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REVIEW PAPER
ARTIGO DE REVISÃO

The effectiveness of reminiscence in cognition, depressive symptoms, and quality of life in elderly people in the community: a systematic review

Eficácia da reminiscência na cognição, sintomas depressivos e qualidade vida em idosos na comunidade: revisão sistemática

Eficacia de la reminiscencia en la cognición, síntomas depresivos y calidad de vida en ancianos en la comunidad: revisión sistemática

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Abstract

Background: In the literature, reminiscence therapy (RT) stands out as a non-pharmacological intervention commonly implemented in groups of elderly people with cognitive impairment.
Objective: To identify the best available evidence on the effectiveness of RT in cognition, depressive symptoms, and quality of life in elderly people using community support structures.
Method of Review: The methodology proposed by the Joanna Briggs Institute was followed. Studies focused on group RT, including elderly people (≥ 65 years old) with cognitive impairment and using community support structures, were considered. Critical analysis, extraction, and synthesis of results were conducted by 2 independent researchers.
Presentation and interpretation of results: Two randomized controlled trials and 2 quasi-experimental studies were included (n = 502); the heterogeneity of the studies precluded meta-analysis. Two studies evidenced the benefits of RT to cognition. None of the studies showed the positive impact of the intervention on depressive symptomatology. Regarding quality of life, inconsistent results were found.
Conclusions: The RT seems to have a beneficial effect on improving cognition in elderly people with cognitive impairment in a community context.

Keywords: reminiscence; aged; cognitive dysfunction; cognition; depression; quality of life

Resumo

Contexto: Na literatura, a terapia de reminiscência (TR) destaca-se enquanto intervenção não-farmacológica comummente implementada em grupos de idosos com compromisso cognitivo**.**
Objetivo: Identificar a melhor evidência disponível sobre a eficácia da TR na cognição, sintomas depressivos e qualidade de vida em idosos que frequentam estruturas de apoio comunitário.
Método de revisão: Seguiu-se a metodologia proposta pelo *Joanna Briggs Institute*. Foram considerados estudos centrados na TR em grupo, que incluíram idosos (≥ 65 anos) com compromisso cognitivo, a frequentar estruturas de apoio comunitário. A análise crítica, extração e síntese de resultados foram desenvolvidas por 2 investigadores independentes.
Apresentação e interpretação dos resultados: Incluídos 2 ensaios clínicos randomizados e 2 estudos quase-experimentais (n = 502); as características heterogéneas dos estudos impossibilitaram meta-análise. Dois estudos evidenciaram os benefícios da TR na cognição. Nenhum dos estudos demonstrou o impacto positivo da intervenção relativamente à sintomatologia depressiva. Na qualidade de vida, os resultados revelaram-se inconsistentes.
Conclusão: A TR parece ter um efeito benéfico na melhoria da cognição em idosos com compromisso cognitivo em contexto comunitário.

Palavras-chave: terapia reminiscência; idoso; disfunção cognitiva; cognição; depressão; qualidade de vida

Resumen

Contexto: En la literatura, la terapia de reminiscencia (TR) destaca como intervención no farmacológica comúnmente implementada en grupos de ancianos con trastornos cognitivos.
Objetivo: Identificar la mejor evidencia disponible sobre la eficacia de la TR en la cognición, los síntomas depresivos y la calidad de vida en ancianos que asisten a estructuras de apoyo comunitario.
Método de revisión: Se siguió la metodología propuesta por el *Joanna Briggs Institute*. Se consideraron estudios centrados en la TR en grupo, que incluyeron a ancianos (≥ 65 años) con trastorno cognitivo, que asisten a estructuras de apoyo comunitario. El análisis crítico, la extracción y la síntesis de resultados los desarrollaron 2 investigadores independientes.
Presentación e interpretación de los resultados: Se incluyeron 2 ensayos clínicos aleatorizados y 2 estudios cuasiexperimentales (n = 502); las características heterogéneas de los estudios imposibilitaron el metaanálisis. Dos estudios mostraron los beneficios de la TR en la cognición. Ninguno de los estudios demostró el impacto positivo de la intervención sobre la sintomatología depresiva. En la calidad de vida, los resultados fueron inconsistentes.
Conclusión: La TR parece tener un efecto beneficioso en la mejora de la cognición en los ancianos con trastorno cognitivo en el contexto comunitario.

Palabras clave: reminiscencia; ancianos; disfunción cognitiva; cognición; depresión; calidad de vida

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Introduction

The striking demographic changes that have occurred in recent decades, especially a progressively aging population, are closely linked to a pattern of consequences resulting from a decline in various areas of human functioning, in particular, the cognitive level. This global aging follows an increase of neurocognitive disorders (NCD), primarily including changes of cognitive performance (documented by standardized neurological tests or by quantitative clinical assessment) in relation to a previous level of functioning (American Psychiatric Association, 2013). The current classification of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) distinguishes the major NCD, which included the term dementia, from mild NCD based on the level of impairment.

The last health report of the Organization for Economic Cooperation and Development (OECD, 2017) presents the most recent comparative data on the state of health of populations in several countries of the OECD. According to this report, the prevalence of dementia in 2017 was of 14.8/1000 inhabitants, and the highest values occurred in Japan (23.3/1000), Italy (22.5/1000), Germany (20.2/1000), and Portugal (19.9/1000). On the other hand, Mexico is the country with fewer cases (7.2/1000). The same report stated mental illnesses represent the most considerable and increasing dimension in the global burden of diseases, which determines that one in every two people will likely suffer from a mental illness throughout life. Therefore, the number of people living with dementia will expectedly triple until 2050, increasing from 50 million increasing to 152 million.

The 2016 *World Alzheimer Report* (Prince, Comas-Herrera, Knapp, Guerchet, & Karagiannidou, 2016) estimates that only 40-50% of cases of dementia will be identified in the more developed countries, which suggests the real numbers may be much higher. Moreover, even when a diagnosis is formalized, the response of health systems and the existing social support are considered to be fragmented and poorly coordinated in relation to the needs of older people and their caregivers (Global Observatory for Ageing and Dementia Care, 2016). Given this situation, the Mental Health Action Plan 2013-2020 of the World Health Organization (2013) establishes that the answer to this emerging challenge lies in the promotion of comprehensive and integrated health care in the community that can allow the stimulation and participation of older people and their families. Thus, the structuring of health systems' responses in this context will promote an efficient and continuous process of care that can contribute to the improvement of the quality of life of these people.

Currently, there has been a growing interest in non-pharmacological interventions aimed at people with NCD and its impact at a cognitive, functional, and social level, as well as in the decrease of symptoms associated with the dementia process (Cammisuli, Danti, Bosinelli, & Cipriani, 2016). Reminiscence therapy (RT) has been identified as potentially beneficial for elderly people with cognitive impairment. This is the recovery of emotionally significant memories with the help of multissensorial stimuli (images, songs, aromas, and textures). By deliberately encouraging older people to remember the past, in an empathic and accepting attitude, they are impelled to reassess their lives, which strengthens their identity, and thus improving psychological stability and quality of life. There are three different basic types of reminiscence: simple reminiscence, life review and life review therapy (Webster, Bohlmeijer, & Westerhof, 2010). This review only considered studies that integrate simple reminiscence and which require that the facilitators possess generalist professional skills.

This review is based on the protocol by Gil et al. (2018) and focuses especially on the need to explore the effectiveness of the implementation of RT programs aimed at elderly people with cognitive impairment, who use community support structures, for their specificity which takes into account the people incorporated in their families and through a perspective of proximity care. Thus, we conducted a preliminary search in JBI COnNECT+, Cochrane Database of Systematic Reviews, and MEDLINE (via PubMed), which revealed the existence of two reviews on this

matter (Huang et al., 2015; Woods, Spector, Jone, Orrell, & Davies, 2005). However, the intention to explore the effectiveness of RT specifically within the context of the community is not clear in any of the aforementioned reviews. In 2018, Woods, O'Philbin, Farrel, Spector, and Orrell updated the 2005 review. In this review, the authors included only randomized controlled studies, excluding participants with mild cognitive decline, without a defined minimum age of inclusion. Nevertheless, the authors emphasize that the inclusion of studies using different TR methods (individual and group) and different contexts (community and nursing homes) makes it difficult to evaluate the benefits of this non-pharmacological intervention.

Since no records of protocols of systematic review on the effectiveness of RT were found in the international platform PROSPERO, and since it is important to identify and synthesize the best available evidence within this context, the following guiding question of this systematic review was drafted: What is the effectiveness of group reminiscence therapy on cognition, depressive symptoms and quality of life of elderly people with cognitive impairment who use social support structures in the community?

Method of systematic review

This systematic review of the literature followed the methodology recommended by the Joanna Briggs Institute (Tufanaru, Munn, Aromataris, Campbell, & Hopp, 2017). The inclusion process considered studies that included elderly participants (≥ 65 years old) who reside in the community and were diagnosed with cognitive impairment (documented by standardized neurological test or by clinical quantitative evaluation). The intervention of interest was the group RT, aimed at elderly people with cognitive impairment, who use community support structures. As regards the comparator, all types of intervention were accepted, including psychosocial interventions aimed at people with cognitive impairment, usual care, or others. The outcomes of interest for this review are cognition, depressive symptoms, and quality of life, assessed with the use of appropriate instruments. The inclusion process considered only studies with experimental designs (randomized controlled trials [RCTs] and quasi-experimental studies, with or without a control group).

Research Strategy

The employed research strategy was composed of three steps and included published and unpublished studies (Gil et al., 2018). Initially, a limited research was conducted in PubMed and CINAHL (via EBSCO), followed by the analysis of the terms used in the title and abstract, as well as the indexation terms described in the articles. In a second phase, using all the identified keywords and descriptors, a new search was conducted in all the included databases (Table 1).

Given the multiplicity of international concepts found to describe the discussed context (community support structures), a decision was made to elaborate a wider research strategy, using the screening process to sort articles whose intervention was implemented and developed in these contexts. In the last stage of the search process, the list of references of the identified articles was analyzed in order to include additional studies.

The inclusion process of this review considered as research limiters studies written in English, Spanish, and Portuguese.

Since, when the elaboration of this review was decided, no new efforts to update or publish systematic reviews on this subject were known, the last date of inclusion of the review of Woods et al. (2005), which dates back to May 2004, was established as the minimum time limit. The maximum time limit for this review was April 2017, and the search was conducted on 9 May 2017.

Table 1
Research strategies applied by database

Database and initial results	Research formula
CINAHL Complete via EBSCO (109)	(TI Reminiscence) OR (AB Reminiscence) OR (MH Reminiscence Therapy (Iowa NIC))OR ((MH Reminiscence Therapy))) AND (((TI Cognit*) OR (AB Cognit*)) OR ((TI quality of life) OR (AB quality of life)) OR ((TI depressi*) OR (AB depressi*)) OR ((TI mood) OR (AB mood)) OR ((MH Cognition)) OR ((MH Quality of Life)) OR ((MH Depression))) AND (((TI dementia) OR (AB dementia)) OR ((TI alzheimer) OR (AB alzheimer)) OR ((TI cognitive impairment) OR (AB cognitive impairment)) OR ((TI neurocognitive disorder) OR (AB neurocognitive disorder)) OR ((TI neurocognitive disorders) OR (AB neurocognitive disorders)) OR ((TI cognitive decline) OR (AB cognitive decline)) OR ((MH Dementia)))
Pubmed (96)	(dementia[Title/Abstract]) OR alzheimer[Title/Abstract]) OR "neurocognitive disorder"[Title/Abstract]) OR "cognitive impairment"[Title/Abstract]) OR "neurocognitive disorders"[Title/Abstract]) OR "cognitive decline"[Title/Abstract]) OR "Dementia"[Mesh]) OR "Cognitive Dysfunction"[Mesh])) AND Reminiscence[Title/Abstract]) AND (cognit*[Title/Abstract]) OR "quality of life"[Title/Abstract]) OR depressi*[Title/Abstract]) OR mood[Title/Abstract]) OR "Cognition"[Mesh]) OR "Quality of Life"[Mesh]) OR "Depression"[Mesh])
Cochrane (50)	(Dementia:ti,ab,kw) OR (Alzheimer:ti,ab,kw) OR ("Cognitive impairment":ti,ab,kw OR ("neurocognitive disorder:ti,ab,kw") OR ("cognitive decline":ti,ab,kw) OR [MH "Dementia"+] AND (reminiscence:ti,ab,kw) AND (cognit*:ti,ab,kw) OR ("quality of life":ti,ab,kw) OR (depressi*:ti,ab,kw) OR (mood:ti,ab,kw) OR [MH "Cognition"+] OR [MH "Quality of Life"+] OR [MH "Depression"+]
- Open Access Scientific Repository of Portugal (75) - OpenGrey (12) - Theses and Dissertations Bank of CAPES (35)	("Reminiscence")

Assessment of the methodological quality of the studies

The assessment of the methodological quality of the studies was conducted independently by two reviewers using standardized instruments of the Joanna Briggs Institute. The Checklist for Randomized Controlled Trials was used to evaluate the RCTs. The Checklist for Quasi-Experimental Studies was used for the critical analysis of the quasi-experimental studies (Tufanaru et al., 2017). The disagreements between reviewers were solved through discussion or with the help of a third reviewer. Whenever necessary, the authors of the primary studies were asked to clarify the available information. A decision was made not to apply the cutoff point for inclusion in the review, and the methodological weaknesses of each analyzed study were subsequently discussed.

Data extraction

The data were extracted by two independent reviewers, focusing on specific details concerning interventions, population, study design, and results relevant for the purpose of the review. The differences found in this process were solved through dialog between reviewers and, when necessary, a third reviewer was used.

Data synthesis

Due to the significant differences between interventions, assessed outcomes (clinical heterogeneity) and design of involved studies (methodological heterogeneity), a meta-analysis was not possible. Therefore, the data are presented in a narrative form, in accordance with the outcomes of interest.

Presentation of results

The search identified 377 potentially relevant studies (Figure 1). Of these, 98 were excluded

for being duplicates. Of the remaining 279 records, 248 were excluded after title and abstract analysis. Thirty-one articles passed on to the phase of full-text reading, 27 of which were excluded because they did not meet the inclusion criteria. Of the four included studies, two are RCTs, one is of a quasi-experimental design with a control group and is of a quasi-experimental design without a control group.

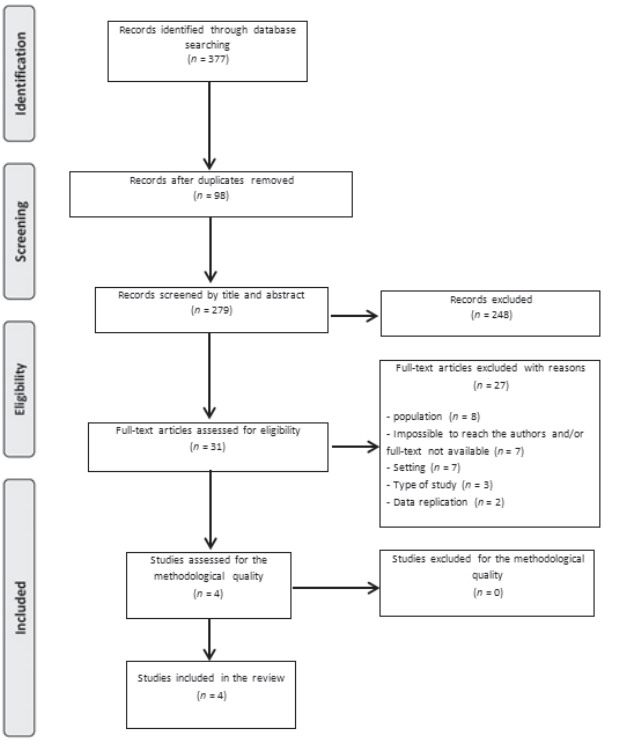

Figure 1. Flowchart of the survey process and study selection.

Results of the assessment of the methodological quality

Regarding the methodological quality of the included RCTs, only two of the 13 questions of the critical evaluation tool were answered satisfactorily by both studies (Table 2). These questions referred to the analysis of the participants in the groups where they were randomized (Q9) and the analysis of the results in the same way in the compared groups (Q10).

Table 2

Assessment of the methodological quality of the included randomized controlled studies

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13
Charlesworth et al. (2016)	UC	UC	Y	N	N	Y	UC	Y	Y	Y	UC	UC	UC
Nakatsuka et al. (2015)	UC	UC	N	UC	N	N	UC	UC	Y	Y	UC	UC	UC
%	0	0	50	0	0	50	0	50	100	100	0	0	0

Note. Q = question; Y = yes; N = no; UC = unclear.

In the study by Charlesworth et al. (2016), the participants were aware of their placing in groups, just like the professionals who led the interventions. In the study by Nakatsuka et al. (2015), the participants of the different groups did not present similar characteristics in the pre-intervention phase. In the same study, the professionals who led the interventions and the professionals who evaluated the participants were aware of the placing of participants per group. Moreover, in both studies, it is not clear whether the outcomes were assessed in the same manner for the different groups, if the assessment of the outcomes was carried out in a reliable fashion and if the employed statistical analysis was appropriate.

Concerning the assessment of the methodological quality of the quasi-experimental studies, four of the nine existing questions in the critical evaluation tool were observed by the two studies included in this review (Table 3). These questions referred to clarity of studies regarding the temporal relationship of the variables under analysis (Q1); existence of multiple assessments of results before and after the intervention (Q5); no differences regarding the loss of follow-up among the compared groups (Q6); and whether the results of the included participants were evaluated in the same way in the compared groups (Q7).

Table 3
Assessment of the methodological quality of the included quasi-experimental studies

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Melendez et al. (2015)	Y	UC	UC	Y	Y	Y	Y	UC	UC
Nawate et al. (2007)	Y	Y	Y	N	Y	Y	Y	UC	UC
%	100	50	50	50	100	100	100	0	0

Note. Q = question; S = yes; N = no; NC = unclear.

In the study by Melendez, Torres, Redondo, Mayordomo, and Sales (2015) it is unclear whether the participants included in the study groups had similar characteristics in the pre-intervention phase; moreover, it is unclear whether the participants were subject to similar treatment/care, in addition to the intervention of interest. In the study by Nawate, Kaneko, Hanoaka, and Okamura (2007), there was no control group. For both studies, it is insufficiently clear whether the outcomes of interest were assessed in a reliable way and if the used statistical analysis was appropriate.

Characteristics of the included studies

Table 4 presents the characteristics of the included studies, criteria for the inclusion of participants, intervention groups with a description of the duration and characteristics of the performed activities, as well as specific results related to the outcomes of interest.

The four included studies are written in English and were published between 2007 and 2016. Two of the studies are from Japan, the remaining were developed in Spain and England. The size of the samples of the studies included in this review ranged between 11 and 289 participants (post-intervention).

Table 4

Summary of the extracted data after critical evaluation of studies

Authors, design, context, and participants	Inclusion and exclusion criteria	Interventions	Results of the outcomes of interest
Charlesworth et al. (2016) **Design:** randomized controlled study **Context:** community support institutions (England) **Participants**: 289 elderly people.	**Inclusion criteria**: residing in their home; family caregivers with ≥18 years old. Diagnosis of dementia confirmed by the definition of DSM-IV. Exclusion of people with learning difficulties, progressive brain illnesses, or terminal illnesses.	**Reminiscence Therapy (RYCT)** (*n* = 97) 12 weekly sessions of 2 hours each. After this period, monthly sessions were held for 7 months. Themes related to the life path of the participants, using multi-sensorial stimuli and handling of objects, roleplay, improvisation, or singing. **Caregiver Support (CSP)** (*n* = 48) 12 weekly sessions, 1 hour each. After this period, sessions were held fortnightly for 5 months. Sessions in the caregiver's home, community structure, or by telephone. The sessions included the person with dementia if the caregiver agreed. Only moral support provided. **CSP-RYCT** (*n* = 97) Combination of interventions of the RYCT and CSP groups. **Regular care** (*n* = 47) Continuation of regular care existent in local structures.	**Quality of Life** evaluated with the use of QOL-AD, EQ-5D, and DEMQOL. No significant results were obtained at 12 months. However, the use of QOL-AD confirmed the interaction between the CSP group and RYCT group was significant (p = 0.02). **Depressive symptomatology** evaluated with the use of HADS. No significant improvements are shown between groups (p = 0.70).
Melendez et al. (2015) **Design**: quasi-experimental **Context:** two day centers (Spain) **Participants:** 43 elderly people with amnesic mild cognitive (aMCI) and 30 with Alzheimer's Disease (AD).	**Inclusion criteria** **- for the aMCI group:** Memory complaints; cognitive function preservation. MMSE Results ≤22; ability to conduct daily life activities; no dementia diagnosis; **- for AD group:** diagnosis by DSM-IV-TR; score in MMSE <19 and in GDS between 3 and 4. **Exclusion criteria:** cerebrovascular accident; visual and communicational deficit; brain-related medical condition; severe psychiatric symptoms or history of substance abuse**.**	**Reminiscence for participants with aMCI** (*n* = 27) **and AD** (*n* = 15) **aMCI group:** 10 weekly sessions, of 60 minutes each. **AD group**: 20 biweekly sessions, of 30 minutes each. The participants were informed of the session's subject, and two activities were carried out to evoke memories. Triggers were used, like music, pictures, and personal objects. Open questions were asked to enable evoking and linking of memories to the present activity. **Group control for participants with aMCI** (*n* = 16) **and AD** (*n* = 15) Participants received their regular care in the local day center.	**Cognitive function** assessed with AMI. In the experimental group, the participants with aMCI and AD showed significant improvements in the global score in the different evaluation moments (p < 0.001). For the participants with AD, the effect endured until the follow-up evaluation (p = 0.047). All participants of the control group showed a decrease in the global scores between the first and the follow-up evaluations (p = 0.016).

Nakatsuka et al. (2015) **Design**: Randomized controlled study **Context:** community center (Japan) **Participants:** 127 elderly people	**Inclusion criteria:** people with ≥ 75 years old, without depression or schizophrenia diagnosis, who live alone or with a CDR score of 0.5.	**Reminiscence** (GR; *n* = 44) 60-minute sessions, aimed at daily life events and autobiographic memories. The developed activities focused on guidance on reality and reminiscence. Activities to conduct at home were provided. **Cognitive interventions** (CI; *n* = 45) 60-minute sessions, with varied puzzles and games. These activities had a food and drink break. Activities to conduct at home were provided. **Physical Activity** (PA; *n* = 38) 60-minute physical exercise sessions, composed of six series of three to five minutes, conducted 10 minutes apart. The exercises included walking and aerobics, using the STEPWELL 2. All activities had a food and drink break. Activities to conduct at home were provided.	**Cognitive function** assessed using MMSE, WF, and TMT. Significant improvements occurred in the PA and CI groups (p <0.01, not corrected, for multiple comparisons) using MMSE. The GR group revealed beneficial effects in guidance and long-term memory. **Depressive Symptomatology** (assessed using GDS) and **Quality of Life** (assessed using SF). For both outcomes no statistically significant differences occurred between the pre- and post-intervention periods for any group (for p <0.01) and between groups (for p <0.05).
Nawate et al. (2007) **Design**: Quasi-experimental **Context:** two day rehabilitation centers (Japan) **Participants:** 11 elderly people	**Inclusion criteria:** residing in their own home; ≥65 years old; diagnosis of mild to moderate dementia, given by a psychiatrist; ability to be in a group; no declining auditory or visual acuity, and without communication difficulties; family consent.	**Reminiscence Therapy** (*n* = 11) Composed of themed cooking sessions held on a weekly basis, for nine weeks, with 60 minutes each. The ingredients used as stimulation were timely framed within the sessions' themes. It was not necessary to complete the recipes. During each session questions related to the theme were asked to trigger autobiographic memories.	**Cognitive function**, assessed using HDSR and MMSE. Mildly significant changes occurred in HDSR a week after completion of the intervention (p = 0.043) and four weeks after intervention (p = 0.043).

Note. AMI = Autobiographical Memory Interview; CDR = Clinical Dementia Rating; DEMQOL= Health-related quality of life for people with dementia Questionnaire; EQ-5D = EuroQol - 5 Dimensions Questionnaire; FS = Faces Scale; GDS = Geriatric Depression Scale; HADS = Hospital Anxiety and Depression Scale; HDSR = Hasegawa Dementia Scale-Revised; MMSE = Mini Mental State Examination; QOLD-AD = Quality of Life Alzheimer's Disease Scale; TMT = Trail Making Test; WF = Word Fluency.

Interpretation of results

This systematic review aimed to synthesize the existing evidence on the effectiveness of RT in cognition, depressive symptoms, and quality of life of elderly people with cognitive impairment that use social support structures in the community. In contrast to the delicate advances relating to the progress of new pharmacological treatments for people with NCD, there are recent advances in psychological interventions (Charlesworth et al., 2016). Within this context, the RT stands out as one of the psychosocial interventions more often implemented in these contexts.

The contemplation of the past inspired a wide range of theoretical studies (Westerhof & Bohlmeijer, 2014) which cut open the path to the research of reminiscence as a structured intervention. In fact, in all studies included

in this review, the reminiscence therapy was implemented using structured programs. In the study by Nawate et al. (2007), the stimulation of memories was triggered by cooking practices, as they can stimulate the five senses and promote remembrance of experiences associated with the preparation of food. The remaining studies focused on the evocation and sharing of memories associated with the thematic discussion that encompassed the life stages until old age, with the use of music, pictures, and objects that trigger memories.

Even though reminiscence can be considered as an intervention of special relevance in nursing practice, within the context of the autonomous interventions (Stinson, 2009), it is evident that in none of the reviewed studies nurses were responsible for the facilitation of the sessions. Thus, it is important to conduct more studies to explore the implementation of this type of therapeutic interventions led by these professionals.

Regarding the results of RT in cognitive function, there is a significant effect (Melendez et al., 2015; Nawate et al., 2007), which corroborates the results of other previous reviews (Huang et al., 2015; Woods et al., 2005, Woods et al., 2018). In both studies (Melendez, et al., 2015; Nawate et al., 2007), the improvement of cognitive function persisted after the completion of the intervention, whose effect was assessed after 2 months and 4 weeks, respectively. The authors of the mentioned studies assessed the RT effects in follow-up assessments, which allowed determining that the effects of the intervention persisted in time. In the study by Nakatsuka et al. (2015), the intervention has proved to be beneficial for guidance and long-term memory, even if the occurred effects have not been statistically significant. Comparatively, Woods et al. (2018) showed that the RT has a positive impact on cognition when evaluated immediately after the intervention, but not in the long term. Nevertheless, these differences can be caused by the characteristics of the population and the context in focus on the analyzed reviews.

Like the results analyzed by Woods et al. (2018), the results of the studies included in this review show that the occurred changes relating to the depressive symptoms of people with cognitive impairment were not significant. The review by Huang et al. (2015) found contradictory results, as positive RT effects occurred in the depressive symptoms of older people living in the community.

As regards the impact of RT in quality of life, the study by Nakatsuka et al. (2015) found improvements in the participants who belonged to the different types of intervention, namely, reminiscence therapy, cognitive stimulation, and physical activity, thereby revealing an improvement in the quality of life regardless of the intervention. The results also show that the satisfaction with the intervention may have interfered positively in the perception of quality of life of the participants, which emphasizes the need to involve the elderly people with cognitive impairment in the processes of construction and validation of therapeutic intervention protocols of their liking (Gil et al., 2017).

On the other hand, it should be noted that the study by Charlesworth et al. (2016) confirmed that the combination of group RT and the caregiver support program had positive effects on the quality of life of elderly people. Therefore, in order to meet the needs of elderly people with cognitive impairment and of their caregivers there is the need to study the impact of RT in both. In view of the above, it can be concluded that the interaction between elderly people with cognitive impairment and the caregivers, as well as the satisfaction with the therapeutic intervention, seem to be indicators intrinsically related to quality of life perceived by the elderly (Charlesworth et al., 2016; Nakatsuka et al., 2015). Regarding the evidence on the effectiveness of RT for the quality of life, presented by Woods et al. (2018), these were inconsistent.

Generally speaking, one can mention some methodological weaknesses of the reviewed studies about the impact of RT in elderly people with cognitive impairment, such as the size of the sample and the reduced number of involved community institutions, among other weaknesses mentioned previously. These weaknesses may have limited the analysis of the effectiveness of the intervention, which does not allow the generalization of the data. Another relevant aspect relates to the significant heterogeneity of the studies

regarding the objectives, methodological design, and sample, which prevented the data meta-analysis.

It must also be considered that, since no searches in databases linked to the field of psychology were conducted (e.g., PsycINFO), the number of found results may have been limited, which translates as a limitation of this review. Future systematic reviews should take into account the pointed out weaknesses. However, one considers that the contributions of this review reinforce the relevance of RT in improving cognitive function in elderly people with cognitive impairment, as it focuses on skills that people preserve while mobilizing preserved cognitive resources.

Conclusion

The results of this systematic review indicate that group RT is a therapeutic intervention which helps to improve cognitive function. Although the effects in reducing depressive symptomatology and improving quality of life have not been confirmed, the results of other reviews show contradictory conclusions, therefore, there is a crucial need for further studies with high methodological rigor which allow more robust results in this context. The methodological weaknesses of reviewed researches may have limited the analysis of the effectiveness of reminiscence in elderly people with cognitive impairment, thereby emphasizing the relevance of conducting new primary studies whose methodology takes into account the pointed out shortcomings.

Consequences to research and the nursing practice

Regarding research, one suggests the production of studies that assess the correlation between the participants' satisfaction and the effectiveness of group RT. It is necessary to enhance the participation of people with cognitive impairment and even their caregivers in the evaluation of the reminiscence programs as a guarantee of their rights and needs.

Whereas the results obtained in this review support the therapeutic potential of group reminiscence in the cognition of elderly people who use social support structures in the community (grade B), its inclusion in the therapeutic approach aimed at elderly people with cognitive impairment shall be considered, especially within the context of autonomous nursing interventions. The RT is an intervention with easy planning, implementation, and evaluation, which allows a close relationship between the professional and the elderly person, resulting in a deeper knowledge of the elderly. Thus, it can be assumed that the RT empowers the professional use of relational and communicational skills and allows creating an environment where people have fun, strengthen the bond between the members of the group while maintaining and optimizing their social and cognitive abilities.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Arlington, TX: Author

Cammisuli, D. M., Danti, S., Bosinelli, F., & Cipriani, G. (2016). Non-pharmacological interventions for people with Alzheimer's disease: a critical review of the scientific literature from the last ten years. *European Geriatric Medicine*, *7*(1), 57-64. https://doi.org/10.1016/j.eurger.2016.01.002

Charlesworth, G., Burnell, K., Crellin, N., Hoare, Z., Hoe, J., Knapp, M., ... & Orrell, M. (2016). Peer support and reminiscence therapy for people with dementia and their family carers: a factorial pragmatic randomised trial. *Journal of Neurology, Neurosurgery & Psychiatry, 87*(11), 1218-1228. http://dx.doi.org/10.1136/jnnp-2016-313736.

Gil, I., Costa, P., Bobrowicz-Campos, E., Cardoso, D., Almeida, M., & Apóstolo, J. (2017). Reminiscence therapy: development of a program for institutionalized older people with cognitive impairment. *Revista de Enfermagem Referência, 4*(15), 121-132. http://dx.doi.org/10.12707/riv17052

Gil, I., Costa, P., Cardoso, D., Parola, V., Almeida, M., & Apóstolo, J. (2018). Eficácia da reminiscência na cognição, sintomas depressivos e qualidade de vida em idosos: protocolo de revisão sistemática. *Revista de Enfermagem Referência, 4*(16), 155-160. http://dx.doi.org/https://doi.org/10.12707/RIV17055

Global Observatory for Ageing and Dementia Care. (2016). *The World Alzheimer Report 2016*. London: Alzheimer's Disease International. Retrieved from https://www.alz.co.uk/research/WorldAlzheimerReport2016.pdf

Huang, H. C., Chen, Y. T., Chen, P. Y., Huey-Lan Hu, S., Liu, F., Kuo, Y. L., & Chiu, H. Y. (2015). Reminiscence therapy improves cognitive functions and reduces depressive symptoms in elderly people with dementia: A meta-analysis of randomized controlled trials. *Journal of the American Medical Directors Association*, *16*(12), 1087-1094. doi: 10.1016/j.jamda.2015.07.010

Melendez, J., Torres, M., Redondo, R., Mayordomo, T., & Sales, A. (2015). Effectiveness of follow-up reminiscence therapy on autobiographical memory in pathological ageing. *International Journal of Psychology, 52*(4), 283-290. http://dx.doi.org/10.1002/ijop.12217

Nakatsuka, M., Nakamura, K., Hamanosono, R., Takahashi, Y., Kasai, M., Sato, Y., & Meguro, K. (2015). A Cluster Randomized Controlled Trial of Nonpharmacological Interventions for Old-Old Subjects with a Clinical Dementia Rating of 0.5: The Kurihara Project. *Dementia and Geriatric Cognitive Disorders Extra, 5*(2), 221-232. http://dx.doi.org/10.1159/000380816

Nawate, Y., Kaneko, F., Hanaoka, H., & Okamura, H. (2007). Efficacy of Group Reminiscence Therapy for Elderly Dementia Patients Residing at Home: A Preliminary Report. *Physical & Occupational Therapy in Geriatrics, 26*(3), 57-68. doi: 10.1080/J148v26n03_04

Organization for Economic Cooperation and Development (2017). *Health at a Glance 2017: OECD Indicators.* OECD Publishing, Paris. Retrieved from http://dx.doi.org/10.1787/health_glance-2017-en

Prince, M., Comas-Herrera, A., Knapp, M., Guerchet, M., Karagiannidou, M. (2016). *World Alzheimer report 2016: improving healthcare for people living with dementia: coverage, quality and costs now and in the future*. Alzheimer's Disease International (ADI), London, UK.

Stinson, C. K. (2009). Structured group reminiscence: an intervention for older adults. *Journal of Continuing Education in Nursing*, *40*(11), 521-528. doi: 10.3928/00220124-20091023-10

Tufanaru, C., Munn, Z., Aromataris, E., Campbell, J., Hopp, L. (2017). Chapter 3: Systematic reviews of effectiveness. In: Aromataris E, Munn Z (Editors). *Joanna Briggs Institute Reviewer's Manual.* Retrieved from https://reviewersmanual.joannabriggs.org/display/MANUAL/Chapter+3%3A+Systematic+reviews+of+effectiveness

Webster, J. D., Bohlmeijer, E. T., & Westerhof, G. J. (2010). Mapping the future of reminiscence: A conceptual guide for research and practice. *Research on Aging*, *32*(4), 527-564.

Westerhof, G. J., & Bohlmeijer, E. T. (2014). Celebrating fifty years of research and applications in reminiscence and life review: State of the art and new directions. *Journal of Aging Studies*, *29*, 107-114. doi: 10.1016/j.jaging.2014.02.003

Woods, B., O'Philbin, L., Farrell, E. M., Spector, A. E., & Orrell, M. (2018). Reminiscence therapy for dementia. *Cochrane Database of Systematic Reviews*, *3.* doi: 10.1002/14651858.CD001120.pub3

Woods, B., Spector, A., Jones, C., Orrell, M., & Davies, S. (2005). Reminiscence therapy for dementia. *Cochrane Database of Systematic Reviews*, *2*. doi: 10.1002/14651858.CD001120.pub2

World Health Organization. (2013). *Mental Health Action Plan: 2013 - 2020*. Geneva, Switzerland: Author. Retrieved from http://apps.who.int/iris/bitstream/handle/10665/89966/9789241506021_eng.pdf;jsessionid=2417FD0811EDAD2B2371725C5F66816A?sequence=1