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Effectiveness of a video assisted teaching regarding vestibular rehabilitation exercises on knowledge and quality of life among patients with vertigo.

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Abstract

Introduction: Vertigo is the feeling of spinning while being stationary. Vertigo is one of the most prevalent complaints in medicine, affecting approximately 20% to 30% of the world population. Vertigo can be self-managed with vestibular rehabilitation exercises.

Objectives: To compare the knowledge regarding vestibular rehabilitation exercises between experimental and control group, to compare the quality of life of vertigo patients between experimental and control group, to determine the correlation between knowledge and quality of life, to determine the association of knowledge and quality of life with selected baseline variables.

Methods: The post –test only control group design was adopted for this study. The setting was ENT OPD of St. John's Medical College Hospital. A sample of 42 vertigo patients in each experimental and control group were taken using purposive sampling technique. A structured knowledge questionnaire and dizziness handicap inventory scale was used to assess the knowledge and quality of life of vertigo patients.
Result: There was a statisticaly significant difference in knowledge between both group regarding vestibular rehabilitation exercises (p=<0.001) at 0.05 level of significance. There was also a statisticaly significant difference in quality of life between both groups (p=<0.001) at 0.05 level of significance. There was a weak positive correlation between knowledge and quality of life of patients with vertigo in experimental group(r=.102) and control group(r=.003).There was a significant association of knowledge with age in control group (p=0.035)at 0.05 level of significance. There was also a significant association of quality of life with frequency of vertigo in control group (p=<0.001) at 0.05 level of significance.

Conclusion: The findings of the study had some important implications in the aspect of video assisted teaching on Vestibular rehabilitation exercises. The health professionals need to focus more on providing education and positive reinforcement to these patients as vestibular rehabilitation exercises are one of the common mode of management for patients with vertigo.
Keywords: effectiveness, video assisted teaching, Vestibular Rehabilitation Exercises, knowledge, quality of life, vertigo

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Introduction

The maintenance of body balance depends on the harmonious interaction among the information generated by the sensory systems (visual, somatosensory and vestibular), the central nervous system (CNS) processing, and the proper execution by the motor system (neuromuscular) (Valsta D.P,2007).

Vertigo is the feeling of spinning while being stationary. A study conducted recently in India reported that one out of every four elderly patients with peripheral vestibular disorder had a risk of 'fall'. Recurrent episodes of vertigo can be prevented if patients adhere to the VRE as advised by the treating physicians (Raman A, 2001).

BPPV is one of the most common causes of dizziness and the symptoms have high prevalence in the world population, being estimated at approximately 2% among young adults, 30% among the people at 65 years of age, and up to 50% among the elderly above 85 years old. Vertigo has a significant impact on health related quality of life on emotional and physical states (.Sanjay K.G 2015).

Vestibular rehabilitation (VR) is a therapeutic tool used in patients with body balance disorders of vestibular origin. The aim of VR exercises is to improve the vestibule-visual interaction. VR has a positive effect in improving static and dynamic balance, gait, self-confidence, quality of life, and in reducing symptoms of dizziness, anxiety and depression5. VR can promote complete healing in 30% of patients and improvement of different degrees in 85% of patients (Dayra D S, 2012).

A study was conducted to assess effectiveness of VRE on quality of life show that the quality of life of patients with vertigo improved after 5 vestibular rehabilitation exercises in all aspects analyzed (Roseli S M,2013).

Operational definitions

Effectiveness

In this study effectiveness refers to the impact of video assisted teaching to bring about change in the knowledge of vestibular rehabilitation exercises and quality of life of vertigo patients as observed on the difference in scores between experimental and control group elicited using structured questionnaire and quality of life tool.

Video assisted teaching

In this study, it refers to an audio visual explanation and instruction regarding vestibular rehabilitation exercise tailored specific to the etiology which include eye exercises, head exercises, moving exercises, sitting exercises, standing exercises, which will be administered to patients on a one to one basis in their own languages.

Knowledge

In this study it refers to the level of understanding of patients with symptoms of vertigo regarding vestibular rehabilitation exercises as evidenced by their scores on their response to the item on a structured knowledge questionnaire.

Quality of life

In this study quality of life refers to the patient's subjective state of wellbeing in all dimensions like physical psychological, and social as measured using dizziness handicap inventory.

Vestibular rehabilitation exercise

It refers to specific exercises tailored for use by vertigo patients specific to the etiology, which includes eye exercises, head exercises, moving exercises, sitting exercises, standing exercises, which help in reducing the symptoms of disequilibrium and dizziness associated with vestibular disorders especially in vertigo.

Patients

In this study, patients refer to those who were diagnosed with vertigo, attending ENT OPD of St John's Medical College Hospital.

Baseline variables

In this study baseline variables included age, sex, educational status, family income, occupation, duration of illness, any information received on vestibular rehabilitation exercise and frequency of vertigo attack.

Assumptions

1. The patients may have some knowledge regarding vestibular rehabilitation exercise.
2. Video demonstration may enhance the knowledge and quality of life of vertigo patients.

Materials and methods

The post –test only control group design was adopted for this study. The setting was ENT OPD of St. John's Medical College Hospital. A sample of 42 vertigo patients in each experimental and control group were taken using purposive sampling technique. A structured knowledge

questionnaire and dizziness handicap inventory scale was used to assess the knowledge and quality of life of vertigo patients.

SAMPLING CRITERIA

Inclusion criteria:

1. Patients aged between 18-65 years with no severe co- morbid conditions.
2. Diagnosed with vertigo and suggested vestibular rehabilitation exercise for 1st time.

Exclusion criteria:

1. Patients already on vestibular rehabilitation exercises.

2. Patients with mental illness.

3. Patients who have history of stroke and cervical spondylosis.

Data collection tool

Tool consisted of

Section I: Proforma to elicit baseline variables.

Section II: Structured knowledge questionnaire.

Section III: Dizziness Handicap Inventory Scale to assess the quality of life of vertigo patients.

Data collection procedure

Ethical approval and administrative permission from St John's medical college hospital, Bangalore was obtained**..**Purposive sampling technique was used to recruit samples from ENT OPD**.** The subjects were identified according to inclusion and exclusion criteria as the patients were waiting to see the doctor. At first data was collected from the control group which included subjects coming to follow up after 3 weeks of diagnosis. Patient information sheet was given and informed consent was taken. The baseline variables were collected using a proforma and knowledge and quality of life elicited using structured questionnaire and dizziness handicap inventory it took 30 minutes. After completion of control group, the experimental group was identified which include subject diagnosed first time and those advised VRE and video demonstration was shown to them individually in room No 7 with return demonstration and they were asked to practice it 3 times per day for 10 minutes and each section last for 10 minutes. Given an activity log which patient should maintain at home until next follow up. After 3 weeks when they came for follow up knowledge and quality of life was assessed using structured questionnaire and dizziness handicap inventory. Only those who had compliance of 90% in log were taken.

Results

Comparison of knowledge scores of experimental and control group.

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Table 1: Mean, Range, Standard Deviation and test of significance of knowledge scores of patients regarding vestibular rehabilitation exercises.

n=42

Groups	Max. Score	Range	Mean	Mean %	SD	Independent t test	P value
Exp group (n=42)	20	14-18	15.62	78	1.481		
Control group (n=42)	20	11-14	12.29	61.45	1.088	11.755	<0.001

The mean knowledge score of experimental group is 15.62 ± 1.481compared to control group which is 12.29± 1.088 which is statistically significant at <0.001 level . There was a statisticaly significant difference in knowledge between both group regarding vestibular rehabilitation exercises (p=<0.001) at 0.05 level of significance**.**

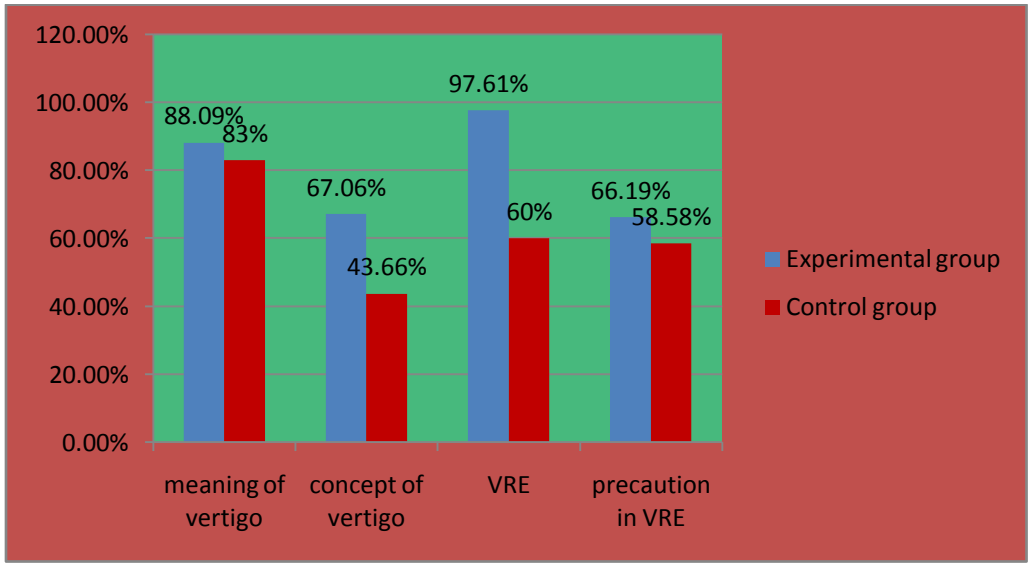

FIGURE1:Bar diagram showing knowledge scores in specific content areas

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Comparison of quality of life of experimental and control group

Table 2: Mean, Range, Standard Deviation and test of significance of quality of life of vertigo patients.

n=42

Groups	Max. Score	Range	Mean	Mean %	SD	Independent t test	P value
Exp Group (n=42)	100	30-42	34.86	34.86	3.510	10.449	<0.001
Control group (n=42)	100	34-54	46.62	46.62	4.450		

The table 2 shows that the quality of life of experimental group is 34.86 ± 3.510 compared to control group which is 46.62± 4.450 which is statistically significant at <0.001 level . There was a statisticaly significant difference in quality of life between both groups (p=<0.001) at 0.05 level of significance.

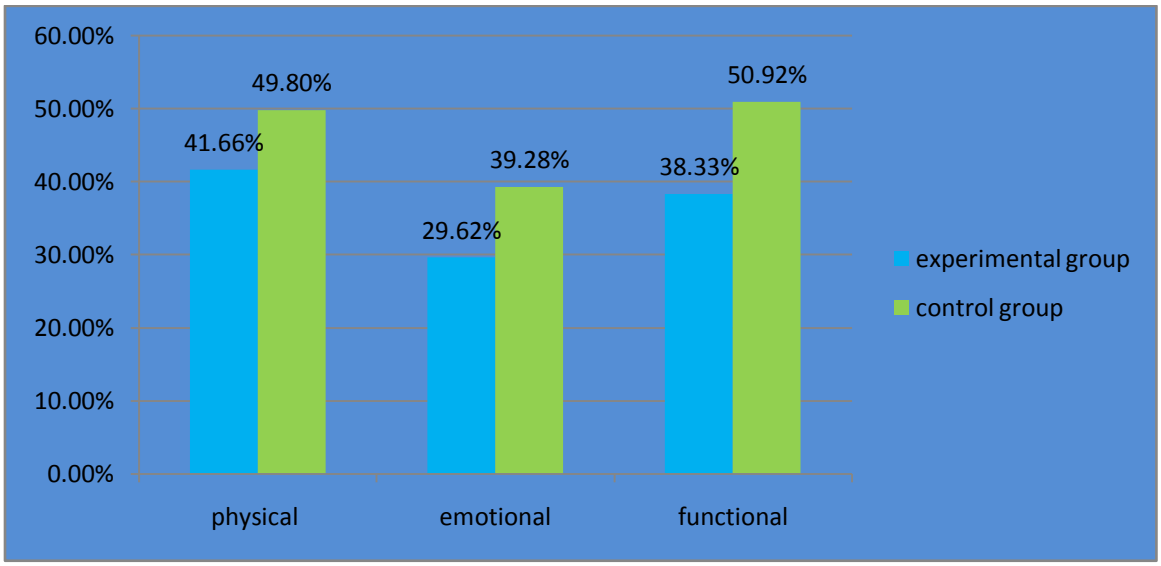

FIGURE 2:Bar diagram showing scores of quality of life in each domains.

Figure 2 shows that the physical dimension of quality of life in experimental group is 41.66% compared to control group which is 49.80%.The emotional dimension of quality of life in experimental group is 29.62% compared to control group which is 39.28% and the functional dimension of quality of life in experimental group is 38.33% compared to control group which is 50.92%.

Correlation of knowledge with quality of life.

Table 3: Mean, Standard deviation, r value of Correlation of knowledge with quality of life.

Variables	Mean	SD	'r' Value	p value
Experimental group(n=42)				
Knowledge	15.62	1.481	.102	.521
Quality of life	34.86	3.510		
Control group(n=42)				
Knowledge	12.26	1.088	.003	.986
Quality of life	46.2	4.450		

Table 4 shows that the r value for correlation between knowledge and quality of life in experimental group is .102. The r value for correlation between knowledge and quality of life in control group is .003. There is very weak correlation between knowledge and quality of life in

control group. There is a low positive correlation between knowledge and quality of life in experimental group. Therefore hypothesis is accepted.

Association of knowledge with baseline variables

There is a significant association between knowledge and age in control group (p value=.035). There is no significant association between knowledge and gender and there is no significant association between knowledge and family income.

Association of quality of life with baseline variables

There is a significant association between frequency of vertigo and quality of life in control group (p=<0.001). There is no significant association between age, gender, occupation and quality of life and there is no significant association between duration and quality of life.

DISCUSSION

In the present study the effectiveness of video assisted teaching regarding vestibular rehabilitation exercises were assessed by comparing the knowledge and quality of life among the control group and experimental group and from the result it is evident that there has been a significant difference in knowledge and quality of life between experimental group and control group. These were similar to a study conducted to assess the clinical and cost effectiveness of booklet based vestibular rehabilitation with and without telephone support for chronic vertigo in primary care. The result showed that booklet based vestibular rehabilitation for chronic dizziness is a simple and cost effective means of improving patient reported outcome in primary care. At one year both intervention group improved significantly on quality of life. (Lucy Y, 2012)

The result of the present study shows that There was weak positive correlation between knowledge and quality of life in the experimental group (r=.102). There was no correlation between knowledge and quality of life in control group. These findings were similar to a study done in Pakistan to evaluate the association between health related quality of life and disease state knowledge among hypertensive populations . The mean knowledge score was 8.03 ± 0.42, while the correlation coefficient between health related quality of life and knowledge was 0.208

(p< 0.001), indicating a weak positive association. This may be due to that the quality of life will be affected after few years of diagnosis of vertigo (Fahad S, 2012).

Data presented in the study indicate that there was statistically significant association between the age and knowledge in control group. The obtained p value was 0.003 .The younger age group had better knowledge. This may be due to the fact that they may explore through various media source to gain knowledge. These findings were similar to a study done in India which showed that the knowledge had statistically significant association with age. Higher proportion of patients in younger age groups (≤30 years) had high knowledge regarding vertigo; majority of patients from older age groups (>40 years) had average knowledge. There was no significant association with gender, occupation, duration and frequency of vertigo(M Kameswaren,2017).

The result revealed that there was statistically significant difference in association between frequency of vertigo and quality of life in control group. The obtained p value was <0.001.This may be due to the fact that more the severity of illness, the quality of life will be low. No significant difference was present in the subject's quality of life with respect to age, gender, family income, occupation, duration of vertigo.The similar study done regarding effectiveness of vestibular rehabilitation exercisesto decrease the vertigo showed that quality of life decreased with frequency of vertigo(p=<0.001) (Heloisa F, 2015).

These findings were similar to a study conducted in Germany regarding health related quality of life in patients with vertigo which showed that the frequency of vertigo was moderately associated with quality of life(r=-0.20,p=<0.05).

Conclusion

Nursing practice: The findings of the study help the nurses to educate patients regarding vestibular rehabilitation exercises and to make quality of life and knowledge assessment as a routine part of patient care

Nursing education: The findings of the study help the nurse educators to reinforce the need for important aspect of vestibular rehabilitation exercises while they teaching ENT unit and teach students to assess the knowledge and quality of life of patients with vertigo.

Nursing administration: The finding of the study helps in making the different teaching methods available in OPD and making policy for rehabilitation education in OPD and in patient unit.

Nursing research: To provide basis for further research and facilitate and motivate nurse researcher to carry out further research to compare various intervention to increase the knowledge and quality of life.

Limitations

The ENT OPD was busy and crowded, so the video was shown in a small room where other patients also came for procedures, attrition of the patients happened in the study (11%) in the experimental group and compliance of the exercises was calculated only on the basis of subjective data in the log which patients should maintain at home.

Bibliography

1. Dayra D S, Jan A S et al. Evaluation of quality of life pre and post vestibular rehabilitation in patient with benign paroxysmal positional vertigo associated with miner's disease. Int arch otolaryngology.2012;16(4) :430-436.

2. Fahad S, Mohamed A.H et al. Disease related knowledge and quality of life: a descriptive study focusing on hypertensive population in Pakistan. International journal of research. 2012 Jul; 5(1): 47–52.

3. Gámiz MJ, Lopez-Escamez JA .Health-related quality of life in patients over sixty years old with benign paroxysmal positional vertigo.Gerontology. 2004;50(2):82-6.

4. Heloísa F. T,Viviane D .S,Pinho C,Rubens Alexandre D.J et al. Effectiveness of a Vestibular Rehabilitation Protocol to Improve the Health-Related Quality of Life and Postural Balance in Patients with Vertigo. Int Arch otorinolaryngology. 2015;19(3):238-247.

5. Lucy Y.Clinical and cost effectiveness of booklet based vestibular rehabilitation for chronic dizness in primary care: singleblind,parallelgroup,pragmatic,randomized control trial. British medical journal.2012; Accepted on 14th march 2012.

6. M Kameswaran, S Pujari, L Basumatary. Knowledge, Attitudes and Practices Relating to Vertigo among Newly Diagnosed Patients: Findings of a Prospective, Observational Registry in India.Journal of the Association of Physicians of India. March 2017; (65):26-32.

7. Raman A, Vikas I. N et al. Prevalance and etiology of vertigo in adult rural population. Indian journal of otolaryngology and head and neck surgery. 2001; 53 (1):32-36.

8. Roseli S .M , Jeanne O, Marco Aurélio B.Population epidemiological study on the prevalence of dizziness in the city of São Paulot .Braz J Otorhinolaryngol.2013;79 (6) :688-98.

9. Sanjay K G. Prevalence of Vertigo in Different Age Groups and Common Butterfly Patterns in Electronystagmography in Central India: A Retrospective Study. IOSR Journal of Dental and Medical Sciences.2015; 14(6):13-20.

10. Valsta, D. P, Prevalence of vertigo and dizziness in migraine patients and non-headache subjects;university department of neurology, 2007: 50 – 56.