

Death Anxiety Scale for Pre-Surgical Patients

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ABSTRACT

Objective: To develop a scale for assessing death anxiety in pre-operative patients.

Study Design: Cross sectional study.

Place and Duration of Study: District Head Quarters Gujranwala, Fazal Hospital Gujranwala, Gondal Hospital Gujranwala and Mayo Hospital, Lahore Pakistan, from Apr to Nov 2020.

Methodology: Three hundred and fifty patients were included in the study. The one-factor solution was run on the data as the data was homogenous, and multiple factors were not elicited. The severity level of the patients' symptoms was explored using the subjective rating scale. The developed scale's validity was compared with the translated Arabian version of death anxiety.

Results: Varimax rotation and scree plot showed that one component solution best fit the indigenously developed scale. The severity level of the patients on the subjective rating scale for each item showed that patients in Pakistani culture would face more psychosomatic symptoms of death anxiety rather than emotional ones.

Conclusion: The indigenously developed scale would help manage pre-surgical patients' psychosomatic symptoms of death anxiety.

Keywords: Death anxiety, Pre-operative patients, Reliability, Validity.

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INTRODUCTION

Hospitalization, involves the stress within the patient, like living in the wards and looking at individuals around coming to the hospital with many infections and a few would die before them; these all would let the person in a stressful environment.¹⁻³ The negative feelings related to the surgery can take control of the individual, which kind of uneasiness has been named passing uneasiness or thanatophobia.^{4,5} Anxiety is characterized by sentiments of fear, over-the-top stress, dread, and pressure.⁶ It has been proposed that people maintain a strategic distance from circumstances on edge because it reduces the limit of dangers.⁷ Anxiety; rearing practices by the parents can lead the individual to develop chronic anxiety over time, and it would be difficult for the person even to manage his anxiety.^{8,9} The psychosomatic symptoms of death anxiety need to be explored to make it easy for the surgeon to conduct surgery. For a better assessment of symptoms, an indigenous scale has been developed that focuses on pre-surgical patients' death anxiety symptoms.¹⁰

The current study assessed the severity level of psychosomatic symptoms of death anxiety in pre-surgical patients. The scale measures the emotional

and behavioural issues faced by the patients. The scale developed would help the surgeons to distinguish the physiological pain and psychosomatic symptoms of stress. Therefore, developing a valid and reliable scale indigenously for measuring the symptoms of death anxiety in pre-surgical patients is necessary.

METHODOLOGY

It was a cross sectional study carried out at District Head Quarters, Gujranwala, Fazal Hospital Gujranwala, Gondal Hospital, Gujranwala Pakistan, and Mayo Hospital, Lahore Pakistan, from April to November 2020. Ethical and institutional permission was obtained before starting the data collection (IRB No 2019-05-037) Three hundred and fifty patients were included in the study. The one-factor solution was run on the data as the data was homogenous, and multiple factors were not elicited. The severity level of the patients' symptoms was explored using the subjective rating scale. The developed scale's validity was compared with the translated Arabian version of death anxiety.

Inclusion Criteria: Patients of either gender, age ranging from 16-60 years were included in the study.

Exclusion Criteria: Patients with diabetes, hypertension, pneumonia, stroke, heart disease, depression, or any other mental illness were excluded from the study.

The scale was developed in three stages. In the first stage,, data was gathered on the death anxiety

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symptom checklist, followed by Stage-II of empirical validation of the items described in Stage-I. Finally, in Stage-III, the scale's psychometric properties were established.

The data was collected from 350 patients who had to undergo surgery. The presenting complaints of those patients were recorded. One-factor solution analysis was run on the collected data as the presenting complaints were homogenous, so no rotation has been recorded in the data. All those items that were dubious, vague or overlapping were merged or modified, keeping close to their original connotations. Items that were expressed in idiosyncratic or slang words were also excluded. This way, A final list of 38 symptoms was collected and given the name Death Anxiety Scale for Pre-Surgical Patients. (DASS)

In order to gather empirical validation of the final list of death anxiety symptoms in pre-surgical patients, 20 experienced clinical psychologists were informed about the purpose of the research. All research experts had three years of experience with clinical patients. They were asked to rate each of the 38 problems on a 5 points rating scale ranging from 0 = "not at all" to 4 = "extremely common" for their frequency of occurrence in pre-surgical patients. At the end of Stage-II, all the symptoms were listed in descending order of frequency of occurrence as rated by the experts.

In Stage-III of the study, the symptoms checklist consisting of 29 presenting complaints was retained, and this list is used for further psychometric properties in Stage-IV.

Statistical Package for Social Sciences (SPSS) version 23.0 was used for the data analysis. Quantitative variables were summarized as mean±SD and qualitative variables were summarized as frequency and percentages. Independent sample t-test was used to determine the mean differences between the gender. Principal Component factor analysis was run to check the number of questionable items in the developed scale. The reliability analysis was carried out to check internal consistency among the scale items.

RESULTS

The factors for the death anxiety scale for pre-surgical patients (DAS) were made through principal component factor analysis by the Varimax rotation method. At first, the Eigen value was calculated, which showed the possibility of the factors and the number of possible factors. Then, the Stree plot was generated where the three-component factor accumulated at the

elbow. Finally, as a check, the four component factors were selected because the scale consisted of 38 items, and the themes were checked; it showed that there were questionable items which were not a significant part of the factor, and due to it, the four-component factor was not selected.

The two-component factor and the three-component factors were examined, in which the same results were seen as there was an overlap between the symptoms and manifestations. The statistical difference in any factor component was insignificant, therefore the only one-factor component solution was used in the death anxiety scale for pre-surgical patients. The concurrent validity (0.85**) was determined using the statistical analysis Pearson moment correlation between the indigenously developed death anxiety scale for pre-surgical patients and the Arabian translated version of the death anxiety scale showed positive correlation, that indicated the indigenously developed scale has significance in assessing death anxiety in pre-surgical patients. The Stree plot one factor depicted the accumulation of component factor analysis on the elbow point (Figure).

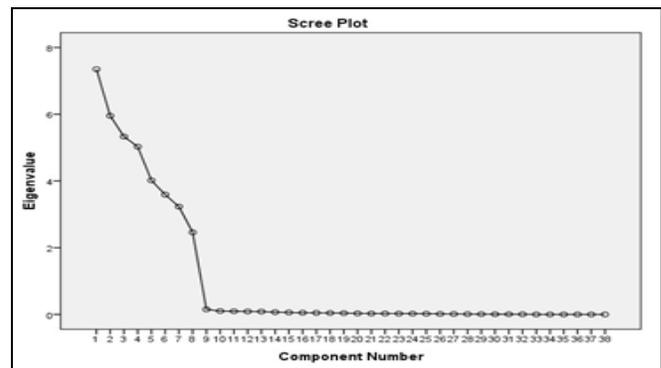


Figure: Scree Plot

The Table-I showed the intensity ratings for the death anxiety scale for pre-surgical patients (DAS). The Table-II showed the severity level of participants. The Table-III indicated that the death anxiety scale for pre-surgical patients had moderate consistency, shown by the alpha value of 0.822.

The Table-IV indicated the concurrent validity of the DAS as it showed a high correlation with the DASS, which was used to verify the concurrent validity of the indigenous scale. The high significance value showed that with the increasing score on the indigenous scale, there would be an increasing score on the DASS.

Death Anxiety Scale for Pre-Surgical

Table-I: Intensity ratings for the Death Anxiety Scale for Pre-Surgical Patients (DAS) (n=150)

Mean±SD	128.68±13.80	
Scale	Ratings	Score
Death Anxiety Scale for Pre-Surgical Patients (DAS)	Mild	54-116
	Moderate	66-128
	Severe	78-140
	Very Severe	90-152

Table-II: Severity Level and the Number of Participants of Death Anxiety Scale for Pre-Surgical Patients (DAS) (n=150)

Severity Level	Number of Participants
90-152%	8
78-140%	42
66-128%	64
54-116%	36

Table-III: Cronbach's Alpha of Death Anxiety Scale for Pre-Surgical Patients (n = 150)

Scale	No. of Items	Cronbach's Alpha
Death Anxiety Scale for Pre-Surgical Patients (DAS)	38	0.822
Death Anxiety Scale	23	0.880

Table-IV: Inter Factor Correlation, among Indigenous Scale of Death Anxiety Scale for Pre-Surgical Patients (DAS) with Arabian translated version of Death Anxiety Scale (DASS) (n = 150)

	Scale		r-value
	Sum of DASS	Sum of DAS	
Mean±SD	76.93±8.73	126.68±13.80	0.859**

DISCUSSION

This research was conducted on patients who have to undergo surgical procedures. Death anxiety has a deteriorating effect on pre-surgical patients. The scale measured all the physiological and psychological symptoms that pre-surgical could face. The current study explored the psychosomatic symptoms of death anxiety, either physical or emotional. The indigenously developed scale contained all the symptoms present in Pakistan's pre-operative patients. The scale was also reliable and valid, as it contains all the psychometric properties and could be used in future research projects. This scale was also used in hypnotherapy to manage death anxiety in pre-operative patients. The present research also attempted to develop an assessment scale measuring different symptoms of pre-operative patients and is largely based on empirically derived data. This study also emphasized using the pre-operative patient's functional profile rather than rigid diagnostic categories. The current study has planned to measure psychosomatic symptoms, especially

in pre-operative patients. Hence the developed tool would help professionals in the future.

Death anxiety symptoms never came alone it continuously came with comorbidities, sadness and psychosomatic indications of uneasiness.¹¹⁻¹³ To understand the psychosomatic symptoms of pre-surgical patients undergoing surgery in one or two weeks, the sample was used for developing the indigenous scale.^{14,15} Firstly The scale comprised 38 items, and then after the pilot study, it did remain only 29. After the principal component factor analysis, the final scale items comprised 27 items. No rotation has been seen in the data because all patients usually faced the same symptoms while pre-surgical patients, so one factor has been made from it.¹⁶ The statistical results have shown that the scale measured the clinical symptoms, so homogenous items must be found across the scale items. As mentioned above, death anxiety has some psychosomatic symptoms, which would be present in those patients who have to undergo surgery. Data of our study was collected from various areas of Punjab. This was one reason that no rotation has been seen in the developed questionnaire items. For evidence, the same scenario has been witnessed on the depression scale for the clinical population.

The scale was based on the clinical population and the symptoms of the depression; presenting complaints were the same. No rotation has been seen in the data, therefore the one-factor solution has also been used in that scale. Scale deals with symptomology of the disorder, no new information has been seen in it. Furthermore, the sample was too specific, so the picture was homogenous in the current developed indigenous scale of death anxiety in presurgical patients.¹⁷ However, the scale has the Cronbach alpha value of 0.822, which showed that the scale was reliable. Its concurrent validity has been seen with the other death anxiety scale, which was the indigenously translated scale.

The indigenously developed death anxiety scale has shown a high correlation with an Arabian translated version of the death anxiety scale, which showed that the scale was valid too. The indigenously developed scale was further used for measuring death anxiety in pre-operative patients.¹⁸ The items of the developed scale were homogenous, and no rotation was observed in the SPSS. The currently developed scale was used in the research work where the effectiveness of the therapy was checked by taking the pre-operative death anxiety scale scores.

LIMITATIONS OF STUDY

The current study was carried at specific areas of Pakistan, including Gujranwala and Lahore, so the study could not be generalized to all the cultures of Pakistan. The data collection process was held during the pandemic period, so the patients were not feeling comfortable dealing with the interviewer due to the distance maintained.

CONCLUSION

The indigenously developed scale would help manage pre-surgical patients' psychosomatic symptoms of death anxiety.

Conflict of Interest: None.

Author Contribution

Following authors have made substantial contributions to the manuscript as under:

RNK: Conception, study design, data acquisition, drafting the manuscript, critical review, approval of the final version to be published.

RD: Study design, data analysis, data interpretation, critical review, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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