

Reminiscence Therapy for Dementia – Meta Analysis

Mi-hwa Kwon¹, Ba-hoe Cho², Jae-shin Lee³

¹ Cheongju Hospital for the Elderly

² Daejeon convalescent Hospital

³ Department of Occupational Therapy, Konyang University
hotwith5625@hanmail.net

Abstract. This paper aimed to examine the clinical effects of reminiscence therapy on the cognitive function, depression, behavior problem, and quality of life of the Elderly with Dementia. Two researchers collected the data of 375 cases in the randomized controlled trials(RCT) with the experimental group and control group involved, among which, 10 cases were chosen for this study. Among the dependant variables of the study, the effects on such factors as cognitive function, depression, behavior problem, and quality of life were analyzed, when the cognitive function was 1.448(p=.004), depression - 1.336(p=.002), and quality of life 1.308(p=.001) respectively. The significant effect was proved empirically as well (p<.05). In contrast, the effect size on behavior problems was 0.322(p=.065), no significant effect was proved in this respect. It has been verified through this meta-analysis that reminiscence therapy is effective for the elderly with dementia.

Key Words: behavior problem, cognition, dementia, depression, meta-analysis, quality of life, reminiscence therapy

1 Introduction

Dementia means a state of cognitive disorder that makes it difficult to live a normal daily life or social life.¹ Besides, it may involve various abnormal psychological behaviors such as depression, impatience, hallucinosis, impassibleness, paranoia, wandering about, and sleep disorder.² Nonetheless, the elderly with dementia may manage to control their emotional state relatively for an extended period of time and psychological and social approaches to support them are recommended accordingly.³

Among these, reminiscence therapy is effective in cognitive disorder, verbal/non-verbal expressions of the elderly with dementia as well as alleviate behavior problems, which contribute to emotional stabilization, self-respect, and quality of life as a result.^{4,5}

Existing meta-analyses on the effects of reminiscence therapy many qualitative meta analyses on therapies for the elderly with dementia such as cognition therapy, work therapy, arts therapy, and reminiscence therapy have been proved to be effective.⁶ In addition, while one analyzed the level of satisfaction with life among the elderly with dementia.⁷ These researches have verified that reminiscence therapy has

effects on emotional variables of the elderly with dementia, and they are referred to as the basis for positive effects of dementia treatment and preventive programs.

As to verifying various effects of reminiscence therapy on the elderly with dementia, however, some discrepancy among researches with regard to major variables such as cognitive function, interaction, and behavior problem has been found, which makes it difficult to prove the effects. Hence, in utilization of the meta analysis, a quantitative documentary analysis method to evaluate the results of existing studies systematically, the effects of reminiscence therapy on the major dependant variables such as cognitive function, depression, behavior problem, and quality of life are analyzed in this study to enhance the reliability of the researches, and the direction of the future study is presented as well.

2. Methods

2.1. Standard for Selecting Object Researches and Data Collection Method

Researches examined in this study include those on the elderly with dementia among treatises regarding reminiscence therapy intervention issued from January 2000 to March 2013.

As to the standards for selection theses to be included, the following researches were included: first, studies on the elderly aged 60 or older who were diagnosed as dementia by a mental health doctor or a neurologist; second, pre-post experimental study for at least two groups to which reminiscence therapy was applied; third, studies in utilization of RCT (Randomized Controlled Trial); and fourth, studies that presented statistical values such as average and standard deviation.

As to data collection for meta-analysis, online searching methods were used by two researchers independently. Besides, references selected by means of a secondary searching method were added as well. The number of researches confirmed in the initial searching was 375, among which 49 were selected after being classified as experimental studies with figures. Again, three theses redundant were excluded, and then 10 were selected in the end after being reclassified as RCT researches.

2.3. Meta-analysis Method

2.3.1. Qualitative Evaluation. For the qualitative evaluation of the selected studies, two researchers used Jadad scale separately.

2.3.2. Statistical Heterogeneity Examination. To confirm the homogeneity of the group in terms of effect size, the chi-square test was conducted to apply the fixed effect model for homogeneous objects and the random effect model for disqualified ones.

2.3.3. Effect Size Estimation. Selected researches were analyzed by means of Comprehension Meta-Analysis 2.0. When the effect size was 0.8 or higher, the effect was interpreted as great, 0.5 normal, and 0.2 or less small respectively.

2.3.4. Publication Bias. Whether there was a publication bias was confirmed by means of the Funnel Plot method.

3. Results

3. 1. Statistical Heterogeneity & Publication Bias

Q values were determined to confirm the heterogeneity of each study, and it turned out that the data was heterogeneous when the cognition function was 60.837(d.f=6, p=.00), depression 46.702(d.f=5, p=.00), and quality of life 6.042(d.f=2, p=.04) to a significant degree. The behavior problem was 4.364(d.f=2, p=.113), which was homogeneous (p<.1). A publication bias was found with regard to cognition and depression while it was not with regard to behavior problem and quality of life.

3.2. Meta-analysis on the Effect of Reminiscence Therapy on the Cognitive Function of the Elderly with Dementia

MMSE was adopted as the major evaluation tool for 7 researches that presented the cognitive function as a dependant variable. The effect size of the cognitive function was 1.448(95% CI, 0.469 to 2.427), which indicates the great effect size and statistical significance (p<.05)(Figure 1).

3. 3. Meta-analysis of the Effects of Reminiscence Therapy on Depression of the Elderly with Dementia

For the 6 researches that presented depression as a dependant variable of emotionally significant changes, GDS was adopted as a major evaluation tool. The effect size of depression was -1.336(95% CI, -2.173 to -0.500), which indicates the great effect size and statistical significance (p<.05)(Figure 2).

3. 4. Meta-analysis of the Effects of Reminiscence Therapy on Behavior Problems of the Elderly with Dementia

In the three researches that presented behavior problems as a dependant variable, the effect size of behavior problems was 0.322(95% CI, -0.019 to 0.664), which indicates the relatively small effect size and statistical insignificance (p<.05)(Figure 3).

3.5. Meta-analysis of the Effects of Reminiscence Therapy on Quality of Life of the Elderly with Dementia

In three researches that presented quality of life as a dependant variable, especially regarding its positive change, GQOL-D was the major evaluation tool. The effect size of quality of life was 1.308(95% CI, 0.559 to 2.058), which indicates the great effect size and statistical significance ($p < .05$).

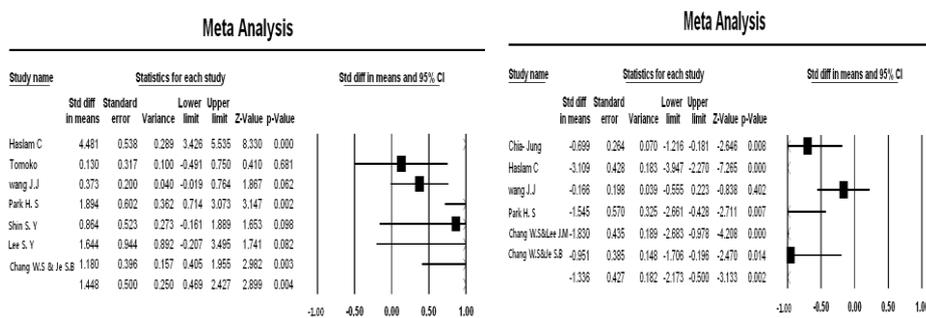


Fig. 1. Meta-analysis on the Effect of Reminiscence Therapy on the Cognitive Function(Left) and depression(Right) of the Elderly with Dementia.

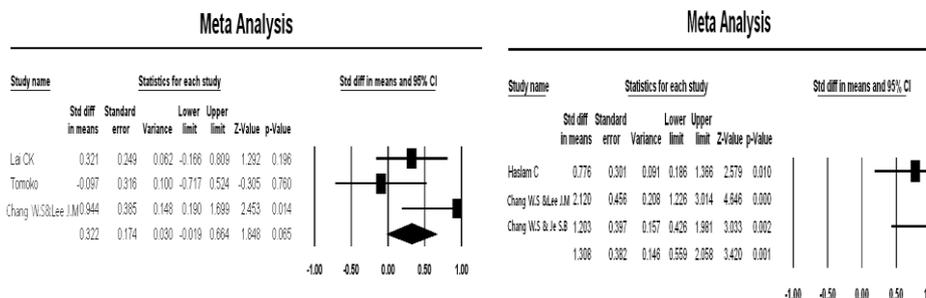


Fig. 2. Meta-analysis on the Effect of Reminiscence Therapy on the behavior problems(Left) and quality of life (Right) of the Elderly with Dementia.

4 Discussion

This study summarizes existing researches in this regard and includes meta analyses of the effect sizes in order to verify the effects of the reminiscence therapy for the elderly with dementia on such variables as their cognitive ability, depression, behavior problem, quality of life, and so forth.

In view of existing meta analyses on the reminiscence therapy for the elderly with dementia, it turned out that the effects of the reminiscence therapy were proved to be

significant in various researches on treatment program effects applied to the elderly with dementia.⁶ In addition, the psychological and social approach of one meta analysis to examining depression, aggressiveness, and apathy among the elderly with dementia proved the efficacy of the reminiscence therapy.⁸ As to the effects on various behavior problems such as cognitive function and interaction, however, there has yet to be a meta-analysis based research, and even discrepancy was found among some results of existing experimental studies, which makes it difficult to verify the effects despite positive effects of the reminiscence therapy.

According to the findings of this study, the effect sizes of each variable of the reminiscence therapy applied to the elderly with dementia are as follows: cognitive function: 1.448; depression: -1.336; and quality of life: 1.308 in the order. These values were statistically significant as well. The effect size of behavior problems, however, was 0.322, which indicates a relatively small effect size.

Such findings prove that reminiscence therapy intervention is effective in maintaining or enhancing cognitive functions, depression alleviation, and better quality of life among the elderly with dementia. In particular, the effect size was greater with regard to factors of emotional satisfaction such as quality of life and depression, which corresponds to existing researches that demonstrate the effect of reminiscence therapy intervention on emotional variables.⁹

As to behavior problems, existing studies have not clearly demonstrated the effects.¹⁰ This is because behavior problems are combined with cognitive functions and emotional variables such as depression rather than independently appearing among the elderly with dementia. It is thought that after the positive effects, behavior problems are gradually alleviated.

This meta-analysis based study is of significance in that it selectively analyzed some random controlled experiment researches, but it also has limitations: it examines published researches only; and there was heterogeneity among the three of four dependant variables. The future study based on the findings above needs to compare the effects of diversified intervention methods of the reminiscence therapy program that are currently adopted based on its verified effects.

5 Conclusion

This study includes the meta analysis to examine the effects of reminiscence therapy intervention on the cognitive functions, depression, behavior problem, quality of life, etc. among the elderly with dementia. As a result, it turned out that the effect sizes were great in the order of cognitive functions, depression, and quality of life in the order, and that the effects of reminiscence therapy intervention on the elderly with dementia were empirically significant. It is expected that the findings above can be used as the basis for a future research on the necessity of reminiscence therapy intervention.

Reference

- 1 Korean Dementia Association. : *Clinical approach of Dementia*. Academia, Seoul, (2006).
- 2 Finkel, S.: Introduction to Behavioural and Psychological Symptoms of Dementia. *International Journal of Geriatric Psychiatry*, 15 (1), (2000), S2--4.
- 3 Grasel, E., Wiltfang, J., & Kornhuber, J. : Non-drug therapies for dementia: and overview of the current situation with regard to proof of effectiveness. *Dementia and Geriatric Cognitive Disorders*, 5(3), (2003), 115--125.
- 4 Ayalon, L., Gum, A. M., Feliciano, L., & Arean, P. A. : Effectiveness of nonpharmacological interventions for the management of neuropsychiatric symptoms in patients with dementia: a systematic review. *Arch Intern Med*, 166, (2006), 2182—2188.
- 5 Haight, B. K., & Burnside, I. : Reminiscence and life review: explaining the differences. *Archives of Psychiatric Nursing*, 7, (1993), 91--98.
- 6 Park, K. Y. : The Effectiveness of Interventions for Individuals with Dementia : A Qualitative Meta-analysis. *Society of occupational therapy for the aged and dementia*, 3(2), (2009), 23--32.
- 7 Bohlmeijer, E., Roemer, M., Cuijpers, P., & Smit, F. : The effects of reminiscence on psychological well-being in older adults: A meta-analysis. *Aging & Mental Health*, 11(3), (2007), 291--300.
- 8 Verkaik, R., van Weert, J. C., & Francke, A. L. : The effects of psychosocial methods on depressed, aggressive and apathetic behaviors of people with dementia: a systematic review. *International Journal of Geriatric Psychiatry*, 20, (2005), 301--314.
- 9 Thorgrimsen, L., Schweitzer, P., & Orrell, M. : Evaluating reminiscence for people with dementia: a pilot study. *The Arts in psychotherapy*, 29(2), (2002), 93--97.
- 10 Goldwasser, A. N., Auerbach, S. M., & Harkins, S. W. : Cognitive, affective, and behavioral effects of reminiscence group therapy on demented elderly. *International Journal of Human Development*, 25(3), (1987), 20--222.