



PSYCHOLOGICAL RESPONSES TO LOCKDOWN DUE TO CORONA VIRUS EPIDEMIC IN MAHARASHTRA STATE, INDIA

Anatomy

Siddhi Lalit Kankariya

Medical Student, Rajiv Gandhi Medical College, Kalwa, Thane, Maharashtra, India

Gajare Rupali*

Assistant Professor, Anatomy Department, Rajiv Gandhi Medical College, Kalwa, Thane, Maharashtra, India*Corresponding Author

Parag G. Kasliwal

Professor, Biology, Ashoka Universal School, Nashik, Maharashtra, India

Sundaram Kartikeyan

Professor and Head, Community Medicine Department, Rajiv Gandhi Medical College,

ABSTRACT

This cross-sectional descriptive study using snowball sampling technique was conducted in the state of Maharashtra in Western India, using Google forms during the lockdown due to the corona virus epidemic during April-May 2020. A pre-tested and pre-validated questionnaire was administered to 440 adult respondents (239 females: 54.32% and 201 males: 45.68%) to determine the socio-demographic profile and psychological responses of the respondents to the lockdown. The average age of female and male respondents was 23.82 $\pm$ 8.22 years and 23.02 $\pm$ 7.68 year, respectively, without significant ($Z=1.053$; $p=0.291$) gender difference. Significant gender difference was observed in educational status, occupation and leisure activities. As compared to females, significantly higher percentage of males experienced difficulty in concentrating on work or studies, worried about the future and experienced monotony and restlessness. Since lockdowns can be imposed as preventive measures in future also, the general public ought to be taught helpful tips to reduce stress.

KEYWORDS

Corona virus epidemic, Covid virus epidemic, Lockdown, Psychological responses

INTRODUCTION

The novel coronavirus, COVID-19, which started in mainland China, [1] has widely spread all over the world and has been declared a pandemic by the World Health Organization. Coronaviruses are enveloped non-segmented RNA viruses that are widely distributed among humans and other mammals. [2] It has been suggested that for India, two or three lockdowns or a single 49-day lockdown can slowdown the spread of the disease. [3] Mathematical modeling may provide a comprehensive mechanism for the dynamics of COVID-19 transmission. Several mathematical models, based on a system of differential equations, have already been prepared to study the dynamics of transmission of coronavirus pandemic. [4-7] As a consequence of the non-availability of a vaccine, social distancing is being used as the main prevention and control strategy to break the chain of transmission. [8] The purpose of various initiatives is the restriction of social interaction in workplaces, places of recreation and educational institutions, which gives vulnerable populations a better chance of surviving the epidemic.

During a lockdown, all extra-domestic movement is curbed and intra-city and inter-city travel is severely restricted or prohibited. Lockdowns and disease containment events might also be deleterious to the mental health of people experiencing starvation and homelessness, many of whom tend to equate compulsory hospitalization with incarceration. [9] The risk factors for high levels of stress and anxiety were female gender, student status, symptoms and poor self-rated health status. [1] Though this pandemic has disrupted the life, economy and health of people, few researchers [10, 11] have studied the psychological impact of this pandemic.

The objective of this study was to determine the psychological responses of adult respondents, of either gender, to the lockdown due to the corona virus epidemic during the year 2020.

MATERIALS AND METHODS

This cross-sectional descriptive study was conducted using the snowball sampling technique during the lockdown due to the corona virus epidemic during April-May 2020. A pre-tested and pre-validated questionnaire was administered via Google forms to adult respondents, of either gender in the state of Maharashtra, Western India. Informed consent was taken on the Google forms. The data were adapted to Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS statistical software Windows Version 25.0 (IBM Corporation, Armonk, NY, USA). The

percentage of responses and the standard error of difference between two sample proportions were calculated. For continuous data, the standard error of difference between two means was calculated. 95% Confidence interval (CI) was stated as: [Mean-(1.96)*Standard Error] - [Mean+(1.96)* Standard Error]. The statistical significance was determined at $p<0.05$.

RESULTS AND DISCUSSION

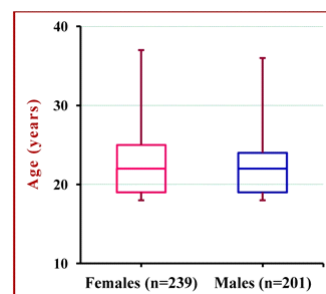


Fig-1: Box plot showing age distribution of respondents

A total of 440 persons (females: 239; 54.32% & males: 201; 45.68%) participated in the study. The average age of female respondents ($n=239$) was 23.82 $\pm$ 8.22 years (95% CI: 22.78–24.86 years), while that for male respondents ($n=201$) was 23.02 $\pm$ 7.68 years (95% CI: 21.96–24.08 years). The gender difference in age distribution was not statistically significant ($Z=1.053$; $p=0.291$). The minimum age, first quartile and median age were identical for respondents of either gender but the third quartile and maximum age were higher for female respondents (Fig-1).

Table-1: Gender differences in socio-demographic profile

Parameter		Females (n=239)	Males (n=201)	Z value	'p' value
Education	Up to 12th Std	69 (28.87%)	41 (20.40%)	2.044	0.041 *
	Undergraduate	88 (36.82%)	78 (38.81%)	0.428	0.667
	Graduate	55 (23.01%)	67 (33.33%)	2.409	0.015 *
	Postgraduate	27 (11.30%)	15 (07.46%)	1.363	0.173

Family size	>3 members	217 (90.79%)	175 (87.06%)	1.250	0.211
Occupation	Business	12 (05.02%)	11 (05.47%)	0.212	0.833
	Service	15 (06.28%)	24 (11.94%)	2.082	0.037 *
	Student	185 (77.40%)	165 (82.09%)	1.213	0.226
	Homemaker	27 (11.30%)	...	...	...
Hobbies	Indoor	223 (93.31%)	137 (68.16%)	6.812	<0.0001 *
	Outdoor	06 (02.51%)	33 (16.42%)	5.112	<0.0001 *
	Both	10 (04.18%)	31 (15.42%)	4.039	<0.0001 *

Z = Standard error of difference between two proportions; * Significant Self-reported indoor-based hobbies were significantly higher among females, as compared to males. (Table-1) There is paucity of medical literature on the health benefits of engaging in enjoyable leisure activities (hobbies), breathers or restorers. [12] The vast majority of studies focus on leisure that involves physical activity, [13-15] or on the ability to concentrate [16] instead of physiological and psychological well-being. Leisure activities are pleasurable activities that individuals engage in voluntarily when they are free from the demands of work or other responsibilities and may include hobbies, sports, socializing, or spending time in nature. Some leisure activities provide an opportunity to engage in pleasurable diversionary activity; may also act as "restorers" that facilitate the individual's recovery from stress by replenishing damaged or depleted resources and consequently induce positive emotions and reduce stress. [17] Some leisure activities typically involve little mental effort, provide a sense of "being away," maintain engagement, and match the person's interests and abilities providing relief from the concerns that normally occupy the mind. [18, 19] Leisure has been hypothesized to buffer the damaging effects of stress by encouraging positive feelings and promoting a variety of social and physical resources that allow individuals to feel refreshed and better cope with stress. [20-23] Several studies [24-26] have reported that watching television was used as an effective coping mechanism to deal with stress.

Table-2: Gender differences in responses to questionnaire on "lockdown"

Statement in brief	Females (n=239)	Males (n=201)	Z value	'p' value
Difficult to concentrate on work / studies	97 (40.59%)	103 (51.24%)	2.236	0.025 *
Worry about future while working / studying	125 (52.30%)	86 (42.79%)	1.990	0.046 *
Not feeling excited about work / studies	86 (35.98%)	76 (37.81%)	0.396	0.689
Feeling of boredom due to TV programmes	136 (56.90%)	126 (62.69%)	1.231	0.218
Overload of multiple plans and interests	145 (60.67%)	116 (57.71%)	0.629	0.528
Activities are repetitive and monotonous	132 (55.23%)	88 (43.78%)	2.392	0.016 *
Feel restless when standing in a queue	72 (30.13%)	81 (40.30%)	2.232	0.025 *
Very hard to find exciting activity	177 (74.06%)	120 (59.70%)	3.202	0.001 *
Feel half-dead and dull without challenges in life	130 (54.39%)	171 (85.07%)	6.896	<0.0001 *
Mostly not using my abilities and skills	120 (50.21%)	121 (60.20%)	2.097	0.035 *

Z = Standard error of difference between two proportions; * Significant

As compared to their female counterparts, a significantly higher

number of male respondents seemed to yearn for active life which they missed because of the lockdown. (Table-2)

Since such lockdowns can be used as a public health measure in future also, the general public must be made aware of helpful tips to reduce stress during the lockdown. These tips include – maintaining a daily routine, obtaining news only from credible news sources, focusing only on things that can be controlled, finding activities to keep oneself busy, staying connected with loved ones via technology and taking medication as prescribed (where applicable). [27]

CONCLUSION

Significant gender difference was observed in educational status, occupation and leisure activities, experiencing difficulty in concentrating on work or studies, worrying about the future and experiencing monotony and restlessness.

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