Research Paper:
The Effect of Group Movie Therapy on the Activities of Daily Living Among the Older Adults

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ABSTRACT

Background: The daily living activities are among the essential components of life and reflect an important aspect of functional independence in older adults. This study aimed to determine the effect of Group Movie Therapy (GMT) on the Activities of Daily Living (ADL) in older adults.

Methods: A randomized clinical trial was conducted on 48 older adults referred to Urban Comprehensive Health Service Centers of Kashan City, Iran. The study subjects were enrolled by a convenience sampling method and were randomly assigned to the intervention (n=24) and control (n=24) groups. GMT was performed in 6 weekly sessions. The Lawton’s ADL Scale was used for data collection. The obtained data were analyzed by the Chi-Squared test, Fisher’s Exact test, and Independent Samples t-test using SPSS.

Results: There was no significant difference in the mean scores of Basic Activities of Daily Living (BADL) and Instrumental Activities of Daily Living (IADL) before the intervention between the study groups. A significant difference was found in the mean scores of IADL after the intervention between the study groups (P=0.001); however, there was no significant difference in the BADL values of the groups after the intervention.

Conclusion: GMT is a non-invasive, low-cost, and non-risky way to improve the elderly’s autonomy in performing IADL. Thus, GMT is recommended as a method of behavior therapy.

Keywords:
Basic Activities of Daily Living (BADL), Instrumental Activities of Daily Living (IADL), Group Movie Therapy (GMT), Older adult
1. Introduction

Aging is associated with an increased risk of biopsychological disabilities, which sometimes threaten the independence of older adults (Vahdaninia et al. 2005). Maintenance of independence in the Activities of Daily Living (ADL) is an essential issue in geriatric nursing (Moeini et al. 2012). According to the World Health Organization (WHO), the most important component of aging health is the maintenance of the independence of the older adults in ADL until death (De Souza Vale et al. 2009). Independence is a concept beyond self-care and refers to the active participation of the elderly in their daily activities (Darvishpour et al. 2010). Daily living activities are defined as activities that a person performs typically on a daily basis to run an independent life (Van Het Bolscher-Niehuis et al. 2016).

A goal of successful aging is independence in ADL, which leads to a greater sense of life satisfaction, better personal control, and higher social interaction (Moeini et al. 2012). Therefore, it is necessary to plan appropriately to increase the independence of older adults in performing ADL (Mohammadi et al. 2018). Different techniques have been developed to maintain and enhance the independence of older adults in ADL. One of these techniques is teaching behavioral practices. Behavioral practices are being preferred to invasive methods because of their cost-effectiveness, the simplicity of performance, non-invasiveness, and the creation of a sense of independence (Newton 1995).

Group Movie Therapy GMT a behavioral practice that improves an individual’s awareness, cognition, and emotion. Movies can display emotional, intellectual, and behavioral patterns for the elderly. Older adults are inspired by these patterns and use them to solve their problems (Schulenberg 2003). Movie therapy is the process of identifying and using a film, i.e., tailored to the therapeutic goals (Strong & Lotter 2015). This modern behavioral practice is performed individually or in groups. This technique provides the context for personal and interpersonal growth (Dumtrache 2014).

Watching a movie is a multivariate experience, i.e., effective in teaching new skills and concepts, and could be used as a catalyst to evoke an emotion (Wu 2008). There are 4 stages of movie therapy, including identification, emotional evacuation, insight, and globalization. In the identification stage, the observer considers similarities between his/her world and the story characters. The evacuation phase allows individuals to bring their emotions and conflicts to the level of consciousness. In the stage of insight, the viewer interacts between one’s self and

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Highlights

- Independence in performing the basic and instrumental activities of daily living decreases health costs and increases the quality of life in the elderly.
- Activities of daily living decrease in older adults due to numerous conditions, such as declined biopsychological health, social isolation, and the medications’ adverse effects.
- The current study determined the impact of Group Movie Therapy (GMT) on the activities of daily living in older adults.
- The obtained results indicated that GMT increased the instrumental activities of daily living in older adults.
- It is suggested that GMT to be used as a non-invasive, low-cost, and non-risky approach to increase the elderly’s autonomy in performing the instrumental activities of daily living.

Plain Language Summary

The activities of daily living are among the essential components of life and reflect functional independence in older adults. Declined physical function could impair the activities of daily living. Geriatric nurses must be aware of the non-invasive, low-cost, and non-risky ways to increase the activities of daily living in older adults. The study findings suggested that group movie therapy could play an impotent role in improving the performance of instrumental activities of daily living, such as shopping, food preparation, housekeeping, laundry, and minor home repairs.
The study participants were assigned to the control (n=24) and intervention (n=24) groups by a randomized block design using an online software application (Sealed Envelope Software, London, UK). Sealed Envelope software created a block size of 4 lists and a sequence of letters; A and B. Each letter was randomly assigned to the intervention and control groups.

Inclusion criteria were gaining scores >20 on the Mini-Mental State Examination (MMSE), age of ≥60 years, being able to see the TV screen with or without glasses, being able to hear a conversation with or without hearing aids, and having no acute diseases. The exclusion criteria were missing >1 session of the GMT, patient’s death, cognitive impairment, serious illness during the study, and unwillingness to continue participating in the study.

In the first session, the study participants were informed about the purpose and methods of the research. They were ensured of the confidentiality of their data and their right to withdraw from the study without any penalty. The study participants signed informed consent regarding participation in the study. Additionally, Lawton’s Activities of Daily Living (ADL) scale and biographical information sheet were completed by the study subjects as the Pre-test. In the second session, the intervention group subjects were divided into two subgroups. GMT sessions were conducted for each subgroup. Each session averagely lasted 90 minutes, and weekly sessions were held for 6 consecutive weeks. At the end of each session, the time and place of the next meeting were reminded of the study subjects.

At each session, a part of the selected film was shown for 30 minutes. All the movies were in the Persian language. The contents provided per session are presented in Table 1. The movies were screened in a room at the Urban Comprehensive Health Service Center (Akramian).

After the end of the playback of each movie, the study participants discussed the film’s characters, their personal experiences, and their feelings about it. The first author led group discussions and provided an opportunity for all the study participants to express their feelings. After the end of GMT sessions, both study groups completed the Lawton’s ADL scale, as the Post-test. After the research completion, the selected films were provided to the controls, and the results of the research were presented to all of the study participants. The chart of the study process is shown in Figure 1.

The required data were collected using a two-part instrument. The first part covered a biographical information form, including age, gender, marital status, employment status, educational level, the number of children, lifestyle, a history of hypertension, as well as cholesterol and glucose levels, and a history of cardiovascular disease, backache, joint pain, and asthma.
Lawton’s ADL scale was used as the second part of the study instrument. This inventory was designed by Lawton and Brody (1969) to measure the older adults’ independence in the activities of daily living (Lawton and Brody 1969). The scale has two parts. The first part contains 7 items related to the BADLs, and the second part contains 9 items related to the IADLs. Each item is scored based on a 3-point Likert-type scale (no help=2; with a little help=1; unable to do so=0). The scoring range of the BADLs subscale is between 0 and 14, and the IADLs subscale scoring has a range of 0 to 18. Higher scores in each subscale indicate the higher independence of the older adults in performing BADLs and IADLs. Lawton’s ADLs scale has been translated to Persian, and its psychometric properties have been supported, and the reliability of the scale was determined using the test-retest method (r=0.90). (Hekmatpou et al. 2010). In the present study, the Cronbach’s alpha (α) coefficient of it was calculated as 0.89.

The obtained data were analyzed using SPSS. The normality of the dependent variables was verified by the Kolmogorov-Smirnov test. Descriptive statistics, including mean and standard deviation for quantitative variables and frequency distribution for qualitative variables, were calculated. Chi-Squared test and Fisher’s Exact test were used to compare the qualitative variables. The Paired Samples t-test and the Independent Samples t-test were implemented for within- and between-group comparisons. The significance level was considered to be P<0.05.

3. Results

The collected data suggested no significant differences between the two groups in terms of age, gender, marital status, employment status, educational level, and lifestyle. The study participants’ clinical characteristics revealed no significant difference between the study groups (Table 2).

There was no significant difference between the groups in terms of the mean pre-test, post-test scores of BADL (P>0.05). Comparing within-group mean scores of basic ADL also reflected no significant difference between the two groups (P>0.05) (Table 3).

The mean score of IADL was not significantly different before the intervention in the two groups (P>0.05); however, the mean score of IADL significantly differed at the Post-test between the study groups (P<0.001).
### Table 2. The frequency distribution of demographic and clinical characteristics of the studied groups (n=24)

| Variables                   | Groups            | No. (%)         | P      |
|-----------------------------|-------------------|-----------------|--------|
|                             | Control           | Intervention    |        |
|                             | Male              | 10 (41.7)       | 11 (45.8) | 0.77†  |
|                             | Female            | 14 (58.3)       | 13 (54.2) |
| Marital status              | Married           | 22 (91.7)       | 21 (87.5) | 0.63‡  |
|                             | Single            | 2 (8.3)         | 3 (12.5)  |
| Employment status           | Employed          | 2 (8.3)         | 3 (12.5)  |
|                             | Retired           | 7 (29.2)        | 9 (37.5)  | 0.67‡‡  |
|                             | Housewife         | 15 (62.5)       | 12 (50)   |
| Educational level           | Below diploma     | 21 (87.5)       | 19 (79.2) | 0.35†  |
|                             | Above diploma     | 3 (12.5)        | 5 (20.8)  |
| Lifestyle                   | With family       | 21 (87.5)       | 23 (95.8) | 0.14†  |
|                             | Single            | 3 (12.5)        | 1 (4.2)   |
| Hypertension (yes)          |                   | 7 (29.2)        | 11 (45.8) | 0.37‡  |
| High glucose level (yes)    |                   | 5 (20.8)        | 5 (20.8)  | N.S.†  |
| High cholesterol level (yes)|                   | 4 (16.8)        | 6 (25.2)  | 0.72†  |
| Cardiovascular disease (yes)|                   | 3 (12.5)        | 6 (25.2)  | 0.46†  |
| Back ache (yes)             |                   | 3 (12.5)        | 4 (16.8)  | 0.35†  |
| Joints pain (yes)           |                   | 5 (20.8)        | 5 (20.8)  | N.S.†  |
| Asthma (yes)                |                   | 1 (4.2)         | 0        | N.S.†  |
| Age (y) (±SD)               |                   | 66.5±8.3        | 65.9±5.2  | 0.746†† |
| Number of children (±SD)    |                   | 5±1.9           | 3.8±1.4   | 0.018†† |

† Fisher’s Exact test; †† Chi-squared test; ††† Independent Samples t-test

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**Figure 1. The chart of the process**
Within-group comparisons of the mean scores of IADLs indicated no significant difference in the control group (P>0.05); however, the mean score of the IADL of the intervention group was statistically different at the Post-test (P=0.007) (Table 2).

Comparing the mean score of BADL items before and after the intervention revealed no significant differences between the two groups. However, between-group comparisons of the mean score of IADL highlighted that the mean scores of IADL subscales, including shopping (P=0.01), food preparation (P=0.005), housekeeping (P=0.006), laundry (P=0.001), and performing minor home repairs (P=0.008) were significantly different before and after the intervention (Table 4).

### Table 3. Comparing the within-group and between-group mean scores of BADL and IADL (n=24)

| Groups | Time   | Mean±SD | P (Independent Samples t-test) |
|--------|--------|---------|--------------------------------|
|        |        | Control | Intervention                  |
| BADL   | Time 1† | 13.3±1.49 | 14.2±0.25                     | 0.322 |
|        | Time 2†† | 13.7±1.6 | 14.76±4.01                    | 0.227 |
|        | P (Paired Samples t-test) | P=0.16 | P=0.35 | t=1.43 | t=0.94 |
| IADL   | Time 1† | 13.6±5.4 | 13.52±5.12                     | 0.335 |
|        | Time 2†† | 13±5.4 | 17±3.89                       | 0.001* |
|        | P (Paired Samples t-test) | P=0.47 | P=0.007* | t=0.72 | t=2.95 |

* The level of significance, † Before the intervention, †† After the end of the intervention

### Table 4. Comparing the Mean±SD of IADL subscales before and after the intervention between the study groups

| Item of IADL | Time 1 | P† | Time 2 | P† |
|--------------|--------|----|--------|----|
|              | Mean±SD |     | Mean±SD |     |
|              | Control | Intervention | Control | Intervention |
| Ability to Use telephone | 1.8±0.5 | 1.8±0.5 | N.S | 1.72±0.6 | 1.92±0.4 | 0.17 |
| Mode of transportation | 1.8±0.4 | 1.9±0.2 | 0.08 | 1.64±0.7 | 1.88±0.33 | 0.12 |
| Shopping | 1.32±0.74 | 1.36±0.56 | 0.83 | 1.36±0.81 | 1.8±0.4 | 0.01* |
| Food preparation | 1.52±0.58 | 2.28±4.1 | 0.36 | 1.56±0.65 | 1.9±0.2 | 0.005* |
| Housekeeping | 1.6±0.5 | 1.52±0.5 | 0.57 | 1.36±0.63 | 1.8±0.33 | 0.06 |
| Laundry | 1.44±0.58 | 1.6±0.48 | 0.19 | 1.36±0.63 | 1.8±0.33 | 0.001* |
| Performing minor home repairs (e.g. making electrical outlets, faucets, etc.) | 1.4±3.9 | 1±0.88 | 0.65 | 0.56±0.76 | 1.2±0.95 | 0.008* |
| Responsibility for taking medications | 1.88±0.43 | 1.92±0.27 | 0.7 | 1.84±0.55 | 2±0.1 | 0.15 |
| Ability to manage finances | 1.3±0.8 | 1.6±0.56 | 0.1 | 1.28±0.84 | 2.4±3.92 | 0.17 |

† Independent Samples t-test; Time 1: Before the intervention; Time 2: After the end of the intervention

4. Discussion

The present study findings suggested that GMT impacted IADL; however, it was ineffective on the BADLs of the investigated older adults. The literature review revealed that scholars have disregarded exploring the effect of GMT on the level of ADL in older adults. Studies on other variables in this regard have reported that GMT contributes to reducing the severity of sorrow (Molaie & Abedin 2011) and stress control (Abedin & Molaie 2010); it improves depression (Lee & Ko 2013; Kim 2014; Kwon & Lee 2017), and increases self-esteem (Powell et al. 2006; Navidian et al. 2015). However, some studies have indicated that GMT was ineffective on the quality of life of the elderly residing in nursing homes (Jaanište et al. 2015; Hosseini et al. 2016). The obtained data demonstrated that GMT was
influential on the IADL. Instrumental activities, including shopping, food preparation, laundry, and performing minor home repairs (e.g. making electrical outlets, faucets, etc.) improved in the studied elderly after receiving the GMT.

Through movie therapy, individuals learn to courageously face their limitations, remember the past and prepare themselves for the future; accordingly, one can reach beyond it, extend it, and rely on it (Van Deurzen 2012). Furthermore, GMT is a strategy to learn problem-solving skills, and individuals could experience the consequences of using it in the short-term and long-run (Strong & Lotter 2015).

Through GMT, individuals discover and redefine their personal and inner worlds. They re-format their life pattern through finding and activating new sources of adaptation in daily living activities (Dumtrache 2014). Moreover, movies could improve adaptability among older adults and provide opportunities for group discussion and experience sharing. GMT seems to impact individuals’ emotional structure. GMT increases the self-esteem and problem-solving ability of the older adults, which, in turn, enhances the IADL ability; however, it does not increase the psycho-motor dimension of the elderly for performing ADL. Therefore, GMT could be used as a non-invasive, cost-effective, and non-risky approach to enhance independence in performing ADL in the elderly.

Considering that the present study sample was limited to the elderly referred to the Urban Comprehensive Health Service Centers of Kashan, the generalization of the results should be considered with caution. Assessing the impact of movie therapy in combination with other therapies and studies with a long follow-up period is suggested. Besides, the participation of study subjects in all age groups of older adults could produce more beneficial outcomes.

Activities of daily life gradually declines in the older adults and GMT can be as a non-invasive, low-cost, and non-risky way to improve the elderly’s autonomy in performing IADL. Thus, GMT is recommended as a method of behavior therapy to improve the quality of life of the older adults.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of Kashan University of Medical Sciences (Code: IR.KAUMS.NUHEPM.REC.1397.012) and received a code from the Iranian Registry Clinical Trial (Code: IRCT20180717040504N1). All the study participants signed the informed consent form.

Funding

The present article has been extracted from an MSc. thesis of Narges Yaghini at the Kashan University of Medical Sciences Research Department approved and funded this study (Code: 9724).

Authors’ contributions

Conceptualization: Narges Yaghini, Fatemeh Sadat Izadi-Avanji, and Sediqheh Miranzadeh; Methodology and investigation: Narges Yaghini and Fatemeh Sadat Izadi-Avanji; Writing the original draft: Narges Yaghini; Writing the review and editing: Fatemeh Sadat Izadi-Avanji, Sediqheh Miranzadeh; Supervision: Fatemeh Sadat Izadi-Avanji.

Conflict of interest

The authors declared no conflicts of interest.

Acknowledgments

The collaboration of older adults referred to the Urban Comprehensive Health Service Centers (Akramian) in Kashan, who participated in this research project, is appreciated. We also thank Kashan University of Medical Sciences for its financial support.

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