

## Prevalence of Agoraphobia In Post Neurological Illness Patients During Covid-19

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### **ABSTRACT**

**Objective:** Agoraphobia is generally been defined as a fear of appearing in public places, particularly the places which are too empty or too crowded. In many situations this anxiety leads these people to avoid certain situation or requires a accompany when he travelling outside the home or staying alone in home. Agoraphobia can be observed in any gender of any age group. **Methods:** Patients with neurological illness who came to the outpatient department and inpatients from Saveetha Medical College and Hospital were included in the study, according to the inclusion and exclusion criteria. All the patients were explained about the study and their informed consent was obtained. The study was approved by the Institutional Ethical committee. The participants were given the Agoraphobia Scale (AS) and their responses were documented by the therapist. The outcome measure was statistically analysed. **Findings:** The interpretations of Agoraphobic Scale (AS) reveals that there is an increased incidence of agoraphobia among the age group 38 to 48 years. It is also observed that female neurologically ill patients have increased incidence of agoraphobia compared to male neurologically ill patients. Incidence of agoraphobia in male neurologically ill patients is noted between 48 to 58 years. **Conclusion:** It is concluded that agoraphobia is prevalent in neurologically ill patients during covid-19 pandemic affecting their psycho-social behaviour and their ability.

### **Introduction**

Agoraphobia is an anxiety disorder, where being in situations from which the escape may be difficult or in which getting help from someone may be not easy or not available in the event of having a panic or anxiety attack or panic-like symptoms or other incapacitating symptoms.

In various situations this anxiety typically leads the person to avoid the situation or requires a companion when he is alone at home or travelling outside the home (1).

Approximately 1.7% of adolescents and adults were diagnosed as agoraphobic every year (2). A research work conducted with 280 inpatient admissions in hospitals showed a prevalence of 5.7% as agoraphobic (according to DSM -IV classification) and the study also revealed that mean age for onset of agoraphobia was 7.2 years (3,4). Few other literatures also support that agoraphobia is likely to affect 1.4% to 7.9% among the geriatric population (5).

The development of severe acute respiratory syndrome (SARS)-cov-2 in the Wuhan city (Hubei, China) in December 2019 lead the countries around the world to incorporate different community, economic, and public health control measures in order to overcome the issues associated with the spread of the covid19. The extensive death and rapid increase of confirmed cases causing the medical personnel and the common public to experience psychological problems such as anxiety, depression, and stress. The Corona virus disease 2019 (COVID-19) lockdown, quarantine and confinement measures were further alleviating the above said mental illness symptoms. A research work conducted at China has suggested that around 45.3% of the common public were having moderate and severe depressive symptoms. The study further insist that adolescents are in the high-risk group with the increase in rates of panic disorder, agoraphobia, and substance use disorders, depression, separation anxiety disorder and attention-deficit hyperactivity disorder during the transmission from childhood to adolescence which alarmingly increased during the pandemic (6).

Agoraphobia has been associated with much impairment of daily living and functioning and also other psychiatric disorders such as depression, substance abuse, and suicidal ideation when it is left untreated. Literature suggests that when a person has psychopathology in his early stages of life is found to have the symptoms become worsening and causing further deterioration in functioning. Therefore, early detection and treatment of agoraphobia is important (4). Research suggests that, anxiety and agoraphobia cause moderate to severe social impairment in geriatric population who are more vulnerable to the social isolation and loneliness (7,8,9,10).

There was a controversy regarding the nature of agoraphobia and panic attacks, but Klein and Klein (1989) argued that, agoraphobia was always preceded by spontaneous panic attacks, which makes it different to distinguish from other anxiety states. It is also advocated that panic attack has an adverse stimulus, which elicits an avoidance response, resulting in the agoraphobia. Based on the observation by Klein and Klein in clinical patients the agoraphobia rarely occurs without any preceding spontaneous panic attacks (11).

Agoraphobia patient's fall into two distinct types, one group has the marked evidence of symptom in childhood separation anxiety and their illness are precipitated by the separation or object loss which occurs during their early adolescence stage or adult life. The second group, without any evidence of childhood separation anxiety who had become ill during their middle life found to have instability in the endocrine homeostasis (18).

In general, when compared with the women, men are expected to be stronger and braver, but it is unknown that how many men are diagnosed to have agoraphobia due to the masculine taboo on admitting anxiety and agoraphobia (12). There are several risk factors which have been identified for agoraphobia in the general adult population, including female gender,

lower socio-economic status, and visible minority status. The elderly female population have the higher risk factor to get agoraphobia because of their illness as well (8). Little is known about the characteristics of agoraphobia in the elderly, but it has been found that most cases are late onset and are not highly associated with panic attacks. (1).

It is important for the therapist to go beyond the superficial analysis in the behavioural concept of the phobias which could lead to the accurate treatment approach (13). The best measure to assess the agoraphobia are the Fear Questionnaire (FQ), Mobility Inventory for Agoraphobia (MI) other measures of psychopathology (14). Among these the Agoraphobia Scale (AS) seem to be a useful scale, as it is a self-report measure of agoraphobia in the patient population and its sensitive to the changes that occur as the result of the treatment. Hence this measure can also be used as an outcome measure after the treatment with various behavioural methods (15).

The treatment to agoraphobia has been distinguished into five domains: psychiatry, non-psychiatry mental health specialty, general medical, human services, and complementary-alternative (CAM) (16). Among these available treatments, there are two broad categories of treatment found to be effective in treating panic disorder with agoraphobia or without agoraphobia. The two main treatments are psychotherapy and cognitive-behaviour therapy along with antidepressants and benzodiazepines (17). The treatment range runs the scope from behaviour therapy to Ovesey's use of re-education with help from magical dominion, to increased dependence on pharmacological procedures (18). Literature also suggests that the level of anxiety which leads to major psychological health problems, can be reduced by the aerobic exercises and take a positive step in reducing the anxiety (19,20).

From the above-mentioned statements, the COVID-19 pandemic is likely to increase the anxiety in general population and the people who are already in the illness have increased incidence to the agoraphobia and anxiety disorders. Therefore, the objective of the study was focus on identifying the prevalence of the agoraphobia among neurologically ill patients during covid-19 pandemic.

## **Method**

The research proposal was submitted to the Institutional study review board and it was approved before the beginning of data collection process (04/01/2021/ISRB/FR/SCPT). According to the inclusion criteria patients above 18 years including both male and female with stable vital signs and oriented were included in the study. The patients who were unconscious, with unstable vitals, and who were not interested to participate in the study were excluded from the study. Hence a total number of 370 patients from both inpatient and outpatient department of Saveetha medical college and hospital were invited for the study and out of these patients 106 neurologically ill patients met the inclusion criteria and they were explained about the study procedure in detail and those participants who showed willingness to get enrolled for the study were further taken forward for the research and their informed consent was obtained. Hence the study preceded with 43 neurologically ill participants. All the 43 participants were given the agoraphobia scale questionnaire which consisted of 20 questions and divided as 2 sections, where section A measures the anxiety/discomfort and the grade of 0-4 (where 0 = no anxiety whatsoever, 1 = a little, 2 = moderate, 3 = much, and 4 = very much anxiety) which confirms that the patient is having anxiety/discomfort. Section B

measures the avoidance and the grade of 0-2 (where 0 = do not avoid at all, 1 = avoids if possible, and 2 = always avoid)<sup>(13)</sup> which confirms that the patient is having avoidance. Both the section had questions portraying various distinctive agoraphobic situations. The data were collected, recorded, tabulated and statistically analysed.

## Result

Based on the inclusion and exclusion criteria 43 neurologically ill patients were included in the study for the evaluation of the agoraphobia and those patients were given the Agoraphobia Scale (AS). At the end of their completion of the self-measure report, it is evident that 43 neurologically ill patients presented agoraphobia prevalence in the varying age group and in varying gender. The statistical analysis was done by calculating the mean and standard deviation.

The 43 neurologically ill patients showed the statistical mean value (39.19) and SD value (15.11) in the agoraphobic anxiety scoring and showed the mean (22.21) and SD value (8.00) in the agoraphobic avoidance scoring which is seen in (*Table 1*), In the agoraphobic anxiety scale statistical mean value among the men is (37.74) and SD value (14.86) and the female exhibited the mean (40.33) and SD (15.51). In agoraphobic avoidance scale statistical mean value among the men is (20.79) and SD value (8.44) and in female population mean is (23.33) and SD value (7.61).

The (*Table 2*) explains about the number of patients with the prevalence of agoraphobia symptoms between male and female in their different age group. The total numbers of patients from 18years -78 years in were divided based upon their age and their datas were tabulated in the form of ordinal data with a difference of 10 years in between. There was an increased incidence of agoraphobia among the age group 38 to 48 years. It is also observed that female neurologically ill patients had increased incidence of agoraphobia compared to male neurologically ill patients. Incidence of agoraphobia in male neurologically ill patients was noted between 48 to 58 years.

## Discussion

The study was aimed to identify the prevalence of agoraphobia among neurologically ill patients during covid-19 pandemic, where the patients showed increase in the incidence of both the agoraphobic anxiety and agoraphobic avoidance scale, at their 38 to 48 years. The female patients showed increased incidence at their 38 to 48 years and the male patients showed increased incidence at their 48 to 58 years. Statistically female patients with neurological illness showed increase in the risk of agoraphobia in both the agoraphobic anxiety and agoraphobic avoidance scale, more than the male neurologically ill patients.

The prevalence of agoraphobia was found to be higher in between 15 to 54 age group which is more than 55+ years age group about 7.5% and the prevalence of agoraphobia above 55 years of age was found to be 0.61%, concluded by McCabe L et al. Compared to men, women are more likely to be affected by the agoraphobia prevalence. Agoraphobia is more common among individuals with chronic health conditions (1).

Leonard A et al, have found that panic disorders have been documented in children and adolescents and the prevalence was about 13%. Approximately 45% of the children and

adolescents have met the criteria to be diagnosed as agoraphobic. These children mostly avoid being home alone or travelling outside home (3).

Julius G et al have found that agoraphobia is more prevalent in age between 19 and 57, of the patients with below 21 years, 50% had the childhood separation anxiety, the first onset of attack was distributed widely between 15 and 47, with the peak in between 35 and 40. which is eventually same as this study where the agoraphobia is more prevalent in age group between 38 and 48 years (6).

Krasucki C et al, have found that the 12-month agoraphobia prevalence in people aged 55years and above is 0.6%and in people aged 65 years and above is 0.4%. These values are lesser than that of rest of the community studies, which has submitted prevalence rate from 1.4%–7.9% (one- to six-month prevalence) among those patients aged 65 and above (7). Though the current research work has been supported by many literatures, but still the onset of agoraphobia and its first symptoms is not clearly understood. Hence the current study had certain limitations in understanding the agoraphobia among the neurologically ill patient depending upon the neurodegenerative condition or cognition relevant diseases or due to any unexpected trauma to brain. So, this study included the entire neurologically ill patient. But as an author of this research work, I suggest that further research work on the agoraphobia has to be carried out based on the types of neurological lesion. It can be individually analyzed among stroke patient, Parkinson’s patients, dementia patients etc. With the generalised responses derived from the above said data analysis, it is understood that the prevalence of agoraphobia in female is more at their age group between 38 and 48 which is supported by the research done by Mendel JG et al, with the peaks of the syndrome at late adolescence and over middle 40s (18).

### Conclusion

The current research work concludes that agoraphobia is prevalent among neurologically ill patients and it has been significantly noticed during covid-19 pandemic affecting their psycho-social behaviour and their ability. Based on the data collected by using the Agoraphobia Scale (AS) the research work further identified that, there is an increased incidence of agoraphobia observed in female neurologically ill patients, when compared with male neurologically ill patients. The female neurologically ill patient showed increased incidence in both agoraphobic anxiety and agoraphobic avoidance scale at 38 to 48 years.

**TABLE 1- COMPARISION OF AGORAPHOBIC ANXIETY AND AVOIDANCE IN MALE AND FEMALE**

| PARAMETERS | NO OF POPULATION | MEAN AGE | ANXIETY |       | AVOIDANCE |      |
|------------|------------------|----------|---------|-------|-----------|------|
|            |                  |          | MEAN    | SD    | MEAN      | SD   |
| MALE       | 19               | 49.54    | 37.74   | 14.86 | 20.79     | 8.44 |
| FEMALE     | 24               | 52.94    | 40.33   | 15.51 | 23.33     | 7.61 |
| TOTAL      | 43               | 51.46    | 39.19   | 15.11 | 22.21     | 8.00 |

**TABLE 2- PREVALENCE OF AGORAPHOBIA AMONG THE POPULATION**

| AGE    | 18-28 | 28-38 | 38-48 | 48-58 | 58-68 | 68-78 | TOTAL |
|--------|-------|-------|-------|-------|-------|-------|-------|
| MALE   | 3     | 3     | 2     | 6     | 2     | 3     | 19    |
| FEMALE | 2     | 1     | 8     | 3     | 7     | 3     | 24    |
| TOTAL  | 5     | 4     | 10    | 9     | 9     | 6     | 43    |

### References

- [1] McCabe L, Cairney J, Veldhuizen S, Herrmann N, Streiner DL. Prevalence and correlates of agoraphobia in older adults. *The American journal of geriatric psychiatry*. 2006 Jun 1;14(6):515-22.
- [2] American Psychiatric Association. *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric Pub; 2013 May 22.
- [3] Doerfler LA, Connor DF, Volungis AM, Toscano PF. Panic disorder in clinically referred children and adolescents. *Child Psychiatry and Human Development*. 2007 Jun;38(1):57-71.
- [4] Yalin Sapmaz S, Ozek Erkuran H, Ergin D, Ozturk M, Sen Celasin N, Karaarslan D, Koroglu E, Aydemir O. Validity and reliability of the Turkish version of the DSM-5 “Severity Measure for Agoraphobia—Child Age 11–17”. *Dusunen Adam The Journal of Psychiatry and Neurological Sciences*. 2017;30(3):217.
- [5] Krasucki C, Howard R, Mann A. The relationship between anxiety disorders and age. *International journal of geriatric psychiatry*. 1998 Feb;13(2):79-99.
- [6] Clemente-Suárez VJ, Dalamitros AA, Beltran-Velasco AI, Mielgo-Ayuso J, Tornero-Aguilera JF. Social and psychophysiological consequences of the COVID-19 pandemic: an extensive literature review. *Frontiers in Psychology*. 2020 Dec 16;11:3077.
- [7] Krasucki C, Howard R, Mann A. Anxiety and its treatment in the elderly. *International Psychogeriatrics*. 1999 Mar;11(1):25-45.
- [8] Lindsay J: Phobic disorders in the elderly. *Br J Psychiatry* 1991; 159:531–541
- [9] Dugan E, Kivett VR. The importance of emotional and social isolation to loneliness among very old rural adults. *The Gerontologist*. 1994 Jun 1;34(3):340-6.
- [10] Russell DW, Cutrona CE, de la Mora A, Wallace RB. Loneliness and nursing home admission among rural older adults. *Psychology and aging*. 1997 Dec;12(4):574.
- [11] Horwath E, Lish JD, Johnson J, Hornig CD, Weissman MM. Agoraphobia without panic: clinical reappraisal of an epidemiologic finding. *American Journal of Psychiatry*. 1993 Oct 1;150:1496-.
- [12] Bekker MH. Agoraphobia and gender: A review. *Clinical Psychology Review*. 1996 Jan 1;16(2):129-46.
- [13] Goldstein AJ, Chambless DL. A reanalysis of agoraphobia. *Behavior therapy*. 1978 Jan.
- [14] Chambless DL, Caputo GC, Jasin SE, Gracely EJ, Williams C. The mobility inventory for agoraphobia. *Behaviour research and therapy*. 1985 Jan 1;23(1):35-44.

- [15] Öst LG. The Agoraphobia Scale: an evaluation of its reliability and validity. *Behaviour research and therapy*. 1990 Jan 1;28(4):323-9.
- [16] Kessler RC, Chiu WT, Jin R, Ruscio AM, Shear K, Walters EE. The epidemiology of panic attacks, panic disorder, and agoraphobia in the National Comorbidity Survey Replication. *Archives of general psychiatry*. 2006 Apr 1;63(4):415-24.
- [17] Furukawa TA, Watanabe N, Churchill R. Combined psychotherapy plus antidepressants for panic disorder with or without agoraphobia. *Cochrane Database of Systematic Reviews*. 2007(1).
- [18] Mendel JG, Klein DF. Anxiety attacks with subsequent agoraphobia. *Comprehensive Psychiatry*. 1969 May 1;10(3):190-5.
- [19] Sujatha B, Alagesan J, Akahaya R, Rajameena R, Rayna AB. Effect of aerobic exercise training on anxiety in children with developmental coordination disorder. *Biomedicine*. 2020;40(4):535-8.
- [20] Anand M, Alagesan J, Prathap S. Effect of yoga therapy in rehabilitation of drug addicts. *Global Journal for Research Analysis [serial online]*. 2013:153-4.