Psychological Perception Towards Novel Coronavirus (Covid-19) Among General Public In Tamilnadu State, India- An Exploratory Analysis

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Abstract

Background: Novel coronavirus (COVID-19) is an infectious respiratory disease and it begins to spread globally. In India, the first COVID-19 case was detected in Kerala and then it slowly starts spreading various parts of India. Due to the rapid spreading of coronavirus (COVID-19) the people become more panic and it affects the psychological health of the people.

Aim: The aim of this study is to assess the psychological perception of the people towards COVID-19 among general public in Tamilnadu, India.

Materials and Method: A cross sectional study was conducted among 170 subjects in Tamilnadu based on the simple random sampling method and their psychological perception towards COVID-19 were assessed by using a 15 item questionnaire. The data were analyzed and tabulated using descriptive statistics and chi square test. $P<0.05$ were considered to be statistically significant.

Results: There was a statistically significant difference was found in sleep quality($p=0.04$), scared of being treated indifferently ($p=0.01$) and financial loss ($p=0.002$) among males and females. No statistically significant difference was found in the overall psychological perception towards COVID-19 in relation to age and gender.

Conclusion: Majority of the people had a moderate level of stress towards the disease.This paper points out the importance to address psychosocial impact of COVID-19 to reduce the vulnerability of this condition by enhancing better coping and resilience of the public.

Keywords*: COVID-19, Psychological, Perception, People, Impact.*

Introduction

Novel corona virus (COVID-19) is an infectious respiratory disease begins to emerge throughout the world which is zoonotic in nature and can be transmitted from animals to humans. The current outbreak of Novel corona virus (COVID-19) was first emerged in Wuhan, China on 31st December 2019 with a confirmation of 80,881coronavirus affected cases and then it starts spreading to other countries globally [1].

World Health Organization had declared this outbreak as a public health emergency concern on 30th January 2020. The term COVID-19 for this virus was given by WHO on February 11th 2020 [1]. WHO announced coronavirus outbreak as pandemic on 11th March 2020. Previously two strains of corona virus such as Severe Acute Respiratory Syndrome Coronavirus (SARS- CoV) and Middle East Respiratory Syndrome (MERS- CoV) have infected human begins but the only strain Novel coronavirus (COVID- 19) is found to be

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pandemic [2].

World Health Organization (WHO) has updated a guideline to reduce the spread of corona virus infection which involves washing hands with soap and water. The preferred element is frequent washing of hands with soap and water and if soap and water is not available, use alcohol based hand rub, cover the nose while sneezing and coughing to avoid the spread of infection, avoid close contact with person having cold or flu like syndrome and avoid contact with wild or farm animals or visiting live or wet market. The incubation of corona virus is 5 days and approximately 2-14 days. Since corona virus starts with mild symptoms they are several cases reported among children in Shenzhen, china that they do not have symptoms but developed coronavirus [3].

The outbreak of novel corona virus (COVID-19) is increasing rapidly and affects people in worldwide distribution. The COVID-19 infected patients will be kept under quarantine which is the most unpleasant experience among the public this affects the psychological health of people which includes insomnia, fear of contact with others and travelling, tachycardia and diarrhoea. Due to the high negative impact of quarantine among the public causes more depression this may also makes them to commit suicide [4]. The panic due to COVID-19 may also causes and worsens other psychological problems such as Obsessive Compulsion Disorder (OCD). WHO reported that the COVID-19 crisis is generating more panic among the public and has advised the people to avoid hearing, listening or watching the news which creates anxiety and negative impact on them [5].

The outbreak of corona virus (COVID-19) begins to spread in India with the first case confirmed in Kerala on 30th January 2020, and then slowly it starts spreading to the other states. In India, the first death due to corona virus (COVID-19) was reported on 12th March in Karnataka [6,7]. Among the various states of India, Tamil Nadu ranks second place after Maharashtra with a highest of corona virus. In Tamilnadu the first COVID-19 case was reported on March 7th, 2020 and then the number of cases was found to be rapidly increasing with a confirmation of 19,372 cases by the Department of Health and Family Welfare as of 28 May 2020. This creates more panic and might affect the mental health of the public [8]. Hence, this present study aims to evaluate the psychological perception towards COVID-19 among public in Tamil Nadu state, India.

Materials and Method

A descriptive, cross-sectional study was conducted among people in Tamilnadu to evaluate their psychological perception towards COVID-19. The ethical approval for this study was obtained from the Institutional review board AND Institutional Ethical Committee of SRM Dental College, Ramapuram and the IRB approval number was SRMU/M&HS/SRMDC/2020/PG/005. The sample size was estimated to be 170 by setting a confidence level 95% and margin of error as 5% based on the previous study [9].

A total of 170 subjects were recruited from the various public areas of Tamilnadu based on the multistage sampling method and the study was conducted for a period of two months (April 2020- May 2020). The inclusion criteria are only people of aged 18 years and above were recruited and the subjects who were willing to participate in the study are included whereas those subjects who didn't fulfill the questionnaire and consent form were excluded from the study.

The questionnaire consists of 20 items was validated by conducting a pilot study among 30 subjects based on convenience simple random sampling method and it was pretested and validated to check the internal consistency using Cronbach's alpha (0.83) which was found to be good. The questions which outfits and ambiguous to the study were excluded and the final performa of the questionnaire were prepared to minimize bias. The subjects who participated in the pilot study were excluded from the main study.

The finally prepared 15 item questionnaire was distributed among 170 subjects after obtaining the consent form. The questionnaire consists of demographic data and their psychological perception towards the disease. The subjects were asked to fulfill the questionnaire using yes or no format. For each response, the scores were calculated by considering the score to be 0 for No response whereas the score one was given to the response yes. The total number of scores was found to be 15. The score ranges from1-5 was to be no stress related to COVID-19, the scores between the ranges 6-10 were considered to be moderately stressful whereas the

scores 11-15 were considered to be most stressful due to coronavirus. The data were entered and interpreted using the IBM Statistical Package for the Social Sciences 23.0 (IBM Corp., Armonk, New York). The data was then analyzed and tabulated using chi square test. P< 0.05 was considered to be statistically significant.

Results

The descriptive statistics frequency analysis, percentage analysis were used for categorical variables and the mean and S.D were used for categorical variables. The pearson's correlation was used to assess the relationship between the variables whereas the chi-square test was used to find the significance in categorical data. In both the above statistical tools the probability value < 0.05 was considered as significant level

TABLE 1: DESCRIPTIVE STATISTICS

S.NO.	VARIABLES	FREQUENCY	PERCENTAGE
1.	MALE	86	50.6%
2	FEMALE	84	49.4%
3.	NO STRESS	15	8.8%
4.	MODERATE STRESS	90	52.9%
5.	SEVERE STRSS	65	38.2%

Table 1 shows about the frequency and distribution of the stress levels due to COVID-19

TABLE 2: ASSOCIATION OF GENDER AND PSYCHOLOCIAL IMPACT ON COVID-19

S.NO	QUESTIONNAIRE REGARDING PSYCHOLOGICAL IMPACT OF COVID-19	RESPONSES	GENDER		P VALUE
			FEMALE	MALE	
1.	Do you feel anxious about the pandemic of COVID-19	NO	32.1%(27)	30.2%(26)	0.78
		YES	67.9%(57)	69.8%(60)	
2.	Have you been scared of being infected with COVID-19?	NO	36.9%(31)	46.5%(40)	0.20
		YES	63.1%(53)	53.5%(46)	
3.	Do you worried about the risk of being infected with COVID-19?	NO	22.6%(19)	29.1%(25)	0.33
		YES	77.4%(65)	70.9%(61)	
4.	Do you feel tense when you think about the threat of COVID-19?	NO	42.9%(36)	33.7%(29)	0.22
		YES	57.1%(48)	66.3%(57)	
5.	Are you scared about the death due to COVID-19?	NO	28.6%(24)	38.4%(33)	0.17
		YES	71.4%(60)	61.6%(53)	
6.	Have you been being quarantine from your family?	NO	51.2%(43)	55.8%(48)	0.54
		YES	48.8%(41)	44.2%(38)	

Cont... **TABLE 2: ASSOCIATION OF GENDER AND PSYCHOLOCIAL IMPACT ON COVID-19**

7.	Do you think that being quarantine will affect your social status?	NO	50%(42)	52.3%(45)	0.76
		YES	50%(42)	47.7%(41)	
8.	Does COVID-19 outbreak affect your sleep?	NO	36.9%(31)	52.3%(45)	0.04
		YES	63.1%(53)	47.7%(41)	
9.	Are you scared of being treated differently if you have been infected with COVID-19?	NO	31%(26)	48.8%(42)	0.01
		YES	69%(58)	51.2%(44)	
10.	Are you afraid of going to public/crowd places?	NO	17.9%(15)	30.2%(26)	0.059
		YES	82.15%(69)	69.8%(60)	
11.	Do you have any trouble/difficulty in concentrating your work due to this disease?	NO	34.5%(29)	37.2%(32)	0.71
		YES	65.5%(55)	62.8%(54)	
12.	Are you scared of eating outside foods due to this disease?	NO	20.2%(17)	23.3%(20)	0.63
		YES	79.8%(67)	76.7%(66)	
13.	Have you been worried about the financial loss if you get exposed to this disease?	NO	48.8%(41)	25.6%(22)	0.002
		YES	51.2%(43)	74.4%(64)	
14.	Do your regular activities gets affected due to this disease?	NO	23.8%(20)	33.7%(29)	0.15
		YES	76.2%(64)	66.3%(57)	
15.	Thinking about the disease makes you feel anxious?	NO	21.4%(18)	31.4%(27)	0.14
		YES	78.6%(66)	68.6%(59)	

Table 2 shows that there was a statistically significant difference was in psychological problems such as sleep quality (p=0.04), being treated indifferently in the society (P=0.01) and financial problems (p=0.002).

TABLE 3: OVER ALL PYSCHOLOGICAL IMPACT ON COVID- 19 IN RELATION TO GENDER

SCORE LEVEL	GENDER		P VALUE
	FEMALE	MALE	
NO STRESS	7.1%(6)	10.5%(9)	0.28
MODERATE STRESS	48.8%(41)	57.0%(49)	
SEVERE STRESS	44.0%(37)	32.6%(28)	

Table 3 shows that there was no statistically significant difference was found in gender and psychological perception towards COVID-19(p=0.28).

TABLE 4: OVERALL PSYCHOLOGICAL IMPACT ON COVID-19 IN RELATION TO AGE

AGE	P VALUE
N- 170 MEAN- 33 MEDIAN- 32 S.D. 32	0.53

Table 3 shows that there was no statistically significant difference was found in age and psychological perception towards COVID-19(p=0.53)

Discussion

In this study the psychological impact of the people related to the COVID- 19 has been evaluated. The corona virus drastically affects many people globally especially in India and the cases were increasing day by day this might make the people more panic about the disease and cause many psychological problems. Hence this study has been conducted to evaluate the psychological impact of the people in Tamilnadu related to this disease.

Table 1 shows about the percentage and frequency of the participants and their stress levels related to the COVID-19. The study has been conducted among 86 number of males (50.6%) and the 84 number of females (49.4%) of that fifteen number of people (8.8%) had no stress whereas 90 number of people (52.9%) had moderate level of stress and 65 number of people (38.2%) had severe stress. Table 2 shows about the association of the gender and questionnaire regarding psychological impact on COVID-19. There was a statistically significant difference was in psychological problems such as sleep quality (p=0.04), being treated indifferently in the society (P=0.01) and financial problems (p=0.002). The outbreak of COVID-19 affects the sleep quality of fifty three (63.1%) number of females and forty one (47.7%) number of males whereas the fifty eight (69%) number of females and forty four (51.2%) number of males have been scared of being treated indifferently due to the COVID-19, the forty three (51.2%) number of females and sixty four (74.4%) number of males have been scared due to the financial loss of this disease.

The table 3 shows about the overall psychological impact towards COVID-19 in respect to gender. Most of the people had moderate level of stress due to the outbreak of COVID-19. The forty one (48.8%) of females and forty nine (57.0%) of males had moderate levels of stress. There was no statistically significant difference was found gender and psychological impact on COVID-19 (P=0.28). The table 4 shows about the overall psychological impact towards COVID-19 in respect to age. The mean age of the participants involved in this study was thirty three. There was no statistically significant difference was found in the psychological impact on COVID-19 and age (p= 0.53).

The outbreak of coronavirus (COVID-19) starts spreading rapidly to various countries especially in India. The infected persons were kept in quarantine for at least 14 days. Quarantine is the best and the effective approach to prevent the transmission of this disease but unfortunately it affects the psychological health of patients. This causes the high potential threat to the mental health of the people.

The coronavirus (COVID-19) affects the people in many ways such as physical, psychological, social and economical impact. Social media plays a pivotal role in creating more panic among the public by telecasting and updating the information about the COVID-19 in order to create awareness. This not only creates awareness but also causes many psychological problems among the public. So the people must avoid constant hearing or listening to the negative impact of news related to the disease [10].

Limitations:

Further longitudinal studies should be conducted among large number of population to get more appropriate results. There might be a chance social acceptability bias due to over exaggerated response which might affects the outcome of the study.

Conclusion

The health of the people prioritized more than anything in the world by taking proper preventive measures, and prompt action of the government helps to control the COVID-19 outbreak. The government should take proper action in spreading awareness among the

public and should enlighten the positive attitude towards people which helps them to overcome the problem. This study will be more helpful and paves a pathway for the researchers to conduct further studies.

Ethical Clearance: The ethical approval for this study was obtained from the Institutional review board AND Institutional Ethical Committee of SRM Dental College, Ramapuram and the IRB approval number was SRMU/M&HS/SRMDC/2020/PG/005.

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Conflict of Interest: Nil

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