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# FUNCTIONAL BALANCE ASSESSMENT AND EMOTIONAL IMPACT AMONG PATIENTS WITH VESTIBULAR DISORDERS ATTENDED AT AN UNIVERSITY HOSPITAL

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### Abstract

Dizziness might involve negative consequences for patient's quality of life, once it can be associated or aggravated by psycho disorders, reflecting also a fear of falling during their daily life activities. This study aimed to verify the relation between emotional aspects and risk of fall in vestibulopathic patients through the comparison of different clinical instruments. We conclude that the risk of fall assessment tools and emotional aspects protocols are effective to explore the relation between functional balance and emotional aspects. They can be complementary for a better prognosis.

### Key words: Balance, Emotional Impact, Protocols

#### Introduction

Dizziness is a common symptom which occurs when there is an incorrect sensory information process from vestibular, visual and/or proprioceptive system. It might be influenced or aggravated by psycho disorders affecting patient's quality of life and consequently activities daily living and it is also related to fear of falling.

### **Results and Discussion**

**Study design**: Quantitative, descriptive and crosssectional research

(Ethics/CAEE:74981717.8.0000.5404).

Procedures: Diagnostic hypotheses/exams 1) 2)Anamnese; 3)Dizziness Handicap Inventory (DHI) -Castro et al (2007). The higher score, the worse the handicap (mild, moderate or severe). 4) Questionário de Impacto Emocional da Vertigem (CIEV) - Dal Lago e Carmona (2013). Scores over 16 points suggest a risk to develop pathological anxiety. 5)Timed Up and Go -Podsiadlo e Richardson(1991)- scores over 10 seconds represent a moderate or high risk of falling. 6) Falls Efficacy Scale Internacional (FES-I Brasil)-Camargo et al (2010). Higher the score, greater the fear of falling.7) Berg Balance Escale (EEB)-Myamoto (2003). Scores above 45 suggest at risk of falling.

**Sample**: 28 patients were evaluated, aged between 35 and 82(average 60,2+13), 19 (67,8%) females. 16(57,1%) described dizziness/instabilities and 13 (42,8%) vertigo.

## Table 1. Scores obtained from Fall Risk Assessment Tools (N=28)

| Falls Risk Assessment Tools (N=28)<br>(Falls Efficacy Scale International (FES-I Brasil); Timed Up and Go (TUG); Berg Balance<br>Scale (BERG)) |         |         |         |      |                    |      |  |  |
|--|---------|---------|---------|------|--------------------|------|--|--|
|  | Maximum | Minimum | Average | SD   | Risk of<br>falling |      |  |  |
| FES-I  | 58      | 18      | 32,89   | 11,8 | 15                 | 53,5 |  |  |
| BERG   | 56      | 12      | 45,6    | 10,5 | 11                 | 39,2 |  |  |
| TUG  | 30      | 8       | 13      | 6    | 19                 | 67,8 |  |  |

## Table 2. Scores obtained from Dizziness Handicap Inventory (DHI) (N=28).

| Dizziness Handicap Inventory (DHI) |         |      |          |       |              |     |                              |     |
|------------------------------------|---------|------|----------|-------|--------------|-----|------------------------------|-----|
| PONTUATION                         | MINIMUM |      | MAXIMUM  |       | AVERAGE      |     | SD                           |     |
| FUNCTIONAL                         | 0       |      | 32       |       | 15,1         |     | <u>+</u> 9,6                 |     |
| PHYSICAL<br>EMOTIONAL              | 0       |      | 28<br>36 |       | 14,5<br>12,3 |     | <u>+</u> 8,5<br><u>+</u> 9,9 |     |
| TOTAL                              | 4       |      | 92       |       | 42           |     | <u>+2</u> 4,2                |     |
|                                    | M       | ILD  | MOD      | ERATE | н            | IGH | то                           | TAL |
| IMPACT LEVEL                       | Ν       | %    | Ν        | %     | Ν            | %   | Ν                            | %   |
|                                    | 10      | 35,7 | 11       | 39,2  | 7            | 25  | 28                           | 100 |

### Table 3. Scores obtained from Questionário de Impacto Emocional da Vertigem (CIEV) (n=28)

Questionário de Impacto Emocional da Vertigem (CIEV)

| MINIMUM  |      | MAXIMUM   |      | AVERAGE     | <b>SD</b> <u>+</u> 9,01 |  |
|----------|------|-----------|------|-------------|-------------------------|--|
| 0 pontos |      | 35 pontos |      | 18,6 pontos |                         |  |
| RISK     |      | NON RISK  |      | TOTAL       |                         |  |
| N %      |      | N %       |      | N %         |                         |  |
| 17       | 60,7 | 11        | 39,3 | 28          | 100                     |  |

In the group of 15(53,5%) participants classified as at risk of recurrent falling in FES-I, 12(80%) were also classified as at risk in CIEV. Among 17(60,7%) participants classified as risk in DHI, 15 (88,2%) were also classified as risk to develop anxiety levels in CIEV.

#### Conclusions

The results suggest that Fall Risk Assessment Tools are complementary to DHI and CIEV being effective to explore the relation between emotional aspect and fear of falling.

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