

The reliability and validity of the Vertigo Symptom Scale and the Vertigo Dizziness Imbalance Questionnaires in a Turkish patient population with Benign Paroxysmal Positional Vertigo

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Abstract. The aim of this study was to adapt the Vertigo Symptom Scale (VSS) and the Vertigo Dizziness Imbalance (VDI) Questionnaires to the Turkish population and investigate the reliability and validity of the Turkish version.

One hundred and three patients with Benign Paroxysmal Positional Vertigo (BPPV) were included in the study. The patients were evaluated with the VSS and the VDI twice, at recruitment and 24 hours later. To perform concurrent validity study, patients were also assessed by the Beck Depression Inventory (BDI) and the Medical Outcomes Survey Short Form 36 (SF-36) which were formerly proved to be valid and reliable for use in Turkish population.

The internal consistency of the VSS, VDI-symptom scale, and VDI-health-related quality of life scale were good with Cronbach's alpha of 0.91, 0.85, and 0.93 respectively which showed high reliability for the Turkish versions. Test-retest reliability was also good, with a high intraclass correlation coefficient (ICC) between the two time points; being 0.83 for the VSS, 0.90 for the VDI-symptom scale and 0.89 for the VDI-health related quality of life scale. Regarding concurrent validity, significant expected correlations were detected between the VSS and BDI ($r = 0.55$ $p < 0.001$) and the VSS and SF-36 ($r = -0.43$ $p < 0.001$). Significant low correlations were detected between the VDI-SS and BDI ($r = 0.20$ $p < 0.05$) and the VDI-SS and SF-36 ($r = -0.21$ $p < 0.05$). High correlations were observed between the VDI-HRQoL and BDI ($r = -0.75$ $p < 0.001$) and the VDI-HRQoL and SF-36 ($r = 0.82$, $p < 0.001$) which indicates high concurrent validity. The correlation between VDI-SS subscale scores and VDI-HRQoL subscale scores were 0.028 ($P = 0.778$) at the first time point. From the perspective of discriminant validity, it means that the VDI-SS measures a construct different from the one underlying the VDI-HRQoL. The adaptation of the VSS and VDI to the Turkish population was successful and both scales were found to be valid and reliable. Thus, they can be used in Turkish people with BPPV for assessment and monitoring the treatments. Besides, the results of the national studies in which these Turkish versions are used can be compared with those of the international studies.

Keywords: Vertigo, reliability, validity

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1. Introduction

Benign paroxysmal positional vertigo (BPPV) is a recurrent vestibular disorder characterized by sudden rotatory attacks lasting seconds that are elicited with the movement of the head into certain positions [10]. Vertigo symptoms are often accompanied by elevated levels of anxiety and signs of emotional disturbance [16]. BPPV has a significant impact on health-related quality of life of patients, especially on their emotional and physical states [10,13].

The ultimate goal of many treatments is to restore the function and so, rehabilitation is one of the corner stones of the therapy in BPPV [12,25]. The term *functional outcome* refers to one's ability to perform daily activities and evaluation of the patient should also rely on the assessment of functionality. Although there are multiple tools being used, it is sometimes hard to assess the effectiveness of treatments in vertigo and dizziness [7]. The assessment tools can be as simple as measuring the frequency of spells of vertigo or more complex as measuring the perceived functional levels, physiologic parameters of gait, gaze stability, and vestibular function. There are two main groups of outcome measures; self-report measures and physical performance measurements. The self-report measures are typically questionnaires that address either specific or more general issues of function. The self-report measures are subjective, but in some ways, they are superior to the objective measures of performance; thus they are very useful when the identical physical limitation may have different effects on the lives of different individuals, based on their physical and psychologic constitution [7]. Kirshner and Guyatt [19] state that the instruments which are used to assess change in health status should meet three criteria: firstly there should be low intrasubject variability; secondly there should be an ability to detect clinically relevant change; and last, the change detected should be consistent with an external standard measuring the change (validity).

The Vertigo Symptom Scale (VSS) was developed in 1992 by Yardley et al. [29]. Their aim was to determine whether a self-report measure of vertigo severity could be developed that was uncontaminated by symptomatology caused by anxiety, and therefore, which could be used, in preference to vestibular test results, to examine the relative influence of vertigo and anxiety on reported handicap and distress. Factor analysis identified the distinct symptom clusters which formed the basis for the construction of scales quantifying the number and frequency of symptoms of: (a) vertigo (of

long and short duration); (b) autonomic sensations and anxiety arousal; and (c) somatization [29]. The VSS was translated to Spanish and Swedish and adaptation studies showed satisfactory reliability and validity of the translated versions [21,30].

The Vertigo, Dizziness and Imbalance (VDI) questionnaire was developed in 1999 by Prieto et al. [23] to be used as an outcome measure in clinical trials for monitoring the progress of patients participating in the treatment programmes and for comparing different groups of patients affected by these symptoms. The VDI questionnaire was found to be a reliable, valid and responsive instrument for patients with vertigo, dizziness and imbalance.

There is no valid and reliable vertigo index to be used in Turkish patients for follow-up and clinical research. So, the aim of this study is to adapt the Vertigo Symptom Scale (VSS) and Vertigo Dizziness Imbalance questionnaire (VDI) to Turkish, and to evaluate the reliability and validity in Turkish patients. In this study, the VSS-short form was preferred to be used since it was shown to be sensitive to change in patients' status after exercise therapy [27,28] which would meet our needs for assessing Turkish patients and the effectiveness of vertigo rehabilitation.

2. Materials and methods

The study was approved by the Institutional Review and Ethical Board.

First, the VSS and VDI were adapted to the Turkish language using recent guidelines for cross cultural adaptation [3]. The indices were at first translated from English to Turkish by each author, and then merged in group discussion. In addition, an independent translation was solicited from a native English-speaking language specialist. Next, the authors compared this translation with their own and found the two texts to be semantically very similar, requiring just a few minor modifications in the authors' original translation. As a final verification, the resulting Turkish text was translated back to English by a native English-speaker, and compared with the original English text, convincing the authors that the adaptation to Turkish was adequate. The patients were not involved in the translation/back translation process.

2.1. Patients

The Turkish version of the VSS and VDI were tested on 103 consecutive patients who were admitted to an out-patient clinic and diagnosed with benign paroxysmal positional vertigo (BPPV) by ear-nose-throat specialists (SB and HK). Demographic data of the patients were recorded. A full neurologic examination was conducted to rule out other diseases. Because there was a hesitation about the diagnosis in 3 patients, an electronystagmography was also performed to confirm their diagnosis. All patients were informed about the study and gave written consent.

2.2. Assessments

All the patients completed the short form of the Vertigo Symptom Scale and the Vertigo Dizziness Imbalance questionnaire. The VSS short form consists of 15 items. Each item is answered on a (0–4) Likert scale according to how many times they experienced each of the listed symptoms during the past month, (0: never, 1: a few times, 2: several times, 3: quite often-every week, 4: very often-most days). The patients were asked to choose the most appropriate answer indicating their situation. The VDI consists of two subscales; symptom scale (VDI-SS) and health-related quality of life scale (VDI-HQoL). The VDI-SS consists of 14 and VDI-HQoL consists of 22 items. Each item is answered on a (0–5) Likert scale, (0: all of the time, 1: most of the time, 2: a good bit of the time, 3: some of the time, 4: a little of the time and 5: none of the time). The patients were asked to choose the best answer which suits their condition.

To assess reproducibility, the VSS and the VDI were completed 24 hours later, at the same time of the day. Patients were also assessed by the Beck Depression Inventory (BDI) [4] and The Medical Outcomes Study 36-Item Short Form Health Survey (SF-36) [26]. The Turkish versions of the BDI [15] and the SF-36 [20] were previously proved to be valid and reliable.

2.3. Statistical analysis

Statistical data were evaluated using Statistical Package for Social Sciences (SPSS) 11.5 for use in Windows. Reliability of the Turkish version of the VSS and VDI questionnaire were tested by internal consistency and test-retest reliability. Internal consistency of the instrument was assessed by Cronbach's alpha [8] and test-retest reliability by intraclass correlation coef-

Table 1

Intraclass correlation coefficients of the items at two occasions of the Vertigo Symptom Scale

Items	ICC (95% CI)	p
Spinning or moving (<20 minutes)	0.51 (0.35–0.64)	< 0.001
Hot or cold spells	0.72 (0.62–0.80)	< 0.001
Nausea, vomiting	0.76 (0.66–0.83)	< 0.001
Spinning or moving (>20 minutes)	0.27 (0.08–0.44)	< 0.01
Heart pounding	0.46 (0.30–0.60)	< 0.001
Dizzy, disorientated (all day)	1 (1-1)	–
Headache, pressure in head	0.73 (0.62–0.81)	< 0.001
Unable to stand without support	0.16 (–0.04–0.34)	> 0.05
Difficulty breathing	0.85 (0.79–0.90)	< 0.001
Feeling unsteady (>20 minutes)	0.43 (0.26–0.58)	< 0.001
Excessive sweating	0.70 (0.59–0.79)	< 0.001
Feeling faint	0.90 (0.85–0.93)	< 0.001
Feeling unsteady (<20 minutes)	0.27 (0.08–0.44)	< 0.01
Pains in heart, chest region	0.44 (0.27–0.58)	< 0.001
Dizzy, disorientated (<20 minutes)	0.74 (0.64–0.82)	< 0.001

ICC: intraclass correlation coefficient, CI: confidence interval.

ficient (ICC) [24]. The agreement between scores at two time points was assessed by using the Bland and Altman approach [2]. The Bland & Altman plot (Bland & Altman, 1986 and 1999) is a statistical method to compare two measurements techniques. In this graphical method the differences (or alternatively the ratios) between the two techniques are plotted against the averages of the two techniques. The graph displays a scatter diagram of the differences plotted against the averages of the two measurements. Horizontal lines are drawn at the mean difference, and at the mean difference plus and minus 1.96 times the standard deviation of the differences. If the differences within mean ± 1.96 SD are not clinically important, the two methods may be used interchangeably [5,6]. The difference between two time points was evaluated by Wilcoxon signed ranks test. Concurrent validity was determined by testing for expected associations between the adapted instrument and other valid measures. Discriminant validity was assessed by testing the correlations between the VDI-SS and VDI-HRQoL over the baseline measurements [22]. Association between instruments was evaluated by using Spearman's correlation coefficient. The reliability and validity values were judged according to Fisher [11].

3. Results

The mean age of the 103 patients was 51.7 ± 8 (38–69) years and 34% of them were male. Patients completed the Turkish version of the VSS and VDI in a very short time, approximately 5–6 minutes and expressed no difficulty in understanding the questionnaires.

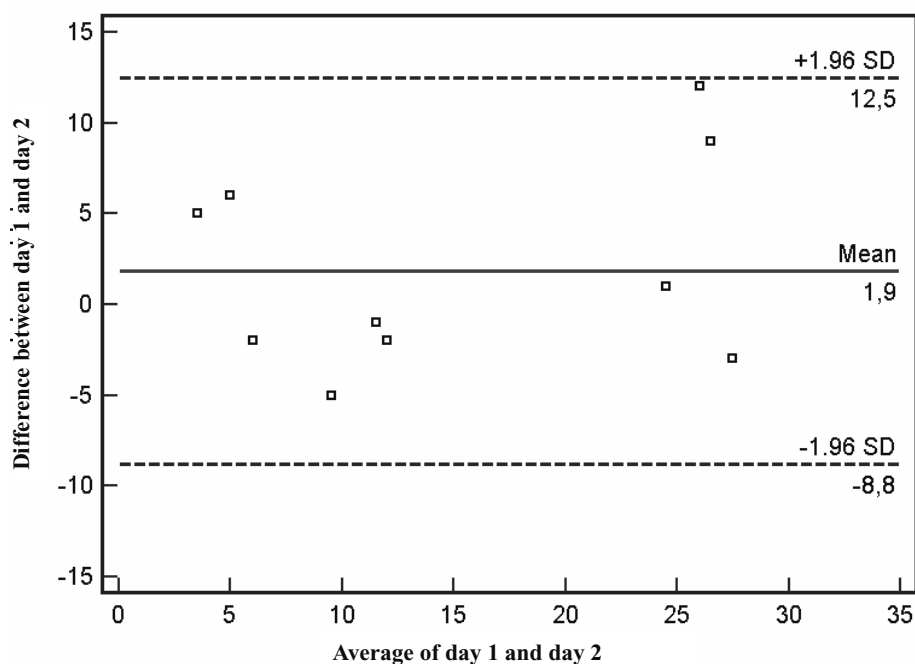


Fig. 1. Bland and altman plot for the vertigo symptom scale.

3.1. VSS

3.1.1. Reliability

The internal consistency of the Turkish version of the VSS was good at both day 1 and day 2, with Cronbach's alpha value of 0.92 and 0.91, respectively. Test-retest reliability was also good, with a high intraclass correlation coefficient (ICC = 0.83) between the two time points. The agreement between total VSS scores at two time points was acceptable since a 95% range of agreement was -8.8 and 12.5 (Fig. 1). The median VSS scores for 103 patients on two occasions were 11 (range: 5–32) and 12 (range: 1–29), respectively. The test-retest reliability of the individual items is presented in Table 1.

The correlations between the total VSS score and each VSS item score (item-total correlations) varied between $r = 0.23$ and $r = 0.88$, the weakest correlations were detected for the item *feeling faint, about to black out* ($r = 0.23$) and for the item *headache, or feeling of pressure in the head* ($r = 0.35$). The correlations between the single items were between 0.53–0.92 ($p = -0.06$ and $p < 0.001$).

3.1.2. Validity

Regarding concurrent validity, significant expected correlations were detected between the VSS and BDI ($r = 0.55$ $p < 0.001$) and the VSS and SF-36 ($r = -0.43$ $p < 0.001$).

3.2. VDI

3.2.1. Reliability

The internal consistency of the Turkish version of the VDI-SS was good at both day 1 and day 2, with Cronbach's alpha value of 0.86 and 0.85, respectively. Test-retest reliability was also good as shown by a high ICC (0.90) between the two time points. For total VDI-SS scores, the agreement at two time points was acceptable (a 95% range of agreement = -17.5 and 22.7) (Fig. 2). The median VDI-SS scores for 103 patients on two occasions were 56 (range: 32–77) and 58 (range: 30–74), respectively. The test-retest reliability of the individual items is presented in Table 2.

The correlations between the total VDI-SS score and each VDI-SS item score varied between $r = 0.30$ and $r = 0.84$, the weakest correlations were detected for the item *loosing balance* ($r = 0.30$) and for the item *having to hold on while walking* ($r = 0.32$). The correlations between the single items varied between $r = -0.01$ with $p = 0.91$ and $r = 0.94$ with $p < 0.001$.

The Turkish version of the VDI-HRQoL showed a good internal consistency at day 1 and day 2, with Cronbach's alpha value of 0.94 and 0.93, respectively. The ICC between the two time points (0.89) indicates adequate test-retest reliability. For total VDI-HRQoL scores, a 95% range of agreement was -19.2

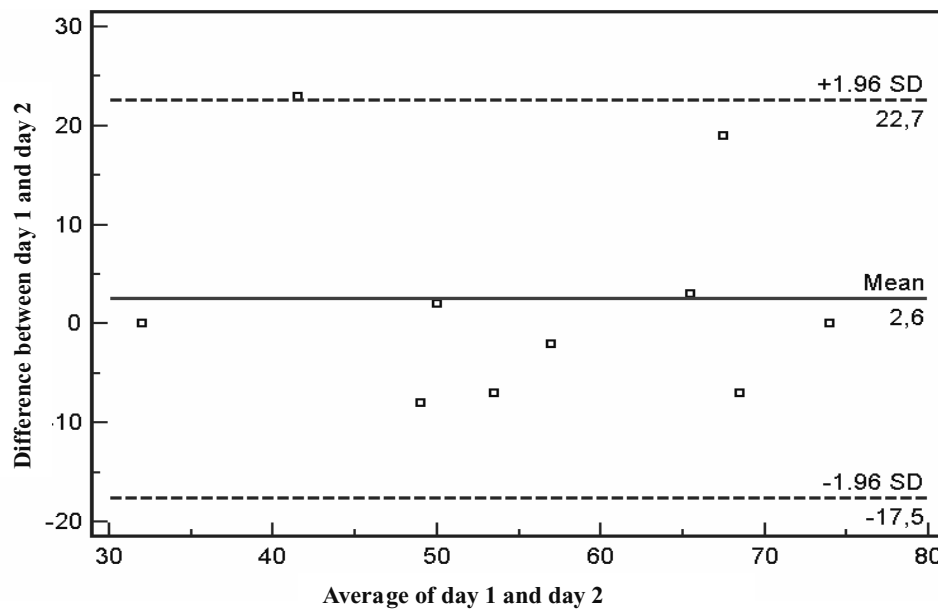


Fig. 2. Bland and Altman plot, for the Vertigo Dizziness Imbalance-Symptom Scale.

Table 2

Intraclass correlation coefficients of the items at two occasions, of the Vertigo Dizziness Imbalance-Symptom Scale

Items	ICC (95% CI)	p
Loosing balance	-0.08 (-0.27-0.11)	> 0.05
Having to get up slowly	0.91 (0.86-0.93)	< 0.001
Weakness in the legs	0.71 (0.60-0.79)	< 0.001
Feeling head insecure	0.85 (0.78-0.89)	< 0.001
Changing position slowly	0.90 (0.86-0.93)	< 0.001
Bending very slowly	0.86 (0.80-0.90)	< 0.001
Going to bed to calm down	0.72 (0.61-0.80)	< 0.001
Having vertigo after get up	0.46 (0.29-0.60)	< 0.001
Holding on while walking	-0.05 (-0.24-0.14)	> 0.05
Feeling as floating	0.69 (0.58-0.78)	< 0.001
Turning aside while walking	0.73 (0.62-0.81)	< 0.001
Feeling the head turning	0.67 (0.55-0.76)	< 0.001
Feeling the things turning	0.92 (0.88-0.94)	< 0.001
Feeling nauseated	0.85 (0.79-0.90)	< 0.001

ICC: intraclass correlation coefficient, CI: confidence interval.

and 15.4. In conclusion, the agreement between VDI-HRQoL scores at two time points was acceptable (Figure III). The median VDI-HRQoL scores for 103 patients on two occasions were 104 (range: 49-118) and 108 (range: 64-122), respectively. The test-retest reliability of the individual items is presented in Table 3.

The correlations between the total VDI-HRQoL score and each VDI-HRQoL item score varied between $r = 0.03$ and $r = 0.90$, the weakest correlation was detected for the item *no desire to smarten up* ($r = 0.03$). The correlations between the single items varied between 0.87-0.93 ($p = 0.01$ and $p < 0.001$).

Table 3

Intraclass correlation coefficients of the items at two occasions of the Vertigo Dizziness Imbalance -Health Related Quality of Life

Items	ICC (95% CI)	p
Worry about appointments	0.88 (0.83-0.92)	< 0.001
Getting downhearted	0.93 (0.90-0.95)	< 0.001
Afraid of walking alone	0.73 (0.63-0.81)	< 0.001
No desire to smarten up	0.23 (0.04-0.40)	< 0.01
Afraid about health	0.95 (0.92-0.96)	< 0.001
Afraid to fall down	0.82 (0.75-0.87)	< 0.001
Effort to make plans	0.89 (0.84-0.92)	< 0.001
Effort to do work	0.70 (0.59-0.79)	< 0.001
Afraid of getting up a chair	0.77 (0.68-0.84)	> 0.05
Feeling insecure in the bath	0.92 (0.88-0.94)	< 0.001
Feeling irritable	0.83 (0.76-0.88)	< 0.001
Feeling insecure while walking	0.84 (0.77-0.89)	< 0.001
Not feeling like going out	0.87 (0.81-0.91)	< 0.001
Not feeling like doing things	0.00 (-0.19-0.19)	> 0.05
Feeling that people do not understand	0.53 (0.38-0.66)	< 0.001
Feeling insecure on the steps	0.77 (0.68-0.84)	< 0.001
Not feeling confident in him/herself	0.58 (0.43-0.69)	< 0.001
Memory is failing	0.64 (0.52-0.74)	< 0.001
Feeling insecure doing things	0.72 (0.62-0.80)	< 0.001
Effort to get to sleep	0.96 (0.94-0.97)	< 0.001
Soon getting angry	0.47 (0.30-0.61)	< 0.001
Hard to get concentrated	0.64 (0.51-0.74)	< 0.001

ICC: intraclass correlation coefficient, CI: confidence interval.

3.2.2. Validity

Significant low correlations were detected between the VDI-SS and BDI ($r = 0.20$ $p < 0.05$) and the VDI-SS and SF-36 ($r = -0.21$ $p < 0.05$). High correlations were observed between the VDI-HRQoL

and BDI ($r = -0.75$, $p < 0.001$) and the VDI-HRQoL and SF-36 ($r = 0.82$, $p < 0.001$) which indicates high concurrent validity.

The correlation between VDI-SS subscale scores and VDI-HRQoL subscale scores were 0.028 ($P = 0.778$) at the first time point. From the perspective of discriminant validity, it means that the VDI-SS measures a construct different from the one underlying the VDI-HRQoL.

4. Discussion

In the assessment of patients with vestibular disorders, objective tests may not be conclusive and the clinician often has to rely upon the clinical history. Also, it can be assumed that results of objective tests do not supply detailed information about the patients' condition to enable us understanding the influence of the disease on their quality of life [21]. A patient's perception about vertigo-induced disability is an important factor that should be considered in planning treatment strategies [10]. For a multidimensional approach, several vertigo indices are being used in vertigo rehabilitation and clinical evaluation. However, these indices must be adapted and tested in different cultures and languages so that the trials in which these indices are used can be easily compared. The present study was conducted to fulfill this aim and the results indicated that the Turkish VSS and the VDI have satisfactory reliability and validity to be used in Turkish patients with BPPV.

The original VSS was proved to be valid and reliable among English patients [29]. The VSS was translated into Spanish and the cross-cultural validation was made among Spanish speaking Mexican people [30]. The study established that the VSS has good cross-cultural validity in the Mexican population as an instrument for differentiating symptoms of anxiety and balance disorder. Also, Mendel et al. adapted the index to the Swedish language and showed a satisfactory reliability and validity [21]. Furthermore, both versions were found to be reliable and valid among Mexican and Swedish vertigo patients, respectively. The Turkish version also showed a good reliability with a Cronbach's alpha coefficient of 0.91 which is a better value than those of the original and the adapted versions' trials. The Cronbach's alpha coefficient was 0.80, 0.86, and 0.80 for the English, Spanish, and Swedish versions of the VSS, respectively.

The original VDI questionnaire by Prieto et al. showed a good reliability with Cronbach's alpha co-

efficient 0.86 for the VDI-SS and 0.92 for the VDI-HRQoL [23]. The results of the present study was similar to those of the original study with the values, 0.85 for the VDI-SS and 0.93 for the VDI-HRQoL.

The weakest correlations between the total VSS score and the single VSS item were about *headache, or feeling of pressure in the head* and the item about *feeling faint, about to black out*. The correlation between the total VDI-SS scores and the single VDI-SS item scores also showed a wide range and the weakest correlations were detected for the item *loosing balance* and for the item *having to hold on while walking*. Among the items of VDI-HRQoL, the weakest correlation was detected for the item *being afraid to get up to the top of a chair or a ladder*. In statistical point of view, these results may indicate somewhat poor internal consistency. However in this study, statistical analysis yielded good internal consistency of the single items. In fact, the expressions in most of the above items are not used in Turkish daily speech and probably patients did not feel familiar with these expressions. This may be one of the reasons of weak correlations detected for these items. There is another possibility that should be taken into consideration; maybe those items displaying weak correlations are not as relevant as the other items to the symptomatology of BPPV, but this idea should be verified by further studies.

In the present study, the vertigo patients were also assessed by the BDI and the SF-36 indices, which were previously proved to be valid and reliable in Turkish population in different medical conditions, to test concurrent validity. The BDI is a widely-used and well-validated questionnaire that can be used to screen for depression. The SF-36 is a generic measure, assessing an individual's health-related quality of life. It can be used to assess functioning and well-being in any patient group. The SF-36 was demonstrated to have good internal consistency, reliability and validity in persons with BPPV [10]. In the study of Alonso et al, the SF-36 was demonstrated to facilitate comparison of the average standardized scale scores of the general population with those of the patients with BPPV regarding the disease severity [1]. In our study, the VDI-HRQoL indice showed high correlation with both BDI and SF-36 which indicates high concurrent validity. Similarly, Prieto et al. [23] showed moderate to high correlations between the VDI and the other valid indices such as, the Short-Form-12, the Berg Balance Scale and the General Health Questionnaire. The Dizziness Handicap Inventory (DHI) [17] which is one of the other assessment tools used in vertiginous patients, is a 25-item ques-

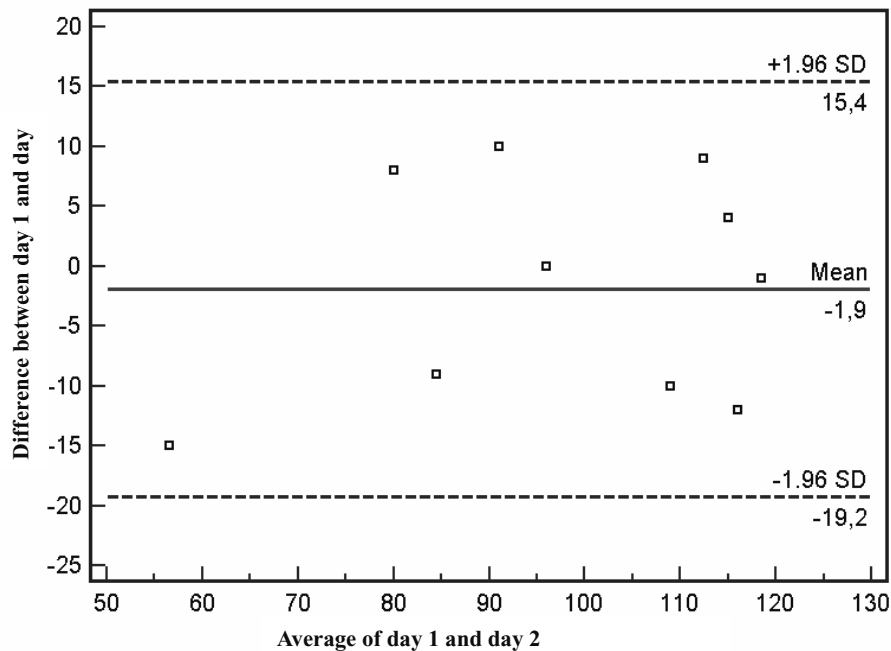


Fig. 3. Bland and Altman plot, for the Vertigo Dizziness Imbalance-Health Related Quality of Life.

tionnaire designed to measure the self-perceived disability or handicap caused by symptoms of dizziness or imbalance. The questions address the impact of the symptoms on the physical, emotional and functional aspects of daily activities. Enloe and Shields [9], compared the use of the DHI and the SF-36 in patients diagnosed with vestibular dysfunction and reported that both scales were reliable for this patient population. The tests, however, were not strongly correlated with each other. Despite the differences between the two assessment tools, the SF-36 appears to be beneficial in measuring the overall health status of individuals with vestibular dysfunction [7]. Kinney et.al reported a significant handicap in patients with Meniere's disease when assessed with the DHI and the SF-36 [18]. In the present study the VSS was chosen instead of the DHI, because we thought that the items and wording of the DHI were not as suitable for Turkish patients considering their cultural habits and other characteristics (especially items 3, 6, and 15).

It was preferred to include only BPPV patients in this study, because it was especially planned to have a homogeneous group to eliminate the impact of other

characteristics. To our knowledge, this is the first study has investigated the validity and reliability of a vertigo index in Turkish population. The utilization of adapted Turkish versions vertigo scales in different vestibular disorders may be the concern of the further studies.

Responsiveness is the ability of the scale to detect changes in clinical status and sensitivity to change is an important feature of a clinical index. The VSS [29] and the VDI [23] scales were shown to be responsive to change as the scores were correlated with the patients' reports informing either improvement or worsening at follow-up. Actually, it would be better to evaluate the sensitivity to change with vertigo rehabilitation. In another study, improvements after vertigo rehabilitation could be detected exactly using these indices [14]. In conclusion, the adaptations of the VSS and the VDI to the Turkish patients with BPPV were successful and they were found to be valid and reliable among Turkish patients. The Turkish VSS and the VDI can be used in BPPV in either monitoring the patients or clinical trials so that the results may be compared with other studies as well.

Appendix**TURKISH VERSION OF THE VSS****VERTİGO SEMPTOM SKALASI (VSS) (kısa form)**

Baş dönmenizle ilgili yaşadığınız sıkıntıları öğrenmek istiyoruz. Son bir ayda aşağıda yer alan şikayetleri hissetme sıklığına göre uygun seçeneği işaretleyiniz.

1.20 dakikadan daha az olmak üzere siz veya çevrenizdekiler etrafınızda dönüyormuş gibi hissediyor musunuz?

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

2. Aniden sıcak basması veya üşüme hissediyor musunuz?

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

3.Mide bulantısı, kusma

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

4.20 dakikadan daha fazla olmak üzere siz veya çevrenizdekiler etrafınızda dönüyor gibi hissediyor musunuz?

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

5. Kalp çarpıntısı

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

6.Tüm gün süren başta sersemlik hali, ayaklarınız yerden kesiliyormuş gibi hissediyor musunuz?

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

7.Baş ağrısı, başta basınç hissi

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

8.Destek olmadan ayakta duramama, yürüyememe, bir tarafa sallanma

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

9.Nefes almakta zorluk, nefes darlığı

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

10.20 dakikadan fazla süren dengesizlik hissetme

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

11.Aşırı terleme

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

12.Bayılacakmış gibi hissetme

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

13. 20 dakikadan daha az süren dengesizlik hissetme

0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

14.Göğüs ağrısı

- 0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)
15.20 dakikadan daha az süren başta sersemlik, ayaklarım yerden kesiliyormuş gibi hissetme
0 Hiçbir zaman 1 Çok seyrek 2 Çoğu zaman 3 Sık sık (her hafta) 4 Çok sık (çoğu günler)

TURKISH VERSION OF THE VDI

VERTIGO DIZZINESS IMBALANCE (VDI)

Aşağıda başdönmenizle ilgili olarak günlük yaşamınızda karşılaşılabileceğiniz sıkıntılar yer almakta. Lütfen her sorunun altında yer alan seçeneklerden sizin durumunuza en uygun olan şıkkı işaretleyiniz.

SEMPTOM SKALASI (VDI-SS)

1. Dengemi kaybediyormuş gibi hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
2. Yattığım yerden yavaşça kalkmam gerekiyor.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
3. Bacaklarımda güçsüzlük hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
4. Kafam yerinde değil.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
5. Yatakta çok yavaş dönmem gerekiyor.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
6. Çok yavaş eğilebiliyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
7. Baş dönmesinin azalması (rahatlaması) için yatmam gerekiyor.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
8. Yataktan kalktığımda başdönmem oluyor.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
9. Yürürken tutunmak zorunda kalıyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
10. Ayağım yerden kesiliyormuş gibi hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
11. Yürürken bir tarafa çekiliyormuş gibi hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
12. Başımın döndüğünü hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
13. Etrafımdaki eşyalar çevremde dönüyormuş gibi hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
14. Midem bulanıyor.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman

YAŞAM KALİTESİ SKALASI (VDI -YK)

1. Baş dönmesi nedeni ile ailem veya arkadaşlarımla buluşacağım zaman endişeleniyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
2. Moralistim çabuk bozuluyor.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
3. Tek başıma yürümekten korkuyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
4. Giyinip süslenme isteğim yok.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
5. Sağlığım konusunda endişeleniyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
6. Düşmekten korkuyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
7. Plan yapmada zorlanıyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
8. Günlük işlerimi yapmada zorlanıyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
9. Bir merdivenin veya sandalyenin üstüne çıkmaya korkuyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
10. Banyodayken kendimi güvende hissetmiyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
11. Kendimi huzursuz hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
12. Yürürken kendimi emniyetsiz hissediyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
13. Dışarı çıkmaktan zevk almıyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
14. Birşeyler yapmaktan zevk almıyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
15. İnsanların beni anlamadığını düşünüyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
16. Merdivenlerden inip çıkarken kendimi güvende hissetmiyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman
17. Kendime güvenmiyorum.
 Her zaman Çoğu zaman Sık sık Bazen Çok seyrek Hiçbir zaman

18.Hafızam beni yanıltıyor.

Her zaman oğu zaman Sık sık Bazen ok seyrek Hi bir zaman

19.Birşeyler yaparken kendimi g vende hissetmiyorum.

Her zaman oğu zaman Sık sık Bazen ok seyrek Hi bir zaman

20.Uykuya dalmakta zorlanıyorum.

Her zaman oğu zaman Sık sık Bazen ok seyrek Hi bir zaman

21.'a buk sinirleniyorum.

Her zaman oğu zaman Sık sık Bazen ok seyrek Hi bir zaman

22.Dikkatimi toplamakta zorlanıyorum

Her zaman oğu zaman Sık sık Bazen ok seyrek Hi bir zaman

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