

Relationship between the Effect of Severity Vertigo and Demographic Characteristic for Iraqi Patients

Zainab Sabah Rashid¹, Ban Juma Abed²

¹M.B.Ch.B/Ministry of Health and Environment / Al Karkh Health Directorate/ Al Mansur Health Center For Family Medical, ²Family Medicine Consultant / Ministry of Health And Environment / Al Karkh Health Directorate/ Al-Mahmodiya Higher Health Institute

Abstract

Background: Vertigo, an illusory sensation of self or environmental rotation is a common presentation to the emergency department, affecting approximately 20–30% of the general population. Despite its frequency, most clinicians find acute vertigo challenging. An easy way of approaching it is to have in mind the most common causes and to consider them all during history taking and examination. **Patients and Methods:** A cross-sectional study involved 150 adult participants, who complained of vertigo and attended the vertigo center in Baghdad Medical City, using a 25-item Vertigo Handicap Questionnaire. During period (February – June) 2020. **Results** of Current study showed no effect of vertigo in (17.9%) of patients in age group (20-29) years. The effect of vertigo is more severe in female (3.3%) than in male (1.8%), so vertigo is more severe in patients with primary education (6.5%) and Mild effect of vertigo is more in retired patients (71.0%), while moderate effect of vertigo as (50.0%) in students and (35.0%) in governmental employed patients. As well as vertigo is more severe in patients live in rural area, Patients who have duration of symptom less than one year have no effect of vertigo in (3.8%), and severe effect in (3.8%), Also patients who currently employed (9.0%) had slight or no effect of vertigo. **Conclusion:** There is no significant correlation found between the severity of the effect of vertigo and demographic characteristic of studied individuals. The vertigo handicap questionnaire may be a useful tool for screening patients, counseling, and charting treatment progress.

Keywords: Vertigo; Demographic characteristic; Iraqi patients

Introduction

Intensity, duration and prevalence of the clinical manifestations that follow vestibular disorders frequently affect family life, social and professional activities, bringing about physical, economical and psychological losses such as loss of self-confidence, depression and frustration, and also cause a reduction in concentration and performance, ultimately causing a worsening in Quality of Life ^(1,2).

Quality of life is defined as an individual perception of her/his position in life in the context of the culture and value systems in which she/he lives, and it encompasses a broad spectrum of domains including health status, economic resources, work status, relationships, and leisure activities⁽³⁾.

It is believed that the QoL assessment can be used in daily practice to measure the contribution of clinical treatment in reducing the impact of chronic diseases in the daily lives of the patients^(4,5).

Patients' self-perceived quality of life measurement is becoming increasingly recognized as an important indicator for health care evaluation⁽⁶⁾.

The Vertigo Handicap Questionnaire (VHQ) by Yardley (1992) assesses physical and psychosocial impairments of vertigo or dizziness, the VHQ has been referred to as one of the most clinically relevant tools for assessing the disability impact of vertigo on quality of life. The VHQ is suitable tool for the assessment of patient perceived handicap and the assessment of the benefits following therapeutic intervention both physically and psychologically⁽⁷⁾.

The additional advantages of the VHQ include its simplicity, the relevance of its items and its capacity to take into account all those health components described by the WHO's International classification of Functioning, Disability and Health⁽⁶⁾.

Aim of the study: To assess the relationship between the effect of severity vertigo and demographic characteristic and employment for Iraqi patients attending vertigo center in Baghdad Medical City.

Patients and methods: a cross sectional study were conducted in vertigo center which is part of ENT outpatient in Baghdad medical city. A convenient sample size of 150 patients who complained of vertigo were interviewed, who were attending the vertigo center in Baghdad medical city during the study period. The data collection during (February- June 2020) during the working hours 3 days per week. Adult patients diagnosed with vertigo and attending vertigo center in Baghdad medical city who agreed to participate in the study.

The questionnaire was validated by community & family medicine specialists and was tested by a pilot study. The questionnaire composed of two main parts :

Part one :- Socio-demographic variables (age, gender, educational level (primary and less, secondary, and university). This part also included questions like residency, occupation and duration of vertigo.

Part two :- The impact of the vertigo was evaluated

by the VHQ instrument, There are 25 questions that assess the influence of the vertigo in daily situations

.For each situation ,the patient must check one of the five alternatives presented (never-----0, occasionally-----1, sometimes-----2, often-----3, always 4).

The total score varies from 0 to 100 points (or%), and the impact of the symptom can be considered negligible or slight (0 to 25%), mild (26 to 50%), moderate (51 to 75%), severe (76 to 100%). Therefore, the higher the score, the higher the negative impact of the vertigo in the life of the individual evaluated⁽⁸⁾

Statistical analysis

Analysis of data was carried out using the available statistical package of SPSS-26 (Statistical Packages for Social Sciences- version 26). Data were presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum values).

The significance of difference of different means were tested using Students-t-test for difference between two independent means or ANOVA test for difference among more than two independent means. The significance of difference of different percentages were tested using Pearson Chi-square test with application of Yate's correction or Fisher Exact test whenever applicable.

Results

Table (1): severity of the effect of vertigo According to age and gender

Variables		No effect		Mild		Moderate		Severe		P value
		No	%	No	%	No	%	No	%	
Age (years)	<20 years	0	0	2	66.7	1	33.3	0	0	0.705
	20-29	5	17.9	15	53.6	7	25.0	1	3.6	
	30-39	0	0	15	57.7	10	38.5	1	3.8	
	40-49	7	12.5	31	55.4	16	28.6	2	3.6	
	50-59	1	4.0	16	64.0	8	32.0	0	0	
	≥ 60 years	2	16.7	9	75.0	1	8.3	0	0	
Gender	Male	5	8.5	29	49.2	24	40.7	1	1.7	0.073
	Female	10	11.0	59	64.8	19	20.9	3	3.3	

*Significant difference between proportions using Pearson Chi-square test at 0.05 level

Table (1) show that no effect of vertigo in (17.9%) of patients in age group (20-29) years old, mild effect of vertigo (75.0%) of patients in age group equal or more than 60 years old, moderate effect (38.5%) in age group (30-39) years old and severe effect of vertigo in (3.8%) of patients in the same age group.

The effect of vertigo is more severe in female (3.3%) than in male (1.8%), (40.7%) of male had moderate effect of vertigo which is more than that of female (20.9%), and (64.8%) of females had mild effect of vertigo which is more than that of male (49.2%).

Table (2): The relationship between the demographic characteristic and the severity of the effect of vertigo

Variables		No effect		Mild		Moderate		Severe		P value
		No	%	No	%	No	%	No	%	
Education	Primary	3	9.7	20	64.5	6	19.4	2	6.5	0.388
	Secondary	5	7.7	40	61.5	20	30.8	0	0	
	College & Higher	7	13.0	28	51.9	17	31.5	2	3.7	
Occupation	Self-employee	0	0	10	70.4	3	21.4	1	7.1	0.766
	Government employee	6	11.3	28	52.8	19	35.8	0	0	
	Unemployed	3	14.3	13	61.9	4	19.0	1	4.8	
	Student	1	16.7	2	33.3	3	50.0	0	0	
	Retired	1	10.0	7	71.0	2	20.0	0	0	
	Housewife	4	8.7	28	60.9	12	26.1	2	4.3	
Residency	Urban	14	11.6	72	59.5	32	26.4	3	2.5	0.427
	Rural	1	3.4	16	55.2	11	37.9	1	3.4	
Duration of vertigo (years)	<1 year	2	3.8	32	61.5	16	30.8	2	3.8	0.300
	≥1 year	13	13.3	56	57.1	27	27.6	2	2.0	

*Significant difference between proportions using Pearson Chi-square test at 0.05 level

According to the educational level of studied individuals the vertigo is more severe in patients with primary education (6.5%) in contrast to those with tertiary education (3.7%), the effect of vertigo is moderate in patients with secondary and tertiary educational level (30.8%) (31.5%) respectively(table-2).

Mild effect of vertigo is more in retired patients (71.0%), while moderate effect of vertigo was found to be (50.0%) in students and (35.0%) in governmental employed patients. Patients who were self-employed had severe effect of vertigo (7.1%), in contrast to those of unemployed patients (4.8%) and housewives (4.3%) (table-2).

In table 2 results showed the vertigo is more severe in patients live in rural area than to those live in urban area, there is no effect of vertigo in (11.6%) of patients who were live in urban and (3.4%) in rural, the effect is mild in (59.5%) of patients who were live in urban

and (55.2%) in rural, the effect of vertigo is moderate in (26.4%) of patients who were live in urban and (37.9%) in rural, is severe in (2.5%) of patients who were live in urban and (3.4%) in rural area.

Patients who have duration of symptom less than one year have no effect of vertigo in (3.8%), mild effect in (61.5%), moderate effect in (30.8%) and severe effect in (3.8%), while those with duration of symptom equal or more than one year had no effect in (13.3%), mild effect in (57.1%), moderate effect in (27.6%), and severe effect in (2.0%). (There is no significant difference P value >0.05), (table-2).

Table (3): The relationship between the employment and the severity of the effect of vertigo

		No effect		Mild		Moderate		Severe		P value
		No	%	No	%	No	%	No	%	
Currently employed	Yes	6	9.0	38	56.7	22	32.8	1	1.5	0.666
	No	9	10.8	50	60.2	21	25.3	3	3.6	
Gave up work because of vertigo	Yes	0	0	0	0	2	100	0	0	0.239
	No	6	9.2	38	58.5	20	30.8	1	1.5	
Changed the kind of work because of vertigo	Yes	1	12.5	3	37.5	4	50.0	0	0	0.644
	No	5	8.5	35	59.3	18	30.5	1	1.7	
Vertigo cause difficulties at work	Yes	5	9.8	26	51.0	19	37.3	1	2.0	0.392
	No	1	6.3	12	75.0	3	18.8	0	0	
*Significant difference between proportions using Pearson Chi-square test at 0.05 level										

Table (3) show that the relationship between the employment and the severity of the effect of vertigo. In general, patients who currently employed (9.0%) had slight or no effect of vertigo, (56.7%) had mild effect, (32.8%) had

moderate effect and (1.5%) had severe effect of vertigo, while those were unemployed there is no effect in (10.8%), (60.2%) had mild effect of vertigo, (25.3%) had moderate effect and (3.6%) had severe effect of vertigo.

The effect of vertigo is moderate (100%) in patients who gave up work because of vertigo, patients who changed the kind of work because of vertigo

(12.5%) of them had no effect of vertigo, (37.5%) had mild effect of vertigo, and (50.0%) had moderate effect of vertigo. (51.0%) of patients who said that vertigo cause difficulties at work had mild effect of vertigo (37.3%) of them had moderate effect while only (2.0%) had severe effect of vertigo. (there is no significant difference P value > 0.05)

Discussion

Regarding the age group, our study showed that the majority of the patients (37.3%) were in the age group of (40-49) years old with mean age \pm standard deviation (41.6 \pm 11.8) years. This result is similar with result was obtained by G. Nola *et al.*,⁽⁹⁾ in Italy in 2010 found that most of patients with mean age 51.7(14.5), which is higher than our result.

This study shows that mild effect of vertigo is more in patients aged less than 20 or more than 60 years old, while moderate to severe effect of vertigo is more in patients with age group (30-39) years old (no significant difference).

The result is consistent with study done in India by Pragna and Neha in 2019⁽¹⁰⁾. when the age group was compared with respect to VHQ, there is no significant difference was found.

This may be because psychological factors such as somatoform or phobic postural vertigo were clearly associated to the younger patients. The findings of the current study show that the severity of the effect of vertigo is more at the extremities (either mild or severe) in females than in males while the moderate effect of vertigo is more in males but with no significant difference. These results agree with previous studies⁽¹⁰⁾. which have shown that women have higher psychological distress than men do as they suffer with greater psychological impact from vertigo than men as well as the prevalence of such disease is higher in women.

Vertigo sufferers how came from a rural residency got more severe effect of vertigo on the quality of life than patients with urban residency (no significant difference). so vertigo sufferers who belong to rural area believed of alternative medications and were seeking paramedics or religious personnel to solve their problem, and when they do not treated, they tend to visit the hospitals hopping to get rid of their vertigo, their stage tend to reach its maximum with little promising management.

In general, the number of patients belonging to urban areas are higher. Due to that they usually have a greater orientation to their big problem, they rush to get the help of doctors in health care institution in the earlier stage of the symptoms. We found no other researches that statistically relates between residency and vertigo.

Mild effect of vertigo is more in retired patients while moderate effect of vertigo is more in students, and self-employed patients got severe effect of vertigo (there is no significant difference). This may be because self-employed patients and students have more psychological factors such as anxiety and depression which are an important contributing factors for vertigo and may worse the impact of vertigo on the quality of life. A study done in Germany by Annette et al in 2009⁽¹¹⁾. revealed that an employed patients had more sever effect of vertigo than others which is similar to the result of this study.

Regarding the employment status, the governmental employed patients collected the highest percentage (35.3%), they represent the majority of the sample size. About (44.7%) of studied patients were Currently employed, (3.0%) of them gave up of work because of vertigo, (11.9%) changed the kind of work because of vertigo, these results agree with a study analyzed burden and impact of vertigo performed by Heike et al in 2013⁽⁹⁾, gave a result that showed only half of studied patients were in employment, and 4.6% had changed kind of work and 5.7% had quit their jobs due to vertigo symptoms.

Conclusion

No significant association was found between the severity of the effect of vertigo and gender, age, educational level, occupation, residency and duration of the symptom. so 76.1% of patients who currently

employed have difficulties at work because of vertigo, 11.9% of them changed the kind of work because of vertigo, and 3.0% gave up of work because of vertigo, which mean there is an important effect of vertigo on job performance.

Ethical Clearance: - None

Source of Funding: - Self

Conflict of Interest:- None

References

- 1) Knobel, LN Pfeilsticker, G Stoler, TG Sanchez Contribuição da reabilitação vestibular na melhora do zumbido: um resultado inesperado Rev Bras Otorrinolaringol, 2003.69 (6), pp. 779-784.
- 2) Resende, CK Taguchi, JG Almeida, RR Fujita Reabilitação vestibular em pacientes idosos portadores de vertigem posicional paroxística benigna Rev Bras Otorrinolaringol., 2003.69 (4), pp. 535-540.
- 3) World Health Organisation. Study protocol for the World Health Organization project to develop a Quality of Life assessment instrument (WHOQOL). Qual Life Res 1993; 2: 153–9.
- 4) Patatas, Olívia Helena Gomes, Ganança, Cristina Freitas, & Ganança, Fernando Freitas. Quality of life of individuals submitted to vestibular rehabilitation. Brazilian Journal of Otorhinolaryngology, 2009.75(3), 387-394.
- 5) Cunha, FAP Settanni, Ganança FF What is the effect of Dizziness on the quality of life for patients with Meniere's disease? Rev Laryngol Otol Rhinol., 2005. 126 (3), pp. 155-158
- 6) Nola G, Mostardini C, Salvi C, Ercolani AP, Ralli G. Validity of Italian adaptation of the Dizziness Handicap Inventory (DHI) and evaluation of the quality of life in patients with acute dizziness. Acta Otorhinolaryngol Ital. 2010;30(4):190.
- 7) Yardley L, Putman J. Quantitative analysis of factors contributing to handicap and distress in vertiginous patients: a questionnaire study. Clin Otolaryngol Allied Sci. 1992;17(3):231-6.
- 8) Pedalini, RSM Bittar Reabilitação vestibular: uma proposta de trabalho Pró-fono., 1999. 11 (1) , pp. 140-144.
- 9) Nola G, Mostardini C, Salvi C, Ercolani AP, Ralli G. Validity of Italian adaptation of the Dizziness Handicap Inventory (DHI) and evaluation of the quality of life in patients with acute dizziness. Acta Otorhinolaryngol Ital. 2010;30(4):190.
- 10) Pregna Landge and Neha Patel, Int J Physiother Res 2019, 7(3):3090- 97.
- 11) Kurre A, van Gool CJ, Bastiaenen CH, Gloor-Juzi T, Straumann D, de Bruin ED. Translation, cross-cultural adaptation and reliability of the german version of the dizziness handicap inventory. Otol Neurotol. 2009;30(3):359-367.