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Original Article

Physiotherapy Section

Correlation between Occurrence of Psychosomatic Disorders and Age during COVID-19 Lockdown

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ABSTRACT

Introduction: The Coronavirus Disease-2019 (COVID-19) has caused a serious threat to people's mental health causing psychosomatic disorders such as panic disorder, anxiety, and depression.

Aim: To find out the correlation between the occurrence of psychosomatic disorders and age during the COVID-19 lockdown phase.

Materials and Methods: This cross-sectional, observational study was conducted in Department of Physiotherapy at RK University, Rajkot, Gujarat, India. Males and females of age ≥21 years, with an ability to understand and fill Google form were recruited for the study. The subjects were divided into four groups according to age 21-34 years, 35-54 years, 55-64 years, and 65 years and older. There were 250 participants in each group. The subjects were asked to fill the COVID-19 Peritraumatic Distress Index (CPDI). Data were analysed by using software Statistical Package for the Social Science (SPSS) version 20. The normality of data was checked by the Shapiro Wilk test. Data followed parametric type so; Pearson correlation test was applied to find out the correlation between age and CPDI score.

Results: The mean age of the population was 49.24±18.14 years. The mean CPDI scale scores were 27.572, 31.948, 31.364, and 35.328, respectively from groups 1 to 4. There was a significant positive correlation (p-value=0.031) in group 4, while no significance was found in group 1 (p-value=0.074), group 2 (p-value=0.067), and group 3 (p-value=0.062)

Conclusion: There was a significant positive correlation between age and psychosomatic disorder occurrence in the geriatric age group (65 years and older) in the Rajkot city.

Keywords: Anxiety, Coronavirus disease-2019, COVID-19 peritraumatic distress index, Depression, Pandemic, Stress

INTRODUCTION

The World Health Organisation (WHO) defines mental health as "a state of well-being whereby individuals recognise their abilities, can cope with the normal stresses of life; work productively and fruitfully and contribute to their communities [1]. COVID-19 pandemic had affected every segment of society; transforming our daily habits, lifestyle, work, and social cultures [2]. A wide range of mental health issues like depression, stress, anxiety had been observed during the COVID-19 outbreak among people due to fear of dying, feeling helpless, unemployment, and social isolation which ultimately leads to psychosomatic disorders [3].

Islam MA et al., conducted a study to find out anxiety and depression among university students suffering from mild to severe depression and anxiety due to various factors like online classes which caused a gap in academic teaching and learning, unemployment in part-time jobs and financial insecurity [4]. Son C et al., stated that stress, anxiety, and depression has drastically increased among college-going students because of the pandemic [5]. Xiong J et al., found that general public exhibit more psychological symptoms during the pandemic [6].

During COVID-19, not only young and middle-aged individuals but geriatric individuals were also suffering from psychosomatic disorders. Richard A et al., emphasised that equal importance should be given to all the age groups while considering loneliness for physical health, mental health and lifestyle factors [7]. Mirowsky J and Ross CE, stated that depression was lowest among the middle-aged, higher among younger and older adults. Depression reached its highest level in adults 80-year-old or older [8].

Roy A et al., suggested that the sudden changes in the daily routine can be extremely confusing and difficult to cope up for children, geriatric, and quarantined individuals, school closures, leisure outdoor events. Not being able to interact with their peers can have a negative impact on children's mental health[9].

Various studies had been reported that show psychosomatic problems in different age groups using different outcome measures [7,8]. However, no study involved all age groups and a single outcome test to identify psychosomatic disorders. So, the present study aimed to find out the occurrence of psychosomatic disorders and to correlate it with different age groups living in a red zone of Rajkot, Gujarat.

MATERIALS AND METHODS

A cross-sectional observational study was carried out in the containment area (red zone area) announced by Rajkot Municipal Corporation. This study was affiliated to the Department of Physiotherapy at RK University, Rajkot, Gujarat, India, during the period of July 2020 to August 2020. The Helsinki declaration was followed and from every participant, consent was taken before enrolling in the study.

Sample size calculation: The sample size for the study was calculated using Power formula:

$$n=4pq/d^2$$

where, p=Prevalence (Prevalence of coronavirus in red alert area as per Rajkot Municipal Corporation Data) [10], q=100-p,d=allowable error (5%) The sample size after calculating power formula was 916.

Inclusion criteria: Age between 21 to 85 years, both male and female subjects, subjects using any social media like WhatsApp, Facebook, or Instagram, and having the ability to understand and fill google forms.

Exclusion criteria: Subjects that were positive for COVID-19, mentally challenged and subjects denied filling Google forms.

Rajkot city became a hotspot during the month of July 2020 to August 2020 as there was an increasing number of COVID-19 cases day-by-day. For the study, the E-consent form was shared via various social media platforms like WhatsApp, Facebook, and Instagram. One thousand subjects were selected for the study by purposive sampling and the outcome measure CPDI Scale (designed using

S. No.	Questions	Never	Occasionally	Sometimes	Often	Most of the time
1.	Compared to usual, I feel more nervous and anxious	0	1	2	3	4
2.	I feel insecure and bought a lot of goods, such as medications, sanitiser, gloves, masks, and/or other home supplies	0	1	2	3	4
3.	I can't stop myself from imagining myself or my family being infected and feel terrified and anxious about it	0	1	2	3	4
4.	I feel empty and helpless no matter what I do	0	1	2	3	4
5.	I feel sympathetic to the COVID-19 patients and their families. I feel sad about them.	0	1	2	3	4
6.	I feel helpless and angry about people around me, such as the governors and media	0	1	2	3	4
7.	I am losing faith in the people around me	0	1	2	3	4
8.	I collect information about COVID-19 all day. Even if it's not necessary, I can't stop myself	0	1	2	3	4
9.	I will believe the COVID-19 information from all sources without any evaluation	0	1	2	3	4
10.	I would rather believe in negative news about COVID-19 and be skeptical about the good news	0	1	2	3	4
11.	I am constantly sharing news about COVID-19 (mostly negative news)	0	1	2	3	4
12.	I avoid watching COVID-19 news since I am too scared to do so	0	1	2	3	4
13.	I am more irritable and have frequent conflicts with my family	0	1	2	3	4
14.	I feel tired and sometimes even exhausted	0	1	2	3	4
15.	Due to feelings of anxiety, my reactions are becoming sluggish.	0	1	2	3	4
16.	I find it hard to concentrate	0	1	2	3	4
17.	I find it hard to make any decisions	0	1	2	3	4
18.	During this COVID-19 outbreak, I often feel dizzy, have back pain, or chest discomfort	0	1	2	3	4
19.	During this COVID-19 outbreak, I often feel stomach pain, bloating, or other stomach discomforts	0	1	2	3	4
20.	I feel uncomfortable when communicating with others	0	1	2	3	4
21.	Recently, I rarely talk to my family	0	1	2	3	4
22.	I cannot sleep well. I always dream about myself or my family being infected by the coronavirus	0	1	2	3	4
23.	I lost my appetite	0	1	2	3	4
24.	I have constipation or frequent urination	0	1	2	3	4

[Table/Fig-1]: COVID-19 Peritraumatic Distress Index (CPDI) Scale.

simple Google Forms) was shared with subjects using the same social media platform [Table/Fig-1].

The 1000 subjects were divided into 4 groups (250 in each group): Group 1 young subjects (21 to 34 years), group 2 middle-aged subjects (35 to 54 years), group 3 older subjects (55 to 64 years), and group 4 geriatric subjects (65 years and older). Keefe FJ and Williams DJ stated that individuals of these four different ages have different perceptions towards depression due to different events of life so this article was taken as a reference [11].

The CPDI is a self-reported questionnaire used for this survey to study psychosomatic disorders, including symptoms such as stress, anxiety, and depression. The Shanghai Mental Health centre checked the validity of the CPDI and found it suitable for use in the collection of COVID-19 distress information [12]. The CPDI is graded as follows: a score between 0 to 28 indicates normal levels; a score between 29 to 52 indicates that the participant is mildly distressed and a score between 53 to 100 indicates that the respondent is severely distressed [13]. To construct the CPDI, the sum of the codes of the responses to the 24 questions was considered. The total scores could range from 0 to 96. A base count of four was added to all respondents to enable the maximum of the standard 100 for a CPDI [14].

STATISTICAL ANALYSIS

Data were analysed using SPSS software version 20. The normality of data was checked by the Shapiro Wilk test. Data followed parametric type, so Pearson Correlation test was applied to find out the correlation between age and CPDI score. The significant p-value which was taken into consideration for the study was <0.05.

RESULTS

The mean age of the population was 49.24±18.14 years [Table/Fig-2]. [Table/Fig-3] shows that there was a significant correlation between age and CPDI score among the geriatrics (Group 4) (p-value=0.031).

Variables	Total	Group 1	Group 2	Group3	Group 4
Number of subjects	1000	250	250	250	250
Mean age (years)	49.246	24.032	43.412	58.04	71.692
Standard deviation	18.149	3.206	5.398	2.439	5.939
Minimum age	21	21	35	55	65
Maximum age	85	33	54	64	85
Male:Female	1:1	1:1	1:1	1:1	1:1

[Table/Fig-2]: Age distribution of the study population.

Group	Mean age (years)	Mean CPDI score	r value	p-value
Group 1	24.032	27.572±3.206	-0.38	0.074
Group 2	43.412	31.948±5.398	-0.066	0.067
Group 3	58.04	31.364±2.439	-0.065	0.062
Group 4	71.692	35.328±5.939	0.182	0.031

[Table/Fig-3]: Correlation between age and CPDI score using Pearson correlation test. p-value <0.05 considered statistically significant

DISCUSSION

The present study concluded that there was a major psychosomatic disorder among geriatric individuals as compared to the young, middle, and adult individuals. Li Y et al., stated that the mental health of elderly population requires special attention, human care, and psychological interventions [15]. The same concept was stated by Nadimi that the elderly have a cognitive impairment, dependency on activities of daily living, loneliness, etc., all this leads to sign of depression which increases due to loss of relatives and fading of communication among closed ones [16].

It had been shown that the elderly prefer personal communication and care, rather than virtual interactions [17]. Another study also stated that there were already distinct physical, psychosocial, environmental weaknesses in the geriatric age group [18]. Anxiety of losing their loved ones and remorse of being the carriers of the infection correlated

with age [18]. Thus, during the current pandemic situation, staying physically "segregated" adds to their loneliness and social isolation which ultimately led to psychosomatic disorders [17]. The same result was found in the index study based on the CPDI scale.

Shrira A et al., studied the association between loneliness and psychiatric symptoms and concluded that it was significant and robust only among participants with older ages rather than those with young ages [19]. Girdhar R et al., stated that the elderly population is most vulnerable to the pandemic. Besides the infection, social isolation and quarantine has lead to physical and mental health problems [20].

Not only in this COVID-19 pandemic but other major calamities also brought similar findings. Pistoia F et al., did an extensive work by using many different scales such as {Beck Depression Inventory (BDI) scale, State-Trait Anxiety Inventory (STAI), Insomnia Severity Index (ISI), Intolerance of Uncertainty Scale Short Form, Uncertainty Response Scale (URS), Anxiety Sensitivity Index-3 (ASI-3), and Eysenck Personality Questionnaire-Revised Short Form (EPQ-RS)}. The study concluded that disaster had adverse psychological effects on older adults [21]. Bei B et al., using the Centre for Epidemiological Studies Depression Scale (CES-D) concluded that older adults might have increased need during a disaster, such as access to community services, medical care, and are particularly vulnerable to their disruption. Floods have been associated with an adverse effect on older adults' mental and physical health [22]. Thus, it can be concluded that during any kind of pandemic geriatric age group people are more affected as compared to younger ones.

Limitation(s)

Children were not included in the study. The study was constrained to the containment zone of Rajkot. The socio-economic status of subjects was not taken into consideration for the study.

CONCLUSION(S)

There was no significant correlation between age and psychosomatic disorders in young, middle, and older age groups. Whereas, there was a positive correlation between age and psychosomatic disorders in the geriatric age group, as found in the containment zone of Rajkot city, Gujarat. Such studies can be carried out in different phases i.e., active phase and post COVID-19 phase along with the correlation between other variables like depression and socio-economic status.

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