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Research Article

TO KNOW THE EXERCISE PROGRAMS USED ON DIZZINESS IN BENIGN PAROXYSMAL POSITIONAL VERTIGO PATIENTS (BPPV): A SYSTEMATIC REVIEW

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ABSTRACT

Background of the study: Humans rely on information from muscle and joint receptors and the vestibular apparatus to balance and body position. BPPV is one of the most common causes vertigo. Dizziness arises when orientation in the space is disturbed knowing where the body is in relation to the environment and being able to move efficiently dizzy requires the integration of a set of delicate sensing devices (i.e. proprioception, visual, vestibular) that feed information about the environment and a motor system.

Objective of the study: To review the exercise programme used in the treatment of dizziness on BPPV patients

Methodology: A literature search was conducted on December 2014 in electronic databases MEDLINE, SCIELO, EMBASE Cochrane library, Potentially relevant studies were identified by the following search strategy “proprioception, vestibular, visual exercises, vestibular rehabilitation, cawthorne exercises, brandt daroff exercises, dizziness handicap inventory, balance outcome measure.

Results: Total 113 studies were retrieved from the initial search strategy. After title and abstract screening

28 studies identified as potentially eligible. However after full text screening 15 studies were excluded from this study due to following reasons, usage of surgical interventions, usage of drugs and usage of other outcome measures

Conclusion: The study concludes the effect of the vestibular rehabilitation exercises using various protocols, and outcome measures, the protocols used was the cost effective.

Hence the study suggest that the exercise protocols will be compare with the multi component exercise programs

Keywords: Exercise Programme, Dizziness, BPPV, Vestibular Rehabilitation, Brandt daro exercises, Dizziness handicap inventory.

INTRODUCTION

Humans rely on information from muscle and joint receptors and the vestibular apparatus to balance and body position. BPPV is one of the most common causes vertigo. Dizziness arises when orientation in the space is disturbed knowing where the body is in relation to the environment and being able to move efficiently dizzy requires the integration of a set of delicate sensing devices (i.e proprioception, visual, vestibular) that feed information about the environment and a motor system¹.

Visual input affects balance and orientation is complex and involves integration of vision and eye movement. Proprioceptive system brings in information concerning position and movement of joints particularly rich in

proprioceptive receptors are the zygapophyseal joints of upper cervical spine these provide all important information about head position and movement.

METHODS

A literature search was conducted on December 2014 in electronic databases MEDLINE, SCIELO, EMBASE Cochrane library, Potentially relevant studies were identified by the following search strategy “proprioception, vestibular, visual exercises, vestibular rehabilitation, cawthorne exercises, brandt daroff exercises, dizziness handicap inventory, balance outcome measure. The search was limited by English language; the records retrieved from search strategy have their titles and abstracts screened by 2 independent reviewers.

After the screening of titles and abstracts, the full texts of potentially eligible studies were screened, and those meeting the criteria had the relevant data extracted using a standardized form that included the following items, brandt daroff exercises, cawthorne exercises, proprioception exercises, vestibular exercises, dizziness handicap inventory, balance outcome measure, vestibular rehabilitation.

Ethical Committee Approval: Dr. D.Y. Patil Vidyapeeth, Pune

RESULTS

Total 113 studies were retrieved from the initial search strategy. After title and abstract screening 28 studies identified as potentially eligible. However after full text screening 15 studies were excluded from this study due to following reasons, usage of surgical interventions, usage of drugs and usage of other outcome measures .And thus the 13 studies were included in the study and were eligible for the inclusion in this review and had their content critically analysed.

Sl. No	Authors	Treatment used
1	Yardley et al ²	Brandt darof exercises and vestibular rehabilitation therapy
2	Juyang Jy et al ³	Vestibular rehabilitation therapy
3	Vereck et al ⁴	Cawthorne Cooksey exercises
4	Simoceli et al ⁵	Cawthorne Cooksey protocol 2 times /day for total 60 days
5	McGibbon CA et al ⁶	Ocular and vestibular exercises ,once a week 70 minutes duration total 10 weeks
6	Prasansuk S et al ⁷	Cawthorne & Cooksey protocol with emphasis on cephalic movements for 20 weeks
7	Hånsson EE et al ⁸	Protocol of vestibular rehabilitation 2 times /week for 45 minutes
8	Resende CR et al ⁹	Protocol of cawthorne and cooksey –group sessions 2 times a week for total 5 weeks
9	Kammerlind AS et al ¹⁰	Exercises for flexibility ,strengthening ,and balance exercises 60 minutes total 8 weeks
10	Johansson M et al ¹¹	Vestibular rehabilitation therapy with behavioural therapy
11	Carol A. et al ¹²	Epley and semont et al manœuvre
12	Griffin J W et al ¹³	Proprioceptive exercises
13	Alsalaheen et al ¹⁴	Vestibular rehabilitation

DISCUSSION

In the most of the studies the exercise protocol commonly used was cawthorne-cooksey and Brandt darof exercises, the exercises were performed at least three to five times a day and visit the therapist weekly or thrice weekly .The outcome measures used in this study were dizziness handicap inventory ,disability index and vestibular disorder .In the study Johansan M et al¹¹ was vestibular rehabilitation therapy with behavioural therapy and also in Kammerlind As et al¹⁰ suggests that exercises for flexibility, strengthening and balance exercises for 60 minutes with 8 weeks also help additional advantage in improving the dizziness

CONCLUSION

The study concludes the effect of the vestibular rehabilitation exercises using various protocols, and outcome measures ,the protocols used was the cost effective

Hence the study suggests that the exercise protocols will be compare with the multi component exercise programs.

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