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Original Article

Effectiveness of English Language Teaching on Aggression and Anxiety in the Elderly with Alzheimer's Disease

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Introduction: When aging starts, the human being becomes prone and vulnerable to a variety of diseases and disorders, specifically Alzheimer's disease (AD), which is the main reason for about 80% of the cases of dementia in older adults. AD is associated with a range of challenging disorders, such as aggression and anxiety, which make the lives of patients more difficult. This study aimed at investigating the impact of English language teaching on aggression and anxiety among older people with AD.

Methods: The design of this study was quasi-experimental pre-test post-test with the control group. The participants of the study included 40 Iranian (20 males and 20 females) older adults (≥ 65 years) who were suffering from AD in Kerman province, Iran, and also they were selected through convenience sampling. The exercise group participated in 20 sessions of English language teaching three times a week in 40 minutes. Then, the effect of English language teaching on both aggression and anxiety was analyzed. The required data were collected through the Persian version of the Bass-Perry Aggression Questionnaire and the Persian version of the Spielberger State - Trait Anxiety Inventory. Data analysis was conducted by running descriptive statistics, Kolmogorov-Smirnov normality test, Leven test, and one-way Analysis of Covariance (ANCOVA).

Results: English language teaching significantly affected aggression among older people with AD ($F= 9.112$ $p < 0.05$, $w^2 = 0.178$) similarly; it significantly affected anxiety ($F = 9.147$ $p < 0.05$, $w^2 = 0.130$).

Conclusion: English language teaching significantly improves aggression and anxiety among older people with AD. The findings have implications for the elderly with AD and their families, psychiatrists, and English language teaching policymakers.

Keywords: Aged, Alzheimer's Disease, Aggression, Anxiety, English Language Teaching

Introduction

In the routine process of caring for older adults with Alzheimer's disease (AD), family members are among the leading groups for whom life becomes too hard to tolerate (1). Similarly, older adults with AD, unconsciously in many aspects, have to deal with several disorders at the same time, and this makes the game very demanding for them.

AD is associated with a range of challenging disorders, which make the life of patients more difficult. Moreover, they add to caregivers' burden (2). That is why many families cannot provide appropriate care to AD patients and refer them to specialist services (3). Some disorders are more prevalent than others in the older adults with AD. One such disorder which

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documents frequently reported on AD is aggression (4).

As defined by Horan et al., (5), aggression is expressed as an antisocial behavior that is disrupting at the same time. Buss (6) believes aggression may lead to violence and crime, and in severe cases, it needs psychopathy. Aggression is observed in the older adults with AD in 96% of the cases, in the form of communicative and long-term aggression. That does not mean the absence of other types of aggression in older adults with AD. In a research on the adults with AD, 20% expressed physical aggression, and 35% showed verbal aggression (7).

Another disorder that is frequently reported among older adults with AD is anxiety. In a survey on challenges experienced by family caregivers, a common issue stated by almost all of them was anxiety among older people with AD (8). This concern was interestingly common among novice and professional caregivers regardless of age and gender. They also reported that the cause of this anxiety is not even known by older people themselves; for whatever reason, anxiety is prevalent among these patients.

This study is theoretically framed by self-regulated learning (SRL). SRL is a method that has primarily been used for learning and teaching a second language. Researchers have rarely thought about this method as a way of alleviation of a problem. Researchers have used to mention SRL only in language learning and language teaching settings e.g. (9-11). However, its connection to other individuals, rather than English learners, and following other objectives, rather than learning a second language, have been missing. What adds to the credibility of this issue is the theoretical support of the joint place of language and memory (loss) in the brain (12). More importantly, language problems reported in older people with AD (13) act as a spark to think about the potential effectiveness of teaching English to older people with AD.

However, although the observations as well as the empirical studies done in Iran show that the prevalence of aggression, anxiety, and other mental disorders has been of a descending order among older adults (14), training programs designed to reduce the severity of the problems of the adults with AD are scarce.

Az Zimmerman (15) maintained, SRL has three main characteristics. First, it arouses learners' internal motivation. Second, it involves learners meta-cognitively in completing a task and third it encourages learners to actively take measures to construct their learning modes. Likewise, Paris and Winograd (16) considered three central characteristics of SRL including, awareness of thinking, use of strategies, and sustained motivation. They thought that awareness of practical review and analyses of one's thinking habits are meta-cognitive procedures that can direct the plans they decide on, the strategies they employ, and their interpretation of their performance. As a result, awareness gives rise to efficient problem-solving.

As far as we know, no study has so far subjected older people with AD to English language teaching so that its effectiveness on their aggression and anxiety can be tackled. So, this study sought to fill this gap in the literature.

Methods

Study design

Since the research questions of the present study were concerned with the effect of English language teaching on aggression and anxiety among older people with AD, a quasi-experimental pre-test post-test with the control group design was used.

Participants

The participants of the study included 40 Iranian (20 males and 20 females) older adults with AD (≥ 65 years) from Kerman province, Iran and collection of data started from July 2022. Since AD patients from Sistan and Baluchestan, and Hormozgan provinces also refer to Kerman for treatment, Kerman was an appropriate setting for the study. We selected them through convenience sampling by asking five neurologists who have offices in Kerman to cooperate with the research and make the researcher linked with the cases who were eligible. The inclusion criteria included ≥ 65-year-old patients, literacy, lack of exposure to any English language teaching before to the present study, lack of exposure to any training course or program during the study, and suffering from AD. The participants were randomly allocated into two groups, including the experimental and control groups, each consisting of 20 participants.

Instrumentation

Bass - Perry Aggression Questionnaire

To assess the participants' aggression, the Persian version of the Aggression Questionnaire by Bass and Perry (17) was used. It includes 29 Likert items, which are designed in a five-point format in a range from 1 never to 5 always. Accordingly, it was scored in a range from 29 to 140. Hashemi et al., (18) did the psychometric evaluation of this questionnaire in Iran. They reported the reliability of this scale 0.80 and validated it using factor analysis.

Spielberger State-Trait Anxiety Inventory

The Persian version of the Spielberger state-trait anxiety inventory (19) was used to measure the anxiety of the participants. It includes 40 Likert items in a four-point range from 1(very little) to 4 (very much). Accordingly, it was scored in the 40-160 range. Khanipour et al., (20) estimated the reliability of this tool at 0.77 in Iran and validated it through factor analysis to evaluate it psychometrically.

Data collection

In order to collect data, two experimental and control groups were asked to fill out the two questionnaires to measure their level of anxiety and aggression before the intervention program. To make the cooperation of the participants easier, the questionnaires were filled out in the presence of the researcher so that she could help them in case of any problems when filling out the questionnaires.

Then, the experimental group participated in the intervention program, which consisted for 20 sessions of English language teaching three times a week in 40 minutes. In the sessions wherein the first researcher was the English teacher, the books 'Phonics for Kids 1&2' by Baby Professor Publication were taught to the participants. They

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are elementary-level books with 32 pages, which start from the English alphabet and then proceed to simple words with pictures. However, the control group did not participate in the intervention program and just filled out the questionnaires at the beginning and end of the study. Moreover, the experimental and the control groups were kindly asked not to participate in any training course or program in any form with any purpose during the study.

After the end of the intervention program, to measure the level of anxiety and aggression of the participants, both groups were asked to fill out the two questionnaires on two different days for the second time in the presence of the researcher. All the procedures of the quantitative data collection were conducted face-to-face.

Statistical analysis

Data analysis was done by the SPSS software at the two levels of descriptive and inferential statistics. Additionally, the Shapiro-Wilk test was ran to see whether the data are normally distributed. Finally, based on normality test results, an appropriate parametric (i.e., one-way Analysis of Covariance (ANCOVA) and a post hoc test including the Scheffe test) were selected to compare the two groups mean scores in the pre-and post-test.

Ethical considerations

This research is educational research in which the intervention involved is teaching. However, we were well aware that the participants in this research were older people who are also vulnerable in many aspects. Therefore, the study based on ethical consideration of Declaration of Helsinki. The participants were given an explanation on why these data were collected and how they would be used. They were assured that their participation was voluntary and they could withdraw the study whenever they felt discomfort. The participants verbally gave their complete consent. They were also assured that their personal information would be kept confidential.

Results

The level of aggression of the experimental group (M = 102.00, SD = 0.18) was near to that of the control group (M = 101.30, SD = 0.25) in the pre-test. On the contrary, the experimental group's aggression (M = 40.55, SD = 0.20) was lower than that of the control group (M = 71.00, SD= 0.33) in the post-test. (Table 1)

The experimental group's anxiety level (M = 150.00, SD = 0.68) was a bit different from the control group's anxiety level (M = 155.00, SD = 0.45) in the pre-test. Despite this, the experimental group showed a lower anxiety level (M = 60.00, SD = 0.44) than the control group (M = 100.00, SD = 0.73) in the post-test. (Table 1)

Kolmogorov-Smirnov and Leven tests revealed both assumptions of normality ($p > 0.05$) and equality of variance ($p > 0.05$) in aggression and anxiety scores, so one-way ANCOVA was used.

As shown in Table 2, English language teaching significantly affected aggression among older people with AD with a large effect size ($F = 9.112$ $p < 0.05$, $w^2 = 0.178$), referring to Cohen's (21) guidelines. As the same way, English language teaching significantly affected anxiety among older people with AD with a large effect size ($F = 9.147$ $p < 0.05$, $w^2 = 0.130$). (Table 3)

Table 1. Descriptive statistics of aggression and anxiety scores in both groups in pre and post-test (n = 20)

Group	Experimental				Control			
	Pre-test		Post-test		Pre-test		Post-test	
Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Aggression	102.00	0.18	40.55	0.20	101.30	0.25	71.00	0.33
Anxiety	150.00	0.68	60.00	0.44	155.00	0.45	100.00	0.73

Table 2. Results of ANCOVA for aggression for older adults with AD

Source	SS	df	MS	F	p	Partial Eta Squared
Aggression (pre-test)	519.22	1	519.22	20.15	0.0009	0.46
Group	162.411	1	162.411	9.112	*0.001	0.178
Error	1391.00	37	14.321			

* significant at the 0.01 level.

Table 3. Results of ANCOVA for anxiety for older adults with AD

Source	SS	df	MS	F	p	Partial Eta Squared
Anxiety (pre-test)	180.27	1	180.27	11.90	0.0003	0.43
Group	98.118	1	98.118	9.147	*0.007	0.130
Error	700.194	37	12.639			

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Discussion

This study aimed to investigate the effect of English language teaching on the aggression and anxiety of older adults who are suffering from AD. The findings confirmed a significant impact of English language teaching on aggression among older people with AD. English language teaching enhances self-regulation of people (22, 23), and may help them regulate their aggression. Moreover, being subjected to English language teaching creates a sense of agency in persons, that can empower them to control their aggression. Further, English language teaching reduces stress and depression (24-26) as two leading causes of aggression. Accordingly, older people with AD find themselves more prone to avoid aggressive behavior. Moreover, English language teaching has proved to be effective in anger management (27, 28). When people can manage their anger more efficiently, they can alleviate their aggression. In addition, English language teaching can help people aware of their hidden capabilities and potential. It cannot be without its vast effects on aggression among older people with AD. It can make them feel that they can still do important things, and they think they are not entirely incapable of doing something. Therefore, it finally leads to decreased aggression in them. Finally, the enhanced sense of well-being due to English language teaching (29) may have helped older people with AD to cope with aggression.

The findings revealed that English language teaching had a significant impact on the anxiety level of older people with AD as well. To justify this result, the motivation of older people with AD, which has been increased under the effect of English language teaching, has potentially reduced their anxiety (30). Moreover, since English language teaching enhances the working memory of older people with AD (31), it has led a considerable decrease in their anxiety. In other words, English language teaching may have given the elderly with AD the feeling of recurrence of their lost memory, and this, in turn, may have led to a considerable decrease in their anxiety. The enhanced emotional and cognitive abilities due to English language teaching also may have contributed to decreased anxiety among them. In addition, the improvements in the self-confidence, self-esteem, autonomy, and self-direction of older people with AD after exposure to English language teaching have helped them manage their anxiety (32).

Conclusion

Based on the results of the present study, we can conclude that English language teaching has the potential to help older people with AD in coping with their anxiety and aggression. Accordingly, psychiatric centers can equip themselves with English language teaching programs in an attempt to regulate the level of anxiety and aggression among older people with AD. Furthermore, we can conclude that the educated family members of older people with AD can try to inject English language teaching programs into the daily life of older people with AD to help them suffer a lower level of aggression and anxiety. Additionally, psychiatrists can encourage older people with AD to resort to English language learning as a savior to confront Alzheimer-related problems such as anxiety and aggression. Moreover, English language teaching policymakers can plan programs so that older people with AD can enroll in language institutes most easily. In this regard, the government should provide monetary facilities for older people with AD. Also, psychiatrists need to provide them with briefing sessions wherein they are informed of the potential advantages of English language teaching, at least in combating aggression and anxiety. Finally, it is concluded that English language teaching should go beyond covering a set of demographically similar groups of people to protect vulnerable groups, including older people with AD.

Study limitations

This study has some limitations to note. Since we didn't choose the participants randomly and also because they mostly come from Kerman province, our results must be interpreted with caution. Therefore, it is recommended that future researches should take into account a larger sample size and include more provinces across the country to consider ethnic background as well.

Conflict of interest

The author declared no conflict of interest.

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None.

Authors' contribution

N.F. and V.J. contributed to the research methods.

M.M. has done the intervention with the supervision of N.F. and V.J.

N.F. and V.J. have done data analysis.

M.M. wrote the manuscript with support from N.F. and V.J.

All authors read the manuscript and verified it.

References

1. Barros MP, Poppe SC, Bondan EF. Neuroprotective properties of the marine carotenoid astaxanthin and omega-3 fatty acids, and perspectives for the natural combination of both in krill oil. Nutrients. 2014; 6(3): 1293-317.

2. Keene J, Hope T, Fairburn CG, Jacoby R, Gedling K, Ware CJ. Natural history of aggressive behaviour in dementia. International Journal of Geriatric Psychiatry. 1999; 14(7): 541-8.

[DOI: 10.18502/ehj.v9i2.14425]

3. Gaugler JE, Yu F, Krichbaum K, Wyman JF. Predictors of nursing home admission for persons with dementia. Medical Care. 2009; 47(2): 191-8.
4. Schulz R, Sherwood PR. Physical and mental health effects of family caregiving. American Journal of Nursing. 2008; 108(9): 23-7.
5. Horan SM, Chory RM, Goodboy AK. Understanding students' classroom justice experiences and responses. Communication Education. 2010; 59(4): 453-74.
6. Buss DM, Duntley JD. The evolution of aggression. In: Schaller M, Simpson JA, Kenrick DT, editors. Evolution and social psychology: Psychology Press; 2013. p. 263-85.
7. Aarsland D, Cummings JL, Yenner G, Miller B. Relationship of aggressive behavior to other neuropsychiatric symptoms in patients with Alzheimer's disease. The American Journal of Psychiatry. 1996; 153(2): 243-7.
8. Newbronner L, Chamberlain R, Borthwick R, Baxter M, Glendinning C. A road less rocky: supporting carers of people with dementia [Internet]. 2013 [cited 10 Aug 2023]; Available from: https://eprints.whiterose.ac.uk/76737/1/DementiaCarers.pdf
9. Alico JC. Writing anxiety and language learning motivation: Examining causes, indicators, and relationship. Communication and Linguistics Studies. 2016; 2(1): 6-12.
10. Chen JH, Lin KP, Chen YC. Risk factors for dementia. Journal of the Formosan Medical Association. 2009; 108(10): 754-64.
11. Fahim M, Bagherzadeh R, Hosseini F. The relationship between self-directed learning and critical thinking ability of Iranian EFL learners. International Journal of English Language, Literature, and Humanities. 2014; 2(5): 550-69.
12. Cameli L, Phillips NA, Kousaie S, Panisset M. Memory and language in bilingual Alzheimer and Parkinson patients: Insights from verb inflection. Brain and Cognition. 2005; 60(3): 452-76.
13. Davis AS. Children with down syndrome: implications for assessment and intervention in the school. School Psychology Quarterly. 2008; 23(2): 271-81.
14. Zinat Motlagh F, Ataee M, Jalilian F, Mirzaei Alavijeh M, Aghaei A, Shirazi KK. Predicting aggression among male adolescents: an application of the theory of planned behavior. Health Promotion Perspectives. 2013; 3(2): 269-75.
15. Zimmerman BJ. Self-regulated learning and academic achievement: An overview. Educational Psychologist. 1990; 25(1): 3-17.
16. Paris SG, Winograd P. How metacognition can promote academic learning and instruction. In: Dimensions of thinking and cognitive instruction. Routledge; 2013. p. 15-51.
17. Buss AH, Perry M. The aggression questionnaire. Journal of Personality and Social Psychology. 1992; 63(3): 452.
18. Hashemi FS, Kareshki H, Tatari Y, Hosseini M. Validity and reliability of the APRI Aggression Assessment Scale in Mashhad Adolescents. Journal of Applied Research in Educational Psychology. 2014; 1(2): 46-61. [Persian]
19. Spielberger CD, Edwards CD, Lushene RE, Montouri J, Platzek D. Preliminary manual for the state-trait anxiety inventory for children. Consulting Psychologists Press; 1983.
20. Khanipour H. Thought control strategies and trait anxiety: predictors of pathological worry in non-clinical sample. International Journal of Behavioral Sciences. 2011; 5(2): 173-8. [Persian]
21. Cohen J. Set correlation and contingency tables. Applied Psychological Measurement. 1988; 12(4): 425-34.
22. Mohsen MA, Shafeeq C. EFL teachers' perceptions on blackboard applications. English Language Teaching. 2014; 7(11): 108-18.
23. Yunus MM, Nordin N, Salehi H, Embi MA, Salehi Z. The use of information and communication technology (ICT) in teaching ESL writing skills. English Language Teaching. 2013; 6(7): 1-8.
24. Azmi FM, Khan HN, Azmi AM. The impact of virtual learning on students' educational behavior and pervasiveness of depression among university students due to the COVID-19 pandemic. Globalization and Health. 2022; 18(1): 1-9.
25. Mosleh SM, Kasasbeha MA, Aljawarneh YM, Alrimawi I, Saifan AR. The impact of online teaching on stress and burnout of academics during the transition to remote teaching from home. BMC Medical Education. 2022; 22(475): 1-10.
26. Shokoohi-Yekta M, Ghobary-Bonab B, Malayeri SA, Zamani N, Pourkarimi J. The relationship between anger and coping strategies of mothers of children with special needs. Procedia-Social and Behavioral Sciences. 2015; 205: 140-4.
27. Abbasi S, Ayoob T, Malik A, Iqhbal Memon S. Perceptions of students regarding E-learning during Covid-19 at a private medical college. Pakistan Journal of Medical Sciences. 2020; 36(S4): 1-5.
28. Ameen N, Willis R, Abdullah MN, Shah M. Towards the successful integration of e-learning systems in higher education in Iraq: A student perspective. British Journal of Educational Technology. 2019; 50(3): 1434-46.
29. Awaliyah ITA, Taufiq A, Hafina A. The effectiveness of sociodrama to improve students' anger management skills. Islamic Guidance and Counseling Journal. 2019; 2(2): 56-65.
30. Safotso GT, Tompte N. Attitudes and motivation of Chadian learners of English. World Journal of Education. 2018; 8(2): 174-80.
31. Feng L, Mohd Rawian R. The mediating role of motivation and language anxiety in increasing EFL learners' working memory. Language Related Research. 2023; 14(1): 335-58.
32. Gurler I. Correlation between self-confidence and speaking skill of English language teaching and English language and literature preparatory students. Current Research in Social Sciences. 2015; 1(2): 14-9.

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