

## **Turkish reliability of the vulnerable elderly survey-13.**

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### **Abstract**

**Objective:** Our aim was to adapt for Turkish and perform the reliability study of the vulnerable elderly survey-13.

**Material and methods:** VES-13 was translated to Turkish by three researchers and a consensus meeting was held after the translation process. Turkish text on which the researchers agreed was translated into English by an independent professional translator. As a result of this process, the researchers obtained the final version on which they agreed and the accuracy of which was proved by back translation.

**Results:** The questionnaire was administered to patients above 71 y presenting to Family Medicine clinic. Total of 95 patients (39 male 56 female, with an average age of  $80.65 \pm 5.27$  y) took part in this study. Turkish version of the questionnaire was found to be quite reliable (Cronbach's alpha 0.857).

**Conclusion:** Turkish version of the vulnerable elderly survey-13 is quite reliable. We believe that this questionnaire may be used for objective assessment of diagnosing frailty, evaluating its severity and its follow-up in clinical practice.

**Keywords:** The vulnerable elderly survey-13, Frailty, Turkish reliability.

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### **Introduction**

The average life span has been prolonged in recent years due to rising of awareness in health care as well as advanced technology. Current data show that elderly population may be 2 billion in 2050 [1,2]. Older population also increased in our country because of a decrease in fertility rates and mortality rates as well. Based on TNSA 2013, >65 aged population was the 7.9% of general population in Turkey and it's getting increase by the years according to studies performed since 1990s [3]. Given the increase in elder population, it is considered that the rate of health problems associated increasing age would be higher.

A comprehensive geriatric assessment would be helpful to health cares for describing geriatric events increased by age, resolution of these events and prevention or delay of complications [4]. Several tests and scales that can be applied by older individual him/herself or by health cares have been developed. A correlation is detected between increase in scores of scales and mortality rate, falling, rate of hospitalization, decrease in post-operative mobilization and also reduced daily activities [5-8].

Vulnerability is a term that defines the most complex condition of older population for health careers. Because of vulnerability, rate of complications and hospitalization increases dramatically. This term is defined as a period faced to many

physical and mental health problems due to aging-related physiological collapse.

Although rate (degrees) of vulnerability varies, it's found about 10% in >65 y old population and about 25% in >85 y old one. Thus, it's estimated that a quarter of >85 y old population is within the vulnerable group [1]. Expecting an increase in risk of falling, disability and death is not surprising for health careers. New studies and/or clinical trial on results of risks mentioned above and urgent precautions should be considered. There is a lack of accurate data on vulnerability degrees (rates) in Turkey.

"Vulnerable Elders Survey-13" (VES-13) is a worldwide validated questionnaire for identifying vulnerability degrees in older populations. Our primary aim was to translate VES-13 questionnaire for Turkey's elder population, to adjust and confirm it for cultural structure of Turkey. Our secondary aim was to estimate vulnerability degrees of >65 y old population in Turkey.

### **Material and Methods**

"Vulnerable Elders Survey-13" (VES-13) is consisted of 13 items for 4 titles. VES-13 can be used to distinguish vulnerable elders and healthy others [9]. Items within identified factors were assessed for their internal consistency by using Cronbach's alpha reliability coefficients.

Scale is scored based on each question. Expected rate of bad complications (hospitalization and deaths) which has a score 1-3 is 14.8%, while it's expected up to 54.9% on 4 and/or over scores.

Total score of the first question for age was in <75 ages, while it was 1 in 75-84 ages and 3 in >85 ages. Answers to questions related daily physical activities are scored according to ability to perform daily activities [10].

### Translation process

VES-13 was translated into Turkish by three researchers, and a consensus meeting was held after the translation process. The Turkish text on which the researchers agreed was translated into English by an independent professional translator. After the researchers compared the English text, a product of back translation, and the source text in terms of meaning and comprehensibility, they decided that there were no differences between the two texts. As a result of this process, the researchers obtained the final version on which they agreed and the accuracy of which was proved by back translation.

### Patient collection

This study was conducted in the clinic of Eskisehir Osmangazi University Medical Practice and Research Hospital Family Medicine between 1 and 31 of July 2016. The questionnaire was administered to the voluntary patients above 71 y that presented to the clinic. Ethical approval was received from Eskisehir Osmangazi University non-interventional clinical studies ethical committee to carry out this study.

### Results

Total of 95 patients (39 male, 56 female and an average age of  $80.65 \pm 5.27$ , 66 y) took part in this study. The mean score was  $6.44 \pm 2.32$ .

Analysing of the 3<sup>rd</sup> question of VES-13 showed the Cronbach's alpha coefficient was 0.857. We removed 3B question on the scale and analysed each of 5 questions one by one, so we determined the Cronbach's alpha coefficient as 0.864. A 0.007 difference appeared tolerable; therefore we decided to assess 6 questions instead of 5. The validity results and coefficients of the 3<sup>rd</sup> question are shown in Table 1.

**Table 1.** Cronbach's alpha values of Question 3 and total Cronbach's alpha value.

Question	Cronbach's alpha values
Question 3A	0.810
Question 3B	0.864
Question 3C	0.834
Question 3D	0.845
Question 3E	0.818
Question 3F	0.828

Total	0.857
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After validity studies, to estimate the reliability of VES-13, Spearman Brown coefficient was calculated using Split-Half method (an statistical method) and was found 0.880 and after statistical analysis, it was concluded that VES-13 is valid for Turkey.

Mean value of total score calculated by statistical method was  $6.44 \pm 2.32$ . Mean score according to gender and general mean score were shown in Table 2.

### Descriptives

**Table 2.** Mean values of total score.

	N	Mean	Std. Deviation	Minimum	Maximum
Man	39	6.0769	2.55862	1.00	10.00
Women	56	6.6964	2.13132	1.00	10.00
Total	95	6.4421	2.32340	1.00	10.00

Relation of total score obtained in statistical analysis and marital status, gender, living place, education period, individual/individuals residing together, experienced diseases was calculated using Independent Sample Mann-Whitney U test and Independent Sample Kruskal-Wallis test. Given the marital status, being married has reduced the total score and this was found statistically significant ( $p=0.011$ ). Comparison of educational status and total score showed that total score reduced by increasing of educational level and it was statistically significant (0.024).

### Discussion

Vulnerability has become an important term with the increase in older population. Estimating of vulnerability degrees highlights actual aspects of falling, decrease in daily activities, post-operative hospitalization period, mortality rates, admission to health care centres and death. Primary care physicians who are essential on screening older patients should take account these risks mentioned above. Because primary care physicians may know well about patient from birth to death; they assess their patients' bio-physo-social status and if needs they visit their patients at residence. The primary care physicians can raise quality of life of an older individual by simply identifying potential events (problems), taking implementing preventive cares.

There are many tests and methods that can be used to determine vulnerability. VES-13 questionnaire is an easier and understandable test. It can be applied by any of health careers. Face-to-face meeting is not necessary; interviews can be made by phone. There was a lack of studies and trials on validity and safety of VES-13 for Turkey. VES-13 questionnaire has been translated into Turkish by translate procedures under internationally accepted guidelines [11,12] and applied to 95 individuals. Given results of this study, Cronbach' alpha

coefficient of each item and total score of VES-13 were found higher. It was concluded that VES-13 is quite valuable for Turkish older population.

### Vulnerable Elders Survey-13 (kırılgan Yaşlı Anketi-13)

1. Yaş.....
2. Genel olarak yaşitlarınız olan diğer bireylerle kıyaslandığında sağlığınız için ne söylersiniz:
  - Kötü
  - Aynı
  - İyi
  - Çok iyi
  - Mükemmel
3. Ortalama olarak aşağıda yer alan fiziksel aktiviteler sırasında ne derece zorluk hissedersiniz?  
(1-hiç zorlanmam 2-çok az zorlanırım 3-biraz zorlanırım 4-çok zorlanırım 5-yapamam)
  - a. Alçalma,çömelme,diz çökme: 1 2 3 4 5
  - b. 450 g ağırlığındaki nesnelere taşımak veya kaldırmak 1 2 3 4 5
  - c. Uzanmak veya kolları omuz seviyesine kaldırmak 1 2 3 4 5
  - d. Yazmak, küçük objeleri elinde tutmak, kavramak 1 2 3 4 5
  - e. 400 metre yol yürümek 1 2 3 4 5
  - f. Ağır ev işleri (yerleri fırçalamak veya camları silmek gibi) 1 2 3 4 5
4. Sağlığınız veya fiziksel koşullarınız nedenli aşağıda yer alan işleri yapmakta zorluk çekiyor musunuz?
  - a. Kişisel nesnelere için alışveriş yapmak (tuvalet nesnelere veya ilaç gibi)  
Evet → bunun için yardım alıyorsunuz? Evet Hayır  
Hayır → bu durum sağlığınız nedenli mi? Evet Hayır
  - b. Para idaresi (giderleri takip etmek veya hesap ödemek)  
Evet → bunun için yardım alıyorsunuz? Evet Hayır  
Hayır → bu durum sağlığınız nedenli mi? Evet Hayır
  - c. Oda içinde yürümek (Yürüteç veya baston ile de olabilir)  
Evet → bunun için yardım alıyorsunuz? Evet Hayır  
Hayır → bu durum sağlığınız nedenli mi? Evet Hayır
  - d. Hafif ev işlerini yapmak (bulaşık yıkamak, doğrulamak, hafif temizlik işleri)  
Evet → bunun için yardım alıyorsunuz? Evet Hayır  
Hayır → bu durum sağlığınız nedenli mi? Evet Hayır
  - e. duş almak veya banyo yapmak  
evet → bunun için yardım alıyorsunuz? Evet Hayır

hayır → bu durum sağlığınız nedenli mi? Evet Hayır

Questionnaire: Turkish version of vulnerable elder's survey-13

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