



Comparison of death anxiety symptoms between generalized anxiety disorder and somatization disorder in geriatric patients attending a psychiatric outpatient clinic for the first time

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ABSTRACT

Somatic complaints are among the important complaints frequently seen in Generalized Anxiety Disorder (GAD) and Somatic Symptom Disorder (SSD). Death anxiety has also increased significantly with the Covid-19 pandemic, especially in the elderly population. In this study, we compared the difference of the death anxiety level among patients with GAD, SSD and healthy controls.

This cross-sectional study which was carried out in Artvin State Hospital's Psychiatric Outpatient Clinic included 59 participants (GAD = 21, SSD = 18, HC = 20). Three groups were subjected to detailed psychiatric examination by the same psychiatrist. Subsequently, anxiety, somatic symptoms and death anxiety were assessed using standardized tools (GAD-7, Templer Death Anxiety Scale, Somatic Symptom Scale).

The GAD-7 Scale mean of the GAD group was significantly higher than SSD ($p = 0.001$) and Healthy Control (HC) ($p = 0.001$) groups. Death anxiety and Somatic Symptom levels in GAD and SSD groups were significantly higher than in healthy controls. (GAD, $p = 0.001$; SSD, $p = 0.001$) with no significant difference between GAD and SSD groups ($p = 1$). Healthy controls exhibited significantly lower scores in the three scales mean scores compared to the SSD and GAD groups ($p = 0.001$).

Irrespective of specific psychiatric diagnoses, these findings highlight elevated death anxiety in the elderly, underscoring the need for tailored mental health interventions.

1. Introduction

Somatic symptoms are commonly observed in the elderly population, positioned at the intersection of various diagnostic considerations. This complexity can occasionally pose challenges in the diagnostic process. Due to the diverse nature of somatic complaints and their potential underlying causes, a thorough and comprehensive evaluation is necessary to accurately diagnose and address the underlying factors contributing to these symptoms in the elderly population (Ritchie et al., 2004). Moreover, the identification of hypochondriasis and somatization disorder in patients serves as an indicator that the symptoms within this cohort have the potential to evolve into a chronic state. (Benraad et al., 2013; Hilderink et al., 2013). As an addendum, the concomitance of somatic symptoms with anxiety disorders introduces complexities to the clinical observations (Gum et al., 2009). Notably, the prevalence of generalized anxiety disorder (GAD) ranges from 1.2% to 7.3% within the elderly demographic. (Olde Hartman et al., 2009).

The clinical landscape is characterized by the prominent presence of somatic symptoms, alongside the frequent manifestation of anxiety

within the context of geriatric depression. Consequently, psychiatric disorders observed in the elderly population present a highly intricate and multifaceted clinical domain, distinguished by a diverse array of symptoms. (Grover et al., 2019). Furthermore, in addition to the literature-based knowledge mentioned earlier, the older population has faced heightened psychological distress attributed to the COVID-19 pandemic. The prevalence of various health issues in this demographic, coupled with the social isolation, uncertainties, and anxiety triggered by the viral disease itself, has exacerbated psychological challenges among the elderly. (Galea et al., 2020; Jansson et al., 2018; Steinman et al., 2020).

Death anxiety, conversely, manifests as the apprehension arising from the anticipation of one's own mortality and the individual's subsequent response to such circumstances. The discomfort stemming from an ambiguous and unknown state engenders various grievances. It is plausible to surmise that the fear of death emanates from one's self-conception of an impending future encounter with mortality. (Greenblatt-Kimron et al., 2021). The prevalence of death anxiety has witnessed an upsurge not only among the elderly but also across the entire

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population in the wake of the COVID-19 pandemic. (Chalhoub et al., 2022; Menzies and Menzies, 2020).

In conjunction with the diverse and intricate array of clinical symptoms, death anxiety often co-occurs with various anxiety disorders and hypochondriasis. As previously mentioned, an escalation in the prevalence of death anxiety, alongside other anxiety disorders, has been observed during the COVID-19 pandemic (Pérez-Mengual et al., 2021). Furthermore, the frequency of comorbidity between somatization disorders and anxiety disorders served as the foundation for this study (Carlier et al., 2016; Hilderink et al., 2015). The objective of this research was to assess the level of death anxiety among the elderly population diagnosed with somatic symptom disorder (SSD) and generalized anxiety disorder (GAD), as well as to explore its relationship with disease diagnoses (Park et al., 2019).

2. Material method

This cross-sectional study was conducted at the Psychiatric Outpatient Clinic of Artvin State Hospital, a secondary care hospital located in North Eastern Turkey. The study protocol was subject to evaluation by the Clinical Research Ethics Committee of Kars Kafkas University Faculty of Medicine, which deemed it ethically appropriate. (Number: 80576354-050-99/248) Prior to participating in the study, all individuals provided written informed consent. The sample consisted of a total of 59 participants who were categorized into three groups: those diagnosed with GAD, SSD, and Healthy Controls (HC). Both authors worked at same hospital and same department. The psychiatric evaluations and assessments were conducted by the same psychiatrist and psychologist for all participants. The results of all cases were evaluated together by the authors when the study was completed. The Structured Clinical Interview for DSM Disorders (SCID I), Generalized Anxiety Disorder 7-item scale (GAD-7), Level 2 Somatic Symptom Scale, and Templer's Death Anxiety Scale were utilized during the examinations.

The inclusion criteria for this study involved individuals who were 65 years of age or older and met the diagnostic criteria for either GAD or SSD based on the DSM-5 criteria. For the control group, the inclusion criteria were as follows: absence of current psychiatric complaints, not meeting any psychiatric diagnostic criteria, and no utilization of psychiatric medical treatment. HC were selected from people who came to the hospital for taking a medical report for their personal issues and did not have any complaints. In Turkey, legal regulations mandate individuals aged 65 and above to provide a mental health report to the court, ensuring a prerequisite for unimpeded participation in legal proceedings. The control group was recruited from individuals visiting the hospital to obtain a mental health report affirming their mental well-being. Exclusion criteria encompassed individuals who met two or more psychiatric diagnostic criteria and those with speech or hearing difficulties that could impede comprehension of the study instructions. The criterion for exclusion was the presence of multiple psychiatric diagnoses. Patient evaluations adhered to the SCID-I criteria. Due to the limited number of individuals diagnosed exclusively with somatic symptom disorder, a considerable number of consultations and patient assessments were conducted in collaboration with the physical therapy and rehabilitation outpatient clinic. To augment the sample size, the duration of the study was extended to approximately two years. Individuals selected from the healthy control pool who had not received psychiatric treatment for at least two years and who had no admission to psychiatry clinic during this period were invited to participate in the study. No corrective measures were used during the examinations. The selection of subjects who were almost similar in age and sex was made to provide a comparative statistical analysis between all three groups. Small differences between groups were not statistically significant. None of the individuals recruited for the study had been hospitalized for psychiatric services. Hospitalizations were exclusively for non-psychiatric medical purposes and routine check-ups.

3. Evaluation tools

3.1. GAD-7

The GAD-7 scale is a concise self-report questionnaire that has undergone extensive validation to assess symptoms of generalized anxiety in various clinical contexts and among the general population. This instrument serves a dual purpose as both a screening tool and a measure of severity specifically designed for individuals diagnosed with Generalized Anxiety Disorder (GAD). Consisting of seven items, each item corresponds to symptoms derived from established diagnostic criteria for GAD.

1. Feeling nervous, anxious, or on edge.
2. Inability to stop or control worrying.
3. Excessive worrying about various matters.
4. Difficulty in relaxing.
5. Restlessness or an inability to sit still.
6. Easily becoming irritable or annoyed.
7. Feeling an overwhelming sense of fear, as if something terrible might occur.

Respondents are prompted to reflect on their experiences over the previous two weeks and provide their responses using a 4-point Likert scale. The GAD-7 index is derived by assigning scores of 0, 1, 2, or 3 to the response categories "not at all," "several days," "more than half the days," and "nearly every day," respectively, for each item. The scores for all seven items are then summed to obtain the overall index score. Threshold scores of 5, 10, and 15 are commonly employed to interpret the severity of anxiety, indicating mild, moderate, and severe levels of anxiety, respectively (Konkan et al., 2013; Spitzer et al., 2006).

3.2. Templer Death Anxiety Scale (TDAS)

The Templer Death Anxiety Scale (TDAS) was utilized in this study to evaluate the levels of death anxiety experienced by the participants. The TDAS is a well-established and extensively validated instrument specifically designed to assess individuals' subjective experiences and attitudes towards death. Comprising multiple items, the scale captures various aspects of death anxiety, including existential concerns, fear of death, contemplation of mortality, and perceptions of the dying process. Participants were requested to indicate their level of agreement or disagreement with each item using a Likert response scale.

Originally developed by Templer in 1970 as a 15-item scale to measure death anxiety, the TDAS underwent modifications in its response format. It was transformed from a true-false format to a seven-point Likert scale to enhance measurement accuracy, drawing on previous studies in the literature, as well as taking inspiration from McMordie's research. Validity and reliability studies specific to the Turkish context were conducted by Ertufan. The response options on the Likert scale range from 1 (strongly disagree) to 7 (strongly agree), with a neutral option available in the middle. Higher scores on the scale indicate greater levels of death anxiety. Within the seven-point Likert scale structure, the total score distribution of the TDAS ranges from 15 to 105 (Ertufan, 2000; McMordie, 1979).

3.3. Somatic Symptom Scale and level 2 Somatic Symptom Scale (PHQ-15)

Within clinical practice, two scales for diagnosing SSD based on the DSM-5 criteria are commonly employed: the Level 2 Somatic Symptom Scale (L2-SSS) and the Somatic Symptom Scale. The L2-SSS is a self-report measure, while the Somatic Symptom Scale is completed by the clinician. In this particular study, this Scale was utilized to delineate somatic symptoms and assess their severity. The patients were diagnosed with somatic symptom disorder during the clinical interview.

Level 1 was not used to evaluate the characteristics of the symptoms separately, only the Level 2 Somatic Symptom Scale was used.

The L2-SSS gauges symptom severity experienced within the past seven days. Administered in the form of a self-report, it comprises 15 items. Each item on the scale is rated on a 3-point scale (0 = not bothered at all; 1 = bothered a little; 2 = bothered a lot). The total score ranges from 0 to 30 points, with higher scores indicating a greater degree of somatic symptom severity. The scale categorizes the severity of somatic symptoms into four stages: Minimal (0–4), Low (5–9), Medium (10–14), and High (15–30). Validity and reliability of the Turkish version was shown by Sarıkavak et al. (2017).

3.4. Statistical analysis

While evaluating the findings obtained in the study, the IBM SPSS Statistics 22 program was used for statistical analysis. The suitability of the parameters to the normal distribution was evaluated with the Kolmogorov-Smirnov and Shapiro Wilks tests and it was determined that the parameters did not show normal distribution. While evaluating the study data, in addition to descriptive statistical methods (mean, standard deviation, frequency), the Kruskal Wallis test was used to compare the parameters between groups in the comparison of quantitative data, and Dunn's test was used to determine the group that caused the difference. The Chi-square test, Fisher's Exact Chi-square test and Fisher Freeman Halton Exact Chi-square test were used to compare qualitative data. Spearman's Rho (rank correlation coefficient) correlation analysis was used to examine the relationships between the parameters. Significance was evaluated at the $p < 0.05$ level.

4. Results

A comprehensive comparison of the groups based on sociodemographic characteristics is presented in Tables 1 and 2.

No significant differences were observed between the groups concerning sociodemographic characteristics, except for the presence of previous psychiatric admissions in some individuals within the healthy control group ($p = 0.001$).

Significant variations emerged among the groups in terms of GAD-7 Scale averages ($p = 0.001$). Post hoc Dunn's Test revealed that the GAD-7 Scale mean of the GAD group was significantly higher than of both the SSD ($p = 0.001$) and Control ($p = 0.001$) groups. The SSD group

exhibited a significantly higher GAD-7 mean score compared to the control group ($p = 0.026$) (see Fig. 1).

There was a statistically significant difference between the groups in terms of somatic symptom averages ($p = 0.001$). As a result of the post-hoc Dunn's Test conducted to determine which groups the significance originated from, the mean somatic symptoms of the control group were significantly lower than those of the GAD ($p = 0.001$) and SSD ($p = 0.001$) groups. There was no statistically significant difference between the GAD and SSD groups ($p = 1.000$) (see Fig. 2).

Moreover, a statistically significant difference was identified among the groups regarding death anxiety scores ($p = 0.001$). Post hoc Dunn's Test indicated that the mean death anxiety of the control group was significantly lower than both the GAD ($p = 0.001$) and SSD ($p = 0.001$) groups. Nonetheless, no statistically significant difference was observed between the GAD and SSD groups ($p = 1.000$) (see Fig. 3).

Table 2

Evaluation of groups in terms of sociodemographic characteristics.

		GAD	SSD	Control	χ^2	p
		n (%)	n (%)	n (%)		
Medical Treatment	Yes	18 (%85,7)	14 (%77,8)	20 (%100)	4844	¹ 0,105
	No	3 (%14,3)	22 (%22,2)	0 (%0)		
Past Psychiatric Admission	Yes	0 (%0)	0 (%0)	13 (%65)	30,536	¹ 0,001*
	No	21 (%100)	18 (%100)	7 (%35)		
Living Space	Alone	1 (%4,8)	2 (%11,1)	1 (%5)	–	² 0,858
	With Wife	14 (%66,7)	12 (%66,7)	12 (%60)		
	With Children	6 (%28,6)	4 (%22,2)	7 (%35)		
Hospitalization	Yes	15 (%71,4)	10 (%55,6)	11 (%55)	1487	³ 0,475
	No	6 (%28,6)	8 (%44,4)	9 (%45)		
Walking Aid	No Need	18 (%85,7)	16 (%88,9)	18 (%90)	–	² 0,762
	Walking Stick	3 (%14,3)	1 (%5,6)	2 (%10)		
	Walker	0 (%0)	1 (%5,6)	0 (%0)		

Table 1

Evaluation of groups in terms of sociodemographic characteristics.

		GAD	SSD	Control	χ^2	p
		n (%)	n (%)	n (%)		
Gender	Woman	15 (%71,4)	12 (%66,7)	10 (%50)	2185	¹ 0,335
	Man	6 (%28,6)	6 (%33,3)	10 (%50)		
Education Level	Illiterate	3 (%14,3)	5 (%27,8)	2 (%10)	6558	¹ 0,585
	Primary	13 (%61,9)	11 (%61,1)	10 (%50)		
	Secondary	2 (%9,5)	1 (%5,6)	2 (%10)		
	High School	1 (%4,8)	1 (%5,6)	3 (%15)		
	University	2 (%9,5)	0 (%0)	3 (%15)		
Marital Status	Married	13 (%61,9)	13 (%72,2)	12 (%60)	6623	¹ 0,357
	Single	2 (%9,5)	0 (%0)	0 (%0)		
	Widow	5 (%23,8)	5 (%27,8)	8 (%40)		
	Divorced	1 (%4,8)	0 (%0)	0 (%0)		
Chronic Illness	Yes	21 (%100)	17 (%94,4)	20 (%100)	2035	² 0,305
	No	0 (%0)	1 (%5,6)	0 (%0)		
Smoking	Yes	2 (%9,5)	0 (%0)	0 (%0)	2504	² 0,323
	No	19 (%90,5)	18 (%100)	20 (%100)		
Alcohol Consumption	Yes	1 (%4,8)	0 (%0)	0 (%0)	1726	² 1,000
	No	20 (%95,2)	18 (%100)	20 (%100)		
Income Rate	Under Average	2 (%9,5)	1 (%5,6)	0 (%0)	–	³ 0,059
	Average	15 (%71,4)	16 (%88,9)	12 (%60)		
	Above Average	4 (%19)	1 (%5,6)	8 (%40)		
Age Avrg ± SS(median)		72,86 ± 5,91 (72)	71,06 ± 6,56 (69)	72,0 ± 6,82 (69)	1828	⁴ 0,401
Children Avrg ± SS(median)		3,2 ± 1,3 (3)	3,3 ± 1,1 (3)	2,9 ± 1,2 (3)	2148	⁴ 0,342

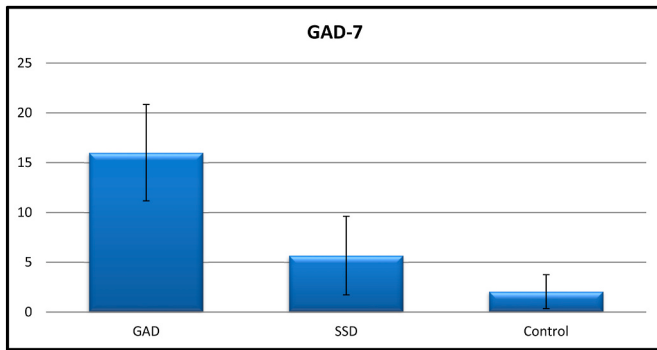


Fig. 1. GAD-7 scores by diagnosis groups.

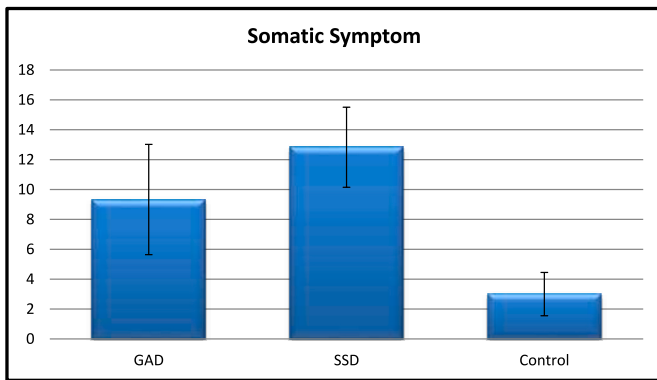


Fig. 2. Somatic symptom score figures by diagnosis groups.

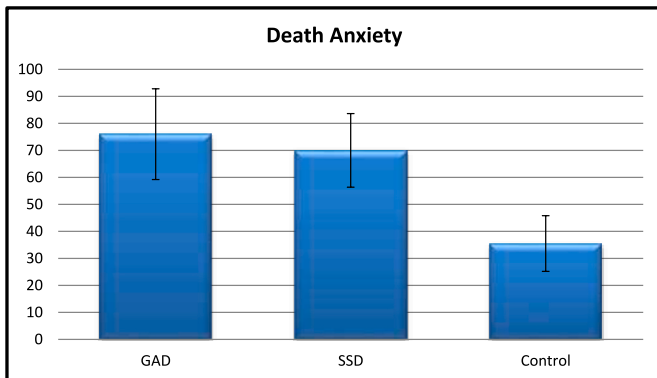


Fig. 3. Death Anxiety Scores by diagnosis groups.

Table 3
Correlations between scale scores in three groups.

			GAD	SSD	Control
GAD-7	Death Anxiety	r	0.276	−0.127	0.281
		p	0,226	0,616	0,230
GAD-7	Somatic Symptom	r	−0.429	0.060	0.486
		p	0,052	0,814	0,030*
Death Anxiety	Somatic Symptom	r	−0.119	0.440	0.557
		p	0,609	0,067	0,011*

In terms of scale correlations among the three groups, positive and moderate correlations (0.486) between GAD-7 and somatic symptom scores were exclusively evident in the control group ($p = 0.030$). Additionally, a positive and moderate (0.557) and statistically

significant relationship ($p = 0.01$) was observed between death anxiety and somatic symptom scores (see Table 3).

5. Discussion

Artvin is a relatively small city with minimal immigration, notable for its substantial elderly population and the presence of Caucasus communities. The longstanding residency of individuals in this region, combined with limited exposure to environmental factors, changes, and variables, has contributed significantly to the precision of the analysis. Furthermore, the lower level of education observed in the study population aligns with the average educational attainment among individuals aged 65 and above in the broader Turkish population.

A noteworthy limitation of our study is characterized by the restricted number of participants. The elevated prevalence of comorbidities among the elderly population posed challenges in incorporating individuals with singular diagnoses into the study cohort. The principal factor contributing to this limitation was the exclusion criterion requiring the absence of two or more comorbidities. Despite the relatively modest participant count, contextualized within the context of infrequent outpatient visits among individuals aged 65 and above who have not previously sought psychiatric care, the study is deemed to furnish crucial data for the evaluation of variables such as the Covid-19 pandemic. This assumes particular significance given the paucity of existing research in this specific demographic, underscoring the potential of the study to offer valuable insights into the subject matter.

Upon examining the statistics, the higher proportion of female patients in GAD and SSD cases aligns with findings from existing literature. The lower educational attainment is also consistent with the educational levels typically observed among the elderly population residing outside major cities in the region and Turkey as a whole. The low prevalence of cigarette and alcohol consumption in the study sample is advantageous, as it minimized the emergence of additional health issues and physical complaints, enabling a more focused evaluation. Notably, the fact that these two groups were the first to seek psychiatric assistance indicates a significant impact of the pandemic on the elderly population. Moreover, a notable strength of this study lies in its inclusion of participants who had not previously received any treatment, providing a unique perspective on the effects of the pandemic in this particular demographic. Furthermore, it is worth noting that the association between lower socioeconomic status and higher levels of somatization, as well as the higher prevalence of anxiety disorders among women, aligns with existing literature on the subject (Fryers et al., 2005). This consistency with prior research supports the validity and generalizability of the findings in the current study (Wongpakaran and Wongpakaran, 2014; Fortner et al., 1999).

During the clinical interviews, almost all of the patients emphasized that the pandemic had adversely affected their health. Considering that the first psychiatry examinations were associated with the pandemic, this information is consistent with the increase in psychological complaints caused by health anxiety and compulsory isolation in the literature. (Santini et al., 2020). The common somatic complaints seen in the patients are consistent with the information in the literature that somatization diagnosis is common in Eastern societies (Morawa and Erim, 2014; Beirens and Fontaine, 2011; Sariaslan et al., 2014).

In our study, we observed a significant presence of death anxiety among the elderly population diagnosed with somatic symptom disorder and generalized anxiety disorder, which is consistent with existing literature. However, an intriguing observation worth highlighting is that the scores of these two groups, as depicted by the statistical data, were remarkably similar. In contrast, the control groups exhibited lower levels of death anxiety, indicating a potential divergence in the manifestation of death anxiety across different diagnostic categories (Jamar and Chawla, 2020). This finding prompts us to consider that death anxiety may occur with similar severity in different diagnoses. (Sumathipala et al., 2008).

6. Conclusion

In conclusion, it is important to highlight that elderly individuals may exhibit distinct patterns in expressing their concerns, attributing their complaints to physical ailments and experiencing difficulties in recalling and articulating their symptoms. These factors can pose challenges in providing an accurate diagnosis, as a particular condition may manifest differently in this demographic. Therefore, when formulating a diagnosis, it is crucial to carefully review comorbid conditions. It is noteworthy that overlapping clusters of somatization, depression, and anxiety may coexist within the realm of medically unexplained somatic symptoms (Löwe et al., 2008). Recognizing and addressing these complexities is essential for comprehensive and effective healthcare management in the elderly demographic. (Newton-John et al., 2020; van Tilburg et al., 2021; Yao et al., 2020). Our study is important in terms of showing as a first study that death anxiety is seen at a high level in the elderly demographic with separate diagnoses such as generalized anxiety disorder and somatic symptom disorder. Although it is one of the strengths of the study that the evaluation was made with elderly people who applied for psychiatric treatment for the first time, the low number of participants also shows us that comprehensive evaluations should be made with more patients in this area in the future.

The authors have no conflicts of interest to declare. The authors whose names are listed immediately below certify that they have no affiliations with or involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

CRedit authorship contribution statement

Ugur Cikrikcili: Writing – review & editing. Haluk Altıntaş: Data curation.

Declaration of competing interest

None.

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