

iCAHE JC Critical Appraisal Summary

Journal Club Details

Date of submission	Dec 2010
Journal Club location	SAHS
JC Facilitator	Antonia McGrath
JC Discipline	Multi-D

Clinical Scenario

Is a supervised exercise program better than an unsupervised program in improving the balance of older people (>65 y/o) who have experienced a fall?

Review Question/PICO/PACO

- P** People greater than 65 years old, who have had a fall
- I** Supervised exercise program
- C** Unsupervised exercise program
- O** Improved balance

Article/Paper

Kao C, Chen L, Chern C, Hsu L, Chen C & Hwang S (2010) Rehabilitation outcome in home-based versus supervised exercise programs for chronically dizzy patients, Archives of Gerontology and Geriatrics, 51; 264–267.

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Article Methodology:	Pre-Post Study
Returned JC on:	2010
By CAHE staff member:	Olivia Thorpe



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Ques No.	Yes	Can't Tell	No	Comments
1	✓			<p>Outline the purpose of the study.</p> <p>The purpose of this study was to evaluate the effectiveness of supervised and home-based vestibular rehabilitation (VR) programs on chronically dizzy patients. The second purpose was to examine whether VR had different effects in younger and older populations.</p> <p>Outcome Measure: Self-perceived dizziness handicap and objective scales including balance function and walking speed were also assessed upon initial and follow-up visits.</p>
2	✓			<p>Describe the justification of the need for this study.</p> <p>The researchers found that while the efficacy of VR had been well investigated, the studies were mostly done in clinics with attended exercise interventions. Only a few reports discussed the outcome of home exercise programs. Through research it was found that In an urban city with busy traffic, it is not unusual that chronically dizzy patients with balance disorder prefer to do exercises at home, especially the elderly patients. Therefore the study aimed to evaluate the effectiveness of vestibular rehabilitation (VR) exercise between supervised and home-based programs in young and senior age groups of patients with chronic dizziness.</p>
3	✓			<p>Describe the study design. Was the design appropriate for the study question?</p> <p>A pre-post-implementation methodology was used, which is appropriate for addressing the issue.</p>

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4			<p>Sampling</p> <p>Fifty-nine patients were originally included in this study. Eighteen were dropped because either of failure to return for the post-treatment evaluation (n = 10), or orthopedic conditions unrelated to dizziness (n = 3) or failure to comply with the exercise program (n = 5), leaving 41 subjects for the statistical analysis. There were nineteen patients with the diagnosis of bilateral vestibular hypofunction, nineteen unilateral hypofunction and three non-vestibular dizziness. Twenty-five of the subjects were males and 16 were females. The mean age of subjects was 67.02±14.00 years.</p> <p>Describe ethics procedures. Was informed consent obtained?</p> <p>This work was approved by the Institutional Research Board, Taipei Veterans General Hospital. Informed consents were signed by the patients with evidences of their families or care-givers on their first visits.</p>
5			<p>Specify the frequency of outcome measurement (i.e., pre, post, follow-up)</p> <p>VR including eye-head coordination as well as balance exercises was prescribed to the patients with the intensity of 30 min for 3 times per day. Those who could receive 3 sessions of 30-min physical therapy per week were grouped as the SP group. The remainder who preferred to perform exercise at home was grouped as the home-based-program (HP) group. Post-treatment evaluations were done 2 months later.</p> <p><i>Outcome Measures</i></p> <ul style="list-style-type: none"> • Dizziness diagnosis (Nanda and Besdine, 2009) • DHI (Jacobson and Newman, 1990) is a validated 25-item questionnaire to evaluate the functional, emotional and physical problems developed due to dizziness. • The eight items of the DGI include walking while changing speed and turning the head, walking over and around obstacles, and stair climbing. • Tinetti fall risk scale was applied for the assessment of balance function in this study (Tinetti, 1986). • Time was measured for subjects standing from a chair with armrests, then walking 3 m at his/her preferred speed, turning around, walking back to the chair and sitting down (Podsiadlo and Richardson, 1991; Whitney et al., 2004). • Rehabilitation protocol was also assessed (p. 265).

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6			<p>Provide a short description of the intervention</p> <p>Twenty-eight patients received three 30-min vestibular training exercise sessions per week. Thirteen patients who could not visit our clinic on regular basis were instructed to do the same set of exercises at home, with the same duration and frequency.</p>
7			<p>What were the results?</p> <p>The results were presented in terms of means and standard deviations; p-values were given to show statistical significance. A graph and tables were given to show outcomes and comparisons.</p> <p><i>Bottom line result:</i> Patients in both groups showed statistically significant improvement in DHI and Tinetti scales. A higher percentage of patients in the supervised exercise- program (SP) group showed clinically significant outcome improvements. Age was not a predictive factor for rehabilitation outcome.</p> <p>What was the clinical importance of the results?</p> <p>The study has written that - <i>health care professionals need to be educated about the importance of rehabilitation program for treatment of chronic dizziness</i></p> <p>Discuss the clinical importance as a group for your work place.</p>
8	✓		<p>Were drop-outs reported?</p> <p>Yes, drop-outs were reported.</p> <p>Eighteen were dropped because either of failure to return for the post-treatment evaluation (n = 10), or orthopedic conditions unrelated to dizziness (n = 3) or failure to comply with the exercise program (n = 5), leaving 41 subjects for the statistical analysis</p>
9			<p>What did the study conclude?</p> <p>The study concluded that for all ages of chronically dizzy patients, 2 months of VR can reduce handicap, improve balance function and a consequent improvement of life quality. Health care professionals need to be educated about the importance of rehabilitation program for treatment of chronic dizziness.</p>