

The Reliability and Validity of the Revised Collett Lester Fear of Death Scale in a Population of Australian Health Care Workers

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Abstract

The purpose of this study was to assess the reliability and the validity of the revised Collett Lester Fear of Death Scale (rCLFODS) in a population of Australian health care workers. A cross sectional survey was conducted among medical and nursing staff working at an Australian teaching hospital. 144 subjects completed the questionnaire. Reliability score was good and convergent validity score was also good. We concluded that this score has good reliability and validity in this population.

Keywords: The Reliability and Validity; Revised Collett Lester Fear; Death Scale; Health Care Workers

Introduction

Fear of death has been examined in academic literature since at least the end of the 19th century (Hall, 1896).

Attitudes towards death became a topic of psychological interest in the 1950s following Hermann Feifel's work [1]. He pioneered the study of both patient and physician attitudes to death and dying and its effect on the care of the dying patient [2]. Feifel [1] described the differences in attitudes to death amongst patients with serious illnesses, physically well people and physicians. In his sample, physicians as a group expressed greater fear of death, greater rejection of personal death and manifested significantly more negative death imagery than patients and physically well populations. He suggested that the physician's need to protect himself emotionally was probably operative and found that physicians were more apprehensive about the dying process than either patients or the healthy. He also suggested that unease about death, particularly on the part of those whose professional narcissism is under attack, could lead to unintentional withdrawal from and abandonment of the dying patient.

The extent of fear and anxiety around death and dying amongst Australian health care workers is not known. Furthermore, it is unclear how far these personal fears of death influence attitudes towards the death of patients in their care and the dying process itself. In the absence of a simply administered validated measure of fear of death, it is difficult to study this phenomenon.

Feifel [1] himself went on to propose that methodologies must developed to capture the multidimensional meanings of death, not only between individuals, but within the same person. Neimayer, Moser and Wittkowski [2] note that an overwhelming majority of literature

on death anxiety uses conscious reports of respondents in the form of written questionnaires. They go on to review a selection of instruments which demonstrate the greatest degree of psychometric adequacy. They note the evolution of these scales in the direction of greater differentiation and specificity, moving from global assessments to multi dimensional scales.

The revised Collett-Lester Fear of Death Scale [3] was chosen for its simplicity and ease of administration. The Collett-Lester Fear of Death Scale is one of the multi dimensional classic instruments used in assessing attitudes towards death. It distinguishes between death and the process of dying for both oneself and others, two distinct conditions with potential for important clinical implications. It is thus organized into four subscales: Fear of Death of Self, Fear of Dying of Self, Fear of Death of Others and Fear of Dying of Others. In its original version, it had 36 items divided into four subscales, however, each subscale had different numbers of items. For two decades, this scale was not actually published and was available only by writing to the author. In 1990, Lester published a revised version of the scale, which included a balanced number of items in each subscale and a simplified scoring system. This version comprised 32 items. In 2003, Lester and Abdel- Khalek eliminated one item from each subscale, so that each subscale carried the same weight in the total fear of death and dying score.

This study aims to validate the use of the revised Collett-Lester Fear of Death Scale (rCLFODS) to measure the fear of death amongst a sub-set of Australian health care workers.

Methods

This study was conducted among medical and nursing staff working at Peter MacCallum Cancer Centre in Melbourne, Australia.

Peter MacCallum is a tertiary referral centre and teaching hospital specialising in management of cancer patients in the state of Victoria, Australia. In addition to 96 in patient beds in its main campus at East Melbourne, it provides outpatient clinic, chemotherapy and radiation oncology services at multiple sites across the state and runs a variety of cancer centric research programs.

Ethical approval was sought and received from the Human Research Ethics Committee at Peter MacCallum Cancer centre.

Subjects

After institutional ethical approval was received, a link to our online survey questionnaire was sent by email to all members of medical and nursing staff at Peter MacCallum Centre with a known email address.

All responses were anonymous and participation was voluntary. 144 subjects completed the questionnaire out of a pool of approximately 931 health care workers currently employed at Peter MacCallum Cancer Centre. After excluding incomplete responses, 129 subjects were included in the analysis (88%). The questionnaire included the questions of the revised Collett-Lester Fear of Death Scale and also collected information on patient demographics.

Measures

Revised collett lester fear of death scale (rCLFODS)

The rCLFODS consists of 28 questions divided into 4 subscales: Death of Self, Dying of Self, Death of Others and Dying of Others. Each question is answered on a Likert scale with a value of 1 through 5. A higher score indicates a higher anxiety from death or dying.

Statistical analysis

Descriptive statistics are provided for respondent characteristics and questionnaire results. Content validity was assessed using Cronbach’s alpha coefficients for each subscale of the rCLFODS; and intercorrelation between the total rCLFODS score and each subscale was examined using Pearson’s Correlation coefficient.

Confirmatory factor analysis was conducted using Principal Component Analysis (PCA). As a four-subscale structure has been reported for the revised Collett Lester Fear of Death Scale, a forced-factor solution was utilised with four factors. Oblique rotation was utilised due to the theoretical association between items on this scale.

Results

Respondent demographics are outlined in table 1. In total, 129 health professionals completed the questionnaire and were included in analysis. Median age range of respondents was 35 - 44 years; and 33% (N = 42) of respondents were male. There were 69 doctors amongst the respondents (53.5%) and 60 nurses (46.5%). The median value for duration of clinical experience was 11 years (range 1 - 44 years)

Age (years)	Number (%)
18-24	2 (1.6)
25-34	50 (38.8)
35-44	39 (30.2)
45-54	19 (14.7)
55-64	16 (12.4)
65 and over	3 (2.3)
Total	129 (100)
Sex	Number (%)
Male	42 (32.6)
Female	87 (67.4)
Total	129 (100)
Occupation	Number (%)
Doctor	69 (53.5)
Nurse	60 (46.5)
Total	129 (100)
Clinical Experience	Median (range)
Years	11 (1 - 44)

Table 1: Participant demographics.

Descriptive statistics for responses to each of the subscales of the rCLFODS are provided in table 2.

Cronbach alpha coefficients for “Death of Self”, “Dying of Self”, “Death of Others” and “Dying of Others” subscales were 0.88, 0.86, 0.82 and 0.85 respectively. Our data compares favourably with Lester and Abdel Khalek’s publication validating the revised Collett- Lester scale [3] as well as Lester’s original findings when validating the initial modification of the Collett-Lester Scale (Lester, 1990). Cronbach’s alpha scores for individual subscales are compared in table 3. Cronbach’s alpha for the total rCLFODS was 0.81.

Subscales	Mean (SD)	Minimum Score	Maximum Score	Range	Skewness
Death of self	16.51 (6.83)	7	35	28	-0.80
Dying of self	23.21 (6.21)	7	35	28	-0.34
Death of others	22.46 (5.89)	7	34	27	-0.39
Dying of others	19.34 (5.72)	7	34	27	-0.14

Table 2: Descriptive statistics for each subscale of the rCLFODS.

	Present study	Lester and Abdel Khalek (2003)	Lester (1990)
	Cronbach’s α coefficient	Cronbach’s α coefficient	Cronbach’s α coefficient
Death of self	0.88	0.89	0.91
Dying of self	0.86	0.92	0.92
Death of others	0.82	0.78	0.88
Dying of others	0.85	0.92	0.92

Table 3: Comparison of Subscale internal reliability of the present study with the results of Lester and Abdel Khalek (2003) and Lester (1990).

Confirmatory factor analysis revealed that a forced four-factor solution accounted for 59.28% of variance. The results of factor analysis are shown in table 4.

Items	Factors			
	1	2	3	4
Death of Self				
1. The total isolation of death	.112	.639	.136	.019
2. The shortness of life	.211	.603	.241	.110
3. Missing out on so much after you die	.260	.622	.110	.077
4. Dying young	.272	.359	.402	.079
5. How it will feel to be dead	.064	.817	.038	.158
6. Never thinking or experiencing anything again	.063	.795	.054	.048
7. The disintegration of your body after you die	.083	.739	.020	.146
Your Own Dying				
8. The physical degeneration involved	.078	.011	.696	.028
9. The pain involved in dying	.018	.031	.768	.078

10. The intellectual degeneration of old age	.099	.108	.712	.058
11. That your abilities will be limited as you lay dying	.081	.037	.812	.004
12. The uncertainty as to how bravely you will face the process of dying	.170	.154	.735	.062
13. Your lack of control over the process of dying	.068	.224	.768	.028
14. The possibility of dying in a hospital away from friends and family	.257	.202	.316	.094
The Death of Others				
15. Losing someone close to you	.634	.042	.128	.120
16. Having to see the person's dead body	.175	.191	.149	.504
17. Never being able to communicate with the person again	.790	.032	.032	.114
18. Regret over not being nicer to the person when he or she was alive	.409	.092	.080	.330
19. Growing old alone without the person	.852	.085	.040	.083
20. Feeling guilty that you are relieved that the person is dead	.176	.281	.011	.325
21. Feeling lonely without the person	.859	.094	.045	.131
The Dying of Others				
22. Having to be with someone who is dying	.080	.095	.055	.820
23. Having the person want to talk about death with you	.187	.191	.097	.822
24. Watching the person suffer from pain	.167	.364	.248	.512
25. Seeing the physical degeneration of the person's body	.366	.230	.252	.533
26. Not knowing what to do about your grief at losing the person when you are with him or her	.379	.118	.079	.461
27. Watching the deterioration of the person's mental abilities	.337	.255	.271	.445
28. Being reminded that you are going to go through the experience also one day	.021	.456	.417	.168
Eigenvalues	10.265	2.824	1.948	1.560
% of Variance	36.66	10.09	6.96	5.57

Table 4: Regression Coefficients produced by Factor Analysis (Oblique rotation, forced four-factor solution) of the 28 items of the rCLFODS.

This analysis revealed high convergence for the “Dying of self” subscale. All other subscales exhibited high convergence; however item 4 (‘dying young’) loaded most heavily on Factor 3 while all other items of this subscale loaded most heavily onto Factor 2. All items of the “Death of Others” subscale loaded heavily onto Factor 1, apart from items 16 and 20 which loaded most heavily on Factor 4. Item 28 loaded most heavily on Factor 2, while all other items within this subscale loaded most heavily on factor 4.

Table 5 presents the intercorrelations between total scores on each of the four subscales. All intercorrelations were positive and were highly significant, ranging from 0.476 to 0.696 ($p < 0.001$ for all correlations). Each subscale correlated strongly and significantly with total rCLFODS score, ranging from 0.79 to 0.83. Confirmatory factor analysis revealed that subscale scores loaded heavily on a single factor, which accounted for 67.8% of variance

	Total Score	Death of Self	Dying of Self	Death of Others	Dying of Others	Factor 1
Death of Self	0.79	1				0.76
Dying of Self	0.83	0.54	1			0.83
Death of Others	0.83	0.53	0.56	1		0.85
Dying of Others	0.83	0.48	0.62	0.696	1	0.86
Eigenvalue						2.71
% of Variance						67.84

Table 5: Intercorrelation matrix and Factor Analysis of each of the subscales of the rCLFODS.

Discussion

Health care workers are regularly confronted not only by the reality of death but also by an array of life and death decisions, from choice of treatment modes to the question of whether, how and for how long to prolong life when patients are expected to die in the near future. More people go to hospital to die than in the past and modern medicine has prolonged the period of that dying. In 2012, of approximately 147,000 deaths registered in Australia, around 76,600 occurred in hospital (ABS data, 2012).

There is much published literature on clinicians experiencing difficulty when dealing with, and in treating efficiently, situations connected with death.

Feifel [1] found that the majority of both seriously ill patients as well as healthy people would want to be informed if they had an incurable disease. On the other hand, physicians were less willing than patients to provide such information to others and were more apprehensive about the dying process than either patients or healthy people. He also noted the reaction of the physicians to the death of another person suggested a need on their part to protect themselves emotionally against the loss of their patients.

Neimeyer and Neimeyer [4] found suicide interventionists had a significantly lower death anxiety compared to a matched population not routinely exposed to death. Interestingly, they could find no relationship between death anxiety and suicide counselling skill in this population.

In contrast, in a population of nursing home workers, De Paola, *et al.* [5] found that individuals with increasing levels of death concern had a greater anxiety about aging and displayed significantly fewer positive attitudes towards the elderly.

In a multi centre study of Jewish Israeli physicians, Hamama-Raz, Solomon and Ohry (2000) failed to demonstrate correlation between personal fear of death in clinicians and their exposure to death. However, personal experience of death and increasing age were associated with decrease in personal fear of death.

An extensive review of the literature [2] on death anxiety, focused on the attitudes toward death and dying of relevant professional and patient groups. It found evidence of difficulty communicating with and caring for of dying patients amongst clinicians with higher scores on fear of death scales.

There is a paucity of literature on thanatophobia amongst Australian health care workers. The impact of thanatophobia on clinical attitudes and management has not been studied in the Australian health care system.

This is the first attempt to validate an instrument to objectively quantify fear of death amongst Australian health care workers. This will form the basis for a larger multi centre study examining the relationship between fear of death and attitudes to death and dying amongst Australian health care workers.

The revised Collett Lester Fear of Death Scale was initially validated in a population of American undergraduates. It has since been translated into different languages and validated for use in diverse populations outside North America Mooney and O’Gorman have previously validated its use in a small population of Australian undergraduate students and attempted to demonstrate changes in fear of death after an intervention to change attitudes to death and dying [6-15].

In our sample population of Australian health care workers, the revised Collett Lester Fear of Death Scale was found to have high internal consistency, although Cronbach’s alpha for all subscales was marginally lower than has been reported in previous studies (Lester, 1990). It is important to acknowledge that the different population groups amongst the studies may account for this discrepancy. The results of confirmatory factor analysis revealed that subscale scores were strongly correlated with total score on the rCLFODS. All subscale scores loaded heavily on to a single factor, which accounted for a large proportion of total variance. This may indicate that subscale scores reflect a single general factor that may theoretically represent a general fear of death; and that this factor may be well represented by total score on the rCLFODS.

Although items within subscales demonstrated a large degree of convergence, there were a few exceptions. Item 28 (“being reminded that you are going to go through the experience yourself one day”) loaded most heavily on Factor 2. In the context of the other factor loadings, conceptually this may indicate that item 28 may be considered to be more related to anxiety about one’s own mortality than about another’s. This interesting finding may be considerably relevant, as it may influence the way in which physicians advise patient decisions. It would be difficult to quantify the effect, if any, this has on physician practice, although it may represent a key issue to be addressed in the education and assistance of physicians in care of the dying patient. In addition, item 16 may be seen as relating more to witnessing physical changes related to the death of another, which is more in line with the items of the “Dying of Others” subscale than those of the “Death of Others”, which primarily deal with emotional concerns.

This study has a few potential limitations. The sample population is drawn from health care workers at a single Australian center.

69% of the respondents are between 25 and 44 years of age and 67.4% of the respondents are female. It is unclear if this accurately reflects the entire demographic of the Australian medical workforce.

In terms of evolving maturity and experience, the largest age demographic represented is likely to show a significant range varying from recently qualified personnel to experienced specialists. The validation does not take into account this spread of knowledge and experience. We intend to address this issue with a larger multicenter study looking at the correlation between demographic variables, clinical experience and fear of death.

Finally, the sample population was not screened for personality differences or psychopathology, or for the influence of background and religion on the respondents. In a multicultural population like the Australian medical workforce, this may be an important confounding variable. In fairness, the intent of this report is to validate the use of the revised Collett Lester Fear of Death Scale in this population only and discriminating for cultural and religious variation was neither intended nor part of the study design.

Conclusion

We conclude that the revised Collett Lester Fear of Death Scale has acceptable validity and reliability for measuring fear of death in a population of Australian health care workers.

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