in the world out of which 2,000 were from India only. Out of the 20 lakh health work- force in the country, 2,000 tested positive as per ICMR study which is 01 per cent. If we take the country's population of 130 crore the

infected count stood just over 40,000 which means 0.003 per cent positive rate. This means healthcare workers are 33 times more vulnerable to the deadly virus than common public.⁷

Objectives

1. To check the awareness among nursing students towards COVID-19.
2. To assess the attitude among nursing students towards COVID-19.
3. To find out correlation between awareness and attitude of nursing students about COVID-19.
4. To find out association between awareness and attitude of nursing students towards COVID-19 with selected socio-demographic variables.

Materials and Method

A quantitative, descriptive, online survey research design approach was used to assess the awareness and attitude among nursing students towards COVID-19. The present study was conducted through online googledoc survey between 11-06-2020 and 28-07-2020 among 484 nursing students of Rajasthan state, India, after obtaining consent from the participants. The sample consisted of nursing students from various nursing colleges of Rajasthan state meeting inclusion criteria and those who were willing to participate in study, as the questionnaire page opens only after willingness for participation in the study. The tools selected for the present study include socio-demographic scale and structured questionnaire regarding awareness about COVID-19 and Attitude scale about COVID-19. Structured questionnaire for assessing the awareness of nursing students regarding COVID-19 consisted of 12 multiple choice questions to assess the awareness and 10 three points (0, 1, 2) attitude statements were used to assess the attitude level.. Based on total scores obtained, the level of awareness divided into three levels. Those who scored below 50% (correct less than 6 questions) were in Inadequate level of awareness category, between 50

75% (correct between 7-9 questions) were in Moderate level of awareness category and Above 75%(correct between 10-12 questions) were in Adequate level of awareness category. For attitude level those who scored below or equal 13 (66%) were categorized in negative attitude level and those who score above 13 (>66%) were categorized in positive attitude level. A Split half method was used to establish the reliability of structured questionnaires. The reliability coefficient was found to be $r = 0.7261$. This was highly desirable so no modification was made. Prior to tool administration all subjects were explained about the purpose, nature and outcome of study. Informed consent was taken from the participants and self-explanatory tools were administered to participants. The data collected from participants was analysed using SPSS software 21 version.

Results

According to **age**, 389 (80.40%) nursing students were in the age group of 17-23 years, 68 (14%) were in the age group of 23-28 years, 27 (5.60%) were in the age group of above 28 years. As per gender majority of nursing students 336 (69.40%) were male, 148 (30.60%) were Female. Regarding nursing course, 361 (74.60%) were studying in B. Sc. Nursing course, 47 (9.7%) were studying in General Nursing & Midwifery (GNM) course, 46 (9.5%) were studying in M. Sc. Nursing Course and 30(6.2%) were studying in PB B. Sc. Nursing Course. With regard to type of institute 380 (78.50%) were studying in private institute, 56 (11.60%) were studying in government institute and 48 (9.90%) were studying in self financed govt. institute. In connection with **participation in COVID 19 survey**, 297 (61.40%) took participation in COVID-19 survey and 187 (38.6%) not participated in any COVID-19 survey. With view of **training provided before sending for COVID 19 survey occupation**, 232 (47.90%) nursing students received training before survey, 173 (35.70%) not received training while it was not applicable for 79 (16.30%) participants. In connection with **proper PPE use during COVID 19 survey**, 248 (51.20%) participants used proper PPE during COVID 19

survey, 141(39.20%) did not use proper PPE during COVID 19 survey and it was not applicable for 95 (19.60%) participants.

Table: 1. Distribution of sample according to socio demographic variables (n=484)

Demographic Variables	Samples	
	Freq.	%
Age (in years)		
17-23 years	389	80.37%
23-28 years	68	14.05%
> 28 years	27	5.58%
Gender		
Male	336	69.4%
Female	148	30.6%
Nursing Course		
GNM	47	9.7%
B.Sc. Nursing	361	74.6%
PB B. Sc Nursing	30	6.2%
M. Sc. Nursing	46	9.5%
Students in Type of institute		
Govt.	56	11.6%
Private	380	78.5%
Self financed govt. institute	48	9.9%
Participation in COVID 19 survey		
Yes	297	61.4%
No	187	38.6%
Training provided before sending for COVID 19 survey		
Yes	232	47.9%
No	173	35.7%
NA	79	16.3%
Proper PPE during COVID 19 survey		
Yes	248	51.2%
No	141	39.2%
NA	95	19.6%

Table-2 Assessment of awareness and attitude score regarding COVID 19 n=484

Pre test	Max. Possible Score	Mean	SD	Range	Mean score %
Awareness score regarding COVID-19	12	9.022	1.64	05-12	75.18%
Attitude score Regarding COVID-19	20	14.485	2.38	08-20	72.42%

As per above table, overall awareness score was 12. The mean awareness score regarding COVID 19 among nursing students was 9.022 with standard deviation 1.64 and range from 05-12. The mean score percentage was computed and it was found to be 75.18%. Overall attitude score was 20. The mean attitude score regarding COVID 19 among nursing students was 14.485 with standard deviation 2.38 and range from 08-20. The mean attitude core percentage was computed and it was found to be 72.42%.

Table -3 Description of samples according to their awareness score (N=484)

Level of awareness score regarding COVID -19 among nursing students	Frequency	Percentage (%)
Inadequate	29	05.99%
Moderately adequate	254	52.48%
Adequate	201	41.53%

The findings in the above Table no.3 reveals that majority of nursing students, 254 (52.48%) had moderately adequate awareness level and 201 (41.53%) had adequate awareness level while only 29 (5.99%) had scored inadequate awareness level.

Table -4 Description of samples according to their attitude score (n=484)

Attitude score regarding COVID 19 among nursing students	Frequency	Percentage (%)
Positive attitude	318	65.70%
Negative attitude	166	34.30%

According to above table, majority of nursing students, 318 (65.70%) had positive attitude level while 166 (34.30%) had negative attitude level towards COVID-19.

Table -5 Associations between awareness score regarding COVID19 among nursing students with demographic variables n=484)

Demographic Variables	Level of Knowledge	x ²	Table Value	Level of Signi.
	Inadequate	Moderately Adequate	Adequate	
Age (in years)				
17-23 years	25	209	155	
23-28 years	03	36	29	5.919
> 28 years	01	09	17	9.49
Gender				
Male	23	174	39	
Female	06	80	62	1.4434
Nursing Course				
GNM	08	25	14	
B.Sc. Nursing	19	198	144	
PB B. Sc Nursing	01	16	13	23.22
M. Sc. Nursing	01	15	30	12.59
Type of institute				
Govt.	03	28	25	
Private	210	146	10.44	9.49
Self financed govt. institute	02	16	30	
Participation in COVID 19 survey				
Yes	20	156	121	0.8222
No	09	98	80	5.99
Training provided before sending for COVID 19 survey				
Yes	15	129	88	
No	06	89	78	6.7622
NA	08	36	35	9.49
Proper PPE during COVID 19 survey				
Yes	19	144	85	
No	05	66	70	12.33
NA	05	44	46	9.49

Above table shows that significant association was found between score of awareness regarding COVID-19 among nursing students with demographic variables like nursing course, type of institute and proper PPE use during COVID 19. And there was no significant association found between score of awareness regarding COVID-19 among nursing students with demographic variables like age, gender, participation in COVID 19 survey and training provided before sending for COVID 19 survey. On the basis of above findings Hypothesis H₁ was partially accepted.

Table-6 Associations between attitude score regarding COVID19 among nursing students with demographic variables (n=484)

Demographic Variables	Attitude of Knowledge			x ²	Table Value	Level of Signi.
	Positive	Negative	Total			
Age (in years)						
17-23 years	243	146	389	9.3093*	5.99*	S*
23-28 years	53	15	68			
> 28 years	22	05	27			
Gender				0.1338	3.84	NS
Male	219	117	336			
Female	99	49	148			
Nursing Course				33.39*	7.82*	S*
GNM	18	29	47			
B.Sc. Nursing	233	128	361			
PB B. Sc Nursing	25	05	30			
M. Sc. Nursing	42	04	46			
Type of institute				3.197	5.99	NS
Govt.	41	15	56			
Private	242	138	380			
Self financed govt . institute	35	13	48			
Participation in COVID 19 survey				4.796*	3.84*	S*
Yes	184	113	297			
No	134	53	187			
Training provided before sending for COVID 19 survey				2.7832	5.99	NS
Yes	144	88	232			
No	118	55	173			
NA	56	23	79			
Proper PPE during COVID 19 survey				11.98*	5.99*	S*
Yes	147	101	248			
No	108	33	141			
NA	63	32	95			

Above table shows that significant association was found between the attitude score COVID19 among nursing students with demographic variables like age, nursing course, participation in COVID 19 survey and proper PPE use during COVID 19. And there was no significant association found between the attitude score regarding COVID19 among nursing students with demographic variables gender, type of institute and training provided before sending for COVID 19 survey. On the basis of above findings Hypothesis H₂ was partially accepted.

Correlation between awareness and attitude score:

- There was moderate positive correlation r= 0.3807 between awareness and attitude level and it was found to be statistically significant at p<0.05 level. On the basis of above findings Hypothesis H₃ was accepted.

Discussion

The present study was aimed at assessing the awareness and attitude among nursing students regarding COVID-19. Our findings revealed that majority of nursing students, 254 (52.48%) had moderately adequate awareness level and 201 (41.53%) had adequate awareness level regarding COVID-19, while majority of nursing students, 318 (65.70%) had positive attitude level while 166 (34.30%) had negative attitude level towards COVID-19. The same finding supported by a cross sectional study was conducted by Ikhlaq A et al (2020)⁸ on 384 students in Lahore Medical College, Institute of Dentistry (IOD). Study revealed that 80% of participants had adequate knowledge about coronavirus. MBBS students and nursing Students had notably better knowledge in contrast with other students. In terms of attitude, >80% of students showed positive attitudes among which the nursing students were leading. Similar results also found in a cross-sectional questionnaires base descriptive study conducted by **Samita Acharya et al (2020)**¹¹ at PH, Patan Academy of Health Sciences, Nepal, in April 2020. In the support staff group 236 (17.7%) responses were in favour of having good awareness and 347 (26.2%) responses were in favour

of satisfaction. Our study findings also supported by the result of study done by Pareek S. et al (2020)¹² on assessment of knowledge and practices of urban population regarding COVID-19: a cross-sectional study in Bikaner, Rajasthan.

Our study findings revealed that there was significant association between score of awareness regarding COVID-19 among nursing students with demographic variables like nursing course, type of institute and proper PPE use during COVID 19 and there was significant association found between the attitude score COVID19 among nursing students with demographic variables like age, nursing course, participation in COVID 19 survey and proper PPE use during COVID 19. Our findings are supported by the study conducted by R.S. Gambhir et al (2020)⁹ to assess knowledge, awareness and hygiene practices regarding COVID-19 among 215 private dental practitioners in Chandigarh, Panchkula and Mohali in India. Education level ($p=0.018$) and health sector profile ($p=0.024$) of the subjects were significantly associated with mean knowledge scores. The study concluded that some notable deficiencies in knowledge existed among dental professionals regarding some vital aspects of COVID-19.

The researchers found that there was moderate positive correlation $r= 0.3807$ between awareness and attitude level and it was found to be statistically significant at $p<0.05$ level. This finding was supported by a study conducted by Sari, Dina et al (2020)¹⁰ with the title "Positive Correlation between General Public Knowledge and Attitudes Regarding COVID-19 Outbreak 1 Month after First Cases Reported in Indonesia." Results of the study indicated that good knowledge was correlated with a positive attitude, with a correlation value of 0.148.

Conclusion

The study concluded that there is real and urgent need for including evidence based content on Covid-19 in the educational interventions for nursing students as they are future health care providers. Awareness is helpful in

building positive attitude so regular sensitization on the subject of dealing with Covid-19 is the need of the hour.

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RESILIENCE IN NURSING: A CHANGE AGENT AND AN EPITOME FOR BATTLING COVID-19 WAR



***Pankaj Punjot **Vandana ***Pushpa Rani**

Abstract

The landscape of healthcare is reshaped by coronavirus pandemic. 2020 - The year of nurses and midwives as declared by WHO has brought new insight for nursing professionals in the battle of Covid -19. Nursing is such a huge, diverse profession, and everyone who chooses it as a career has the chance to put their own unique talents and experiences to use. Despite the challenges and crisis of pandemic, nurses are the frontline warriors in all phases from mitigation to recovery. This review illustrates about the global pandemic of coronavirus and its impact on healthcare sector, and the changing roles with challenges faced by nightingales and their outcomes from guardian solutions.

Keywords: Covid-19, Resilience, Guardian solutions, Expanded role

Introduction:

Covid- 19 crisis affected all different aspects of life globally. The crisis which has shown, drastic change in human life.(1) The coronavirus is a group of virus which commonly affect the respiratory system of the body. It was firstly detected in Wuhan, China in December 2019.(2) The surprising number of Covid-19 is increasing enormously globally. This Pandemic massively challenged healthcare system regarding wellbeing of human life.(3&4) The rapidly increasing cases is an alarming note for all health care professionals for preparedness and

providing primary, secondary and tertiary care to the community. The mortality and morbidity is also increasing resulting in economic imbalance in the country.(5)

Outbreaks of Covid -19 has strongly challenged the healthcare system. The manpower and resources in healthcare are in great shortage. The frontline warrior nurses are accepting this challenge with their changing roles in battling the corona war.(5&6)

All individuals are affected physically, socially, mentally, spiritually and all other domains of health during this crisis. Many people lost their jobs, educational methods

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changed, learning modified, activities compromised with human life.(7)

Impact of Covid -19:

Globally, as of 3:29pm CEST, 12 October 2020, there have been 37,423,660 confirmed cases of COVID-19, including **1,074,817 deaths**, reported to WHO.(8)

The number of cases are increasing rampantly in all different regions of the world given by WHO.

Table 1: Global Overview of Covid- 19 cases region wise.(9)

Regions	Confirmed Cases	Deaths
America	17,912,705	590,925
South East Asia	7,987,606	247,411
Europe	7,011,756	127,907
Eastern		
Mediterranean	2,623,607	66,809
Africa	1,231,808	27,397
Western Pacific	655,437	14,355

In India the pandemic is increasing which is also an alarming sign for healthcare professionals to take a wide range of interventions in the battle of Covid- 19. The current number as per WHO on 12th October 2020 is:

Table 2: Overview of Covid-19 cases in India (10)

Confirmed Active Recovered Deaths Cases

71,73,565 8,37,784 62,24,792 1,09,894

In India, the second largest country population wise, it seems very difficult to control the devastating effect of covid-19. January 30th, 2020 the first SARS CoV2 Case was detected in Kerala. Then after the rise in case to the different states of the country, government has taken action according to the situation and guidelines. The economic impact of coronavirus in India & Globally has changed the routine of entire scenario.(11)

Resilience of Nurses in Covid-19 War:

Nurses are the largest workforce in healthcare setting and playing significant role in covid management. Being in the closest proximity to the patient, nurses are required to expand their roles and responsibilities beyond the routine to achieve better patient care. This expansion led to certain challenges at different levels, bringing solutions with best possibilities and potential to win the war against covid-19.(12&13)

Table 3: Nurse's role with expansion, challenges and guardian solutions during covid-19. (14-20)

Nurse Role	Expanded Role	Challenges	Guardian Solutions
1.Prevention of disease and promotion health	Nurses are giving health education for infection Prevention(e.g., Washing hands; proper use of face mask; maintaining social distance; avoiding communal gatherings), use of PPEs and early detection of signs and symptoms of Covid-19, in hospital and community as well.	Lack of expertise, A little evidence for preventive methods of Covid, Unscientific myths from different sources	Follows the guideline given by WHO and ministry of health and family welfare of regarding Covid 19 prevention and management.
2.Educator / Counselor	Nurses in advanced-care roles are involved in Covid preparedness training sessions (proper use of, donning and doffing of PPE, various infection control measures to be implemented in Covid units along with Self-protection strategies) to optimize patient safety, and reduce the burden of supervision in critical care units. Fearful, anxious and stressed Nurses, patients and families are counseled regularly and emotional support is provided by skilled nurses.	Unable to conduct Interactive training Programme in view of deficient trainers & standardized. training materials Communication barrier resistance to follow updated guidelines	Small group training with social distancing. Sensitization of trainers & and trainees regarding updated guidelines with Online teaching.
3.Documentation /Reporting	Reports and records are digitalized in Covid units and nurses have to learn and update themselves in use of new forms and formats specific to Covid. Shift handover is divided into two domains consisting of bedside handover (within Covid unit) and outside handover with physical documents if any.	New forms & formats (e.g. Covid consent form, transfer out checklist) Digitalization of medical records and Communication barrier.	Orientation to digital platform for recording and reporting.
4. Triage (Screening & Sampling)	Triage Nurses are in the forefront in Containment strategies that include testing (identification), isolation (confirmed or suspected cases), tracing, and quarantine (contacts) and provide mandatory instructions to be followed in quarantine. Nurses are involved in nasopharyngeal and serological sampling for Covid testing and follow standard precautions while handling the specimen.	Initially there were no triage Protocols. Lack of expertise for screening and sampling.	Triage protocol developed with time and posting of experienced and well trained (trained to take oral and nasopharyngeal swab, serological sampling with safe transportation of samples) nurses at triage. Training of generating SRF (specimen referral form) ID information in RT-PCR app for Covid 19.
5.Emergency care	Nurses in emergency unit enforce organization's corona virus containment policies that may involve distributing face masks, asking symptomatic but stable patients to wait outside, monitoring of Covid confirmed patients for	Coordination and communication among team members. Handling of Life threatening conditions e.g. Trauma, cardiac arrest with Covid positive patients.	Structured communication among team members Including Covid 19 details. Establishment and training of SOPs for resuscitation of cardiac arrest. Maintain adequate supply of PPEs

	development or worsening of symptoms and keeping treatment areas disinfected time to time.		so that recommended barrier precautions can be followed.
6.Holistic care of patient and Family	A log of visitors is maintained and monitored by nurses. Nurses have reported using their phones and internet services to enable patients to connect with their loved ones.	Inability to involve member in patient care due to isolation policies and physical distancing.	Nurses deal with anxious family members and keep them informed by frequent meetings with contact portal.
7.Care of critically ill	Nurses posted in ICU with covid-19 patients provide direct care while following standard guidelines to reduce aerosol generation for patients on ventilators, oxygen-delivery devices and care procedures.	Shortage of skilled nurses specific to Covid critical care.	Implement Buddy system (trained with untrained nurses) other critical for Covid critical care.
8.Care of Stable Covid Positive	In these units, nursing care is not limited only to routine nursing care but has expanded with wearing PPEs and additional duties that were usually performed by housekeeping, hospital attendants and other support services to reduce movement of patients. So nurses have to act like gatekeepers also.	Interpersonal relationship barrier due to PPEs. Shortage of PPEs. Minimize spread of virus in units with ambulatory patients.	Nurses use their photos or Write their names on PPE for better IPR. Enforcement of effective use of PPEs and infection prevention and control policies including facemask and limited Movement.
9.Therapeutic care	All confirmed and suspected patients are cared by nurses while taking airborne precautions in procedures like nebulization, medication administration, deep breathing and coughing exercises, assisting with bronchoscopy, intubation/extubation, Cardiopulmonary resuscitation, taking sputum samples, and suctioning.	Providing quality patient care while minimizing aerosol generation and ensuring safety of self and others in unit.	Follow the SOPs developed for different therapeutic procedure. Ensure infection prevention and control guidelines are followed.
10.Nutrition & Elimination	Nurses are assisting patients to walk to washrooms and are helping them to have food and water at bedside as there is lack of support staff within unit and patient moments have to be minimal to prevent spread of infection.	Inability to take bio break.	Implement Buddy system
11.Advocate	In isolation units, nurses are the advocates for patients as they are intubated, sedated, and isolated from their family members. Every nurse has to provide comprehensive care with continuity while maintaining highest standards of nursing practice.	Fear of taking risk, fear of conflict & lack of power to make decisions.	Development of ethical climate compatible with autonomy. Therapeutic communication skill.
12.End of life Care	Nurses are the link between patient & family members to discuss and ensure this gap is closed. Dead body care has extended with extra precautions to be taken for dead body packing and transfer with medico-legal Formalities	Conflicting expectations of family members Ethical dilemma	Follow the policies and protocols of the institution. Provide an opportunity to relatives to discuss about patient's Wishes for future care.
13.Mentoring And preceptorship	Senior Nurses have to bring resilience in their practice with all recent updates & guidelines.	Unrealistic expectations and overdependence on junior nurses.	Use SMART goal technique. Mentors provide feedback and support. Effective pairing.
14.Delegation	Sudden surge in cases requires new teams being created and having to perform to a high standard in a short time. Culture.	Inability to determine what to delegate and whom to delegate. Inability to develop healthy workplace	Buddy system has come in place for better communication and coordination of patient care.

15. Unit management	Biomedical equipment utilization and maintenance has become a part of nursing management in new Covid units.	Limited access to resources in insulated units.	Remote monitoring system can be used.
16. Communicator	Communication within and outside unit must be kept strong and clear. Nurses are the chief source of information to patient and their families and friends about the disease.	Communication Barrier	A skilled communicator must be aware of these barriers and try to reduce their impact by checking understanding and by Feedback. Therapeutic Communication & IPR.
17. Collaborator And	Senior nurses have to ensure interdisciplinary coordinator team collaboration to optimize everyone's unique skill sets and achieve the best possible outcomes. An experienced nurse has to guide the physician or nurse who has never managed a ventilator patient and has been pulled into intensive care unit from other units.	Establish Cohesion & sense of belonging among team members	Hospital information system should be well established, Local intranet & Structured communication between team members.
18. Evidence Based nursing / Research	Nurses are closest to patient and are in better position to study disease pattern and are involved in generating evidence based practices.	Less interest in research.	Sensitize to generate evidence based data.
19. Quality control	Regular surveillance with upgraded quality indicators.	Delivering quality care to the patient. Shortage of logistic support & skilled manpower.	Establishment of Personal digital assistance (PDA) system. CCTV cameras can be used for quality control and surveillance.
20. Patient & HCW safety	To ensure patient safety, protocols for patient transport, airway management, and management of personal protective equipment and medications are developed involving nurses. Nurses have also led innovative efforts to reduce PPE use such as streamlining patient assessment systems to reduce staff risk.	Despite of intense training, nurses are unaware of their exposure while caring for patient, especially entering and leaving of the isolation area. Shortage of PPEs.	Developing observation system that help in monitoring and instant correction. Ensure infection prevention and control guidelines are followed. Optimizing PPE availability through coordinating PPE Supply chains.

Conclusion:

Beginning to emerge with evidences from empirical insight from nurses will help in battling this pandemic. Covid -19 demands highly dedicated and skillful critical care nurses. Burnout is not the concern for being overloaded with the work, as nurses they have to expand their dynamic roles in different levels of healthcare settings. Recognizing the risk of health care workers and providing safety with optimum resources will promote the better healthcare services. Every day there are new challenges in nursing roles but how to overcome

all those challenges by using guardian solutions will remain the primary goal of the nursing professionals.

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BREASTFEEDING DURING COVID-19: A PUZZLEMENT



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Abstract

Corona virus disease outbreak caused significant mortality and morbidity at global level. Chances of vertical transmission of this viral infection from mother to fetus and breast feeding issues were also raised because of the covid-19 outbreak. Breast milk is the most appropriate nutrition for the infant. It is enriched with anti-infective and anti-inflammatory factors, becomes more important in mitigating infectious conditions. No evidence concluded the COVID-19 vertical transmission from infected pregnant mothers to their fetus and to date, COVID-19 virus has not been detected in the breast milk of a confirmed/suspected COVID-19 mother. Various studies have no evidence of SARS-CoV-2 in breast milk; COVID-19 can be transmitted by respiratory droplets during breastfeeding to infant. Furthermore, the benefits of breastfeeding may be affected because of COVID-19 infection in the infants. There is need to counsel a mother with suspected or confirmed COVID-19 to take all necessary precautions to avoid spreading the infection to her infant. Healthcare professionals have to encourage the mothers with COVID-19 for breastfeeding. This initiative may create a positive attitude among the people about breastfeeding in the pandemic.

Key words: COVID-19 Infection, Breastfeeding, Mothers, Infants.

Corona virus infection is highly contagious disease and transmission of COVID 19 viruses is from person-to-person¹. On 11 March 2020, the World Health Organization (WHO) declared COVID-19 outbreak as a pandemic. The WHO alerts all the nations regarding spread and control of the disease. The focus was on patient safety and to decline morbidity. Corona virus disease outbreaks caused significant mortality and morbidity at global level². Breast milk is the most appropriate nutrition for the infant.

Breast milk is enriched with anti-infective and anti-inflammatory factors, becomes more important in mitigating infectious conditions³. The global prevalence of exclusive breast feeding (EBF) is around 30-50%. In India, the prevalence of EBF is comparatively better than global level. National family health survey (NFHS-3) reported that prevalence of EBF was 46.4% while in NFHS-4, reported 54.9%⁴. The infants and their mothers have multiple immunological, developmental, and psychological advantages of breastfeeding⁵.

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The World Health Organization (WHO) has given detailed guidelines and policies for suspected /positive COVID-19 mothers and their infants. These policies aim to protect infants from the infection from their mothers⁶. Breastfeeding improves the health of mother and child and reduces the chances of neonatal infections. No evidence has concluded the COVID-19 vertical transmission from infected pregnant mothers to their fetuses. However, it is proved that a COVID-19 infected mother can transmit the infection to her infant during breastfeeding or close contact through respiratory droplets⁷. Pregnant and lactating mothers are at risk and needed scientific advices to protect their health status and also of their babies. Healthcare professionals can play a vital role in dispelling the doubts and misconceptions among pregnant and lactating mothers regarding breastfeeding⁸. Giuliani C et al stated that an infected mother can breastfeed her infant with necessary precautions⁷.

The guidelines are changing day by day, therefore, it creates puzzle among the healthcare professionals and populations. Breastfeeding is necessary for the infants irrespective of morbid conditions. To date, COVID-19 virus has not been detected in the breast milk of a confirmed/suspected COVID-19 mother⁹. There is need to counsel a mother with suspected or

confirmed COVID-19 to take all necessary precautions to avoid spreading the infection to her infant¹⁰. Lubbe W et al highlighted that Corona virus is not transmitted to infants via breast milk¹¹. Various studies have no evidence of SARS-CoV-2 in breast milk; however, COVID-19 can be transmitted by respiratory droplets during breastfeeding to infant. Breastfeeding can help in protecting infants from infection, and breastfed infants are less likely to have severe respiratory symptoms¹². Yang Nan et al conducted a review on breastfeeding of infants born to mothers with COVID-19. The study included five case reports and one case series, involving 58 mothers (16 mothers with COVID-19, 42 mothers with influenza) and their infants proved eligible. The breast milk samples of the mothers were negative for COVID-19 and influenza¹³. In addition, a study was conducted among 43 mothers who were Covid-19 positive. The breast milk samples from 43 mothers were negative for the COVID-19 virus¹⁴. COVID-19 viral nucleic acid has not been detected in breast milk. Furthermore, the benefits of breastfeeding may be affected because of COVID-19 infection in the infants. Mothers with COVID-19 should follow the standard precautions to decline the risk of infection during breastfeeding¹³.

Breastfeeding is best for the infants. Due to Covid-19 pandemic, people have numerous myths and misconceptions about breastfeeding to infants with COVID-19 positive mothers. The

studies have evidence that COVID-19 infection does not spread from breast milk. Furthermore, the mothers should follow the standard precautions during breastfeeding to minimize the risk of COVID-19 infection. Healthcare professionals should encourage the mothers with COVID-19 for breastfeeding. This initiative may create a positive attitude among the people about breastfeeding in the pandemic. It will also be helpful for maternal and infant outcomes.

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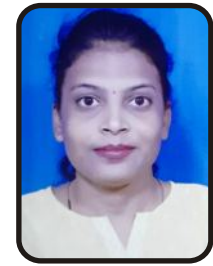
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MY JOURNEY THROUGH COVID-19



***Pavitra Mohta**

Before sharing my experience of Covid-19, I would like to give a brief outline about myself. I am Pavitra Mohta and I work as an ICU nurse. Like all hospitals we were also running full capacity during the lockdown. I was doing my routine hospital duty until I became Covid positive.

On 5th August, I started having mild to moderate symptoms which were:

- Mild to moderate fever during night (100 - 101.4 degree F)
- Severe body & joint pain
- Tastelessness (Ageusia)
- Loss of smell (Anosmia)
- Severe headache
- Dry cough
- Sneezing
- Lethargy

Later, I started experiencing extreme exhaustion which finally led to High grade fever. On 06/08/2020, I tested positive for

Covid. I was diagnosed as Acute B/L Pneumonitis (Covid +ve). The moment I tested positive, I started having so many negative thoughts like I had reached the end of my life..... and so on.

However, my family members, friends and hospital staff were a source of support and they gave me confidence that I would get better and everything will be fine. As a patient, I stayed active at hospital and co-operated with doctors and hospital staff in order to ensure a speedy recovery, and I kept on telling myself that I would not give up this fight. I saw many patients around me refusing food but I was adamant that I would force myself to eat anyhow, despite the lack of appetite and tastelessness, as I wanted to recover and get back my good health.

Being a nurse, it's challenging when you are a Covid patient. I already knew the symptoms and prognosis of the disease, as I had seen so many patients recovering from the disease, from the very beginning. I was not much worried because I had no severe symptoms. I

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would like to thank my doctors and all nurses for following the correct line of treatment.

I must mention here that apart from treatment one should develop self-confidence to defeat this disease. I had mild mental stress in the beginning, when I got to know that I am covid-19 positive. However, people around me and my close ones encouraged me that I would recover soon that finally they proved right.

I followed all social distancing norms, washed hands frequently, stayed in hospital for 10 days, had all treatment as ordered by my doctor, took steam inhalation and warm water gargles 3-4 times a day and followed all other Covid guidelines. The hospital provided a good diet to all Covid patients, which helped us to keep up our energy and immunity.

During this period, my friends were calling me frequently and stayed in touch with me which really helped me cheer up. As I spent more and more time with my friends and family members on phone, it helped release my mental stress and my health started to improve. I was again tested for Covid-19 on

27/08/2020. After being quarantined for 14 days the report was positive again. I was again quarantined for 7 more days. Again, sampling was done on 03/09/2020 till that time, the report was negative, I was so happy and my medicines were stopped, but I modified my diet pattern by adding nutritious food like Sprouts, Eggs, milk products and nuts along with 'kadha' to my regular diet. Other than this I continued with saline gargles & Vitamin C 500 mg. tabs. Finally, Now, I am perfectly fine and eager to get back to normal life. This was written by me on 3rd Sept 2020, (I was keeping my diary)

I would like to tell every one, "Staying positive is the best thing, to battle Covid. I am quite happy that I got Covid, because it brought a new perspective to my life and to my personality. I developed a better attitude towards my life. Now I care more for my body, my social interactions and my inner-being. It wouldn't be wrong to say that being Covid positive has in many ways made me a new and better human being who is positive, as well as confident".

MY COVID- 19 EXPERIENCE



***Ms. Soma Patra**

How I felt as a Covid 19 positive patient?

The hospital I work - in, is a rural hospital and although, special beds are allotted for Covid positive patients, the patients are usually referred to 'dedicated Covid hospitals' if suspected.

One day a patient with Acute Gastroenteritis(AGE) was admitted. Though a written notice in the emergency department says that "wearing of mask is compulsory" but hardly the patients were following this norm and in case of this patient too...the mask was missing.

I administered the prescribed medication to the patient with proper use of PPE that is wearing cap, mask and gloves (only available options). The patient after receiving injections and medicines was shifted to the general male ward. The very next day we received information stating that the patient was Covid positive and he has been shifted to the covid hospital. After 2 days we got to know that the patient had died.

3-4 days later , I felt some changes in my defecation pattern which I realized wasn't normal. The stools were loose that was 6 to 7 times per day of soapy frothy nature.

After 7 days I felt that suddenly my eyes have become red but no other symptoms were present. Thereafter, I started having fever, headache, and bodyache in next two days. The pulse rate had also increased to around 140/minute and it increased to 160 beats/minute while walking. But the oxygen saturation was 94 -95%.

After 2 days of fever and other symptoms, I doubted for covid and so, I got myself. But the initial antigen test was negative, but after 2 days the antibody result was positive.

I was immediately home isolated and started Tab. Azithromycin, Vit. D3, Vit C, Zinc & Vit B complex. By that time I became very weak, and was not able to sit as I had developed severe nausea.

After 4 days of the confirmed diagnosis, the symptoms worsened. There was pain in

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abdomen with loose motions, nausea, running nose, bodyache, headache, blocked nose. I felt miserable. I was not able to smell any thing (not even strong perfume) and my sense of taste too had gone. By this time fever was settled and oxygen saturation was normalised but the pulse rate was still high (around 140-150 b/m).

I started to take Tab Hydroxychloroquine as advised by the doctor. I felt very scared to use it as I was already suffering with Diabetes and Asthma, and I knew these co-morbidities proved fatal for a covid-19 positive patient..

I prayed to God all the time. I was really worried for my child who is just of 3 years. Negative thoughts would haunt me all the time that how the things will be managed if anything happens to me? But God almighty gave me strength to bear all this and I started

recovering gradually.

With all allopath medicines I took hot water, lemon juice, hot milk with turmeric etc. and high protein diet as an additional therapy.

I am still very weak after 14 days of suffering, yet I am happy that I have successfully defeated Covid-19.

And, lastly I have just one feeling that “We shall overcome some day.....” this saying is true, only if we are confident and have faith. May God protect me, my family and friends, I always pray for this. I eagerly wish to be back to my job and care for all the patients. Also I am ready to donate my plasma if required.

These sufferings had really made me think to have strong faith in myself and in God and with all our efforts we can overcome this burden.

THE UNSUNG HEROES OF THE PANDEMIC: STORIES FROM WEST BENGAL



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Abstract

This article comments about the day to day challenges faced by primary healthcare workers in the pandemic situation in West Bengal. The situational struggles and the impact on work scenario by various pandemic policies taken up by both the state and the central governments are the primary focus of discussion here. Lack of equipment, increased workload and societal stigma faced by primary health workers have been contextualized in the overarching hierarchy existing in medical and care professionals. This article opines on public health system and its structural drawbacks. The primary data on personal experiences of ASHA and ANM workers was collected through telephonic interview by the authors

As the dawn breaks, Sona starts from home on her rickety bicycle. The empty roads frighten her at times. Her husband could not return home in the lockdown; otherwise, he could have dropped her at work. She paddles her way alone on the street, now worried about her husband's journey back home. On a regular day, it hardly takes an hour by bus. But, now in the lockdown, cycling that far and then walking the last few kilometres, the journey feels never-ending. She also cannot walk as fast as she used to. She gets fatigued quickly. Having her second child has left her a bit weak, although it has been almost a year now. She is Sona Ghosh (name changed), the second Auxiliary Nurse Midwife (ANM), working in a block in North 24 Parganas district of West Bengal. She is a contractual worker under the

National Health Mission. These days she part cycles and part walks to reach her workplace, 22 Kms away from home. She has heard that the nurses and the doctors have been given pick and drop service in the city, even the nurses working at the block level have received 'travel pass'. Nothing like that for the 'kinds of her', she says.

Lipika Mondol (name changed) is also a frontline health worker in Jalpaiguri district of North Bengal. She works as an ASHA sangini (Accredited Social Health Activist). Despite her neighbours' resistance to her working in this situation, she has not missed a single day's work. Apart from her regular duties, she is also monitoring the workers who have recently returned home from other states and

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tracing contacts for the positive cases in her block. Lipika is not weary of the hard work she has to put in every day; she is, after all a voluntary health worker. She works throughout the week, 365 days a year, for an 'honorarium' that is lower than the minimum wage. The few surgical masks that they received after many pleadings to the authorities, became unusable after just a few washes. The work, of course, did not stop. She isn't too concerned about her health. "When have we women ever done that?", she asks ruefully. But she is deeply worried about her little children back at home and her ailing father-in-law whose health she might be risking every time she steps out to work and goes back to them.

These frontline workers, very much like the doctors on the television who advise and update us on COVID-19 regularly, are working round the clock at the grassroots level in the districts even during the lockdown. These health workers mainly are women, usually from disadvantaged backgrounds. Just like women's work at home, the hard work put in by these women in their jobs also remains largely unacknowledged. These workers are indispensable to the Central government's COVID response strategy, carrying out the grassroots level work of both pandemic prevention as well as primary healthcare. Yet we constantly overlook the efforts put by the many frontline workers like the ANMs, ASHAs, Anganwadi workers, ambulance drivers or the

sanitation workers. Workers like Sona and Lipika are responsible for immunization of children, registration of pregnant women in public hospitals, providing antenatal and postnatal care and advice, delivery of medicines, offering advice on sexual and reproductive health and so much more.

The pandemic has increased both their scope and load of work with them having to take up Covid-19 related household surveys, monitoring of the situation and engaging in awareness campaigns. According to the Ministry of Health and Family Welfare's Model Micro Plan for Containing Local Transmission of Coronavirus Disease (COVID-19), they have also been given the responsibility to trace contacts of positive cases, actively look for symptomatic cases of Severe Acute Respiratory Illness (SARI) and Influenza-like Illness (ILI), and report suspected cases to the block officials.

The COVID trends that guide epidemic control planning in India is, to a large extent, accumulated bit by bit by these workers reporting from the ground every day. 53,149 rural ASHA workers spread across 332 blocks of the West Bengal state managed to conduct 5.57 crore household visits between April 7 and May 3, a feat that Mamata Banerjee, the Chief Minister (CM) of West Bengal also recognized as "herculean". This led to the identification of 872 cases of persons with SARI and 91,515 cases of persons with ILI, followed by appropriate treatment, noted the

Chief Minister. One can see, rural Bengal's every nook and corner are under the watchful eyes of this women workforce, made of the likes of Sona and Lipika.

The relaxation of nationwide restrictions alongside the inadequately planned return of migrant workers from across India, however, has not only led to a surge in the number of positive cases but also has increased occupational health risks for the primary healthcare workers. Until recently, Lipika has been using her handmade cotton mask to work, while Sona still wears a tattered three-layer mask. During the whole lockdown period, Sona's sub-centre with its five staff had to make do with only nine masks-six ordinary surgical masks and three cotton ones. They did not receive any equipment (N-95 mask, Gloves or PPE) as suggested by the Infection Control Protocol. A 250ml bottle of sanitizer and the weekly dose of hydroxychloroquine provided by the authority is their only protective gear. Despite their nature of work which renders them vulnerable to infection, they fall under the 'low risk' category according to the Ministry's "Rational Use of Personal Protective Equipment" guidelines when it comes to the distribution of Protective Equipment. Even the preventive dose of hydroxychloroquine has been prescribed without taking their medical history or conducting any check-up of the workers. Many of the workers being the age of 40 and above complain of a variety of side effects ranging

from nausea, palpitation to anxiety attacks.

The number of health workers affected by COVID-19 in India is not very small. According to the national press, 548 health workers were affected by May. It is important to mention here that this number only includes doctors and nurses and not health care workers overall. The data on infection among health care workers is still unavailable, primarily for two reasons. First-because, neither the Centre nor the State governments, have released any adequate statistics related to infection of health workers. Second, India still lacks any policy on regular testing of healthcare workers. This increases the risk two-fold, for the healthcare workers themselves and then for the people they come in contact with- their co-workers, family and the community at large. On May 18, the Indian Council of Medical Research in its latest testing strategy said that only frontline workers involved in containment and mitigation of COVID-19 and healthcare workers having symptoms of ILI could be tested. In reality, however, regular testing of frontline workers is still awaiting implementation.

In terms of facilities, during the lockdown the frontline workers were not provided with any pickup/ drop service, nor were any 'travel passes' issued for them. Apart from their regular duties, ANMs were also appointed as indoor caregivers inside quarantine centres. "After working for 14 days at a stretch at a quarantine centre, I had to resume my regular

duties the very next morning,” said Sona. Unlike the nurses and doctors dealing with COVID patients, the ANMs are rarely being allowed 14 days of isolation after 7 to 14 days of indoor duty at the quarantine centres. The ANMs of a block have to prepare over 25 monthly reports as part of their regular function. In standard times they would have backlogs, and now with staff being shifted to quarantine centre duty, the delays are bound to increase manifold. With the influx of returnee migrant workers, even the ASHAs have been deputed at some quarantine centres. The ASHAs, lacking adequate training in managing indoor patients, often feel out of their place and on top of it absence of appropriate PPE makes them additionally vulnerable.

Lipika is aware of the risk to her family. Still, she trudges along only to hold onto a living in these tough times. There is, however, no sign of any increment in payment for them. Different state governments have announced incentives for motivating healthcare workers. But the ASHAs are rarely included. For instance, the Haryana government announced doubling of salaries of healthcare workers but left out the ASHAs. In April, the central government announced a COVID incentive of 1000 Rs per month for the ASHA workers to be paid from January to June. However, a survey conducted by Article 14 and Behanbox in 16 states between April and May found that till the time of the study, 75% of

the states had not paid the COVID incentive. West Bengal government, in fact, truncated the period from six months to three months only, from April to June. This sum of Rs 33 a day is ridiculously small compared to the amount of work put in and risk borne. A report mentions an ASHA worker from Gujarat exclaiming angrily at this proposition- “We leave our children behind, not knowing if we will come back home and what do we get? Rs 33 a day. Would you risk your life for this money?”

Regular activities for which ASHAs would get incentives were also majorly curtailed during the lockdown. Routine immunisation was halted from March 19 to May 6 in West Bengal. Across India hospital delivery also nosedived during the lockdown. These activities used to make up the major chunk of the incentives ASHAs received. Payment of the incentives, however, invariably suffers from backlogs, going back as far as five months in some states. The survey mentioned above found 69% of the states had defaulted on even regular honorariums to the ASHAs. Driven to despair by the continuing neglect of their needs by the government, the ASHA workers across the country staged a virtual protest on May 14, demanding one time COVID allowance of Rs 25,000, proper PPE, and mandatory testing for all ASHA workers. Paschim Banga Asha Karmi Union (West Bengal ASHA Worker's Union) backed by the SUCI has also made a similar demand of

PPEs and one-time compensation of Rs 10,000. Despite the flurry of activities little has changed on the ground. "I have heard that Central Government has announced a 5-lakh rupee insurance for us, but it seems we get it only if we die", states Lipika in a resigned tone.

Apart from the sudden shortage of money due to the lockdown and the precarious working conditions, the primary health workers are also encountering a lot of public stigma. Take, for example, the incident with 17-year-old Suman from Haryana. Her mother is an ASHA sangini in the Butana-Kundu district. She had advised a recent returnee worker to stay in isolation and also issued a notice regarding the same and had put it on their entrance gate as part of her job. The villagers were infuriated on such labelling of the house and attacked her daughter out of grudge. Similar incidents happened in Moradabad, Indore, Bengaluru. Events such as these are rampant across the country now. It happened with Sona-Lipikas of West Bengal too. Now that some health workers have become COVID positive, the stigma has only increased. ASHA workers were not allowed to come near the houses in some places, while in one village milk delivery to an ASHA's home was stopped.

Another honorary workforce, less celebrated but very much integral to our epidemic containment strategies, is the Anganwadi workers (AWW). Although their work is critical to ensuring childhood nutrition and health, they are not technically health workers, as the

Integrated Child Development Service (ICDS) scheme under which they are recruited fall under the Ministry of Women and Child Development. While the Anganwadi centres remained closed during the lockdown, the workers continued supplying food grains at the doorstep, in addition to discharging the newly added duty of accompanying the ASHA workers for the house to house corona visits, covering a minimum of 45 homes each day. They, however, have received no masks, gloves or sanitizer, not even the prophylactic doses of hydroxychloroquine.

Urmila (name changed), an AWW from the South 24 Parganas, one of more than a lakh of such workers in Bengal, wonders why despite doing the same work they are getting neither PPEs nor any incentive. She is 55 years old and a long-standing patient of hypertension, clearly unsuitable for this kind of strenuous and risky day to day survey. But being the sole earning member of the family since her husband passed away five years back, she has no other option but to carry out the orders. She knows about the insurance scheme for health workers fighting corona but is sceptical if she would even be eligible. She has heard that this won't cover deaths in people with co-morbid conditions. "That clearly leaves me out, doesn't it?" she asks.

The frontline health workers were appointed to take primary health care to the doorstep of the communities, otherwise lacking proper health facilities. When, on an average, we have only

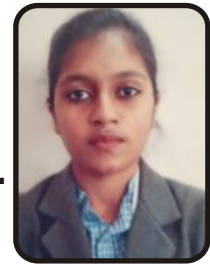
eight doctors and hospital beds per ten thousand population in this country, it would not be an overstatement to say that these primary health workers are the only way to deliver primary health services to the Indian hinterlands. The role of the field health workers in the COVID battle is indispensable. Even the health department acknowledges this fact. According to a recent news report, Ajay Chakraborty, West Bengal's Director of Health Services, while talking about the dearth of urban honorary health workers stated how "rural contamination was largely stopped by the ASHAs". Still, these frontline health workers are the ones who are facing the brunt of weak pandemic response planning.

Overall, the pandemic has once again surfaced the systematic biases deeply entrenched within the health sector. Care work, within or outside the home, has traditionally involved women and has usually been considered less compared to the act of cure. Doctors, the learned men of science, occupy the top pedestal in this hierarchy. The less educated, poor women field workers, on the other hand, find foothold only in the lower rungs of the structure. For long, the primary health workers have suffered due to such

institutional prejudices. The government's constant refusal to recognize the ASHAs as workers and thus escaping their responsibility to ensure their social security under the labour laws is just one such example. Even now, there's no representative from among the care workers in India's COVID-19 task force, despite close to some four million such workers putting themselves in the line of fire for the country.

Understandably, they are anxious and frustrated but surprisingly, still putting a brave face forward, for the sake of their families, their communities. It is well understood that the public health delivery system will collapse without its field workforce. The COVID battle will fall flat on its face without their enormous efforts. Perhaps it is time we recognize their contributions as well as the complications they face while caring for all of us. Rescuing them from the shackles of hierarchical discrimination and providing them with safe atmosphere to work, the official status of 'worker' with decent wages, and honouring them with adequate social security will be essential to strengthen our infantry of frontline workers- our 'first line of defence' against the pandemic.

COVID 19- A LONG UNCERTAIN JOURNEY AHEAD...



***Natasha Shekh**

Around December 2019 a new strain of corona virus species appeared in the city of Wuhan located in Hubei province in China which was later spread worldwide and took a face of pandemic which was named as corona virus disease 2019(covid-19).

As the outbreak occurred in India, the government of India had to impose nationwide lockdown on 24th March 2020. This resulted in the whole nation coming to a stand still, people were forced to stay where they were, factories and industries were shut down. But the migrant industry workers in unimaginable large numbers were forced to flee and had to face lot many hardships:

- loss of income
- food shortage
- lack of accommodation, no transport
- uncertainty about their futures

As they were helpless they started to migrate toward their villages and as there were no means of transportation they had to travel on foot.

Here, a question came to my mind, "will everyone reach their destination the way they were were traveling?" Maybe not all. Whenever I used to watch news or read newspaper I came to know about their condition, my heart would tremble.

The whole scenario was pathetic. On one hand there's outbreak of Covid-19 in the country yet, number of people were migrating, the thing to worry about was that virus headed towards the villages. On the other hand due to lockdown people were starving, many had died of other medical conditions, due unavailability of treatment on time.

There's a saying that "health is wealth" but without wealth, can you get good health? In such a pandemic when one is unable to get two meals a day, sanitation and life essentials, how someone will be able to have precautionary measures that means they are at great risk.....risk of getting infected.

It is not just about laborers, but millions of people across the country became unemployed, there had been an impact on the

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education system,not just the education, almost all the aspects of living have been affected. Everyone is suffering and we have no idea for how long the period of uncertainty would be there since it is just started now. So at such a delicate time, social awareness and public education regarding precautionary measures and also about government policies is necessary.

It would not be wrong to say that this pandemic will have long term impacts on our lives. We have to be ready for upcoming problems like unemployment, poverty, a number of health problems and many more other issues.

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