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Hope measurement questionnaire for family members of patients admitted to intensive care units

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Abstract

Original Article

BACKGROUND: Since the concept of hope in the family members of patients admitted to the intensive care unit (ICU) is of particular importance and the role of this concept in the health of this group of people is evident, it seems that a valid and reliable scale for measuring this concept is necessary. The purpose of this study was to design a hope measurement questionnaire for family members of patients admitted to the ICU of Besat Hospital in Sanandaj, Iran.

METHODS: The families of patients in the ICUs were selected using the convenience sampling method and completed the "Hope Questionnaire" along with demographic characteristics questionnaire and Beck Depression Inventory (BDI) (criterion scale). The validity of the instrument was determined by construct validity and criterion validity and the reliability was evaluated through calculation of internal correlation coefficient and test-retest. Data were analyzed by factor analysis, correlation coefficients, and Cronbach's alpha.

RESULTS: The items having the most factor loading were named based on the nature and size of the variables from which the extracted factors had the most share. First factor, including 15 items alone, represented 14.867% of the total variance and was named "Optimistic Thinking towards the Future" and the second factor, representing 14.666% of the total variance, was named "Pessimistic Thinking towards the Future" which had 7 items. The correlation between the scores of Hope Scale and the BDI, which was performed for assessing the criterion validity of the scale (P < 0.01).

CONCLUSION: The Hope Scale helps researchers gauge the different dimensions of hope through a deeper understanding of this concept. The scale had high validity and reliability in all fields. Considering the simplicity of its application and implementation, it can be used in various researches in which hope is considered as one of the studied variables.

KEYWORDS: Questionnaire Design, Hope, Intensive Care, Psychometric, Intensive Care Unit

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Introduction

Intensive care unit (ICU) is designated as an environment for providing special care to critical and ill patients. Critical illnesses often occur without warning and for a short period of time for patients and their families.[1] ICU is where ill patients are hospitalized and treated by experienced doctors and nurses and with

the best treatment.[2] Hospitalization in the ICU potentially has an undesired concept for the patient and family and makes them incur many problems that escaping from their negative effects is inevitable. Fear of losing one of the family members, fear of the future, fear of financial burden of disease on the family, changes in family members' roles, anxiety and distress, depression, loneliness, and frustration are among the threats that affect the integrated family system.[3-5] Having a patient in ICU is accompanied with tensions and special

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challenges for family members which can include loss of control, changes in roles, fear of the future and patient's health, and frustration.[6]

The experience of hope in families with a patient admitted to the ICU is significantly different from that of a family with a patient admitted to other units. Because these families face a period of hospitalization in which their patients are in critical condition and between death and life; even if the length of hospitalization in the ICU is short, the life of family members is affected for weeks or months in different aspects.[7-10]

Considering the abovementioned, giving hope by the health care team is essential because giving hope to the patient's family is considered as one of the roles of nursing. In particular, nurses can improve the health outcomes in this group and, consequently, in society, by creating positive impacts on hope in the family members of these patients. Therefore, it is necessary to pay more attention to the phenomenon of hope in the family of these patients.[11,12] Hope is a human phenomenon that asks for more research, and since nurses deal with a wide range of human responses, they need to develop nursing knowledge in relation to the phenomenon of hope for comprehensive care of their patients.[13] Families with a patient in the ICU are more likely to experience disappointment than those who have a patient admitted to other units. These conditions require actions that would support and direct family members during their patient hospitalization period at the ICU and improve the hope in them.[14]

Hope is the most basic and important part of life that relates to the meaning and purpose of life. Hope is a fundamental experience based on the circumstances that embrace the individual. Hope is like an emotional, intellectual, behavioral path and life path related to person or one's world. Hope is the human ability to immerse in his/her dreams. Hope exists even in the dream of a

consequence that has not yet happened.[9,15,16] Though studies such as the study of hope experience in patients with advanced cancer, the experience of hope in women with genital cancer, as well as the study of hope and social support have been done and improved clinical performance, the review of nursing literature suggests that despite the growth of the body of nursing knowledge in relation to hope, complete understanding of the phenomenon of hope has not yet been achieved, and the focus of these researches has been on patients with cancer, and on the other hand, with limitations in quantitative research for answering emotional, intellectual, and intuitive questions and given that the concept of hope can have different meanings in different cultural conditions and backgrounds, and different people experience it differently, it seems that this problem will be better investigated in the light of qualitative research that allows participants to express their experience of hope for having a patient admitted in the ICU.[17,18] Therefore, this research is designed with a qualitative and quantitative approach to design a tool for measuring hope in family members of patients admitted to the ICU.

Materials and Methods

This was a combined study in which content analysis was used as a type of qualitative research. The samples of this study were composed of family members of the patients admitted to the ICU of Kurdistan University of Medical Sciences hospitals, Iran, who were selected based on purpose.

The main method of data collection was interviewing and recording in the field. During the interview, non-verbal phrases, environment, and reactions of participants were recorded. In order to gain access to credible and real data, the researcher created a close and direct relationship with the participants. Through a deep, extensive, semi-structured interview, participants' experiences

were collected and recorded and as quickly as possible were transcribed on paper, coded, and analyzed by content analysis method to provide feedback for subsequent interviews or the adequacy and saturation of the data.

The study participants were the family members of patients hospitalized in ICUs. Data were collected through interviews with semi-structured questions. The research environment was a real area (natural environment) and there was access to samples in health care centers in ICUs. Before conducting interviews, the researcher identified the right people by being present in the research environment and after communicating with each individual, explained to them the method and the objectives of the study and with their opinion and agreement, determined the time of the first interview session and conducted it. Then, in the next sessions, the interview was conducted by asking semi-structured questions from the participants.

Since for constructing the questionnaire, the themes obtained from conventional content analysis and review of existing questionnaires were respectively used, the method of instrumentation in this study was inductive-deductive. Based on the concept resulted from the first stage, the main dimensions of the questionnaire were extracted. Then, proper phrases, that each would cover one aspect of the concept of hope, were developed. After extracting the constructive categories of the questionnaire, the items were compiled based on participants' experiences (inductive) and extracted codes from texts and similar questionnaires (deductive). At the design stage, the researcher used a set of items determined for the structure or structures of the instrument and judged to what extent these items could meet the expectations of the instrument structure. The researcher provided a pool of items based on the domains and sub-domains formed by the final definition of the concept of hope. From these items, the Hope

Questionnaire was designed for family members of patients. Data analysis was carried out using conventional content analysis.

Results

The Hope Scale was divided into two sub-scales. Based on the performed factor analysis, items 4 and 9 were eliminated due to the fact that they were not included in any of the factors.

Items that had the most factors loading were put under the category of that factor. After assigning the items to four factors, these factors were named based on the nature and size of the variables from which the extraction factors have had the highest share and review of the vocabulary and terms, the implications of variables, the existing theories, and previous studies.[5] The first factor including 15 items which alone represented 14.867 percent of the total variance was named "Optimistic Thinking towards the Future" and the second factor representing 14.662 percent of the total variance was named "Pessimistic Thinking towards the Future", which had 7 items.

The correlation between the scores of "Hope Scale" and the Beck Depression Inventory (BDI), which was performed to assess the criterion validity of the scale, was r = 0.0, which was significant at the level of $P < 0.01$.

When evaluation of the criterion validity is performed in the short time interval between the implementation of the two instruments, the correlation of 40%-70% is usually acceptable.[14]

The Cronbach's alpha coefficient, which was performed by analyzing the questionnaire, was 0.834. The correlation of all items, except 2 items, with total score of the scale was meaningful and statistically significant, which were not deleted due to the importance of these items.

Cronbach's alpha of the first sub-scale (optimistic thinking towards the future) was calculated 0.795 and the Cronbach's alpha for the second sub-scale (pessimistic thinking towards the future) was calculated 0.721.

Table 1. Factor analysis of Hope Scale

Number	Items	Factor 1	Factor 2
18	Everything gets better	0.572	0.374
19	I try to think better	0.552	-
20	I believe that there is a chance for me too	0.550	0.323
21	Good events will happen	0.534	0.342
15	Maybe there is a chance for me	0.530	-
17	I force myself to try harder	0.504	-
14	I think of the chances that may come to me	0.504	-
13	I am sure that my life will be better	0.490	0.459
2	There are still some good things to come across	0.419	
24	I know I am doing right in life	0.407	-
12	I do some things to get rid of bad thoughts	0.390	-
1	I look at a problem from different aspects	0.375	-
6	I can change my future	0.351	-
10	One day, I find someone to love him/her	0.348	-
8	My self-confidence becomes more and more every day	0.339	0.309
9	I do not worry about problems so much	-	-
4	I do not feel sorry all my time	-	-
22	I cannot solve the problems	-	0.675
7	Conditions will not get better for me	-	0.659
11	I am pretty sure that I cannot solve the problems	-	0.631
16	There is no light at the end of this path	-	0.631
23	I am not optimistic that I will have a good life	0.303	0.583
3	I will not be better than I am	-	0.583
5	I always see the bad side	-	0.341

The Pearson correlation coefficient between the scores obtained from the two implementation of the Hope Scale was 0.445 which indicates the average consistency of this scale (Table 1).

Discussion

In this research, which was performed with the aim of designing the Hope Measurement Questionnaire for family members of patients admitted to ICUs, the construct validity and the criterion validity of the scale, along with its internal reliability and consistency were studied.

The findings of factor analysis indicated that the structure of this scale was two-dimensional. The designers of the "Hope Scale" assessed its construct validity by examining the correlation of the "Hope Scale" with the General Health Questionnaire (GHQ) for adolescents, which indicated a significant positive correlation between the two scales;[6] but different dimensions of the concept of hope and consequently, being a one-dimensional or multidimensional scale is not mentioned.

The criterion validity and the concurrent validity of Hope Scale, examined by calculating the correlation coefficient between the hope scores of the research units and their self-efficacy scores, showed that there was an acceptable correlation between these two concepts.

A positive relationship has also been shown between self-efficacy and hope in the performed research.[7] Moreover, studies have reported a positive and significant relationship between hope and self-efficacy.[8]

The results of this study showed that hope in different fields of study was different and this difference in hope scores was significant. Studies have shown that hope leads to higher scores, in other words, hope is an important factor for goal-based behaviors such as getting a grade from homework.[8]

Hope is considered as one of the most important predictors of academic achievement. People who are more hopeful have higher education goals and more expectations of achieving success.[9]

In this research, the results of the internal consistency of the "Hope Scale" were evaluated by calculating the Cronbach's alpha, which corresponded to the coefficients obtained from the other studies. Calculating the reliability of the scale by a re-test method indicates the moderate consistency of the scale. The re-test method has some drawbacks. One of these problems is that many features change over time without being dependent on the consistency of the instrument.[7]

In examining the consistency of an instrument, estimating the amount of variation of the variable over time determines the time interval between two test runs. Most researchers recommend a minimum of two weeks intervals (to prevent the potential impact of the first test) and a maximum of one month (in order to reduce the likelihood of a change in the intended phenomenon) to conduct a retest.[10]

It is not recommended to check the consistency in cases where the variable under study is changed in short periods of time.[11] In view of these aspects, the concept of hope seems to be one of the concepts that is not constant in individuals at different times and it is volatile.

Conclusion

The Hope Scale helps researchers measure the different dimensions of hope through a deeper understanding of this concept. The study of the psychometric properties of "Hope Scale" showed that the scale had high validity and reliability in all fields and considering the simplicity of its application and implementation, it can be used in various researches in which hope is considered as one of the studied variables.

Conflict of Interests

Authors have no conflict of interests.

References

1. Abrisham Kar S, Jivad N. Epidemiological analysis of head trauma in patients admitted to Kashani general hospital, Shahrekord, June 2000-May 2001. J Shahrekord Univ Med Sci 2004; 5(4): 27-32. [In Persian].
2. Amendolia B. Hope and parents of the critically ill newborn: A concept analysis. Adv Neonatal Care 2010; 10(3): 140-4.
3. Bland R, Darlington Y. The nature and sources of hope: Perspectives of family caregivers of people with serious mental illness. Perspect Psychiatr Care 2002; 38(2): 61-8.
4. Blanch D'Souza SR, Karkada S, Lewis LE, Mayya S, Guddattu V. Relationship between stress, coping and nursing support of parents of preterm infants admitted to tertiary level neonatal intensive care units of Karnataka, India: A cross-sectional survey. Journal of Neonatal Nursing 2009; 15(5): 152-8.
5. Campbell DT, Fiske DW. Convergent and discriminant validation by the multitrait-multimethod matrix. Psychol Bull 1959; 56(2): 81-105.
6. Clarke DM, Kissane DW. Demoralization: Its phenomenology and importance. Aust N Z J Psychiatry 2002; 36(6): 733-42.
7. Chien WT, Chiu YL, Lam LW, Ip WY. Effects of a needs-based education programme for family carers with a relative in an intensive care unit: A quasi-experimental study. Int J Nurs Stud 2006; 43(1): 39-50.
8. Miller JF, Powers MJ. Development of an instrument to measure hope. Nurs Res 1988; 37(1): 6-10.
9. Fitzgerald MJ. Hope: A construct central to nursing. Nurs Forum 2007; 42(1): 12-9.
10. Herth K. Abbreviated instrument to measure hope: Development and psychometric evaluation. J Adv Nurs 1992; 17(10): 1251-9.
11. Snyder CR. Coping: The psychology of what works. Oxford, UK: Oxford University Press; 1999.
12. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res 2005; 15(9): 1277-88.

13. Hinds PS, Gattuso JS. Measuring hopefulness in adolescents. J Pediatr Oncol Nurs 1991; 8(2): 92-4.
14. Kim DS, Kim HS, Schwartz-Barcott D, Zucker D. The nature of hope in hospitalized chronically ill patients. Int J Nurs Stud 2006; 43(5): 547-56.
15. Morse JM. Approaches to qualitative-quantitative methodological triangulation. Nurs Res 1991; 40(2): 120-3.
16. Elliot D, Schneider Z, LoBiondo-Wood G. Nursing research: Methods, critical appraisal and utilisation. Philadelphia, PA: Mosby; 2004.
17. Farran CJ, Herth KA, Popovich JM. Hope and hopelessness: Critical clinical constructs. Thousand Oaks, CA: Sage Publications, Inc; 1995.
18. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. Nurse Educ Today 2004; 24(2): 105-12.