

Developing an Attitude Scale Towards Attempted Suicide Cases for Evaluating Emergency Medical Teams (ASETSA)



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SUMMARY

Objective: Suicide attempt is one of the most important risk factors for completed suicide, and generally, the first intervention is performed in the emergency department. The attitudes of health professionals towards suicide attempt cases affect their treatment and medical care. There is no related attitude assessment scale for health professionals in Turkey. The aim of this study was to develop a scale for assessing the attitudes of emergency medical teams towards cases of attempted suicide.

Methods: In this methodological, epidemiological study, a pool of 140 items was compiled using a previously developed similar scale available in the literature, as well as, testimonies of health professionals. Two hundred and fifty-one doctors, nurses and emergency medical technicians from 14 local hospitals in Sanliurfa were included in this study. Surface validity was determined using the Lawshe content validity index and ratio. Factor analysis (principal components) was used to evaluate structural validity and internal consistency (Cronbach's alpha), and test-retest reliability was analyzed.

Keywords: Suicide attempt, emergency medical team, attitude, validity, reliability.

Results: The mean age of the study cohort was 27.9±5.15 years, and 50% of the participants were female. A 28-entry attitude scale, which explained 58.5% of the total variance, was developed, including subscales for prevention and protection, individual help, institutional help, triggers and psychopathology, casual attributions, and medical help. The Cronbach's alpha parameter of the scale was 0.84. In test-retest analysis; there is no significant difference between point averages of the first and last application of the scale.

Conclusion: The psychometric features of the developed scale were determined to be acceptable.

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INTRODUCTION

Suicidal behavior, which is affected by biological and socio-cultural factors, is a significant public health problem ranking among the top 10 causes of death worldwide (Welch 2001; Borges et al. 2010; WHO 2011). According to the World Health Organization (WHO), approximately 900,000 people die from suicide each year; suicide has increased by approximately 60% in the past 50 years; and 84% of suicide cases occur in low-and middle-income countries (WHO 2004; 2009). Suicidal behavior is the second highest preventable cause of death for the 10-14 year age group and the third highest

preventable cause for the 15-44 year age group (Haukka et al. 2008; Mohanty et al. 2007). In recent years, the incidence rate of suicide has also been increasing in Turkey (Eyüboğlu 1998; Devrimci ve Sayıl 2003; Altındağ et al. 2005).

According to the literature, suicide attempt is one of the strongest risk factors for completed suicide (Blumenthal 1998; Maris 2002; Hawton et al. 2003; Öztürk 2004; Evans et al. 2004; Borges et al. 2010). The annual incidence of suicide attempts is predicted to be between 2.6 and 1.100 per 100,000; and the lifetime prevalence is 720 per 100,000 (Welch 2001). In community-based studies, the incidence rate has been

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higher among individuals who are female, young, unmarried, or unemployed or who have low education levels, poor living conditions, and/or mental disorders (Blumenthal 1988; Welch 2001; Öztürk 2004).

Studies have indicated that the knowledge, skills, and attitudes of health workers affect the quality of care received by individuals who have attempted suicide (Seremet 1984; Oppenheim 1996). Health care workers were found to perceive the care of suicide attempt patients as troublesome and distressing, and they believe these patients are only seeking attention.

Moreover, health workers reported that they themselves felt unstable and experienced complex emotions when approaching these cases; they had trouble understanding why the patients harmed themselves; and they lacked adequate knowledge and skills to respond to suicide attempt patients (Holland ve Plumb 1973; Domino et al. 1982). Studies on nurses have shown that nurses exhibited negative attitudes towards suicide attempt patients; as a result, patients did not receive emotional support and felt guilt, grief, shame, and a sense of failure. Landeen 1988; Midence et al. 1996; Duffy 1997; Burns et al. 2007).

Determination of the attitudes of health professionals is a primary step in developing training materials and programs for health care workers that ensure that suicide attempt patients receive proper care and treatment. On analyzing the literature, no related scale for measuring the attitudes of emergency health professionals directly was encountered, except for the Attitudes Towards Attempted Suicide-Questionnaire developed by Ouzouni ve Nakakis (2009). On examination of studies conducted in our country, no measurement tool was found to exist for determining emergency health care workers' attitudes towards cases of attempted suicide. Thus, in the present study, we aimed to develop a measurement tool for determining the attitudes of emergency department doctors, nurses, and medical technicians towards patients who attempted suicide.

METHODS

Sampling

In this methodological study, doctors, nurses and emergency medical technicians (EMT) from 14 local hospitals in Sanliurfa's city center and districts were included. The research was conducted between January and June 2011. In total, 325 doctors, nurses, and emergency medical technicians were working in emergency departments during this time period. 251 health workers have participated into validity and reliability studies.

Health workers who could not be reached during the study for reasons such as annual leave, temporary duty, and absence

from the city were not included in the study (response rate:89.6%). The average age of the included health care workers was 27.9 ± 5.15 years, and 50% were women. Of those surveyed, 49.6% were married, 4.8% were specialist physicians, 10.9% were general practitioners, 55.2% were nurses, and 29.1% were emergency medical technicians; 28.7% were working in hospitals in the city center, and 71.3% were working in district hospitals. The average duration of employment is 5.48 ± 4.0 years.

Implementation

Written permission to implement the study and collect data was received from the governorship of the Sanliurfa City Health Administration. An application was submitted to the ethics committee of the Harran University School of Medicine, and the required ethics committee approval was received on February 24, 2011 with decision no. 01 of session 03.

This study (project number 1175) was supported by the Harran University Scientific Research Council (HUBAK). To eliminate bias during data collection, forms were sent to health care workers in an envelope and approximately one week was provided for filling out the forms. The anonymous forms were then collected in sealed envelopes by the researcher. For test-retest reliability, forms were re-sent, following the same procedure, to 40 health care workers four weeks after the first application. However, three health care workers did not fill out the forms, so the analyses were performed with 37 people (response rate:92.5%).

Data Analysis

The Statistical Package for the Social Sciences (SPSS) version 15 was used for all statistical analysis. To evaluate content validity, the index of content validity and the Lawshe content validity rate were used. The structural validity of the scale was examined using principal components, and the appropriateness of factor analysis was examined using the Kaiser Meyer Olkin (KMO) parameter and Barlett's test of sphericity. In determining to what extent the items of the scale assess similar behaviors, the relationship between the total score of the scale and the collected scores was determined via calculating item-total correlations. To determine the reliability of the scale, Cronbach's alpha parameter and the test-retest method were used.

Assessment Tool Development

Building an Item Pool

Attitude consists of three components: emotional, cognitive, and behavioral components. The emotional component of attitude is defined as feelings related to and sympathy for a

person or case; the cognitive component is the beliefs and knowledge related to a case; and

the behavioral component is the behavior exhibited towards attempted suicide cases (Skevington 1984; Botega 2005). Two methods were employed in the creation of an attitude item pool containing the components mentioned above: the translation of the Attitudes Towards Attempted Suicide-Questionnaire developed by Ouzouni ve Nakakis (2009) and the receipt of emergency health care workers' opinions about the emotional, cognitive, and behavioral items.

The Attitudes Towards Attempted Suicide-Questionnaire

The Attitudes Towards Attempted Suicide-Questionnaire was developed by Ouzouni and Nakakis in 2009. The scale explains 55.45% of variance, consists of 80 items, and includes eight sub-dimensions: affirmation, acceptance, religion, professional role and maintenance, case management, personal characteristics, mental illness, and discrimination. The Cronbach's alpha parameter for the scale was 0.96, and the test-retest reliability was 0.97. After receiving permission from the researchers to use the scale, the items in the scale were translated from English into Turkish by three language experts. The Turkish version was then translated into English again by another expert to compare the meanings of the items, and the most appropriate items were selected.

Determining the Attitudes of Health Workers

A form was developed by the researchers to determine the following in order to define culture-specific attitudes (emotional, cognitive, and behavioral items) towards suicide attempt patients:

1. Reasons for suicide attempts.
2. Personal characteristics of patients who attempt suicide.
3. Acceptability of suicide attempts.
4. Approach to suicide attempt patients.
5. Looking for suicide attempt patients.
6. Help provided to suicide attempt patients.

Apart from the target population of the study in aforesaid categories, the statements of 21 doctors, nurses, and emergency medical technicians are compiled, and those most defining the trouble area among similar expressions are listed in form of items. The 60 items obtained were combined with the 80 items developed by Ouzouni and Nakakis and included in an Attitude Scale Towards Attempted Suicide Cases. Scores for each item are determined using a five-point Likert scale: 1-strongly disagree, 2-disagree, 3-undecided, 4-agree, and

5-completely agree. Higher scores indicate positive attitudes towards suicide attempt cases, while lower scores indicate negative attitudes towards suicide attempt cases.

RESULTS

Analysis of Scale Validity

Scope Validity

A content validity is sought in order to determine whether Suicide Attempts oriented Attitude Scale is proper for the items to be measured and whether the scale is duly measured or not. To this end, 20 physicians, psychologists, social workers, and psychiatric nurses with adequate knowledge of or expertise in the field of suicide were asked for support after explaining the aim of the study. Specialists who show consent to contribute to the study are asked to complete a questionnaire called Specialist Assessment Form that includes 140 items about manner scales which might affect the care of suicide attempts in emergency services.

This form is prepared in accordance with Lawshe rules so that each item might show scale manners that might affect directly the care in emergency services. The vitality (sufficiency of the item for the right scale), effectuality and comprehensibility of the items are also highlighted in the form. The form was completed by ten specialists, a statistically sufficient number. Items with content validity rates (KGO) 0 or less than zero were eliminated ($KGO = \frac{\text{the number of specialists who find it necessary}}{\text{the total number of specialists who participated into the questionnaire}} - 1$), and the remaining positive items were evaluated for meaningfulness using the criterion of content validity rate (KGO) (Lawshe 1975).

A minimum KGO value of 0.60 was used as the cut-off point. From the original 140 items, a tool of 58 items was obtained.

Structural Validity

Factor analysis was implemented using varimax rotation and the principal component method on the 58 items, which were found meaningful according to the criterion of content validity. Structural validity analysis of the 58 items was performed. To evaluate whether the number of items was sufficient, the Kaiser-Meyer-Olkin (KMO) test was used. The Barlett test result was 1669.906 ($p < 0.01$) and the Kaiser-Meyer-Olkin (KMO) sample value was 0.80. These results demonstrated that the scale is suitable for factor analysis. The corrected item-total correlation parameter was calculated for each item, as recommended in the literature, and the items with parameter values less than 0.20 were omitted from the scale; thus, a 28-item tool was obtained. Of the 28 items, 11 items are the same as the scale items developed by Ouzouni and Nakakis.

The highest score that can be obtained from the scale is 140, and the lowest possible score is 28. The 4th, 11th, 12th, 17th, 24th, and 26th items are negative and reverse-scored. In the first analysis, the number of factors whose original factor value is above one and equals for 58.5% of the total variance is six (6). As seen in Table 1, the first scale factor, "prevention and protection", explains 20.9%; the second scale factor, "individual help", explains 9.31%; the third scale factor, "institutional help", explains 8.36%; the fourth scale factor, "triggers and psychopathology", explains 7.23%; the fifth scale factor, "causal reference", explains 6.48%; and the sixth scale factor, "medical aid", explains 5.77% of the total variance.

As shown in Table 2, an obvious difference was observed between the arithmetic attitude score averages of the bottom and top quarters ($p=0.000$). Significant differences were determined between the attitude score averages of the sub and top quarters for all sub-dimensions ($p<0.05$). Thus, positive and negative attitudes, as defined by the scale, were shown to be statistically different; the scale was found to have internal validity.

Scale Reliability

To test the reliability of the scale, a test is performed for four weeks to 37 health workers from target population of the study. The correlation between the scores gathered from the first and second implementations was 0.70. No obvious statistical difference was found between the results of the two implementations ($n=37$; $p=0.990$), thus providing evidence for the reliability of the scale.

In the studies conducted to determine inner consistency, the Cronbach's alpha value is found to be 0.80 for pre-test and, 0.81 for the post-test. This alpha value is calculated separately from the total scores of the same group. The Cronbach's alpha value for the entire test was 0.84.

DISCUSSION

In this study, to determine emergency health care workers' attitudes towards individuals who attempted suicide, the Attitude Scale Towards Attempted Suicide Cases (İGYTÖ) was developed. Since attitudes may differ from culture to culture, developing a reliable, valid measurement tool specific to our culture was thought to be more useful. On examining foreign studies that aimed to measure the attitudes of emergency health care workers, we found that the studies evaluated nurses only, doctors only, or health care workers in specific units. Few scales and questionnaires were encountered. In the present study, since emergency medical technicians regularly encounter individuals who attempt suicide and encounter them first, emergency medical technicians, doctors,

and nurses from 14 local hospitals in Sanliurfa and its districts were included.

International cooperation continues to grow in the field of science, including insetting and developing scales, and adapting and comparing studies for different cultures. When preparing a scale for a different culture, if a scale prepared in another language and for

another culture has proved beneficial, its psycholinguistic and psychometric properties must be analyzed. In the present study, in order to obtain items relevant to the source culture, emergency workers are asked to complete forms containing questions related to the basic components of attitude which are cognitive, emotional, and behavioral dimensions; and the findings are listed in the form of items. Items from the Attitudes Towards Attempted Suicide-Questionnaire (ATAS-Q), developed in Greece, were also benefited from, translated and adapted.

The internal consistency of the scale tool is the reliability which determines whether all the items in the scale are sufficient to assess the variant in question. The alpha parameter is one method for testing the reliability of internal consistency. Previous studies have stated that if the alpha parameter is between 0.60 and 0.80, the scale is reliable. The Cronbach's alpha value for the present scale is 0.84; thus, the scale is reliable. The Cronbach's alpha value for the scale developed by Ouzouni and Nakakis (2009) for similar purposes is 0.96; we benefited from their scale in the present study. Our scale's test-retest reliability was calculated as 0.70, and the front and rear test scores, obtained using the scale, were similar. Therefore, the scale was determined reliable.

Factor analysis was conducted to determine the construct validity of the scale. After factor analysis was performed, the remaining 28 entries that described 58.05% of the total variance were categorized into six sub-dimensions: prevention and protection, individual help, institutional help, triggers and psychopathology, causal attributions, and medical help.

As a result:

- Items represent the desired area to be measured (content validity)
- The scale measures the structure researched (surface validity)
- The scale consists of six sub-dimensions based on factor analysis (structure validity)
- High of internal consistency exists between items (reliability of internal consistency)
- The scale is consistent over time (test-retest reliability)

The present scale determines the attitudes of emergency health care workers towards individuals who attempt suicide.

The scale is available to be used for research in Turkey and by other countries researching this subject. To prevent suicide attempts, which are a significant public health problem, the measurement of attitudes before and after education programs is important when evaluating programs. It is believed that using this scale for planning and conducting mental health studies will improve suicide attempt prevention

REFERENCES

- Altındağ A, Sır A, Özkan M (2005) Türkiye'de intihar hızlarındaki değişimler (1974–1998). *Türkiye'de Psikiyatri*, 2:79–86.
- Blumenthal SJ (1988) Suicide: A guide to risk factors, assessment, and treatment of suicidal patterns. *Med Clin North Am*, 72:937–71.
- Borges G, Nock MK, Haro Abad JM et al. (2010) Twelve-month prevalence of and risk factors for suicide attempts in the world health organization world mental health surveys. *J Clin Psychiatry*, 1:1617–1628.
- Botea NJ, Reginato DG, Da Silva CP et al. (2005). Nursing personnel attitudes towards suicide: the development of a measure scale. *Rev Bras Psiquiatr*, 27: 315–318.
- Burns A, Goodall E, Moore T (2007) A study of suicides in Londonderry, Northern Ireland, for the year period spanning 2000–2005. *J Forensic Leg Med*, 30: 1–10.
- Devrimci Özgüven H, Sayıl I (2003) Suicide attempts in Turkey: results of the WHO EURO multicentre study on suicidal behavior. *Can J Psychiatry*, 2:324–329.
- Duffy D (1997) Miles belied an inner torment. *Nursing Times*, 93:26.
- Domino G, Westlake L, Gibson L (1982) Attitudes towards suicide. A factor analytic approach. *J Clin Psychol*, 38:257–262.
- Davidhizar R (1993) The management of the suicidal patient in a critical care unit. *J Nurs Manag*, 1:95–102.
- Evans E, Hawton K, Rodham K (2004) Factors associated with suicidal phenomena in adolescents: a systematic review of population-based studies. *Clin Psychol Rev*, 24: 957–979
- Eyüboğlu I (1998) *Türk Dilinin Etimoloji Sözlüğü*. İstanbul, p. 54–55.
- Haukka J, Suominen K, Partonen T et al. (2008) Determinants and outcomes of serious attempted suicide: a nationwide study in Finland, 1996–2003. *Am J Epidemiol*, 167:1155–1163.
- Hawton K, Harriss L, Hall S et al. (2003) Deliberate self-harm in Oxford, 1990–2000: a time of change in patient characteristics. *Psychol Med*, 33:987–995
- Holland J, Plumb M (1973) The management of the serious suicide attempt: a special ICU problem. *Heart and Lung*, 2:376.
- Hopkins C (2002) But what about the really ill, poorly people? (An ethnographic study into what it means to nurses on medical admission units to have people who have harmed themselves as their patients). *J Psychiatr Ment Health Nurs*, 9:147–154.
- Lawshe CH (1975) A quantitative approach to content validity. *Personnel Psychology*, 28:563–575.
- Landeen JJ (1988) Patient suicide: its impact on the therapeutic milieu of the psychiatric unit. *Perspectives in Psychiatric Care*, 24:74–78.
- Maris RW (2002) Suicide. *Lancet* 360:319–326
- Midence K, Gregory S, Stanley R (1996) The effects of patient suicide on nursing staff. *J Clin Nurs*, 5:115–120.
- Mohanty S, Sahu G, Mohanty MK, Patnaik M (2007) Suicide in India.-A four year retrospective study. *J Forensic Leg Med*, 14: 185–89
- Oppenheim AN (1996) *Questionnaire Design, Interviewing and Attitude Measurement*. London.
- Ouzouni C, Nakakis K (2009) Attitudes towards attempted suicide: the development of a measurement tool. *Health Science Journal*, 3:222–231.
- Öztürk O (2004) *Özkıym (intihar) Sorunu*. Ruh Sağlığı ve Bozuklukları, 10th edition. Feryal Press, Ankara.
- Seremet NK (1984) Needs of the attempted suicide patient in the ICU. *Crit Care Nurs Q*, 6: 40–48.
- Skevington S (1984) *Understanding Nurses-The Social Psychology of Nursing*. John Wiley and Son LTS, New York.
- Welch SS (2001) A Review of the literature on the epidemiology of parasuicide in the general population. *Psychiatr Serv*, 52: 368–75
- WHO (2011) World Health Organization Suicide prevention, 28.06.12'de http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/index.html
- WHO (2009) Mental Health - Suicide Prevention on 1.04.2011 (http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/index.html).
- WHO (2004) *The Global Burden of Disease: 2004 update* Geneva; World Health Organization. On 5 July 2012. http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_full.pdf Accessed.