International Journal of Preventive, Curative & Community Medicine
Volume 9, Issue 1&2 - 2023, Pg. No. 12-19
Peer Reviewed & Open Access Journal

Research Article

From the Valley of Shadow of Death COVID-19 (Year 2020) to Renew and Restore Life (October 2021)

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DOI: https://doi.org/10.24321/2454.325X.202303

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How to cite this article:
Vaghela JF. From the Valley of Shadow of Death COVID-19 (Year 2020) to Renew and Restore Life (October 2021). Int J Preven Curat Comm Med. 2023;9(1&2):12-19.

Date of Submission: 2023-10-12
Date of Acceptance: 2023-11-02

A B S T R A C T

Background: The world was busy with routine activities till the end of January 2020, when suddenly it realised that life had changed. The virus infected almost 239 million people worldwide, and the number of deaths reached around 4.9 million. In India, Coronavirus cases were 34,001,743 and the number of deaths had reached 451,220 by October 13, 2021.

Objectives: To study the knowledge of COVID-19 among people born in India and how it had affected them

Settings and Design: A prospective study was conducted among 100 people of Indian origin, from Delhi, Gujarat, Maharashtra, Uttar Pradesh, Haryana, Rajasthan, Telangana, and abroad.

Material and Methods: A Google Form having 15 questions on COVID-19 was sent through email and/ or WhatsApp after obtaining participants' informed consent. Only those who gave consent attempted the Google Form. Hundred replies were entered in MS Excel and MedCalc software was used. The significance for outcomes was calculated using Odds Ratio (OR) and p value was significant at $p < 0.05$.

Results: All 100% of participants correctly reported COVID-19-Appropriate Behaviour (CAB) and its symptoms. Of the total, 22% had COVID. Among the participants, 85% and 88% said that it affected their family income and children's studies respectively, 45% wished COVID-19 would end, 15% were thinking of the third wave, and 13% feared some close family member's death.

Conclusions: Indians have good knowledge of COVID-19 now and it has had a negative impact on mental health.

Keywords: COVID-19, CAB, Lockdowns, Mental Health

Introduction

The world was busy with routine activities till the end of January 2020, when suddenly, it realised that life had changed. The darkness of COVID-19 engulfed the globe. People could not fathom the seriousness of this disease. In India, March 22, 2020 was the day when people rang thalies (metal plates) and talies (claps) to woe away COVID. The Government of NCT Delhi applied the Epidemic Disease Act 1897. It became a time of emergency.

Indians who had travelled to China/ Thailand/ Singapore/ Hong Kong within the last fortnight were asked to report to a certain helpline number. It was so because studies estimated the mean incubation period of the disease to be 6.4 days, ranging from 2.1 to 11.1 days.[1]

The public who had thought that lockdowns would be the end of the disease was shocked when COVID-19 cases started increasing day by day. The Prime Ministers of various countries talked to their countrymen to bring the situation under control. In India too, information regarding COVID-19 was imparted. There was broadcasting on television on NDTV informing the public:

1. The elderly are at a higher risk of developing it.
2. Symptoms of COVID-19 were severe cough, fever (100 °F), breathlessness, sore throat, aches and pains.
3. Scientists use a basic measure to track the infectiousness of a disease called the reproduction number (R0) or "R nought". This number tells us how many susceptible people, on average, each sick person will in turn infect. It was told that the Coronavirus has R0 of 2-3 which is less than mumps (4), smallpox (6) and measles (12–18).[2]
4. Out of 100, 50 people may get COVID-19 infection, 40 may have mild symptoms, 10 may need hospitalisation and 2 may not survive (Figure 1).

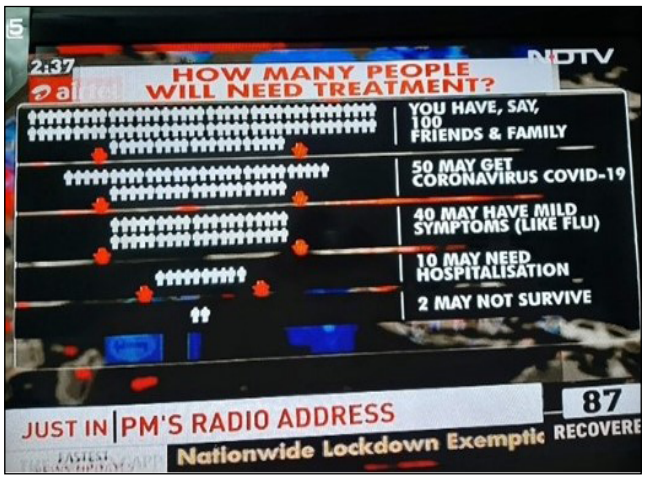

Figure 1.A Photograph Clicked by the Author at the time of Broadcasting on Television on NDTV on March 29, 2021 at 2:37 p.m.

People started COVID-19-Appropriate Behaviour (CAB) i.e. wearing masks, washing hands with soap and water/ using hand sanitisers, and maintaining a social distance of two yards. The global health infrastructure was caught unawares. It had to expedite the manufacture of Personal Protective Equipment (PPE).

Governments forced lockdowns in the countries. There have been four lockdowns (25 March 2020 - 31 May 2020), and two unlock periods (1 June - 31 July 2020) in India.[3] in the year 2020. With factories and workplaces shut down due to the lockdowns, millions of migrant workers had to deal with the loss of income, food shortages, and uncertainty about their future.[4] Thousands of them then began walking back home, with no means of transport due to the lockdown. Much later, the government arranged transport for them.[5]

In India, The Times Network in partnership with global consulting firm Protiviti, predicted that India could see the number of coronavirus cases crossing 75000 around May 22, 2020.[6] All India Institute of Medical Sciences (AIIMS), New Delhi took out the Interim Clinical Guidance for Management of COVID-19 (version 1.6) on April 7, 2021,[7] which was modified on May 3, 2021 as version 2.1.[8]

Many families were affected as 2–3 members in each family suffered from the disease. Some households saw both elderly parents dying and others saw the breadwinner of the family succumbing to the disease. Hospitals were short of COVID beds and the oxygen supply was affected due to much more consumption than production. The healthcare workers were affected badly. As per the Indian Medical Association (IMA) data of August 30, 2020, the death rate among non-doctors was 0.3% whereas, among doctors, it was 15.3% (Figure 2). According to the data of the National Centre for Disease Control (NCDC), half of India's COVID deaths since April 2020 took place in just two months, April and May 2021 (the second wave).[9]

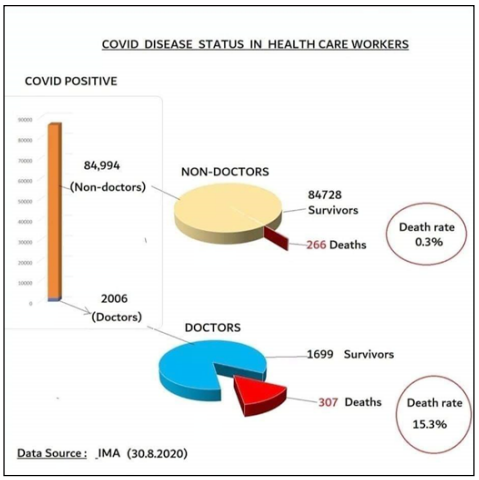

Figure 2.COVID-19 Disease Status among Healthcare Workers

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202303

By December 2020, eight countries in the world had granted approval for vaccinating their people against the COVID-19 pandemic. The two vaccines that got approved were the Pfizer/ BioNTech vaccine and the Moderna vaccine. The Moderna vaccine showed a 94.1% efficacy rate.[10]

The guidelines for domestic and international travel were issued. A lot of restrictions were placed to save lives – schools and colleges were shut down, people were allowed to work from home (WFH), and only 50 people were allowed to attend a wedding, malls, markets, swimming pools, gyms, hotels and places of worship were closed down only to be reopened later that too in phased manner.

As of October 11, 2021, the outbreak of the coronavirus disease (COVID-19) had been confirmed in over 220 countries and territories. The virus infected almost 239 million people worldwide, and the number of deaths reached around 4.9 million. The most severely affected countries included the US, Brazil, and India.[11] In India, the Coronavirus cases were 34,001,743 and the number of deaths had reached 451,220 by October 13, 2021.[12]

Objectives

To study the knowledge of people of Indian origin regarding COVID-19 and how it had affected them.

Material & Methods

Study Setting and Participant Selection

This is a prospective study carried out on adults of Indian origin from Delhi, Gujarat, Maharashtra, Uttar Pradesh, Haryana, Rajasthan, Telangana and abroad via e-mail and/ or WhatsApp. The desired number of fifty females and fifty males was reached after receiving 106 duly filled Google Forms.

Inclusion Criteria

- All known adults (aged ≥ 18 years) of Indian origin, from from seven states and abroad, whose mobile numbers/ WhatsApp details were with the researcher
- Adults who gave consent for participation

Exclusion Criteria

- Adults who refused consent for participation
- Out of the total 106 adults who duly filled out Google Forms, 56 were male and 50 were female. To get the desired number of 50 females and 50 males, 6 males had to be excluded from the study.

Tool Used

A Google Form was prepared and pre-tested. It started with a section on the general information of participants and had fifteen questions on COVID-19; symptoms, laboratory tests, CAB, whether any participant suffered from the disease, time taken for complete recovery, its effect on the (i) income of families and (ii) studies of children, and how did the participants think and feel in the COVID-times.

Sample Size and Study Period

The study was conducted from September 1, 2021 to October 16, 2021, and a total of 106 filled Google Forms were received. To keep equal numbers of males and females (50 each) six males had to be excluded from the study. The researcher dropped a pencil on excel sheet and as it fell on a male participant, he was removed from the study. It was done till 6 males were excluded. It was a convenient sampling method thus the analysis was carried out for remaining 100 adults.

Statistical Analysis

Data were entered in MS Excel, and statistical analysis was done using MedCalc easy-to-use statistical software.[13] Data were described in the form of percentages and proportions and quantitative variables were described in terms of mean, range, and standard deviation. The significance for outcomes was calculated, using the Odds Ratio (OR). The significance of p value was taken as $p < 0.05$.

Conduct of the Study

A Google Form on COVID-19 was sent through e-mail and/ or WhatsApp to more than 100 adults who were born in India. The objectives, as well as the material and methods of the present study, were explained to the potential participants by e-mail and/ or WhatsApp. It was also explained that the responses would be kept confidential.

Only those who gave informed consent were provided with this Google Form.

The materials and methods for data collection and analysis in the present non-interventional study were employed by this independent researcher after giving due consideration to human ethical concerns so as to ensure ethical standards in the conduct of this research.

Results

There were 100 participants in the survey including 50 males and 50 females. Participants residing in Delhi, Gujarat, Maharashtra, Uttar Pradesh, Haryana, Rajasthan and Telangana were 49%, 20%, 9%, 5%, 4%, 3%, and 1% respectively. The Indian-origin people who were staying abroad constituted 9% of the subjects.

The mean age of participants was 43.24 ± 14.74 years (range 18–90 years). Participants who were 30–50 years of age constituted 50% of the study subjects. Three per cent of the respondents were young (in the age group of

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202303

18–20 years) and 13% were senior citizens (above 60 years of age). Among the participants, 50% were postgraduate and 37% were graduate (Table 1).

Table 1.Sociodemographic Details of the Participants

Variables		Total	Male	Female
		N (%)	n (%)	n (%)
Sample		100 (100)	50 (50)	50 (50)
Age (years)	Mean	43.24	43.72	42.76
	± SD	± 14.74	± 15.6	± 13.96
Age (range in years)		18–90	18–90	19–73
Age-wise distribution (years)				
18–20		3 (3)	1 (2)	2 (4)
20–30		19 (19)	9 (18)	10 (20)
30–40		26 (26)	14 (28)	12 (24)
40–50		24 (24)	12 (24)	12 (24)
50–60		15 (15)	6 (12)	9 (18)
60–70		10 (10)	6 (12)	4 (8)
> 70		3 (3)	2 (4)	1 (2)
		100 (100)	50 (100)	50 (100)
Educational qualification				
Illiterate		-	-	-
Up to V class		1 (1)	-	1 (2)
X pass		1 (1)	-	1 (2)
XII pass		11 (11)	6 (12)	5 (10)
Graduate		37 (37)	18 (36)	19 (38)
Postgraduate		50 (50)	26 (52)	24 (48)

Forty per cent of the subjects could tell the full form of COVID-19 and 70% knew the different names of the disease. All the participants reported that the disease was first found in China. It was stated by 88% of the respondents that COVID-19 started in December 2019 but 5% wrongly said March 2021 which had an odds ratio of 4.2 for males (CI = 0.45 to 39.54, p = 0.20). The names of the first two vaccines available in India could be told by 94% of the study subjects.

All the participants rightly identified the CAB and could tell the main symptoms of COVID. Among the participants, 77% (OR = 1.77, CI = 0.68 to 4.57, p = 0.23) replied that the first group of recipients of vaccines included healthcare workers and front-line workers. Among the subjects, 33% could tell the names of two tests for COVID and 58% could tell the name of at least one test (Table 2).

Table 2.Participants' Knowledge about COVID-19 Vaccination, COVID-Appropriate Behaviour (CAB) Symptoms and Tests

Questions	Total N (%)	Male n (%)	Female n (%)
In India, the first ones to receive COVID-19 vaccines were:			
Senior citizens aged 60 years and above	21 (21)	9 (18)	12 (24)
Health workers and front-line workers	77 (77)	41 (82)	36 (72)
People in the age group of 35 years and above	1 (1)	-	1 (2)
None of the above	1 (1)	-	1 (2)
Total	100 (100)	50 (100)	50 (100)
What do you mean by COVID-Appropriate Behaviour (CAB)?			
Wearing masks	-	-	-
Maintaining 6 feet distance	-	-	-
Washing hands/ using hand sanitisers	-	-	-
All of the above	100 (100)	50 (100)	50 (100)
Which tests are done to detect COVID-19?			
RT-PCR and antigen test	33 (33)	15 (30)	18 (36)
RT-PCR	56 (56)	34 (68)	22 (44)
Antigen test	2 (2)	-	2 (4)
Wrong name	4 (4)	-	4 (8)
Don't know	5 (5)	1 (2)	4 (8)
What are some symptoms of the disease?			
Fever, cough, breathlessness, not feeling well	100 (100)	50 (100)	50 (100)
Anaemia, feeling sleepy	-	-	-
Constipation, feeling hungry all the time	-	-	-

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202303

To the question, 'Have you had COVID?', 22% of participants gave a positive response and this had an odds ratio of 2.04 (CI = 0.76 to 5.41, p = 0.15). Some (6%) said 'may be'. The time taken for full recovery from COVID was 15–30 days, this was reported by 71%. Sixty-one per cent correctly answered that a person who has had COVID can take the vaccine after 12 weeks but 12% said 'Any-time' which had an odds ratio of 3.44 (CI = 0.87 to 13.56, p = 0.07). According to 85% of subjects, COVID-19 had affected the income of families.

According to 88% of participants, COVID-19 had affected the studies of children. Some (12%) said that online classes are good. This had an odds ratio of 2.19 (CI = 0.61–7.80, p = 0.22). In these COVID times, 45% of participants wondered when would COVID-19 end, 15% were disturbed thinking of the third wave and 13% feared the death of some close family member. This had an odds ratio of 1.71 (CI = 0.51–5.6, p = 0.37). Among all participants, 7% had started spending a lot of time on mobile phones (Table 3).

COVID-positive cases were analysed to see any association with age, gender, education, and the state they reside in. In our survey, a very significant association was found between the age group of 40–50 years and COVID-19 positivity (OR = 13.19, CI = 4.14–42.03, p < 0.0001). Gender-wise, the odds ratio of females having COVID-19 was 2.04 (CI = 0.76–5.41, p = 0.15). Education-wise, graduates and postgraduates, and state-wise, Delhi had the odds ratio of having COVID as 1.64 and 1.03 respectively (Table 4).

Table 3.Effects of COVID-19 on Children's Studies and on Participants' Mental Health

Questions	Total N (%)	Male n (%)	Female n (%)	Odds Ratio	95% CI	Significance Level p Value
How has it affected the studies of children?						
Classes in the school are good	88 (88)	42 (84)	46 (92)	2.19	0.6145 to 7.8082	0.2266
Online classes are good	12 (12)	8 (16)	4 (8)			
Total	100 (100)	50 (100)	50 (100)	-	-	-
In these COVID times, I think and feel the following:						
Suppose I get COVID	4 (4)	2 (4)	2 (4)	-	-	-
When will COVID-19 end?	45 (45)	23 (46)	22 (44)	-	-	-
Suppose some close family member dies	13 (13)	5 (10)	8 (16)	1.71	0.5195 to 5.6569	0.3762
I get disturbed thinking of the third wave	15 (15)	7 (14)	8 (16)	-	-	-
Not going to park for the daily walk	2 (2)	2 (4)	-	-	-	-
Feel lonely	1 (1)	-	1 (2)	-	-	-
Spend a lot of time on mobile phone	7 (7)	2 (4)	5 (10)	-	-	-
Unable to visit friends	4 (4)	2 (4)	2 (4)	-	-	-
Unable to attend parties	2 (2)	2 (4)	-	-	-	-
Almost all of the above	3 (3)	3 (6)	-	-	-	-
All of the above	2 (2)	-	2 (4)	-	-	-
Thank God that I and my family are safe	1 (1)	1 (2)	-	-	-	-
Restless, thinking of the present scenario	1 (1)	1 (2)	-	-	-	-

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202303

Table 4.COVID Positivity among Participants according to Age, Gender, Education and State

Variables	Total N (%)	COVID Yes n (%)	COVID No n (%)	Odds Ratio 95% CI	p Value
Age-wise (years)					
40–50	24 (24.0)	13 (54.2)	11 (45.8)	13.197 4.1429 to 42.0385	< 0.0001
Other age groups	76 (76.0)	9 (11.8)	67 (88.2)		
Gender-wise					
Females	50 (50.0)	14 (28.0)	36 (72.0)	2.0417 0.7693 to 5.4188	0.1518
Males	50 (50.0)	8 (16.0)	42 (84.0)		
Education-wise					
Graduates & postgraduates	87 (87.0)	20 (22.9)	67 (77.0)	1.6418 0.3357 to 8.0291	0.5404
Below graduation	13 (13.0)	2 (15.4)	11 (84.6)		
State-wise					
Delhi	49 (49.0)	12 (24.5)	37 (75.5)	1.0378 0.3960 to 2.7198	0.9398
Other states	42 (42.0)	10 (23.8)	32 (76.2)		

Discussion

The objective of this study, to know about the knowledge of people of Indian origin regarding COVID-19, was fulfilled. We must remember that very little was known about it in January 2020 and many researchers tried to describe the epidemic distribution of when, where, who, clinical characteristics, laboratory diagnosis, treatment as well as prevention and control of the SARS-CoV-2 virus so that it could provide meaningful information for future research related to this topic and help readers have the latest understanding of this new infectious disease.[14] It is heartening to see that after nearly one year and ten months of COVID, participants knew quite a lot about it. Seventy per cent of them could tell the different names of the disease.

All the participants reported that it was first found in China (100%) and 88% said that COVID started in December 2019. This is a fact as the study by Huang et al. reported, "a recent cluster of pneumonia cases in Wuhan, China", caused by a novel beta-coronavirus, the 2019 novel coronavirus (2019-nCoV).[15] Many others also reported similar findings.[16,17]

The mean age of participants is comparable to other similar studies.[18] The age-wise distribution of positive cases showed that the maximum numbers affected were in the age group of 40–50 years.

The names of the first two vaccines available in India could be told rightly by 94% of participants and that they were first given to health workers and front-line workers was mentioned by 77% of subjects. India's drug regulator had given the green light to two vaccines - COVISHIELD (the local name for the Oxford-AstraZeneca vaccine developed in the UK) and COVAXIN, locally made by pharma company Bharat Biotech, and the vaccination had started for healthcare workers and other front-line workers on January 16, 2021.[19]

CAB was correctly mentioned by all (100%) participants. They are similar to those mentioned by the Indian Ministry of Health & Family Welfare.[20] RT-PCR and antigen tests were the two tests mentioned by 33% of participants and only one of these tests was mentioned by 58% of participants. Advisory on the use of rapid antigen detection test for COVID-19 in India said that suspected individuals who test negative for COVID-19 by rapid antigen test should be definitely tested sequentially by RT-PCR to rule out the infection.[21] Symptoms of the disease were correctly reported (as mentioned by the CDC) by 100% of respondents.[22] For the question of how much time it takes to fully recover from COVID, 71% said 15–30 days similar

ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202303

to a World Health Organization (WHO) analysis of Chinese data (May 1, 2020) stated that it takes two weeks on an average to recover.[23]

The objective of our study was also to see how COVID-19 had affected them. Eighty-five per cent agreed that COVID had affected the income of families. Similar comparable results have been reported by the Centre for Monitoring Indian Economy (CMIE).[24] According to 88% of subjects, it had affected the studies of children, which is corroborated by the data presented by the Indian Ministry of Education in the Parliament in August 2021; nearly 30 million children do not have a digital device to access education online.[25] More and more people were forced to stay at home in self-isolation to prevent the spread of disease. Getting together with friends and family is an important part of life. The COVID-19 pandemic has impacted our ability to safely meet others. Many people have been forced to cancel or reschedule meaningful events, such as weddings, parties, and family gatherings. There is no "zero risk" when it comes to any kind of gathering, especially events that bring groups of people together. The virus that causes COVID-19 spreads easily indoors, especially in poorly ventilated settings.[26] Study participants, when asked what they thought and felt in these COVID-times, replied that they (45%) wondered when would COVID-19 end. They (15%) got disturbed thinking of the third wave and some (13%) of them worried about the lives of close family members. The answers to these questions reflected frustration, increased stress, anxiety, fear and agony of people in regard to COVID-19 and showed a negative impact on their mental health.

Conclusion

Though the sample size of the study was small, the participants belonged to only seven states and it was an online survey, yet it has brought out some very important results. COVID-19 has taught us what life is about - simplicity, spirituality, and uncertainty. What one can do – stay in the house, focus on healthy eating, physical and breathing exercises, yoga, mindfulness and meditation, gratitude and positive thinking, CAB, and help others. This way from the valley of shadow of death COVID-19, we will be able to renew and restore life.

Source of Funding: None

Conflict of Interest: None

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ISSN: 2454-325X
DOI: https://doi.org/10.24321/2454.325X.202303