

Research Article

# Disciplined Nation? Attitude towards Self Practiced Non-Pharmaceutical Intervention in Prevention of Covid-19 Infection among Adults before Complete Lockdown was Imposed in India

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## I N F O

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## A B S T R A C T

**Background:** Preparedness for passive intervention in form of social distancing in cultural setting of India needs to be studied.

**Objective:** To determine the attitude of urban adults of India regarding feasibility of social distancing as a mode of prevention of Covid-19 transmission before complete lockdown in country was imposed.

**Methodology:** A descriptive cross sectional study was conducted among adults who were literate in English language and were residing in urban areas of various regions India. Data was collected between 16<sup>th</sup> to 20<sup>th</sup> March, 2020 before lockdown in various districts were started and *Janata* curfew (lockdown) was announced. Questionnaire included hypothetical scenarios to assess attitude of study population on social distancing.

**Result:** There were 264 completed responses. 87.9% among all believed that social distancing will prevent them and others too. Positive attitude towards work place related social distancing was reported by 84.8%. Feasibility towards avoiding market and going to family functions (coping strategies) were showing positive attitude among 52.3% and 72.9% respectively. Giving leave to maid (active prevention) was difficult for 47.4% female respondents, 73.3% employees in public and private sector and 83.3% of age more than 60 years.

**Conclusion:** The urban India with so much of diversities showed a promising favorable attitude towards social distancing.

**Keywords:** Non-Pharmaceutical Intervention, Passive Social Distancing, Urban Area

## Introduction

The first case of Novel Corona virus in India was reported on 31<sup>st</sup> January, 2020.<sup>1</sup> Covid-19 was declared as a pandemic on 11<sup>th</sup> March, 2020 by World Health Organization (WHO).<sup>2</sup> Since then it has taken a form of epidemic in many states and Epidemic diseases act, 1897 was invoked. The section two in this act includes special measures to be taken by the Centre to “prescribe regulations as to dangerous epidemic disease.”<sup>3</sup>

Non-pharmaceutical interventions remain central for management of Covid-19 because there are no licensed vaccines or corona virus anti virals.<sup>4</sup> Social distancing is a non-pharmaceutical infection prevention and control intervention implemented to avoid/decrease contact between those who are infected with a disease causing pathogen and those who are not, so as to stop or slow down the rate and extent of disease transmission in a community.<sup>5</sup> This is further categorized based on location of an individual i.e. at household level, workplace, school and public places.

Social distancing was advised by the Government of India (GOI) when the country was in stage two of infection.<sup>5</sup> To prevent widespread community transmission in exercise of the powers under section 6(2) (i) of the Disaster Management Act, 2005, GOI imposed a complete lockdown of the country from 25<sup>th</sup> March, 2020.<sup>6</sup> This step was taken to strengthen the social distancing advisory by government. The number of COVID 19 positive cases was on rise.

India has strong social cohesion between communities and this is associated with shared social and economic interests. In a second most populated country where quarantine makes its citizen anxious, social distancing as an advisory to be followed seems difficult to be followed. Before the GOI imposed complete lockdown in country we conducted an online survey to determine the attitude of urban adults of India regarding feasibility of social distancing as a mode of prevention of Covid 19 transmission.

## Methodology

A descriptive cross sectional study was conducted in form of an online survey using Google forms. The study participants included in the survey were adults who were literate in English language and were residing in urban areas of various regions India. The participants were approached using contact list of the authors, friends and relatives of contacts. Social networking applications i.e. Whatsapp and mail was the medium of sending them the questions. A self designed questionnaire consisting of questions reflecting the attitude towards different ways of social distancing was used. Hypothetical scenarios were presented to the study population. Data collection was done between 16<sup>th</sup> to 20<sup>th</sup>

March, 2020 before lockdown in various districts were started and *Janata* curfew was announced.<sup>6</sup> The participants were asked to reply on Likert scale. We contacted around 300 from the contact list of all the authors who were available on above mentioned social media apps. A statement of consent for participating in the survey with a brief purpose of the survey was included in the form. The forms of those who consented to participate (written consent) and completed the survey were automatically submitted. Authors sent the questionnaire daily to 5-6 of their contacts who were further requested to send it to their relatives and friends. The receipt of further responses was closed on 20<sup>th</sup> March, 2020 before announcement of any formal lockdown. 264 responses were received.

The Google form has an inbuilt data entry system where all the data collected is transferred to excel sheet format. The data was analysed using Microsoft excel sheet and presented in form of frequency and proportions. The response of possibility of social distancing were answered on likert scale ranging from 1 to 5, where 1 denotes not at all possible and 5 denotes extremely possible. Further the responses on scale were categorized into favorable attitude which included positive responses on feasibility (score 4 and 5) and unfavorable attitude (score 1 to 3) which included negative response on feasibility. There were 15 questions related to attitude on feasibility of social distancing. These were further grouped in three domains for analysis; which are as follows: active prevention by an individual, work related distancing and distancing from coping strategies.

Active prevention by an individual: The social distancing practiced actively by an individual at any place.

Work related distancing: It is the social distancing practiced at workplace either due to workplace restrictions or by individual themselves.

Distancing from coping strategies: Coping strategies here means depending on external world (outing for recreation, social lunch/dinner etc) for our mental health.

## Result

We received 264 responses, 81.4% of which were from North, 8.7% from south and 6.1% from west India. There were 50.4% responses from females, 49.2% from males and one from a transgender. The age ranged from 18 to 71 years. Majority of the participants (56.4%) were in age group 26 to 40 years, 25% were less than 25 years, 16.3% were in 41-60 years age group and 2.3% in >60 years age group. Majority of the participants were health care workers (37.1%), employees in public and private firms (32.6%), 14% were students. An equal proportion (6.1% each) represented teachers and business personnel. Homemakers and retired people contributed to 4.2% of the population.

Table 1. Positive attitude towards different ways of social distancing (n=264)

Active prevention	N (%)	Work related distancing	N (%)	Distancing from Coping strategies	N (%)	Distancing from Coping strategies	N (%)
Avoid Hand shake	239 (90.5)	Say no to conference/ workshops/ work related meet	219 (83.0)	Say no to kids to take them out when schools are closed	242 (91.7)	Avoid going market	138 (52.3)
Talk at distance of one meter	128 (48.5)	Take lunch on own desk	213 (80.7)	Do not visit religious place	239 (90.5)	Avoid gym instead work out at home	246 (93.2)
Give leave to maid	145 (54.9)	Workfrom home	114 (43.2)	Avoid family functions	211 (79.9)	Avoid outing with spouse/ partner	233 (88.3)
		Travel in cab/ taxi without air conditioner	199 (75.4)	Avoid restaurant/ eating out	250 (94.7)	Stay at home when sick	214 (81.1)
Total	212 (80.3)		224 (84.8)		251 (95.1)		

Table 2. Determinants of Attitude towards different ways of social distancing (n=264)

	Work related distancing	Active prevention	Distancing from Coping strategies	Total
	Positive attitude for feasibility N (%)	Positive attitude for feasibility N (%)	Positive attitude for feasibility N (%)	
<b>Total</b>	<b>224 (84.8)</b>	<b>212 (80.3)</b>	<b>251 (95.1)</b>	<b>264 (100)</b>
<b>Gender</b>				
Male	107 (82.3)	104 (80.0)	124 (95.4)	130 (100)
Female	116 (87.2)	107 (80.5)	126 (94.7)	133 (100)
Trans gender	1 (100)	1 (100)	1 (100)	1 (100)
<b>Occupation</b>				
HCW	85 (86.7)	77 (78.6)	94 (95.9)	98 (100)
Business/self employed	16 (100)	14 (87.5)	16 (100)	16 (100)
Teacher	12 (75.0)	11(68.8)	15 (93.8)	16 (100)
Student	32 (86.5)	27 (73.0)	34 (91.9)	37 (100)
Employees (public/private)	69 (80.2)	74 (86.0)	82 (95.3)	86 (100)
Homemaker/retired	10 (90.9)	9 (81.8)	10 (90.9)	11 (100)
<b>Age in years</b>				
≤25	52 (78.8)	53 (80.3)	61 (92.4)	66 (100)
26-40	125 (83.9)	123 (82.6)	142 (95.3)	149 (100)
41-60	42 (97.7)	32 (74.4)	43 (100)	43 (100)
>60	5 (83.3)	4 (66.7)	5 (83.3)	6 (100)

87.9% of the study participants believed that social distancing will prevent them and others too from Covid-19. The overall attitude towards feasibility of social distancing

was found to be positive. Table 1, shows that 95% of participants had a positive attitude towards distancing from coping strategies like saying no to kids to go out, avoiding

gym, market, religious place, social functions etc. Positive attitude towards work place related social distancing was reported by 84.8%. Work from home was less feasible by the population with 56.8% reporting negative attitude. Positive attitude towards active prevention which included feasibility of avoiding handshake with colleagues, friends etc, maintaining a distance of one meter (48.5%) and giving leave to maid and house help (54.9%) was reported by 80.3% participants. Feasibility towards avoiding market (52.3%) and going to family functions (72.9%) were showing positive attitude on lower side (Table 1).

The negative attitude towards active prevention among males (20.0%) was almost equal to females (19.5%). It was difficult for 47.4% female respondents, 73.3% employees in public and private sector and 83.3% of age more than 60 years to give leave to their house help/maid. Social distancing for active individual prevention was observed to be less feasible among teachers, students and health care workers. One fourth of 41-60 years age group reported negative attitude towards active self prevention as compared to work related distancing or distancing from coping strategies. Work related social distancing was reported to be more feasible by females as compared to males (Table 2).

## Discussion

This study was conducted during the initial stages of epidemic of Covid 19 in India before any active intervention was imposed by Government. It represents the effort to assess the feasibility of social distancing by the urban adults of the country. Community mitigation advisory was issued by the GOI when the cases of Covid 19 had started to come up by mid March 2020. The advisory emphasizes on social distancing as one of the measures to mitigate the transmission of the novel virus.

Social distancing is a tested intervention during influenza pandemic.<sup>7</sup> However community engagement is necessary before implementing any behavior change intervention. The current analysis shows that attitude of the literate urban population towards various aspects of social distancing was overall positive. Work related social distancing was reported to be more feasible by females as compared to males. This is probably due to more sincere and disciplined nature of females. Also males are more involved in outdoor occupation. Social distancing for active individual prevention was observed to be less feasible among teachers, students and health care workers. Health care workers at workplace cannot avoid procedures in health care setting which involve touching and spacing with patients. Teachers of young children at school/ tuition have to be in close proximity of their students. Another observation was of difficulty in avoiding entry of house help/maid/caretaker by this urban population. Currently the urban population of country is

largely dependent on this informal sector of caregivers.<sup>8</sup> It affects the people who are working in outdoor occupation equally as to homemakers and retired personnel. The geriatric vulnerable population demonstrated a less positive attitude towards active prevention which involved avoiding entry of caretaker/ maid. Due to increase in nuclear families in urban areas, the only support to earning population for their children and dependent elderly is this sector of paid caregivers. Urban population is bound to move around and come in contact with others for earning livelihood.<sup>9</sup> Active prevention in this analysis includes avoiding contact through handshake, keeping distance of one meter and also avoiding entry of outsider like maid or house help in house. Covid 19 has been seen to have human to human transmission hence social distancing is a cost effective intervention until no other treatment is available. However the socioeconomic cost of avoiding paid caregivers/ maid will be high.<sup>10</sup> WHO from the evidence of 1957 influenza epidemic reported that pandemic first appeared in groups where contact was close.<sup>7</sup> This trend has initially been observed in India too.

Feasibility of distancing from these coping measures demonstrated positive attitude. Feasibility of avoiding visiting outdoor market was difficult for around half of participants and not going to family functions was possible by two third. It is the behavior of the people in India that vegetables, dairy products and poultry are mostly bought in person from market that to fresh.<sup>11</sup> Indian society is collectivistic in the sense that focal point of social structure is family.<sup>12</sup> Family values and norms include family functions which have a special space in Indian society. The fear of social outcast/isolation by being away from social and family functions is sometimes more dreaded as compared to the effect of an invisible virus. Social relationships have been studied to be contacts in infectious disease transmission.<sup>13</sup> Hence it depends on the behavior of social networks whether they help in disease spread or prevent population level exposure. Social network plays a protective role in health of a human being. Hence strict social distancing may be completely effective in virtual experiments to contain the infection but in real world studies it is difficult to implement. Also the effects of social distancing on preventing corona virus transmission will be visible after some time; but its other effects on health may be visible in other forms.

## Limitations

Inclusion of literate population with understanding in English could not capture the attitude of population who are illiterate or not versed with technology. Also due to the present condition of Covid 19 one to one interviews was difficult hence snowball and convenient sampling using online survey. The findings cannot be generalized to country as a whole but gives us an idea of the educated class.

## Conclusion and Recommendation

Dependence on external world for our coping strategies is one of our weaknesses. Hence strict rules and regulations by the state and central governments have been enforced as it was not being practiced actively by citizens. The vulnerable geriatric population is apprehensive about loss of house help/caretakers in view of prevention strategy. However, positive attitude towards distancing from coping strategy gives a promising result that the prevention strategies may prove effective. Overall positive attitude of the population shows their preparedness towards physical distancing. With the palpable sense of fear sweeping across the country, social distancing effectiveness can be increased by adequate and effective communication to the society and managing the psychological issues too.

**Conflicts of Interest:** None

## References

1. World health organization. Emergencies. India situation report 1. Novel Corona virus (2019-nCov). 31<sup>st</sup> January, 2020. [Available from [https://www.who.int/docs/default-source/wrindia/india-situation-report-1.pdf?sfvrsn=5ca2a672\\_0](https://www.who.int/docs/default-source/wrindia/india-situation-report-1.pdf?sfvrsn=5ca2a672_0)] [Last accessed on 26<sup>th</sup> March, 2020].
2. World health organization. Corona virus disease 2019. Events as they happen. Rolling updates on corona virus updates (COVID-19). [internet] [Available from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen>].
3. Awasthi P. Centre invokes 'Epidemic Act' and 'Disaster Management Act' to prevent spread of coronavirus. The Hindu. Business line: National. March 12, 2020. [Available from <https://www.thehindubusinessline.com/news/national/centre-invokes-epidemic-act-and-disaster-management-act-to-prevent-spread-of-coronavirus/article31049161.ece#>] [Last accessed on 26<sup>th</sup> March, 2020].
4. Heymann DL, Shindo N. COVID-19: what is next for public health? *The Lancet* S0140-6736(20): 30374-3.
5. Government of India. Ministry of Health and Family welfare. Advisory on social distancing measure in view of spread of COVID-19 disease. 17<sup>th</sup> March, 2020. Ministry of Health and Family welfare. New Delhi, India [D.O.No. Z-21020/14/2020-PH].
6. World health organization. Emergencies. India situation update report 9. Novel Corona virus (2019-nCov). March 28, 2020. [Available from [https://www.who.int/docs/default-source/wrindia/india-situation-report-1.pdf?sfvrsn=5ca2a672\\_0](https://www.who.int/docs/default-source/wrindia/india-situation-report-1.pdf?sfvrsn=5ca2a672_0)] [Last accessed on 5<sup>th</sup> April, 2020].
7. World Health Organization Writing Group. Bell D, Nicoll, A, Fukuda K, Horby P, Monto A, Hayden et al. Non-pharmaceutical interventions for pandemic influenza, national and community measures. *Emerging infectious diseases* 2006; 12(1): 88-94.
8. Sashtry NS. United Nations Development Programme. Human development resource centre. Discussion Paper Series 7. Estimating Informal Employment & Poverty in India. New Delhi, India. 2004. 83.
9. Satterthwaite D, Mc Granahan G, Tacoli C. Urbanization and its implications for food and farming. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences* 2010; 365(1554): 2809-20.
10. Zhang Y, Jiang B, Yuan J, Tao Y. The impact of social distancing and epicenter lockdown on the COVID-19 epidemic in mainland China: A data-driven SEIQR model study.
11. Ray R. Supply chain management- Retailing. Food and Grocery retailing. Tata Mc-Graw Hills Education Private Ltd. New Delhi, India. 2010; pp 286
12. Chadda RK, Deb KS. Indian family systems, collectivistic society and psychotherapy. *Indian J Psychiatry* 2013; 55(Suppl 2): S299-309.
13. Klodahl AS, Graviss EA, Yaganehdoost A, Ross MW, Wanger A, Adams GJ, et al. Networks and tuberculosis: an undetected community outbreak involving public places. *Soc Sci Med* 2001; 52(5): 681-694.