Title: **The effect of Israeli Lifestyle Program on quality of life and depression among independent Israeli older adults**

Keywords: Health promotion, Older adults, Community, Intervention, Quality of life, depression?

**Abstract**

**Background:** Health promotion interventionsare important for maintaining quality of life (QoL) in the aging population**.** The aim of this study was to explore the effect of the Israeli Lifestyle Program (ILP) within a large‐scale evaluation study.

**Method:** The research was a non-randomized controlled pre-post intervention, including 99 older adults 60+ years living independently in the community. The research group (*n* = 79) participated in 15 weekly group meetings and two individual sessions. The control group (*n* = 20) received an information booklet based on the ILP content. Participants filled out the Quality of Life Questionnaire (WHOQoL-BREF) (WHO, 1998), and the Personal Health Questionnaire (PHQ-9) (Kroenke, Spitzer, & Williams, 2001).

**Results:** No meaningful demographic differences were found between the groups. QoL in terms of physical health (WHOQoL- BREF) has increased beyond group (η2 = .056). Psychological health (WHOQoL- BREF) has increased in the intervention group (η2 = .154) and did not change in the control group. Social relationships (WHOQoL -BREF) have increased in the intervention group (η2 = .131) and did not change in the control group. Likewise, QoL in terms of the environment (WHOQoL -BREF) has increased in the intervention group (η2 = .105) and did not change in the control group. Depression showed no change in the intervention group (η2 = .007) and increased in the control group (η2 = .070).

**Conclusions:** The ILP was found to contribute to the QoL and depression, and therefore can be a promising intervention for health enhancement programs in the community-dwelling older adult population in Israel.

**Introduction**

As global population continues to age rapidly, it seems that the parallel growth of age-related diseases creates a challenge for the health system and policymakers as well as for older adults and their caregivers (Chang et al., 2019). The importance of health promotion interventions therefor arises, as a mean for withholding age-related functional deterioration and maintaining quality of life (QoL) in the aging population (Berger et al., 2018; Peel, McClure, & Barlett, 2005). Otero-Rodríguez (2010), found that lower self-perceived health-related QoL in older adults was associated with significantly higher mortality. Over the years, various definitions of QoL were documented. Some researchers argued that objective descriptors, for example physical, material and social components of well-being, should be included in the definition. Others have related to QoL in a more subjective manner, characterizing it as a cognitive judgment of one's satisfaction with life, or a perception of one's position in life. (Karimi & Braizer, 2016). According to the world health organization QoL is defined as “an individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (Kuyken, 1995). This broad definition implies that QoL cannot be defined by a single measure, and includes various aspects, such as physical, psychological, social and environmental (Skevington, Lotfy, & O'Connell, 2004). The physical health domain regards to activities of daily living, the dependence on medical aids, physical abilities and symptoms, such as mobility, sleep, pain and fatigue. The psychological domain measures perceptions of body and self, feelings, spirituality and cognitive components such as learning and memory. Social relationships domain consists of personal relationships, social support and sexual activity. The environmental domain spans from financial resources, perceptions of freedom, personal safety, health care, home and outdoor environment, participation and opportunities for recreation activities (WHO, 1996).

The World Health Organization recognizes also mental health as an important component of general health. Over 20% of adults of 60 years and older experience mental conditions, such as depression and anxiety, which are under-identified by the health care system as well as the older adults themselves (WHO, 2017). Depression was found to be significantly associated with poorer QoL in older adults (Sivertsen et al., 2015). It is associated with increased morbidity and mortality and is a public health problem especially in older adults (Yaka, Keskinoglu, Ucku, Yener, Tunca., 2014). For example, During the Covid-19 outbreak in Israel, 19% of the 65 year old people reported suffering from depression, as appose to 16% reports of depression in the general population (Shnoor & Cohen, 2020). This raises the importance of developing and researching interventions that aim to reduce depression and elevate QoL specifically in the older population.

Older adults' participation in daily life is correlated with higher rated of QoL and well-being, as well as lower rates of depression (Johansson & Bjorklund, 2016; Park & Park, 2020; Smallfield & Molitor, 2018). Occupational therapists (OT's) strive to enhance older adults' participation by promoting one's occupational engagement in meaningful activities, such as social or leisure activities. In a financial perspective, it was found that besides the health outcome benefits, occupation-based interventions are cost effective and contribute to reducing healthcare-related financial burden (Hay et al., 2002; Zingmark et al., 2016).

Lifestyle Redesign (LR) is an Occupational-based intervention that strives to promote health, maximize independence and enhance function in the well older adult population, was developed in the United-States and has been studied for many years (Clark et al., 2012). In a randomized control trial with 361 culturally diverse participants, aged 60 years or older, they found that the LR group showed improvement in health perception, function and QoL as appose to the control groups (social activity group and nontreatment) (Clark et al., 1997). A later study with a larger population of 470 participants aged 60-95 years old, proved effects compared to a nontreatment control group (Clark et al., 2012). Previous studies also showed that the LR has been adapted to different cultural areas (Johansson & Bjorklund, 2016; Schepens Niemiec et al., 2019) and various health conditions (Ng, Chan, Chan & Chow, 2013; Simon & Collins, 2017).

Life expectancy in Israel is among the highest in the world, with an average of 83 years. As in the rest of the world, the population of the older adults in Israel is growing, constituting 12% of the general population. 76% of the older adults in Israel perceive their state of health as well or very well (Snoor & Cohen, 2020). Health enhancement has thus become of greater awareness, in terms of research and policy tendencies. (Shnoor, 2015). A pilot study has been held in Israel, in order to assess the feasibility and potential effectiveness of the Israeli Lifestyle Redesign (ILR) intervention (Maeir et al., 2020). Based on the promising results of the pilot study (N=18) which demonstrated potential for improving QoL and depressive symptoms in independent community-dwelling older adults, the aim of this study was to explore the effect of the Israeli Lifestyle Program (ILP) within a large‐scale evaluation study (N=99). The study hypothesis is that QoL and depression measures will improve in the study group post intervention as appose to the control group.

**Method**

**Participants**

Participants in this study were older adults:79 in the intervention group and 20 in the control group. Inclusion criteria were independent older adults (according to self-report), 60+ years living independently in the community. Participants were excluded if they scored lower than 19 on the Montreal Cognitive Assessment (MoCA). Participants were mostly women (84%), 61 to 83 years old, with a mean age of 69.01 years (*SD* = 5.74). Older adults in the intervention group participated in six small groups, including 9 to 18 participants each, with a mean of 13. Three small groups took place in rural areas (N = 39, 49.4%), and three other groups were in urban areas (*N* = 40, 50.6%). No demographic differences were found between the rural and urban participants except for in economic status, which was higher for the rural participants (*N* = 28, 73.7% above average, vs. *N* = 12 38.7% above average, *Z* = 2.93, *p* = .003). The control group received an educational booklet based on the content of the ILP.

**Instruments**

Demographic characteristics

A socio- demographic questionnaire included information about gender, age, marital status, education level, economic status, and country of birth.

**Physical and Cognitive screening**

Timed Up and Go (TUG) test (Podsiadlo & Richardson, 1991) is used to measure lower extremity functions, mobility and fall risk. The participant is requested to stand up from a standard chair, without using upper extremity support, and walk 3 meters at a regular pace, turn around, walk back to the chair and sit down. A walking aid can be used, if needed. Lower scores indicate better performance. A cut-off score of 13.5 seconds can be used to identify people at higher risk of falling (Herman, Giladi, & Hausdorff, 2011).

Montreal Cognitive assessment (MOCA) (Nasreddine et al., 2005). A cognitive status screening tool which includes visuo-spatial abilities, Executive Function, attention, language, short-term memory and orientation. It takes about 10 minutes to transfer and the total score is up to a maximum of 30 points. The cutoff score was originally defined by the authors as ≥26. Since the test is highly sensitive in identifying people with mild cognitive impairment (MCI) (83%–90%), a score of 19 and above was set (Nasreddine et al., 2005).

**Quality of Life**

The World Health Organization Quality of Life-BREF(WHOQoL-BREF) (WHO, 1998), Is a self- report questionnaire that consists of 26 items represent four domains of QoL: physical health, psychological health, social relationships and environment (Skevington & McCrate, 2012). Each item is scored on a 5-point scale, from 1-5. The scores are transformed to a scale of 0 to 100, better QoL indicated by higher scores. The test was found to have good to excellent reliability and validity scores (Skevington, Lotfy, & O'Connell, 2004). Acceptable to good internal consistencies were found in the current study, over time: physical health- α = .77, psychological health- α = .64, social relationships- α = .73, and environment- α = .73.

**Depression**

The Personal Health Questionnaire (PHQ-9) (Kroenke, Spitzer, & Williams, 2001) is a self-report 9-item questionnaire, that is used for screening, diagnosing, monitoring, and measuring the severity of depressives symptoms according to the DSM -IV. Each symptom (DSM-IV) is rated between 0 and 3 giving a total score between 0-27, higher scores indicating greater frequency of depressive symptoms. The PHQ-9 is used to identify persons at risk of depression in a variety of settings and ages (Smarr & Keefer, 2011). PHQ-9 has a sound internal consistency for use in clinical and nonclinical settings (Reynolds, 2010). Acceptable internal consistency was found in the current study, over time: α = .65.

**Procedure**

The research was a non-randomized controlled pre-post intervention**,** and was authorized by the ethics committee of Ono Academic College, Israel

כשלב ראשון במחקר נעשתה פנייה יזומה למספר מרכזים שבהם יש פעילויות שונות לבני הגיל השלישי (כמו חוג מחשבים, התעמלות, הרצאות) בכדי לעניין אותם בתוכנית. לאלו שהביעו עניין נערך מפגש עם האחראי שבה הוצגה התוכנית, לאחר מכן הוכן פלייר שיווקי שהופץ למשתתפי המרכז.

6 מרכזים נענו ובהם התגבשה קבוצה של אנשים (גודל הקבוצה השתנה בהתאם לרישום) שבחרו להשתתף בתוכנית כאשר רובם הסכימו להשתתף במחקר ( רק 6 משתתפים מכל הקבוצות לא הסכימו להשתתף במחקר, כלומר 79 מתוך 85 – 93% הסכמה).

The research group participated in 15 weekly group sessions (1.5 hr per session) and two individual sessions of the ILP, in the middle and at the end of the program, designed to set and achieve personal goals. All sessions were facilitated by an OT, and

was conducted in all groups according to a fixed protocol. The group meetings were held in a large room, sitting in a circle. Each participant received a binder to organize handouts and program information and was given class notes after each session.

פירוט התאמת ותיקוף התוכנית לארץ מפורטים במחקר הפיילוט

(Maeir et el., 2020).

The group sessions included nine modules of the original LR. The modules included the following: (a) occupation, health, and aging; (b) the building blocks of longevity:

various types of activity (physical, mental, spiritual, social, and productive activity); (c) stress and inflammation management; (d) time and occupation;(e) home and community safety; (f) relationships and occupation; (g) thriving; (h) hormones,

aging, and sexuality; and (i) ending the group. The ILP used the four delivery methods that are integral to all Lifestyle Redesign–based programs: didactic presentation, peer exchange, direct experience, and personal exploration (Jackson et al., 1998).

בשלב השני, קבוצת הביקורת גויסה על ידי פרסום נוסף באותם מרכזים, לאחר שקבוצות ההתערבות כבר הורכבו וכך הורכבה קבוצה בת 20 משתתפים.

The control group received an information booklet based on the content on the ILP plus a list (with contact information) of resources in the community for enhancing healthy lifestyle and participation in health promoting activities. The topics included safety at home and in the community, physical activity, nutrition, social participation, and productive occupations. Each unit provided explanations relating to the

value of specific lifestyles and “how to” implement lifestyle principles (e.g., pay attention to rapid shifts in positioning to avoid falls, incorporate walking as mean of transportation, walk with friends, dietary guidelines). Community resources included a volunteer center, a safety consultant, and local recreational events. All materials in the booklet were prepared by a group of OTs that were trained in the ILP (members

of the research team). This group received no further intervention until the second

assessment 15 weeks later (Maeir et el., 2020).

After obtaining signed informed consent, all participants completed before the intervention the socio-demographic questionnaire, the MoCA, the TUG test, the WHOQoL-BREF and the PHQ-9. The two last assessments were administered also post intervention (after 15 weeks). The evaluation was completed in one session of an hour, which took place in the community center or in the participant's home.

**Data analysis**

Data were analyzed with SPSS ver. 26. Background characteristics of the participants were described with frequencies, percents, means and standard deviations, according to their distribution, and compared by group with Z tests for differences between two independent proportions and t-tets, respectively. Internal consistencies for the study variables were computed with Cronbach α, over time (beyond pre- and post- measurements points. Scores for PHQ-9 were positively skewed and were thus log transormed. Means, standard deviations and Pearson correlations for the study variables, at pre- and post- tests, were calculated. T-tests and Pearson correlations were calculated to assess the relationships between the study variables at pre-test and the demographic characteristics. Pre-test group differences were examined with a series of t-tests. Time and group differences were examined with two-way analyses of variance, and significant interactions were interpreted with Estimated Marginal Means.

**Results**

**Descriptive results**

Most participants were married or in a relationship (about 65%), and most others were divorced or widowed, with no significant group differences (table 1). Education level of most participants (about 72%) was beyond high school, and over a half (about 56%) reported above average economic status, with no significant group differences. About 60% of the participants in the intervention group and 85% of those in the control group were Israeli born, with a significant difference (*p* = .030). Most perceived their health to be good or very good (close to 70%) with no group difference. All scored at least 19 on the MOCA, with no group difference. Mean for the initial TUG test was 9.61 seconds (*SD* = 2.92) with no group difference, and most participants in both groups were classified in the normative range.

[Insert Table 1 about here]

Table 1: Background characteristics of the participants, by group (*N* = 99)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Intervention | Control | *t*(*df*), *Z* |
| Gender (*N*,%) | Female | 63 (79.7) | 20 (100.0) | -- |
| Age (*M*, *SD*) | Range: 61-83 | 68.96 (5.64) | 69.20 (6.26) | *t*(96) = 0.16(*p* = .869) |
| Marital status (*N*,%) | Single | 3 (3.8) | 3 (15.0) | *Z* = 0.56(*p* = .576)(Married, in a relationship vs. others) |
| Married, in a relationship | 52 (66.7) | 12 (60.0) |
| Divorced | 10 (12.8) | 3 (15.0) |
| Widow | 13 (16.7) | 2 (10.0) |
| Education level (*N*,%) | Up to high school and high school | 20 (29.0) | 5 (25.0) | *Z* = 0.35(*p* = .727) |
| Beyond high school | 49 (71.0) | 15 (75.0) |
| Economic status (*N*,%) | Average / below average | 29 (42.0) | 10 (50.0) | *Z* = 0.63(*p* = .527) |
| Above average | 40 (58.0) | 10 (50.0) |
| Country of birth (*N*,%) | Israel | 46 (59.0) | 17 (85.0) | *Z* = 2.17(*p* = .030) |
| Other | 32 (41.0) | 3 (15.0) |
| Perception of health (*N*,%) | Not good | 8 (11.6) | 1 (5.0) | *Z* = 0.71(*p* = .480)(Not good and moderate vs. good and very good) |
|  | Moderate | 15 (21.7) | 4 (20.0) |
|  | Good | 36 (52.2) | 8 (40.0) |
|  | Very good | 10 (14.5) | 7 (35.0) |
| MOCA (*M*, *SD*) | Range:19-30 | 25.30 (2.70) | 25.45 (3.17) | *t*(97) = 0.21(*p* = .835) |
| TUG (*M*, *SD*) | Range:5-21 | 9.48 (2.23) | 9.21 (2.76) | *t*(97) = -0.45(*p* = .651) |
| TUG *(N*,%) | Normative | 77 (97.5) | 17 (85.0) | -- |

The older adult participants in this study were functioning rather normatively, both cognitively and physically. Initial scores for QoL were moderate-high on average, ranging between 69 and 76 (of 100). Accordingly, mean depression was rather low. Significant correlations were found between the study variables at pre-test. Positive correlations were found between most aspects of QoL, and higher QoL was generally related with lower levels of depression**.**

[Insert Tables 2 about here]

Table 2: Means, standard deviations and intercorrelations for the study variables, at pre- test (*N* = 99)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | *M* (*SD*) | 2. | 3. | 4. | 5. |
| 1.Physical health (0-100) | 74.25 (16.54) | 0.26\*\* | -0.09 | 0.50\*\*\* | -0.46\*\*\* |
| 2.Psychological health (0-100) | 71.24 (11.40) |  | 0.24\* | 0.38\*\*\* | -0.43\*\*\* |
| 3.Social relationships (0-100) | 69.05 (21.52) |  |  | 0.26\*\* | -0.17 |
| 4.Environment (0-100) | 76.15 (12.40) |  |  |  | -0.30\*\* |
| 5.Depression (0-27) | 3.82 (3.42) |  |  |  |  |

\**p*<.05, \*\**p*<.01, \*\*\**p*<.001

The relationships between the study variables at pre-test and the demographic characteristics were mostly non-significant. They were non-significant for age, gender, marital status, and education level. Few significant differences were found by the participants’ economic status, with those reporting an above average economic status also reporting higher physical QoL (*M* = 79.49 *SD* = 13.42, vs. *M* = 68.83 *SD* = 16.59, *t*(87) = 3.35, *p* <.001), and higher environmental QoL (*M* = 81.35 *SD* = 10.62, vs. *M* = 71.25 *SD* = 11.53, *t*(87) = 4.29, *p* <.001), than those with average or below average economic status. Thus, economic status should have been controlled for. However, due to missing data on this variable (n = 10), the main analyses did not control for it, and its effect was examined and described separately.

Pre-test group differences in the study variables were examined with a series of t-tests, revealing no significant differences, except for social relationships, which were initially higher in the control group (table 3). Differences in the study variables by time and group were examined with two-way analyses of variance and showed significant differences, as shown in table 3. QoL in terms of physical health (WHOQoL- BREF) has increased beyond group and controlling for economic status had no effect on the result. QoL in terms of psychological health (WHOQoL- BREF) has increased in the intervention group (*F*(1,94) = 16.77, *p* < .001, η2 = .154) and did not change in the control group (*F*(1,94) = 0.02, *p* = .887, η2 = .001). Likewise, QoL in terms of social relationships (WHOQoL -BREF) has increased in the intervention group (*F*(1,94) = 13.69, *p* < .001, η2 = .131) and did not change in the control group (*F*(1,94) = 0.14, *p* = .712, η2 = .002). However, controlling for the initial difference left the post-intervention difference non-significant (*F*(1,94) = 0.08, *p* = .783, η2 = .001), and thus the significant interaction should be interpreted with caution. Further, QoL in terms of the environment (WHOQoL -BREF) has increased in the intervention group (*F*(1,94) = 10.39, *p* = .002, η2 = .105) and did not change in the control group (*F*(1,94) = 0.53, *p* = .470, η2 = .006). Controlling for economic status had no effect on the result.

Interesting results were found for depression. It showed no change in the intervention group (*F*(1,94) = 0.65, *p* = .424, η2 = .007) and increased in the control group (*F*(1,94) = 7.03, *p* = .009, η2 = .070) (table 3).

[Insert Tables 3 about here]

Table 3: Means, standard deviations and *F* values for the study variables, by group and time (*N* = 99)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Intervention  | Control | Pre-test group difference | Pre-test post-test differences |
|  | Pre-test*M* (*SD*) | Post-test*M* (*SD*) | Pre-test*M* (*SD*) | Post-test*M* (*SD*) | *t*(96)(*p*) | *F*time (1, 94)(*p*)(η2) | *F*group (1, 94)(*p*)(η2) | *F*time X group (1, 94)(*p*)(η2) |
| Physical health (0-100) | 74.97 (17.06) | 77.97 (14.70) | 70.45 (14.90) | 75.10 (15.40) | -1.12(.264) | **5.58****(.020)****(.056)** | 1.01(.317)(.011) | 0.23(.629)(.002) |
| Psychological health (0-100) | 71.03 (11.48) | 75.61 (12.27) | 72.05 (11.39) | 71.74 (14.23) | 0.34(.735) | 2.94(.090)(.031) | 0.25(.617)(.003) | **3.87****(.050)****(.040)** |
| Social relationships (0-100) | 65.57 (21.87) | 72.22 (18.79) | 82.63 (13.48) | 81.32 (12.74) | **3.18****(.002)** | 1.80(.183)(.019) | **8.40****(.005)****(.085)** | **4.01****(.048)****(.042)** |
| Environment (0-100) | 75.62 (10.84) | 79.63 (11.41) | 78.47 (17.94) | 76.59 (14.39) | 0.57(.575) | 0.55(.462)(.006) | 0.01(.975)(.001) | **4.19****(.044)****(.045)** |
| Depression (0-27) | 3.95 (3.58) | 3.23(2.58) | 3.35 (2.76) | 4.80(3.37) | -0.20(.839) | **4.07****(.047)****(.041)** | 1.02(.315)(.011) | **7.46****(.008)****(.074)** |

Note. Significant differences are in bold.

**Discussion**

This study focused on the influence of the ILP on QoL and depression in a wide Israeli independent older adult sample, in order to prove its' effectiveness as a health enhancing program in the older adult population.

The World Health Organization defined health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (WHO, 1946). According to this definition, mental health are well established as part of the definition of health. In this study most measures of the QoL questionnaire were found significantly different before and after intervention, as appose to the control group, thus proving the programs contribution to the participant's QoL and health.

 The ILR was adapted from the American version to suit the Israeli population and culture. In the modification process, protocols were developed in order to present the program contents to the participants within a group setting. Social isolation is recognized as one of the major public health concerns regarding healthy aging and has previously been associated with lower QoL in the older adult population (Hawton et al., 2011). Goll, Charlesworth and Stott (2015), have found that lack of supportive communities and lack of acceptable social opportunities were among the main barriers to social participation of older adults. In light of that, it is not surprising that previous studies have found positive effects of group interventions on QoL (Bar-Netzer & Bocos, 2018; Calandri, Graziano, Borghi, & Bonino, 2017; Markle‐Reid et al., 2018). Yalom (1995), has described several therapeutic factors that develop during group therapy, affecting the intervention outcome. One of the factors is group cohesiveness, when members develop a sense of belonging to the group. Choi and Park (2006), demonstrated the perceived therapeutic effect of this factor in their study of adults with social phobia. Among other group therapeutic factors, group cohesiveness was found to be rated beneficially higher by the more improved patients in the study.

It is therefore reasonable to assume that the group dynamics during sessions have created an encouraging environment for social participation, and while building the sense of belonging among the participants – increased their QoL. The social aspects of the program (Which is part of model 3), can also shed light on the increase in social relationships and the psychological domain of QoL, since this domain measured cognitive components such as learning and memory, that have been found complexly associated with social networks and social isolation (DiNapoli, Wu, & Scogin, 2014; Litwin & Stoeckel, 2016).

As one of the Participant said at the end session: " In general, the program helped me to be even more optimistic than the person I am, and another great gift I received that I have a new friend, which I am in a just wonderful relationship with".

 The physical aspect was expressed in intervention modules that relate to mobility enhancement and preventing chronic inflammation, both have been previously found to be associated with QoL in the older adult population (La Grow et al., 2013; Nowakowski, 2014; Rantakokko et al., 2016). These associations can explain the increase in the physical domain of QoL in the intervention group. "I am more aware of the importance of exercise, so today I do walks every day". Interestingly, even in the control group there was a small increase in physical health, it is possible that the information from the booklet on the subject encouraged them to be more physically active.

 Environmental aspects were approached in the program with a home and community safety module. In their systematic review, Vaappio et al. (2009), have found that only six out of the twelve studies reviewed found a positive association between fall prevention interventions on quality of life. Nevertheless, Schoene et al. (2019), in a large systematic review that included 30 studies, have found that in most studies fear of falling was associated with QoL. Other studies have found associations between actual falling and poorer QoL in the older population (Stenhagen et al., 2014; Thiem et al., 2014). Enhancing safe behavior in the house and community may have increased participants' confidence, reduced fear of falling and even prevented actual falls, and by that increased their QoL. "The topics discussed raised awareness of possible dangers, for example the knowledge in the field of falls has contributed a lot to me".

 The interesting results regarding depression, showed no change in the intervention group and an increase in the control group post-test. Many of the participants in the study were in a retirement process during the study period and expressed difficulties on behalf of losing interaction with coworkers and work friends. Retirement is a significant occupational transition that has been studied over the past couple decades in the occupational science field and described as having a wide impact on occupational rhythm and balance (Jonsson, Borell, & Sadlo, 2000; Wiseman & Whiteford, 2009). Kail & Carr (2019), have discussed the association between retirement, depression and social support. They found that for retirees with average levels of social support, the retiring process was associated with a small but significant increase in depressive symptoms. The change in social relationships as result of the retirement process was also discussed by Segel-Karpas, Ayalon and Lachman (2018), who found that retirees were more likely to experience depressive symptoms if they felt lonely before retirement, and associated this to the sudden lack of distracting effect that was previously provided by work. This can explain the control group's increase in depression, as they did not benefit the social attributes of the intervention group environment. They had to face a dramatic loss of a previously central life role and occupation, while the intervention group participants attended group sessions that provided an alternative occupational routine as well as an encouraging social environment. As one of the participant described " There were topics I was not aware of before the program and today I have more knowledge. For example, prepare for retirement both financially and occupationally".

**Limitations and recommendations**

The study design is of a non-randomized trial, and the control group was significantly smaller than the intervention group. Future studies should include more participants in each group, and take the gender balance of participants in to account. While health enhancement is a desirable outcome in healthy aging policy, the ILR was found to affect significant measures of older population's health and QoL. Future studies should continue to explore the program in Israel while widening the understanding of its impact on various geographical, language speaking, and sociocultural populations.

**conclusion**

the ILP was found to contribute to the QoL of the participants as well as affect their depression rates, and therefore can be addressed as an innovative and feasible intervention. Israeli occupational therapists in the geriatric field can use this promising intervention for health enhancement programs in the community-dwelling older adult population.

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Health promotion programs have even greater significance today, following the recommendation of WHO [for a Decade of Healthy Ageing (2020-2030)](https://www.who.int/news-room/detail)  (Rudnicka et al., 2020),

"הסדנה הצליחה "לגעת" בכל אחד מהמשתתפים למדנו דברים חדשים. בנוסף הייתה התייחסות לכל אחד ברמה הפרטנית והכי חשוב הוא שרכשתי ארגז כלים שישמש אותי לשיפור בתחומים הרבים והחשובים בהם עסקנו. –

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