Arab American University
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Medical – Surgical - Nursing

The Effect of the Intergenerational Program on Stress, Anxiety, Depression and Quality of life among Elderly People in Elderly Homes in West Bank

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Thesis Approval

The Effect of the Intergenerational Program on Stress, Anxiety, Depression and Quality of life among Elderly People in Elderly Homes in the West Bank; a Quasi-Experimental Mixed Methods study

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Declaration

I declare that, except where explicit reference is made to the contribution of others, this thesis is substantially my own work and has not been submitted for any other degree at the Arab American University or any other institution.

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Abstract

Introduction: Intergenerational program (IGP) represents innovative approaches to address the multifaceted challenges of aging populations. As there are a variety of physiological, psychological, and social issues that might contribute to stress, anxiety and depression (SAD) or similar mental disorders in older people and their quality of life (QoL). The need to improve QoL among elderly people and the lack of adequate treatment for SAD in elderly homes is attributed to atypical clinical manifestations.

Aims: To evaluate the effect of intergenerational program on stress, anxiety, depression and quality of life among elderly people in elderly homes in West Bank.

Method: A quasi-experimental study design, pre-post test two groups; interventional and control, mixed-method quantitative and qualitative was used in this study, data collected for both quantitative and qualitative data to evaluate the effect of IGP. This study used the DASS-21 and SF-36 to measure psychological distress and QoL levels before and after IGP activities, while qualitative observations were conducted to understand participants' experiences. The sampling technique was used for the study is purposive sampling method while the sample size was 22 elders . Intergenerational 6 weeks program implemented to link the youngest and the oldest generations together, in order to share and develop mutual benefits, foster positive contact, and decrease social distance between generations.

Results: Quantitative analysis revealed evidence of the positive impact of the IGP on the Stress, anxiety, depression levels and on their quality of life of elderly participants, as the P value for both SAD and QoL were less than 0.05. Significant reductions in Stress Anxiety and Depression levels and improvement in the QoL were observed post-engagement in IGP activities, as indicated by statistically significant improvements in DASS-21 scores. Qualitative observations provided

further depth to these findings, elucidating participants' experiences of increased social interaction, emotional engagement, and intergenerational bonding during IGP sessions. Participants reported a sense of fulfillment and connection with younger generations, highlighting the programs holistic.

Conclusion: This study highlights the positive effect of Intergenerational program (IGP) in reducing stress, anxiety and depression levels in elderly individuals, and improving their quality of life emphasizing the need for further tailored interventions and logistical challenges.

Keywords: anxiety, geriatrics, depression, stress, quality of life.

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List of Definitions of Abbreviations

AARP	American Association of Retired Persons
ANOVA	Analysis of Variance
APA	American Psychological Association
CDC	Center of Disease Control and Prevention
DASS-21	Depression Anxiety and Stress Scale
QoL	Quality of life
IGP	Intergenerational Program
MMSE	Mini Mental Sate Exam
SAD	Stress Anxiety and Depression
SF-36	Short Form Health Survey
SPSS	Statistical package for the social science
WHO	World Health Organization

Chapter One: Introduction

1.1. Background

Health developments in recent decades have greatly improved the average age of the population (WHO, 2020). As a result, today's older people are older than those of the previous generation. Worldwide, in 2019, the number of persons aged 60 and more was 1 billion. According to the World Health Organization (2020), this number increased to 1.4 billion in 2030 and to 2.1 billion in 2050. Thus, the older population requires increased long-term care; consequently, more of them are institutionalized worldwide.

In Palestine, according to the Palestinian Central Bureau of Statistics, the proportion of elders is increasing. Indeed, in 2017, 5% of the population was considered elders (155,491 individuals). These numbers are expected to rise, reaching 6% in 2025 and 7% in 2030.Stress**,** Anxiety and Depression are commonly diagnosed among elderly people, thus interfering with their daily activities and reverberating on their psycho-social and motor abilities, as described by Jeon & Dunkle (2009), stress is generally stress caused by an external trigger, and the symptoms are similar to the one caused by anxiety or depression, elders experiencing stress present mental and physical symptoms, such as irritability, anger, fatigue, muscle pain, digestive troubles, and difficulty sleeping. Anxiety leads to a nearly identical set of symptoms as stress. As Maraqa, Nazzal and al. (2024) precise in their study, carried in Palestine that the prevalence of depression and anxiety was 41.1 and 39.2%, respectively. Furthermore, a study led by Quasi AlBrahim (2010) shows that 13,2% of the elders living in Palestine declared experiencing stress.

According to Jongenelis et al., (2004), there are a variety of physiological, psychological, and social issues that might contribute to depression or similar mental disorders in older people. The lack of adequate treatment for depression in the elderly is attributed to atypical clinical manifestations. Hence, whichever way defined, the prevalence rates found were three to four times higher than in the community-dwelling elderly (Jongenelis et al, 2004). Aging, discomfort, vision loss, stroke, functional restrictions, traumatic life events, loneliness, the lack of social support, and the perception that one's care is inadequate to have all been identified to be risk factors for

Stress**,** anxiety and Depression. One of the elements known to limit the apparition of Stress, anxiety and Depression is to develop and increase the quantity and quality of the social relations of these isolated elderly people.

Therefore, intergenerational programs appeared in some long-term facilities, primarily in Asian countries, and then this type of program expanded across the world, in elder homes. Intergenerational (IG) programs are designed to link the youngest and the oldest generations together, in order to share and develop mutual benefits, foster positive contact, and decrease social distance between generations (Newman, Ward, Smith, Wilson, and MacCrea, 1997).

The result of the study that Jarrot and Bruno (2003) led on a 13-year-old IGP showed that both children and older people benefit from it. To meet the older generation's needs, IGPs are increasingly implemented, however, to our knowledge, there is a few IGP conducted in Palestine.

1.2 Problem Statement

According to the Ministry of Health's annual report of 2023, approximately 37.3% of the Palestinian population is comprised of individuals under 15 years of age, with regional variations—35.2% in the West Bank and 40.4% in Gaza Strip. In contrast, those aged 65 and older constitute only 3.5% of the population, with a slight regional difference—3.9% in the West Bank and 3.0% in Gaza Strip. Despite this smaller proportion, the aging population is gradually increasing, and the needs of older adults are becoming more prominent.

A review of existing literature in the West Bank and direct observations reveal a significant gap: limited research has been conducted to investigate the impact of Intergenerational Programs (IGPs) on older adults' mental health, specifically regarding stress, anxiety, depression, and quality of life (QoL). Most studies to date have focused on aspects such as social connections, overall well-being, and body experience, primarily in the context of European or North American cultures where family dynamics and intergenerational interactions differ markedly from those in Palestine.

This gap is particularly concerning given the unique social and cultural context of Palestinian society, where intergenerational relationships and family structures play a vital role. Furthermore, aging populations worldwide are increasingly vulnerable to cognitive decline, dementia, and social isolation, which can significantly impair their mental health and QoL (Fratiglioni et al., 2000). Social isolation, in particular, is a pressing issue for older adults, especially those residing in care facilities.

Despite the potential benefits, there is a lack of focused research on the efficacy of weekly intergenerational programs tailored to Palestinian older adults experiencing stress, anxiety, and depression. Specifically, the benefits of such programs in improving mental health and QoL among older residents in Palestinian facilities remain unexplored. This knowledge gap underscores an urgent need for localized research to evaluate whether structured intergenerational activities can serve as effective interventions for promoting mental well-being among the elderly in Palestine.

As the number of psychiatric cases among elderly their ages 60 years and older in West bank according to the ministry of health annual report 266 cases. So, the importance of IGP implementation arises here to improve their cognitive abilities (Ministry of Health. ,2023)

1.3 Objectives

1.3.1 Main Objectives

To assess the effect of the intergenerational program on stress, anxiety, depression and quality of life among elderly people in elderly homes in the West Bank.

1.3.2 Specific Objectives

1. To assess the difference in mean between level of stress anxiety, depression among the elderly people living in elder homes in West Bank before and after the implementation of IGP.
2. To assess QOL for Palestinian elderly who lives in elderly houses.
3. To explore the perception of participants about IGP. (Qualitative objective)
4. To assess the effect of health-related activities on stress, anxiety, depression levels and QoL. (Observational objective)

1.4 Research Hypothesis:

Null hypothesis one: There is no statistically significant effect at the level of p values < 0.05 of the IGP implementation on older adult Stress, anxiety and depression level.

Null hypothesis two: There is no statistically significant improvement in elderly quality of life after the implementation of IGP.

Null hypothesis four: There is no statistically significant effect of IGP on participant perception.

Null hypothesis five: There is no statistically significant effect of health-related activities on participants stress, anxiety, depression levels and QoL.

Null hypothesis six: There is no statistically significant effect of IGP on level of stress, anxiety, depression and QoL among interventional group in compare with control group.

1.5 Research Questions:

1.3.2.1 How do IGP affect the level of stress, anxiety, depression and QoL of elderly living in elderly home.

1.3.2.2 How IGP affects the perception among elderly people.

1.3.2.3 How do health related activity affect elderly level of stress, anxiety, depression and QoL.

1.3.2.4 How do IGP activity affect elderly level of stress, anxiety, depression and QoL among interventional group in compare with control group.

1.6 Study Significance

This study is drawn to allow us to develop a clearer understanding on the matter. Which will help the quality department in the Ministry of Health to focus more on geriatric who living in caring homes, and create policies that engage IGP as a mandatory part of their care.

Furthermore, Caring homes also will use this study result to reduce elderly resident levels of stress, anxiety and depression. Also, based on the study findings a recommendation to Nursing colleges to focus more on geriatric courses and their practical part in elderly care homes here in Wet-Bank. IGP have been shown in many

studies to be beneficial in fostering favorable attitudes toward the elderly (Catherin, 2000). Many studies conducted in other countries found that there are some advantages to IGP activities for elderly persons, including decreased stress, improved self-reported health, and a decrease in the severity of depression symptoms (Murayama et al., 2015; Teater, 2016; Yasunaga et al., 2016). Other studies revealed that IGP also has a positive effect on children as it assists them to develop a good attitude toward elderly people (Holmes, 2009). All of these finding demonstrate the importance of this study.

1.7Conceptual Framework:

Figure 1 illustrates the conceptual framework, offering a detailed scientific outline for the research procedures and research variables.

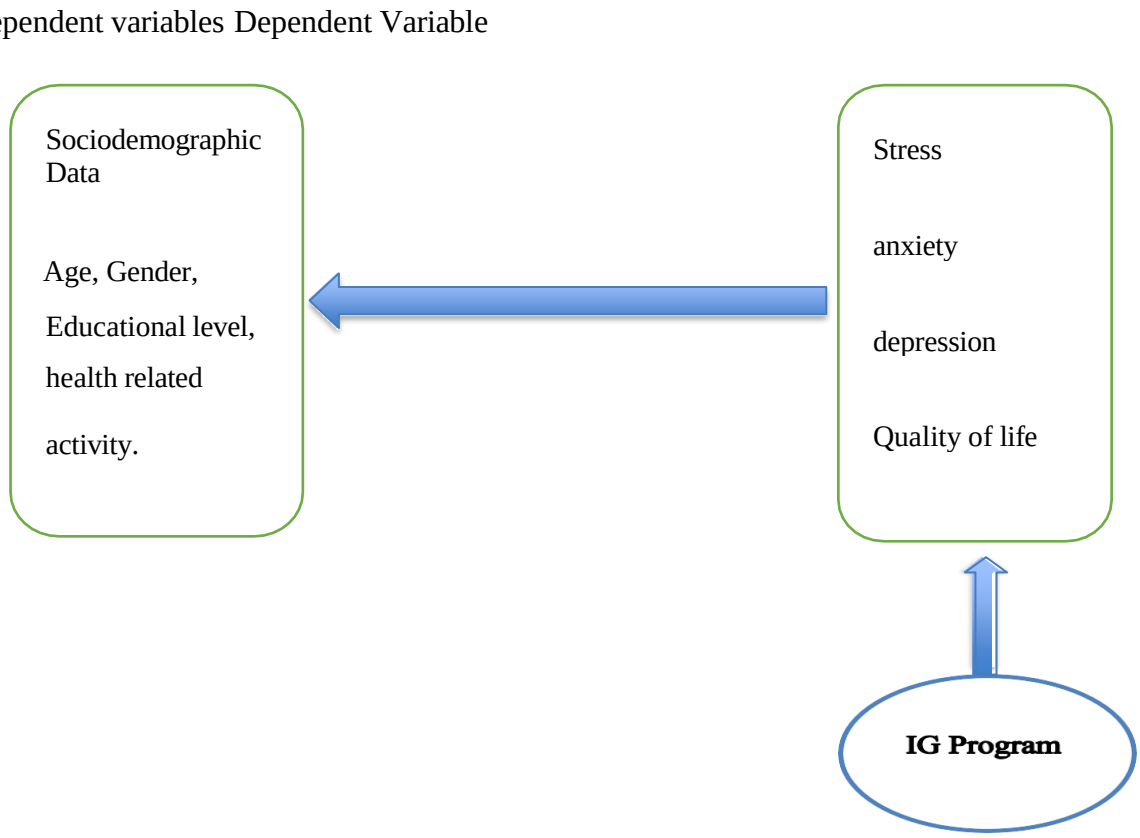

Figure 1.1: Conceptual Framework

1.8 Conceptual and Operational Definitions

1.8.1 Stress

The conceptual definition according to the World Health Organization (2020), stress can be referred as an unpleasant state of worry or mental tension caused by at situation perceived as dangerous or threatening self-well-being. The operational definition of stress assessed by DASS -21-S scale.

1.8.2 Anxiety

The conceptual definition according to the American Psychiatric Association defines anxiety as the expectation of a future threat or negative occurrence, which is often accompanied by feelings of unease or physical tension. The factors that pose a risk can originate from both internal experiences and external circumstances (American Psychiatric Association ,1994). The operational definition of anxiety assessed by DASS-21-A anxiety scale.

1.8.3 Depression

The conceptual definition of major depressive disorder (MDD) is characterized by a combination of symptoms that interfere with the ability to work, sleep, study, eat, and enjoy life. Symptoms must be present for a minimum of two weeks and must represent a change from previous functioning (American Psychiatric Association, 2013). The operational definition of depression assessed by DASS-21-D depression scale.

1.8.4 Quality of Life

Refers to how individuals view their status in life, shaped by the cultural and value frameworks of their surroundings, and in relation to their personal goals, expectations, standards, and worries (WHO, 1997). The operational definition of the quality of life assessed by SF-36 scale.

1.8.5 Intergeneration program

An intergenerational program consists of a planned series of activities, rather than a single event, carried out by individuals from various generations with the goal of promoting interaction and fostering mutual understanding among them (Cartmel et al., 2021). The operational definition is an intervention conducted on two groups control and intervention group of elderly people who lives in geriaatric home in West-Bank.

Chapter Two: Literature Review

2.1 Introduction

In this chapter, a review of relevant literature is presented regarding the study topic. The literature covers the definition of intergenerational program and it effect on elderly people.

2.2 Search Strategy

Databases such as Google Scholar, PubMed, and CINAHL were utilized for the literature search. The search query focused on the "effect of IG programs on elderly stress anxiety and depression levels" using Boolean operators (OR, AND) to refine results. Publications that offered free full texts in English were included.

2.3 Literature Review

The overall health and quality of life and their level of Stress, Anxiety, and Depression for elderly individuals are profoundly influenced by their mental and emotional wellbeing. Common psychological challenges, such as stress, anxiety, and depression, can significantly affect physical health, cognitive functions, and social interactions in older adults. This review delves into the prevalence and impact of these psychological issues on the quality of life (QoL) of the senior population. Understanding these factors is crucial for enhancing the undefined wellbeing of our elderly community, ensuring they lead fulfilling and healthier lives. Stress, Anxiety, and Depression Prevalence in the Elderly.

According to research, elderly persons have serious worries about stress, anxiety, and despair. The World Health Organization (WHO) estimates that 15% of persons 60 and elderly have a mental illness, mostly anxiety and depression (WHO, 2021). According to a study by Blazer

(2003), between 1 and 5% of elderly people suffer from serious depression, and anxiety disorders include generalized anxiety disorder and panic disorder, affecting nearly 10-15% of elderly. Furthermore, a number of reasons, including physical health issues, the death of a loved one, social isolation, and financial limitations, can be connected to the high prevalence of stress among the elderly. About 25% of elderly people experience chronic stress, which can worsen underlying mental health issues, according to a meta-analysis by Schuch et al. (2016).

2.3.1 Stress's Effects on Elderly people

Long-term stress negatively impacts elderly individuals' health by causing a range of physical and mental problems. It has been linked to elevated blood pressure, weakened immunity, and an increased risk of heart disease (Kendall-Tackett, 2009). In terms of psychology, ongoing stress can cause or worsen anxiety and depression, resulting in a vicious cycle. A study by Barlow et al. (2020) found that long-term stress in elderly adults is associated with elevated anxiety and depressive symptoms, which exacerbate cognitive impairment and lower quality of life overall.

2.3.2 Anxiety Effects on Elderly people

Compared to younger groups, anxiety problems in elderly commonly present with bodily symptoms rather than distinct psychological signs. According to a systematic study by Gulgonet et al. (2021), anxiety often coexists with other disorders, including chronic pain and illnesses, making diagnosis difficult. In order to properly detect and treat anxiety problems, the study highlights the necessity of efficient screening instruments designed for the senior population.

Anxiety in elderly is significantly influenced by social isolation and loneliness. Higher anxiety levels in elderly persons are correlated with higher feelings of loneliness, according to a longitudinal study by Cattan et al. (2005). This suggests that interventions that improve social support networks may lessen these effects.

2.3.2 Depression Effects on Elderly people

Elderly depression can have serious repercussions, such as decreased functioning, higher medical expenses, and increased mortality rates. Elderly people with depression frequently report more serious physical health issues and functional disability than their peers without depression, according to a basic study by Lyness et al. (2007). Additionally, older persons may be discouraged from getting care due to the stigma

associated with mental health difficulties, which could worsen their condition (Gonzalez et al., 2010).

Moreover, according to research by Unutzer et al. (2002), integrated mental health services in primary care settings can successfully lower depressive symptoms in elderly adults while also enhancing general health outcomes. This intervention can also lessen the stigma attached to asking for help and improve access to mental health resources.

2.3.4 Quality of Life

IGPs successfully lessen elderly social isolation and loneliness. According to Phillips et al. (2015), for example, elderly participants who participated in an intergenerational mentoring program reported feeling less alone and more bonded. These conclusions are corroborated by studies showing that elderly psychological health can be improved by receiving emotional support from younger people (Kuehne & Achenbaum, 2017). Furthermore, participation in IGPs is linked to cognitive benefits, according to numerous research. It has been demonstrated that playing games or having instructive conversations with younger generations stimulates their minds. For instance, a study by Carr et al. (2020) showed that cognitive performance and memory recall improved in elderly who took part in intergenerational learning activities. Elderly people's cognitive engagement and sense of purpose are enhanced by the reciprocal sharing of information and skills. In addition, physical health consequences linked to IGPs. According to Ellison et al. (2019), elderly persons who participated in intergenerational community gardening programs showed better physical health indicators, including higher levels of physical activity, lower levels of stress, and greater evaluations of their general health.

2.3.5 Intergenerational Program

According to Wendland and Parizet (2022), being immersed in an IGP environment, such as a shared-site house, is sufficient for elders to benefit from it, without participating in particular IGP activities. The number of elders with dementia is slowly rising worldwide, thus, elders with dementia require more appropriate facilities similar as IGP. Yet, there is little dated literature, relating the benefits of shared-site facility intergenerational programs and patients with dementia. It has been demonstrated that intergenerational programs improve older individuals' quality of life and mental health

by fostering relationships between various age groups, especially between the elderly and younger generations.

Impact on Quality of Life: Studies show that engaging in intergenerational activities improves senior citizens' general well-being and level of life satisfaction. According to Kim et al. (2015), these programs frequently foster social interaction, a sense of purpose, and a sense of belonging—all of which are essential elements of quality of life. For example, Sun et al. (2016) found that older participants in intergenerational programs saw gains in their mental health and social connectivity.

Mosor et al. (2019) study's findings revealed that the engagement and well-being of elders are significantly higher during IGP psycho-motor activities, moreover, they highlight the fact that the elders benefit from it beyond the sessions, and general well-being remains noticeable after it. Comparable benefits are also described by Minghetti et al. (2021), indeed, the authors state that IGP psycho-motor activities increase the elder's physical health and functional capacities, widely, enhance their independence, and necessarily, strengthen their psychosocial well-being. It should be noted that those studies are led with non-impaired elders, within the normal cognitive ability range. Similar results are encountered in Buonsenso et al.,(2021) study, during which non-cognitively impaired elders and slightly cognitively-impaired elders are connecting with younger generations during IGP physical activity sessions. Their survey's main result revealed that the level of enjoyment turned out to be positive for 81,5% of their sample. They demonstrate that enjoyment promotes the elder's adherence to the physical activity session.

Elders, despite their partial loss of cognitive functions, perceive their general health, thus, their perception of their general health is reliable. Skropeta et al.,(2014) survey results present "no significant difference between the pre-test and post-test results indicating the relative stability of the aged care participants' perceptions of their own health over time". Though the authors precise that elders experienced a decline in their energy and fatigue perception, as assessed in the SF-36 Subscales, pre-test sessions scored at 58,9, and post-test sessions at 47.

One way to optimize healthy aging is to offer the elderly population the possibility to develop meaningful social engagement (World Health Organization, 2020). Two

decades ago, this form of participation was evaluated in a Montessori-approach IGP activities short- term program by Camp et al., (1997). They measure that while participating in standard activities, forms of disengagement are observable during standard activities among elders with dementia. Though they notice a considerable contrast in data, indeed, during IGP activities, no instances of disengagement are present. Comparable findings are affirmed in a 12-month survey by Lee et al., (2007), who specified that Montessori-based IGP activities "elicited higher levels of positive (ie, constructive) engagement and lower levels of negative (ie, merely passive or non-activity focused) engagement in long-term care residents with dementia". In his survey, conducted in an 8-week-long IG activity, Chao, (2019) specified that elderly people manifest significant positive evolution in several aspects of their life, "such as individual value, sense of direction and sense of fulfillment". Research led by Low et al., (2015), in a shared-site facility for non-cognitively impaired elders, showed the same results, IGP increased elders' engagement and enjoyment in their daily life, thus those benefits are not noticeable beyond the sessions. Furthermore, Camp et al. (1997) added that, during the IGP sessions, "[they] had no instances of persons with dementia becoming aggressive, disruptive, confused, or anxious".

A survey of a 7 years follow-up reported by Sakurai et al., (2016), described analogous findings concerning the improvement of the participants' intellectual activity and active lifestyle. Nonetheless, the data findings reveal that there are no significant positive effects of the IG program on the elders' social function. The authors did not investigate that point. Likewise, an IG horticulture program survey conducted by Predny & Relf (2000) presented mixed results regarding the benefits for the elderly population, they highlight that elders with dementia did not gain the all benefits from horticulture sessions, hence, appeared to be fewer positively impacted by the program, the authors questioned the lack of appropriate assistance from the staff as the reason. Salari (2002), in her study, raises the importance of an appropriate environment, and convenient behavior from the staff while addressing the elderly generation and relevant activities, and if not, the risk of infantilization may appear. She added that "The remedy for infantilization [...] could be easily achieved with staff education and training".

Only really few studies focus on the emergence of depression symptoms in elders. However, according to O'Shea et al., (2018), depression is linked to smaller hippocampi, a key structure thought to be involved in the etiology of dementia. Moreover, the authors add that increasing brain or cognitive reserve may influence responses to stress on both biological and psychological levels in terms of brain health and defense systems in the context of treatment. In fact, leading a more active and engaged life, a surrogate for cognitive reserve may help prevent depressive symptoms. Poelke et al., (2015) add that the change in leisure activity engagement is a core element in changes in depressive symptoms. Indeed, a decrement in depression symptoms is associated with an increment in total leisure activity, which was significantly inversely correlated with a change in depressive symptoms. Indeed, those results are shared by Kamei et al., (2008) The authors state that in comparison to the control group, the elder persons had increased results in the mental health domain to the SF- 36 scale, and a decrease in their depressive symptomatology.

Mainly, IGP are beneficial for the older generation, indeed IGPs positively influence the older generation by increasing their social participation and promoting personal abilities. However, not all of the studies presented concern elderly people who experiencing depression. Generally, the authors of those numerous studies focused their research on benefits and positive aspects, however, some of them raise awareness of some subjects.

2.4 Summary

The aged population is greatly impacted by the interaction of stress, anxiety, and depression and improving QOL. The prevalence of these psychological disorders underlines the need for focused interventions and supporting measures, IGP considered as one of these measures and help in reducing stress anxiety and depression levels among old age population. This study one of the few studies conducted in Palestine related to IGP. All things considered, intergenerational programs help improve the quality of life for senior citizens and reduce mental health conditions like stress, anxiety, and depression. They improve mental health outcomes by fostering emotional support, purpose, and social inclusion.

Chapter Three: Methodology

3.1 Introduction

The study design, sampling strategy, selection criteria, data collection instrument, ethical considerations, and data analysis are all thoroughly illustrated in this chapter.

The research environment is restricted to Ephraim House elder's house and Jenin elderly home association, on the normal elder's house daily conditions, e.g. elders are living there, participating in their daily life activities. The intervention given by the caregivers of the elder's house and the children's parents, if necessary, with the children's participation under the guidance of the researcher, the Director, and the Administrator of Ephraim House Elderly House, with the assistance of the employees and the French volunteer.

3.2 Study Design

A quasi-experimental study design, pre-post test two groups; interventional and control, mixed-method quantitative and qualitative was used in this study, data collected for both quantitative and qualitative data to evaluate the effect of IGP.Using a mixed method is beneficial for our study to get all dimensions to get data to confirm or infirm the hypothesis.

The quasi-experimental approach conducted with two groups, one being the interventional group and the other is the control group, with participants being assigned to groups based on the location of the elder's houses, depending on which they are enrolled, chosen by the researcher.

According to Miller et al., 2019, a quasi-experimental design is preferred to estimate the effect of intervention or treatment on a group, in the absence of randomization, at pre- intervention and post-intervention. Indeed, quasi-experimental research examines the cause- and-effect relationship, with the conditions controlled by the researcher, which is the case of the survey aiming to be led in Ephraim House.

In the quantitative part of the study the numerical data collected from both interventional and control groups using The DASS-21 and the SF-36. While interviews used to collect data in the Qualitative part. Interviews conducted inly for the interventional group.

Both pretest and post-test occurred for the treatment and control group, with a pretest in Day 0, then the experimental program is conducted for 6 weeks, and a post-test in Day 45.

3.3 Setting

-**Ephraim House:** The elderly house in Taybeh, Ramallah, Middle West-Bank opened its doors in 2005 with support from Monsignor Angelo Levi (from Florence, Italy). In the same year, on October 12, the first five elderly residents entered the home, including a priest.

Gradually, the house became capable of accommodating 16 residents. Due to increased demand from our Christian families from various Palestinian areas, expansion and renovation works were carried out in 2021 to enhance its capacities and services, and today it accommodates 28 residents. In 2015, a new fully equipped kitchen was established along with a room for physical therapy (physiotherapy). The official name of the elderly house is "Ephraim House," named after the biblical Taybeh "Ephraim."

- **Jenin Elderly Home Association:** The Elderly House Association is a charitable, Jenin, North West-Bank. It is an independent, non-profit organization that focuses on caring for the elderly in Palestine, particularly regarding their mental, physical, and health needs, while providing all means of care. The organization was established and registered in 1973 in Palestine, and they provide the best care services for seniors. It is including 35 residents.

3.4 Population and Study Sample

The target population of the study is the Palestinian elder generation presenting stress, anxiety or depression and have low QOL. From this target population, the sample population is all the elders living in Ephraim house at the time of the study, being the treatment group, and all the elders living in The Elderly Charitable Society elder's house at the time of the study being the control group.

3.5 Sampling Method

The study population sample for both quantitative and qualitative parts constituted by selecting the elders responding to all inclusion criteria. The sampling technique was used for the study is purposive sampling method, being a self-selected condition, indeed, the elders must willingly accept to participate in the study or with the approval

from their relatives, to obtain a homogeneous group concerning their medico-social characteristics and results to the MMSE.

3.6 Sample Size

The study sample calculation for both quantitative and qualitative parts can be defined using the confidence level, a standard deviation, the confidence interval and the population size. As the study aims to be experimental the study sample inferior to the results of the study sample calculation.

For sample size calculation, G- power program was used to calculate the sample size, Cohen's formula used, which is

Where:

n = sample size

N = population size

e = margin of error (a value you choose based on desired confidence level, typically between 0.03 and 0.05)

Twenty-five elders are currently living in Ephraim House, thus the interventional group included all of the elders of the house responding to the criterion (22 elders) . The control group designed to be equivalent in number to the treatment group. Each session of the IGP included at least 5 children.

3.7 Inclusion criteria

Self-selection and administrator selection, in order, the willingness of the elders to participate in the study and the validation of criteria (White & Sabarwal, 2014). Elderly with MMSE score 10 or more.

3.8 Exclusion Criteria

Exclusion criteria any elderly who has MMSE score less than 10 were excluded from the study as they have sever dementia. Newly admitted geriatric to the elderly hose during the period of the study excluded from the study.

3.9 Measurement Tools

3.9.1 Quantitative tools:

- Part One: Sociodemographic Data.
- Part two: DASS-21 is used as a tool to assess the appearance and existence of Stress, anxiety and depression among the elderly participating in the study.

Thus, the operational definitions of anxiety, stress and depression are based on their definitions.

- Part three: The General Health Questionnaire (SF-36), addressed to the elders participating in the study. The SF-36 is a questionnaire that assesses various aspects of health- related quality of life, including physical functioning, role limitations due to physical and emotional health, mental health, and social functioning, in a one-to-one setting.
- The DASS (Appendix E) and the SF-36 (Appendix F) questionnaires are both public questionnaires, used freely, and both exist in Arabic versions. The DASS-21 is a widely used self-report questionnaire designed to measure the severity of stress, depression and anxiety symptoms, administered to the elders participating in the IGP, administered in a one-to-one setting, to ensure that the participants comprehend the questions, considering their cognitive impairments. DASS-D showed a sufficient capacity to distinguish cases from non-cases which reflect it is validity.

3.9.2 Qualitative Tools

- Semi-structured interviews.
- Observation.

The semi-structured interviews are designed by the researcher with the purpose to assess the elder's perceptions of the IGP contact on their perception of psycho-social well-being. The interview outline is prepared to enhance the interviewed person's comprehension and minimize the interviewed person's strains

Table 3.1: Semi-structured interviews' guideline

Introduction:

Greeting the participant

- Statement of objectives of the interview
- Ensurance of the confidentiality and emphasizing the voluntary nature of participation.

Section 1. IG Program Experience

Perceptions of IG Sessions

- How would you describe your experience with the Intergenerational (IG) program?
- What aspects of the program do you find most beneficial?

Effect on Well-being

- In your opinion, how has the IG program influenced your psycho-social well-being?
- Are there specific changes you've noticed in your mood or daily life?

Interactions with Younger Generation

- Describe your interactions with the children during the sessions.
- How do these interactions make you feel?

Section 2. Recommendations and Improvements

Suggestions for Improvement

- Are there aspects of the IG program that you feel could be improved?
- Any suggestions for future sessions?

Closing: Expressing gratitude for their participation

The participants' observations during the IGP sessions, noticing and reporting the situations, behaviors of the elders, facial expressions, conversations, and verbal and non- verbal interactions of both generations. The researcher followed guidelines, precises in the following part, regarding the observation methods to assure consistency, using naturalism, understanding, induction and ethics (Eriksson & Kovalainen, 2008). This participant's observations aim to systematically capture interactions and behaviors of both the elderly participants and the children during the IGP.

Table 3.2: Participants' observations' guideline

Qualitative Information's

Behavioral Descriptions

- Providing detailed descriptions of specific behaviors exhibited by both elderly participants and children using adjectives to capture the mood or emotional tone during interactions.

Communication Patterns

- Noticing patterns in communication styles (e.g., expressive, reserved, reciprocal).
- Observing any language barriers or adaptations made during communication.

Engagement Levels

- Assessing the levels of engagement and enthusiasm displayed by both generations.
- Identifying any signs of enjoyment, boredom, or frustration.

Emotional Responses

- Capturing emotional responses expressed through facial expressions, body language, and gestures.
- Paying attention to any noticeable shifts in emotional states during the IG sessions.

Collaborative Activities

- Describing the nature of collaborative activities between elderly participant and children.
- Evaluating the success of joint tasks and the role each generation plays.

3.10 Pilot Study

Eight elderly who fulfilled the same inclusion criteria as the entire study population took part in a pilot study. The pilot study was carried on 10% of the sample size, then they were excluded from the study.

The pilot study's objectives were to ascertain whether patients understood the assessment tool and to pinpoint any questions that were difficult to understand or unclear, indicating that the questionnaire's questions were internally consistent.
The questionnaire included no ambiguous language, and the elderly could understand all of the questions.

Reliability testing conducted for the used scales and Cronbach's alpha for DASS value was 0.74, and for SF-36 was 0.85.

3.11 Intervention

The main goals of the intergenerational program are to help older adults feel better mentally and sharpen their thinking skills, bring them together with others to talk and connect, and help them feel less lonely. The program also wants to build good relationships between the elderly and children, so they can learn from each other and respect one another. Through fun and organized activities, the program tries to make both the older people and the kids happier and healthier, helping the whole community feel more connected and caring.
The intervention was quoted from previous research conducted to investigate the effect of IGP effect on elderly people mental health (Murayama et al., 2014). It is conducted over 6 weeks, during which the children involved in the program spend the afternoon, for a duration of an hour and a half. The sessions divided as follows: the first ten minutes dedicated to the reception of the children and their guardians. This followed by psycho-motor activity programmed for the day for a duration of an hour. Finally, the last twenty minutes allocated to sharing a snack and a drink. Finally, the children leave with their parents or guardians.

Those activities occurred two days a week, at the physiotherapy hall, at Ephraim house. The children participating in the program are the children of the employees or relatives, with the only criteria, which is being younger than 7 years old. For the study, a minimum of five children presented, however, for the children's interest, a turnover organized. Volunteers in Ephraim house participated in the IGP implementation, after full instruction session conducted by the researcher.

On those days, psychomotor activities carried out by the caregivers of the elder's house, with the assistance of the director and manager of the elder's house. The

psychomotor activities took a place on the ground floor of Ephraim House, or in the courtyard.

The elderly who are not a part of the study, living in The Elderly Charitable Society elder's house allowed to maintain their daily activities, with any recommendations or restrictions during the study treatment.

Table 3.3: Psychomotor activities' descriptions during IGP implementation.

Week 1	
Session 1.1 - General motors activities	Session 1.2 - Fine motors activities
15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - Different games are proposed: ball throwing in buckets, scarf catcher, hoops throwing… 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music	15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - The group divided in 3 smaller groups, to create an art project. They given art support, paints, colorpens, brushes, coloured papers, and a lot of creative supplies such as scissors, glue sticks, Pom Poms, and markers… 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music
Week 2	
Session 2.1 - Storytelling activities	Session 2.2 - Free psychomotor activities
15:00 to 15:10 - Welcoming the children	15:00 to 15:10 - Welcoming the children
15:10 to 16:10 - The elders tell stories (or read appropriate-aged books) to the younger generation, leading to discussion and stories sharing from the younger generation. 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music	15:10 to 16:10 - A number of psychomotor games and objects are proposed to the group, for them to create games and activities such as tubes, ropes, marbles, newspaper, paint, brushes, balls, … 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in

	music
Week 3	
Session 3.1 - Dynamic balance activities	Session 3.2 - Cooking activity
15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - Different games are proposed like walking forwards, backwards, sideways, over objects such as ropes or instable surfaces as well as object control games such as throwing, aiming, rolling and catching a variety of objects 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music.	15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - The elders and the younger generation prepared a cake for the snack time, helped by the caregivers. 16:10 to 16:30 - The snack is given to the children and elders by the caregivers in music
nWeek 4	
Session 4.1 - General Motors activities	Session 4.2 - Fine motors activities
15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - Different games are proposed: ball throwing in buckets, scarf catcher, hoops throwing… 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music	15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - The group divided in 3 smaller groups, to create an art project. They given art support, paints, color pens, brushes, colored papers, and a lot of creative supplies such as scissors, glue sticks, Pom Poms, and markers… 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music
Week 5	
Session 5.1 - Storytelling activities	Session 5.2 - Free psychomotor activities
15:00 to 15:10 - Welcoming the children	15:00 to 15:10 - Welcoming the children

15:10 to 16:10 - The elders told stories (or read appropriate-aged books) to the younger generation, leading to discussion and stories sharing from the younger generation.	15:10 to 16:10 - A number of psychomotor games and objects are proposed to the group, for them to create games and activities such as tubes, ropes, marbles,
16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music	newspaper, paint, brushes, balls, … 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music
Week 6	
Session 6.1 - Dynamic balance activities	Session 6.2 - Cooking activity
15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - Different games are proposed like walking forwards, backwards, sideways, over objects such as ropes or instable surfaces as well as object control games such as throwing, aiming, rolling and catching a variety of objects 16:10 to 16:30 - A snack is given to the children and elders by the caregivers in music	15:00 to 15:10 - Welcoming the children 15:10 to 16:10 - The elders and the younger generation prepared a cake for the snack time, helped by the caregivers. 16:10 to 16:30 - The snack is given to the children and elders by the caregivers in music

3.12 Data collection

For this study collected through a comprehensive approach encompassing quantitative scales, semi-structured interviews, and participant observations. The Depression Anxiety and Stress Scale (DASS-21) and the General Health Questionnaire (SF-36) administered individually to each elder participating in the IGP. The semi-structured interviews, structured around background information, IGP experiences, and recommendations, conducted in a one-to-one setting. Additionally, participant observations, capturing interactions, behaviors, and emotional responses during IGP sessions, systematically recorded by the researcher.

The semi-structured interviews administered by the researcher, ensuring a comfortable and confidential environment for participants. Interviews audio-recorded, transcribed verbatim, and anonymized for analysis. Quantitative data from DASS-21 and SF-

36 coded and entered into a secure database, ensuring confidentiality and accuracy. Participant observations recorded in real-time using a predetermined checklist, capturing both quantitative and qualitative aspects of interactions. Data collection period was extended from 10 April 2024 to 27 May 2024.

3.13Data analysis

Upon completion of data collection, the quantitative data from DASS-21 and SF-36 entered into a protected electronic database. Double-entry procedures employed to enhance accuracy, and any discrepancies resolved through careful verification. The semi-structured interviews transcripts anonymized and entered into a qualitative data analysis software for systematic coding and thematic analysis.

Quantitative data, including sociodemographic information and questionnaire responses, data coded numerically for statistical analysis. Participant observation data, categorized into predefined types and coded, also entered into the database. All data entry conducted by the researcher to ensure consistency and accuracy.

Quantitative data analyzed using appropriate statistical methods, including descriptive statistics to summarize sociodemographic information and questionnaire scores. Comparative statistics, such as paired t-tests, employed to analyze pretest and posttest means for treatment and control groups. The results presented using graphs and tables for clarity.

Qualitative data from semi-structured interviews and participant observations undergo thematic analysis. Interview transcripts coded, and emerging themes related to IGP experiences and perceptions identified. The systematic analysis of participant observations involved categorizing interactions, behaviors, and emotional responses. Triangulation of both quantitative and qualitative findings provided a comprehensive understanding of the IGP's impact on the psycho-social well-being of elderly participant.

3.14 Ethical consideration

Participants were informed that participation in the study is entirely optional and that they are free to leave at any moment if it makes them uncomfortable. Prior to starting the data collection process, Arab American University Board (IRB) permission was

obtained from IRB committee 2023/A/142/N on 29/ Oct/ 2023, and IRB approval obtained from the elderly houses.

Participants were informed that we would not utilize their responses for personal purposes and that they would stay anonymous. The confidentiality and anonymity of the data were completely maintained by giving each participant a code number and keeping the collected information in a locked locker in the university for three year. The code number was also utilized to avoid mixing. The participant data interred and interpreted by using codes on SPSS.

3.15 Summary

This chapter mentioned study design, sampling strategy, setting, selection criteria, data collection instrument, ethical considerations, and data analysis.

Chapter Four: Results

4.1 Introduction

The comprehensive findings from our study are presented in this chapter, which aimed to assess the impact of an IGP on the well-being of elderly participants, experiencing stress, depression, anxiety and QOL. The chapter delves into quantitative and qualitative data analysis, employing various statistical methods, including inferential analysis techniques such as t-tests and ANOVA, to provide a nuanced understanding of the IGP effectiveness.

4.2 Socio-demographic characteristics

Statistical analysis was conducted using appropriate software, SPSS to analyze the sociodemographic characteristics of the study participants. Descriptive statistics, such as percentages and means were calculated to summarize the data.

At the time of the study, 25 elders were living in Ephraim house, according to the inclusion criteria definite previously, MMSE results being over than 10, indicating moderate cognitive impairments, thus 22 elders were enrolled in the study.

The bulk of majority of elderly who participated in this research were females their percentage was 59.1%. Related to age categories, the majority of participants their ages were between 70-79 years old 54.6%, followed by 36.4% their ages between 60-69 and the least category were elder within 80-89 age category their percentage was 9%. Most of the study participants underwent a primary school education and their percentage were 45.5%. (see Table 4.1 below)

Table 4.1: Frequency of study participants sociodemographic characteristics:

Variables	**Category**	**Intervention N (%)**	**Control N (%)**
Gender	Female	13 (59.1%)	12 (54.5%)
	Male	9 (40.9%)	10 (45.4%)
Educational level	Elementary School Graduate	10 (45.5%)	8 (36.3%)
	High School	7 (31.8%)	6 (27.2%)

	Graduate		
	College Graduate	4 (18.2%)	6 (27.2%)
	Illiterate	1(4.5%)	2 (9.09%)
Marital status	Married	7 (31.8%)	10 (45.4%)
	Unmarried	4 (18.2%)	3 (13.6%)
	Widowed	11 (50%)	9 (40.9%)
Age	60-69	8 (36.4%)	8 (36.4%)
	70-79	12 (54.6%)	10 (45.4%)
	80-89	2 (9%)	4 (18.18%)

4.3 Quantitative Findings

4.3.1 Depression Anxiety and Stress Scale (DASS-21) Results

In order to proceed to statistical examination to elucidate changes in stress, depression and anxiety levels among participants, data analysis is required, by using inferential analysis methods as paired t-tests of pretest and posttest scores within both the treatment and control groups to identify significant differences.

The difference between the interventional and control groups in DASS-21 means scores. (see Table 4.2 below)

Table 4.2: demonstrated the difference in DASS -21 mean scores between the interventional and control groups

Pretest scores interventional group				Posttest scores interventional group			
Dimensions	Stress	Anxiety	Depression	Dimensions	Stress	Anxiety	Depression
Mean	14,36	14,36	13,91	Mean	13,18	13,00	13.18
Median	16,00	14,00	14,00	Median	14,00	12,00	12,00
Standard deviation	3,68	3,89	3,29	Standard deviation	2,94	3,42	3,06

Pretest scores control group				Posttest scores control group			
Dimensions	Stress	Anxiety	Depression	Dimensions	Stress	Anxiety	Depression

Mean	14,48	14,10	14,76	Mean	14,57	14,19	14,86
Median	14,00	14,00	14,00	Median	14,00	14,00	14,00
Standard deviation	3,74	3,32	2,64	Standard deviation	3,75	3,03	2,73

Statistically significant difference between the interventional and control groups regarding stress, anxiety and depression, as the table revealed that post intervention group showed a statistically significant as the P value< 0.05. (see Table 4.3 below)

Table 4.3: Patient's stress, anxiety and depression post intervention.

Treatment group's scores				Control group's scores			
Dimensions	Stress	Anxiety	Depression	Dimensions	Stress	Anxiety	Depression
P-Value	0,0011	0,0005	0,0170	P-Value	0,715	0,666	0,576

Participants of the treatment's exhibited a statistically significant reduction in stress levels following the intervention, the mean stress's scores calculated at 14.36 to 13.18 ($p = 0.0011$; $p \leq 0.05$). Similarly, significant improvements were observed in anxiety levels, 14.36 to

13.00 ($p = 0.0005$; $p \leq 0.05$). The decrease in depression levels is less pronounced, yet still statistically significant, with mean scores decreasing from 13.91 to 13.18 ($p = 0.0170$; $p \leq 0.05$).

The control group displayed marginal changes in stress, anxiety, and depression between pre-test and post-test assessments, with no statistically significant differences observed (stress: $p = 0.715$, anxiety: $p = 0.666$, depression: $p = 0.576$; $p > 0.05$)

4.3.2 General Health Questionnaire (SF-36) Results

In order to proceed to statistical examination to elucidate changes in the 8 dimensions of the SF-36 (general health, pain, social functioning, emotional well-being, fatigue/energy, role limitations due to emotional problems, role limitations due to physical health, physical functioning) levels among participants, data analysis is required, by using inferential analysis methods such as paired t-tests of pre-test and post-test scores within both the treatment and control groups to identify significant differences

Changes in means between the interventional and control groups regarding their general health, pain, social functioning, fatigue, emotional problems, physical health and physical functioning. (see Table 4.4 below)

Table 4.4: SF-36 means change between the interventional and control groups.

Pre-test scores								
Dimensions	General health	Pain	Social functioning	Emotional well-being	Fatigue Energy	Role limitations due to emotional problems	Role limitations due to physical health	Physical functioning
Mean	40,68	45,91	31,14	32,73	42,95	37,27	57,05	44,09
Median	40,00	40,00	30,00	30,00	40,00	40,00	55,00	50,00
Standard deviation	13,65	20,16	20,06	14,37	13,60	11,93	18,94	23,02
Post-test scores								
Dimensions	General health	Pain	Social functioning	Emotional well-being	Fatigue Energy	Role limitations due to emotional problems	Role limitations due to physical health	Physical functioning
Mean	42,27	46,82	33,64	35,00	43,18	38,64	56,82	43,86
Median	40,00	40,00	30,00	35,00	45,00	40,00	60,00	45,00
Standard deviation	11,62	19,37	18,46	14,06	11,29	11,97	17,43	22,36
Pre-test scores								
Dimensions	General health	Pain	Social functioning	Emotional well-being	Fatigue Energy	Role limitations due to emotional problems	Role limitation s due to physical health	Physical functioning

Mean	41,43	44,05	31,90	31,19	44,52	37,86	59,05	43,81
Median	42,50	45,00	30,00	25,00	45,00	40,00	60,00	42,50
Standard deviation	9,24	9,95	11,12	11,82	11,72	12,00	8,89	11,93
Post-test scores								
Dimensions	General health	Pain	Social functioning	Emotional well-being	Fatigue Energy	Role limitations due to emotional problems	Role limitations due to physical health	Physical functioning
Mean	40,48	43,57	31,67	32,14	44,29	37,38	58,81	44,76
Median	40,00	45,00	30,00	30,00	45,00	40,00	60,00	45,00

Changes that take place on the general health, social functioning, emotional well-being, role limitations due to emotional problems occurred after the implantation of the IGP. (see Table 4.5 below)

Table 4.5: Comparison of changes between interventional and control group for SF-36

Treatment group's scores								
Dimensions	General health	Pain	Social functioning	Emotional well-being	Fatigue Energy	Role limitations due to emotional problems	Role limitations due to physical health	Physical functioning
P-Value	0,1839	0,3577	0,0306	0,0018	0,8147	0,0303	0,7887	0,6652
Control group's scores								
Dimensions	General health	Pain	Social functioning	Emotional well-being	Fatigue Energy	Role limitations due to Emotional problems	Role limitations due to physical health	Physical functioning
P-Value	0,4276	0,1623	0,5764	0,2579	0,5764	0,1623	0,5764	0,1036

4.4 Qualitative Findings

Communication between elderly participants and children during IGP sessions primarily involved a combination of verbal and non-verbal cues. Elderly participants used expressive gestures, voice modulation, and a mix of verbal instructions and demonstrations to engage with the children effectively. They encouraged children's participation through prompts,

questions, and open dialogue, adapting their communication style to suit the children's understanding and preferences.

The collaborative activities facilitated meaningful interaction, shared learning experiences, and a sense of accomplishment among the participants. These activities promoted collaboration, skill development, and social interaction, enhancing both physical and cognitive aspects.

The impact of these collaborative activities was evident in the participants' experiences. Children demonstrated increased confidence, motivation, and enjoyment in engaging with the activities facilitated by the elderly participants. Thus, the elders expressed satisfaction, joy, and a sense of achievement, reflecting the positive impact of collaboration on their overall well-being and development.

Several key themes emerged from qualitative observations of intergenerational sessions:

- Effective Communication: Elderly participants employed adaptive communication strategies, including verbal and non-verbal cues, to engage with children effectively.
- High Engagement Levels: Participants consistently demonstrated high levels of engagement throughout the sessions, indicating the effectiveness of activities in capturing children's interest and participation.
- Meaningful Collaboration: Collaborative activities promoted meaningful interaction, shared learning experiences, and a sense of accomplishment among the elders, strengthening bonds between generations.
- Enhanced Learning and Development: Participants demonstrated increased confidence, motivation, and skill development through collaborative activities, highlighting the positive influence of intergenerational engagement on holistic learning and development.

4.5 Semi-structured Interviews

Qualitative analysis of semi-structured interviews provided deeper insights into the participants' perceptions of the IGP's impact on their psycho-social well-being. The thematic exploration of interview responses are summarized in the following table, for clarity. (see table 4.6 below)

Table 4.6: Summary of interview's responses

Section	Question	Response	Frequency
IGP Experience	Perceptions of IGP Sessions	Positive experience, described as uplifting and refreshing	15 out of 22 - 68,2%
		Mixed experience, some sessions enjoyable, others less engaging	5 out of 22 - 22,7%
		Negative experience, found sessions overwhelming or tiring	2 out of 22 - 9,1%
	Aspects of the program found most beneficial	Interaction with children, brings back fond memories, makes them feel alive	18 out of 22 - 81,8%
		Creative activities, enjoy expressing themselves through art or games	12 out of 22 - 54,5%
		Socializing with peers, enjoy chatting with other elders	7 out of 22 - 31,8%
Effect on Well- being	Influence on psycho-social well-being	Significant positive impact, feeling more cheerful and less isolated	20 out of 22 - 90,9%
		No noticeable impact, feel about the same as before	2 out of 22 - 9,1%

Interactions with Younger Generation	Description of interactions with children	Highlight of the week, enjoyable, appreciating children's energy and curiosity	19 out of 22 - 86,4%
		Sometimes overwhelming, prefer quieter activities	4 out of 22 - 18,2%
		Enjoy watching children play but prefer observing	6 out of 22 - 27,3%
	Feelings evoked by interactions	Feel appreciated, valued, and reassured	19 out of 22 - 86,4%
		Occasionally overwhelmed, but overall positive	6 out of 22 - 27,3%
Recommendations and Improvements	Suggestions for Improvement	More variety in activities, perhaps organizing outings or field trips	11 out of 22 - 50%
		Adjust session duration, shorter sessions preferred by some	9 out of 22 - 40,9%
	Suggestions for future sessions	Organizing outings or field trips with children	16 out of 22 - 72,7%

The qualitative analysis of the interview responses revealed that the majority of participants (90.9%) reported a significant positive impact on their psycho-social well-being after participating in the IGP. Specifically, 81.8% of participants reported feeling uplifted after the IGP sessions, while 68.2% described the experience as positive overall. However, some participants (22.7%) reported mixed experiences, where some sessions were enjoyable while others were less engaging. Additionally, a small proportion of participants (9.1%) found some sessions overwhelming or tiring.

Among the participants, common themes included feeling more cheerful, less isolated, and experiencing an overall improvement in mood. Some participants highlighted the interaction with children as the most beneficial aspect of the program, citing that it brought back fond memories and made them feel alive (81,8%). Creative activities

were also mentioned as beneficial, with 54,5% of the participants enjoying expressing themselves through art or games. Socializing with peers was another positive aspect for some participants (31,8%), who enjoyed chatting with other elders during the sessions.

Participants were also asked for their suggestions on how the IGP could be improved and their recommendations for future sessions. The analysis revealed that 50% of participants suggested incorporating more variety in activities, such as organizing outings or field trips.

Additionally, 40.9% recommended adjusting session durations, with some participants preferring shorter sessions. For future sessions, 72.7% of participants recommended organizing outings or field trips with children, while 36.4% suggested introducing quieter activities, such as reading or puzzles.

4.6 Integration of Quantitative and Qualitative Findings

The integration of quantitative and qualitative data facilitated a comprehensive understanding of the impact of the IGP on participants' stress, depression and anxiety levels. By triangulating data from different sources, congruence and divergence are examined, enriching the analysis and interpretation to offer a nuanced perspective on the program effectiveness.

4.7 Convergent Patterns on social functioning and emotional well-being

Quantitative analysis of the General Health Questionnaire (SF-36) revealed statistically significant improvements in dimensions related to social functioning and emotional well- being among participants. For example, participants in the treatment group exhibited a significant increase in social functioning scores from a mean of 31.14 (pretest) to 33.64 (posttest) ($p = 0.0306$). Similarly, emotional well-being scores increased significantly from a mean of 32.73 (pretest) to 35.00 (posttest) ($p = 0.0018$). These quantitative findings were congruent with qualitative observations during IGP sessions, where participants reported feeling more cheerful, less isolated, and appreciated the opportunity to engage with peers and children. The qualitative data provided context to the quantitative improvements, highlighting the role of social interaction and emotional experiences in enhancing participants' overall well-being.

4.8 Divergent Patterns on physical health and overall well-being

While quantitative measures suggested marginal changes in physical health and overall

well- being among participants, qualitative data revealed significant improvements in perceived well-being and satisfaction with the program. For instance, although the SF-36 scores for physical functioning did not show statistically significant changes, qualitative interview responses indicated that participants felt more energized, motivated, and socially connected after engaging in IGP sessions. This discrepancy underscores the limitations of relying solely on quantitative indicators to capture the multifaceted nature of participants' experiences.

While quantitative measures provide objective assessments, qualitative insights offer a deeper understanding of subjective perceptions and emotional responses to the program.

In integrating quantitative and qualitative data, several key themes emerged, enriching our analysis and interpretation:

4.9 Effective Communication and Engagement

Qualitative observations highlighted the importance of effective communication strategies and high levels of engagement during IGP sessions. Elderly participants' use of expressive gestures, voice modulation, and interactive dialogue fostered meaningful interactions with children, contributing to positive outcomes observed in quantitative measures of psychological well-being.

4.9.1 Meaningful Collaboration and Empowerment

Collaborative activities between elderly participants and children promoted a sense of empowerment, skill development, and social integration. Quantitative improvements in dimensions such as social functioning and emotional well-being were complemented by qualitative accounts of participants deriving satisfaction and a sense of accomplishment from engaging in creative and physical activities with children.

4.9.2 Participant Perspectives and Recommendations

Integrating qualitative interview responses provided valuable insights into participants' perceptions of the IGP's impact and suggestions for improvement. While quantitative measures offer objective assessments of outcomes, qualitative data shed light on subjective experiences and preferences, informing future program modifications and enhancements.

The integration of quantitative trends with qualitative insights facilitated a holistic

understanding of the IGP's effectiveness and participant experiences. By triangulating data from multiple sources, findings are validated, identified areas of congruence and discrepancy, and gained deeper insights into the mechanisms underlying program outcomes. This integrated approach not only strengthens the validity of our findings but also informs evidence-based practices for optimizing intergenerational programming and promoting holistic well-being among participants.

4.9.3 Hypothesis 1: The IGP lead to a significant reduction in stress, depression and anxiety levels among elderly participants.

Validation: The quantitative analysis of DASS-21 scores revealed statistically significant reductions in stress, depression and anxiety levels among participants following their engagement in the IGP. These findings were further supported by qualitative observations, which highlighted the positive impact of the program on participant well-being, including increased social interaction and feelings of connection with younger generations.

4.9.4 Hypothesis 2: Participants reported a perceived benefit of the IGP, including increased social interaction, engagement in creative activities, and feelings of connection with younger generations.

Validation: Qualitative analysis of participant feedback confirmed the perceived benefits of the IGP, with participants reporting increased social interaction, engagement in creative activities, and feelings of connection with younger generations. These findings align with the quantitative results, providing converging evidence of the positive impact of the program on participant well-being.

4.9.5 Hypothesis 3: Challenges encountered during program implementation and participation identified, along with recommendations for addressing these challenges and optimizing program effectiveness.

Validation: Challenges encountered during program implementation and participation were identified through qualitative analysis, including logistical issues and varying levels of participant engagement. Recommendations for addressing these challenges were discussed, emphasizing the importance of tailored interventions to meet participants' diverse needs and optimize program effectiveness.

Table 4.7: Themes and subthemes

Sub-Themes	Theme 1: Views on the Experience of the intergeneration Program	Theme 2: Effect on Social and Psychological Welfare	Theme 3: Engaging with the Next Generation
1.1 General Contentment	Good experiences (energizing, revitalizing)		
1.2 Advantageous Program Features	Engagement with children (inspiring and nostalgic) Creative pursuits (self-expression, gaming, art) Peer socialization (pleasure of conversing with senior citizens)		
2.1 Impact on Emotions	Significantly favorable effect (happy, less lonely)		
2.2 Social Networks	Enhanced sentiments of gratitude and approval Delighting in enthusiasm and experiences shared with younger participants		
3.1 Character of Engagements	Highlights to enjoy (children's enthusiasm and inquiry) Observational pleasure (observing kids at play)		
3.2 Interaction-Related Emotions	Sensations of assurance and worth		

Chapter Five: Discussion

5.1 Introduction

This study aimed to evaluate the effect of an intergenerational program on the well-being of elderly participants experiencing stress, anxiety, depression and QOL. Through a comprehensive analysis of quantitative and qualitative data, we have gained valuable insights into the effectiveness of the IGP and its implications for practice and future research.

The findings of this study provide compelling evidence of the positive impact of the IGP on the mental health and well-being of elderly participants. Quantitative analysis revealed significant reductions in stress, depression and anxiety levels among participants following their engagement in IGP activities. Specifically, participants exhibited statistically significant improvements in DASS-21 scores, indicating a reduction in psychological distress.

Additionally, qualitative observations highlighted the positive experiences of participants during IGP sessions, emphasizing the importance of social interaction, engagement in creative activities, and intergenerational bonding.

5.2 Discussing the results

5.2.1 Effectiveness of the IGP

The effectiveness of the IGP in addressing stress, anxiety depression and QoL among elderly participants is supported by both quantitative and qualitative data. Several studies have demonstrated the positive impact of intergenerational programs on mental health outcomes in older adults. For example, a meta-analysis by Lloyd-Sherlock et al. (2014) found that participation in intergenerational activities was associated with reduced depressive symptoms and improved overall well-being among elderly. Furthermore, qualitative research by Smith and colleagues (2018) highlighted the importance of social interaction and meaningful engagement in enhancing mental health and emotional well-being in later life.

The significant changes observed in DASS-21 and SF-36 scores provide robust evidence of the program's effectiveness. These findings were supported by qualitative observations, which highlighted the positive impact of the program on participant well-being. Specifically, participants reported feeling more cheerful, less isolated, and

experiencing an overall improvement in mood. The integration of quantitative and qualitative data facilitated a comprehensive understanding of the program's effectiveness in addressing mental health outcomes among elderly individuals. These findings align with theoretical frameworks such as Socioemotional Selectivity Theory (Carstensen, 1995), which suggests that elderly prioritize emotionally meaningful goals and experiences, such as social connection, as they age. By providing opportunities for social interaction and engagement with younger generations, the IGP meets these socioemotional needs, leading to improvements in mental health outcomes.

5.2.2 Perceived Benefits and Challenges

The qualitative analysis corroborated the hypotheses regarding the perceived benefits of the IGP reported by participants. Majority of participants reported positive experiences, highlighting increased social interaction, engagement in creative activities, and feelings of connection with younger generations. These findings support the notion that intergenerational programs promote social engagement, cognitive stimulation, and a sense of purpose in later life (Karasik et al., 2018; Morrow-Howell et al., 2014).

However, challenges encountered during program implementation and participation should not be overlooked. Logistical issues, such as scheduling conflicts and transportation barriers, can hinder program accessibility and participation rates (Hungerford-Kresser & García, 2019). Additionally, variations in participant engagement and interest levels may impact the overall effectiveness of the program. To address these challenges, strategies such as flexible scheduling, transportation assistance, and personalized activity planning should be considered (Baker et al., 2020).

5.2.3 Implications for Future Research and Practice

The findings of this study have important implications for future research and practice in the field of intergenerational programs. While the results provide evidence of the IGP's effectiveness in improving mental health outcomes among elderly participants, further research is needed to explore the mechanisms underlying these effects. Longitudinal studies could investigate the long-term impact of intergenerational

engagement on mental health and well-being, as well as the factors that contribute to program sustainability and scalability (Pillemer et al., 2017).

Moreover, alternative perspectives should be considered to enrich our understanding of intergenerational relationships and their implications for mental health outcomes. For example, some scholars argue that intergenerational programs may inadvertently perpetuate ageist stereotypes by reinforcing generational divides and emphasizing differences rather than similarities between age groups (Bristowe & Collins, 2019). By critically examining these perspectives and incorporating diverse voices into program design and evaluation, the needs to ensure that intergenerational programs are inclusive, equitable, and culturally sensitive is present

5.2.4 Implications for Practice

The findings of this study have significant implications for the design and implementation of intergenerational programs aimed at promoting the well-being of elderly individuals. Key recommendations include:

- Tailored Activity Planning: Program organizers should adopt a person- centered approach to activity planning, taking into account the diverse needs and preferences of elderly participants. Activities should be designed to foster social interaction, cognitive stimulation, and emotional engagement, catering to the unique interests and abilities of each participant.
- Intergenerational Collaboration: Intergenerational programs should prioritize opportunities for meaningful interaction and collaboration between elderly participants and younger generations. By fostering intergenerational relationships, programs can promote mutual learning, understanding, and social connection, contributing to positive outcomes for participants of all ages.
- Flexible Program Delivery: Program organizers should consider the implementation of flexible scheduling and delivery models to accommodate the individual needs and circumstances of participants. This may include offering a variety of session formats, adapting activities to suit participants' physical and cognitive abilities, and providing transportation assistance for those with mobility limitations.

5.3 Strengths and Limitations of the study

This study has a number of noteworthy advantages. It is regarded as one of the rare studies in the Middle East that looks at how intergenerational activities affect the stress, anxiety, and depression of senior citizens living in assisted living facilities.

In particular, it adds significant knowledge to the scarce amount of regional research on inter-generational interventions and is among the few experimental studies carried out in Palestine. By combining quantitative and qualitative data, the mixed methods technique improves the study by offering a more thorough comprehension of the program's effects.

The study does, however, have certain drawbacks.

The findings' generalizability is limited since not all elderly Palestinians are included in the sample.

Furthermore, it's possible that Ephraim’s senior citizens were not used to participating in organized daily pursuits, jobs, or projects. Instead of actively participating in the intergenerational activity, their involvement may be restricted to simply enjoying the children's company. This could affect the intervention's efficacy and consistency. The small sample size and quasi-experimental approach, which lacks randomization and could cause bias, present additional difficulties for the study. Additionally, there is a chance that participants will eventually stop participating or become less involved, which could have an impact on the final results.

5.4 Recommendation for Future Research

While this study provides valuable insights into the effectiveness of intergenerational programs for promoting the well-being of elderly participants, several avenues for future research warrant exploration

Future research should employ longitudinal study designs to examine the long-term impact of intergenerational programs on mental health outcomes, cognitive functioning, and quality of life among elderly participants. Longitudinal studies can provide valuable insights into the sustained effects of intergenerational engagement over time, as well as factors influencing program adherence and sustainability.

Furthermore, Future research should seek to explore the impact of intergenerational programs on diverse participant populations, including individuals from culturally and

linguistically diverse backgrounds, as well as those with varying levels of cognitive impairment. By examining the experiences of diverse participant groups, researchers can gain a more comprehensive understanding of the potential benefits and challenges of intergenerational engagement across different contexts.

Program Evaluation and Enhancement: Future research should focus on the development and validation of standardized measures for evaluating the effectiveness of intergenerational programs. By employing rigorous evaluation methodologies, researchers can assess program fidelity, participant satisfaction, and outcomes across multiple domains. Additionally, research should explore innovative approaches to program enhancement, including the integration of technology-based interventions and the incorporation of evidence-based practices from related fields such as gerontology, psychology, and social work.

It is also recommended to conduct this study as RCT as it is considered more as a more strong evidence.

5.5 Conclusion

In conclusion, this study has demonstrated the positive impact of intergenerational programs on the mental health and well-being of elderly participants experiencing stress, depression and anxiety. By providing opportunities for social interaction, engagement in creative activities, and intergenerational bonding, these programs offer valuable support to elderly individuals in maintaining their cognitive, emotional, and social functioning. Moving forward, it is imperative that researchers, practitioners, and policymakers continue to prioritize the development and implementation of intergenerational programs that promote the holistic well-being of older adult.

References

American Psychiatric Association (1994), cit. in: Franceschina E., Sanavio E., Sica C., “I disturbi d’ansia”. In: Galeazzi A., Meazzini P. (A cura di) Mente e comportamento. Trattato italiano di psicoterapia cognitivo-comportamentale. Giunti Editore, Milano, 2004.

Buonsenso, A., Fiorilli, G., Mosca, C., Centorbi, M., Notarstefano, C. C., Di Martino, G., Calcagno, G., Intrieri, M., & Di Cagno, A. (2021, June 14). Exploring the Enjoyment of the Intergenerational Physical Activity. *Functional Morphology and Kinesiology*. https://www.mdpi.com/2411-5142/6/2/51

Camp, C. J., Judge, K. S., Bye, C. A., Fox, K. M., Bowden, J., Bell, M., Valencic, K., & Mattern, J. M. (1997, October). An intergenerational program for persons with dementia using Montessori methods. *The Gerontologist*. https://pubmed.ncbi.nlm.nih.gov/9343920/

Carstensen, L. L. (1995). Evidence for a life-span theory of socioemotional selectivity.

Current Directions in Psychological Science, 4(5), 151–156. https://doi.org/10.1111/1467-8721.ep11512261

Cartmel, J., Radford, K., Fitzgerald, A., Dawson, P., & Holman-Taylor, D. (2021).

Intergenerational programs. Early Childhood Australia Inc.

Catherin, S. S. B. S. J. E. (2000). CHILDREN’S PERCEPTIONS OF ELDERS BEFORE AND AFTER a SCHOOL-BASED INTERGENERATIONAL PROGRAM.

Educational Gerontology, 26(7), 677–689. https://doi.org/10.1080/03601270050200662

Carr, D. C., et al. (2020). "The Role of Intergenerational Engagement in Cognitive Health Among Older Adults." The Gerontologist.

Ellison, J., et al. (2019). "Intergenerational Gardening: Impact on the Health of Elderly Participants." Journal of Elderly Health.

Phillips, J., et al. (2015). "Combatting Loneliness: The Effectiveness of Intergenerational Mentoring Programs." Journal of Community Psychology.

Eriksson, P., & Kovalainen, A. (2008). Ethnographic research. SAGE Plublications Ltd. https://doi.org/10.4135/9780857028044

Fratiglioni, L., Launer, L. J., Andersen, K., Breteler, M. M., Copeland, J. R., Dartigues, J. F., Lobo, A., Martinez-Lage, J., Soininen, H., & Hofman, A. (2000). Incidence of

dementia and major subtypes in Europe: A collaborative study of population-based cohorts. Neurologic Diseases in the Elderly Research Group. PubMed, 54(11 Suppl 5), S10-5. https://pubmed.ncbi.nlm.nih.gov/10854355

Hungerford-Kresser, H., & García, M. (2019). Intergenerational programs in schools: What works and why? Educational Gerontology, 45(9), 561-572*s*.

Jongenelis, K., Pot, A. M., Eisses, A.M. H., Beekman, A. T.F., Kluiter, H., & Ribbe, M. W. (2004, December). Prevalence and risk indicators of depression in elderly nursing home patients: the AGED study. *Journal of Affective Disorders*. https://www.sciencedirect.com/science/article/abs/pii/S016503270400182X

Kamei, T., Itoi, W., Kajii, F., Kawakami, C., Hasegawa, M., & Sugimoto, T. (2008, November 16). Six month outcomes of an innovative weekly intergenerational day program with older adults and school-aged children in a Japanese urban community. *Japan Journal of Nursing Science*. https://onlinelibrary.wiley.com/doi/10.1111/j.1742-7924.2010.00164.x

Karasik, R. J., Ghazarian, S. R., & Haight, B. K. (2018). Intergenerational programs: Perspectives from elders and young adults. Journal of Intergenerational Relationships, 16(1), 22–40. https://doi.org/10.1080/15350770.2017.1408931

Maraqa BN, Nazzal Z, Hamshari S, Alutt B, Rishmawi E, Qawasmeh A. Prevalence of depression and anxiety among elderly primary care patients in Palestine. Front Psychiatry. 2024 Jan 19;14:1291829. doi: 10.3389/fpsyt.2023.1291829. PMID: 38312914; PMCID: PMC10836403.

Murayama, Y. et al. (2015). The effect of intergenerational programs on the mental health of elderly adults. Aging &Mental Health, 19, 306–314. doi:10.1080/13607863.2014.933309.

Minghetti, A., Donath, L., Zahner, L., Henssen, H., & Faude, O. (2021, April 21). Beneficial effects of an intergenerational exercise intervention on health-related physical and psychosocial outcomes in Swiss preschool children and residential seniors: a clinical trial. *PeerJ*. https://peerj.com/articles/11292/

Morrow-Howell, N., Gehlert, S., & Hong, S. I. (2014). Co-residence and intergenerational support exchange: Does geography matter? Ageing and Society, 34(7), 1191–1214. https://doi.org/10.1017/S0144686X13000403

Mosor, E., Waldherr, K., Kjeden, I., Omara, M., Ritschl, V., Pinter-Theiss, V., Smolen, J., Hübel, U., & Stamm, T. (2019, March 1). An intergenerational program based on psycho-motor activity promotes well-being and interaction between preschool children and older adults: results of a process and outcome evaluation study in Austria. *BMC*

Public Health. https://www.semanticscholar.org/paper/An-intergenerational-program-based-on-psycho-motor-Mosor-Waldherr/be78c8ff6eef084db0cca9adf30f42a77e410616

Newman, S. (1997). *Intergenerational Programs: Past,Present and Future*. Taylor & Francis Group.

O'Shea, D. M., Dotson, V. M., Woods, A. J., Porges, E. C., Williamson, J. B., O'Shea, A., & Cohen, R. (2018, February 20). Depressive Symptom Dimensions and Their Association with Hippocampal and Entorhinal Cortex Volumes in Community Dwelling Older Adults. *Front Aging Neurosciences*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5826180/

Palestinian Central Bureau of Statistics, 2020. *Status of the Elderly and their CareRequirements in Palestine*. Ramallah, Palestine. https://www.pcbs.gov.ps/Downloads/book2533.pdf

Poelke, G., Ventura, M., Byers, A., Yaffe, K., Sudore, R., & Barnes, D. (2015, August).

Leisure activities and depressive symptoms in older adults with cognitive complaints. *International Psychogeriatrics*. https://www.cambridge.org/core/journals/international-Psychogeriatrics/article/abs/leisure-activities-and-depressive-symptoms-in-older-adults-with-cognitive-complaints/94F5351D62718D8B8DBA488BAC84C762

Pillemer, K., Burnes, D., Riffin, C., & Lachs, M. S. (2017). Elder abuse: Global situation, risk factors, and prevention strategies. The Gerontologist, 57(Suppl 2), S153–S162. https://doi.org/10.1093/geront/gnw004

Ibrahim, Qusai A. (2010). The problems of elderly people in Palestinian society. Umm Al- Qura University Journal of Social Sciences.

Sakurai, R., Yasunagab, M., Murayamab, Y., Ohbab, H., Nonakab, K., Suzukib, H., Sakumad, N., Nishib, M., Uchidae, H., Shinkaib, S., Rebokf, G. W., & Fujiwarab, Y. (2016, January 2). Long-term effects of an intergenerational program on functional

Capacity in older adults: Results from a seven-year follow-up of the REPRINTS study. *Archives of Gerontology and Geriatrics*. https://www.researchgate.net/publication/291013861_Long-term_effects_of_an_intergenerational_program_on_functional_capacity_in_older_adults_Results_from_a_seven-year_follow-up_of_the_REPRINTS_study

Teater, B. (2016). Intergenerational programs to promote active aging: the experiences and perspectives of older adults. Act Adapt Aging, 40, 1–19. doi:10.1080/01924788.2016.1127041

World Health Organization. (2020). *Decade of healthy ageing: baseline report* (Licence: CC BY-NC-SA 3.0 IGO).

Yasunaga, M. et al. (2016). Multiple impacts of an intergenerational program in Japan: evidence from the research on productivity through intergenerational sympathy project. Geriatrics & Gerontology International, 16(Suppl. 1), 98–109. doi:10.1111/ggi.12770.

Barlow, M. A., et al. (2020). The influence of stress and coping mechanisms on anxiety and depression in older adults. Aging & Mental Health, 24(4), 634-640.

Blazer, D. G. (2003). Depression in late life: Review and commentary. The Journals of Gerontology: Series A, 58(3), 155-165.

Cattan, M., et al. (2005). The impact of social isolation on mental health. Ageing & Mental Health, 9(4), 281-287.

Gonzalez, J. S., et al. (2010). Depression in the elderly: The role of stigma.

International Journal of Geriatric Psychiatry, 25(2), 117-124.

Gulgonet, E., et al. (2021). Anxiety disorders in older adults: A systematic review.

International Journal of Geriatric Psychiatry, 36(5), 782-793.

Kendall-Tackett, K. (2009). The health effects of the stress response. Journal of Trauma Practice, 8(2), 155-178.

Lyness, J. M., et al. (2007). The importance of identifying depression in older adults.

American Journal of Psychiatry, 164(4), 613-620.

Schuch, F. B., et al. (2016). Physical activity and depression in the elderly: A systematic review and meta-analysis. Sleep Medicine Reviews, 36, 1-11.

Unutzer, J., et al. (2002). Improving depression care for older adults: A randomized controlled trial. The Journal of the American Medical Association, 288(22), 2836-2845.

World Health Organization (WHO). (2021). Mental health of older adults. Retrieved from https://www.who.int.

Predny, M. L., & Relf, D. (2000, January). Interactions between Elderly Adults and Preschool Children in a Horticultural Therapy Research Program. *HortTechnology*.

Salari, S. M. (2002, July). Intergenerational partnerships in adult day centers: importance of age-appropriate environments and behaviors. *Gerontologist*. https://pubmed.ncbi.nlm.nih.gov/12040134/

Jarrot, S. E., & Bruno, K. (2003, January). Intergenerational activities involving persons with dementia : An observational assessment. *American Journal of Alzheimer's Disease and Other Dementia*

Jarrot, S. E., & Bruno, K. (2007, June 1). Shared Site Intergenerational Programs: A Case Study. *Journal of Applied Gerontology*. https://journals.sagepub.com/doi/10.1177/0733464807300225

Lee, M. M., Camp, C. J., & Malone, M. L. (2007, September). Effects of intergenerational Montessori-based activities programming on engagement of nursing home residents with dementia. *Clinical interventions in aging*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2685273/

White, H., & Sabarwal, S. (2014, September). *Quasi-Experimental Design and Methods* (Methodological Briefs: Impact Evaluation 8, ed.). UNICEF. file:///home/chronos/u-03afc62487faf506b49261f15318b58f461564fe/MyFiles/Downloads/Brief_8_quasi-experimentaldesign_eng%20(1).pdf

Skropeta, M. C., Colvin, A., & Sladen, S. (2014, October 8). An evaluative study of the benefits of participating in intergenerational playgroups in aged care for older people. *BMC Geriatrics*. https://bmcgeriatr.biomedcentral.com/articles/10.1186/1471-2318-14-109

Low, L. F., Russell, F., McDonald, T., & Kauffmann, A. (2015, August 31). Grandfriends, an Intergenerational Program for Nursing-Home Residents and Preschoolers: A Randomized Trial. *Journal of Intergenerational Relationship*. https://doi.org/10.1080/15350770.2015.1067130

Bernal, J. A., Andrews, N., & Amirthalingam, G. (2018, October 22). The Use of Quasi-experimental Designs for Vaccine Evaluation. *Clinical Infectious Diseases*. https://academic.oup.com/cid/article/68/10/1769/5140188?login=true

Chao, M. C. (2019, January 1). A Study on the Effects of Children's Attitude toward Elder by Intergenerational Programs. *International Journal of Information and Education Technology*.

Miller, C. J., Smith, S. N., & Pugatch, M. (2019, June 20). Experimental and quasi-experimental designs in implementation research. *Psychiatry Research*. https://www.sciencedirect.com/science/article/pii/S0165178119306833

Wendland, J., & Parizet, L. (2022, March 9). Benefits and challenges of intergenerational child daycare and senior programs or facilities: A systematic review of the literature. *Annales Medico Psychologiques*. https://www.sciencedirect.com/science/article/abs/pii/S0003448722000634

Sawchuk, C. (2022, October 14). *Depression - major depressive disorder*. Mayo Clinic.

Retrieved April 8, 2023, from https://www.mayoclinic.org/diseases-

conditions/depression/symptoms-causes/syc-20356007

Appendices

Appendix A: IRB Approval

Arab American University- Palestine
Deanship of Scientific Research
IRB committee
Tel: 04-241-8888, ext 1196
E-mail: irb.aaup@aaup.edu

الجامعة العربية الامريكية- فلسطين
عمادة البحث العلمي
لجنة أخلاقيات البحث العلمي
تلفون: 1196 ext 04-241-8888
البريد الالكتروني: irb.aaup@aaup.edu

IRB Approval Letter

Study Title: The effect of the intergenerational weekly sessions program on depression, stress and anxiety among elderly people in elderly homes in north Palestine; a quasi-experimental study

Submitted by: Essa Mansour Majeed Daibes

Date received: 12th October 2023
Date reviewed: 29th October 2023
Date approved: 29th October 2023

Your Study titled "**The effect of the intergenerational weekly sessions program on depression, stress and anxiety among elderly people in elderly homes in north Palestine; a quasi-experimental study**" With archived number 2023/A/142/N was reviewed by the Arab American University IRB committee and was approved on 29th October 2023.

Reham Khalaf-Nazzal, MD, PhD
IRB committee chairman
Arab American University of Palestine

General Conditions:

Appendix B: Informed Consent

Arab American University
Scientific Research Deanship
Ethical Review Committee

الجامعة العربية الأمريكية
عمادة البحث العلمي
لجنة اخلاقيات البحث العلمي

AAUP-IRB Code No.: 202113419.

AAUP-IRB Date: …….

I, ... *(Name of Participant / optional)* hereby agree

to take part in the clinical research (clinical study/questionnaire study/drug trial) specified below:

Title of Study: The effect of the intergenerational weekly sessions program on stress, depression and anxiety among elderly people in elderly homes in West Bank; a quasi-experimental study……, Fulfillment of a Master's degree, in Adult-Medical-Surgical Master, in AAUP.
(Name of program)

The nature and purpose of which has been explained to me by Essa Daibes. , and interpreted by...Essa Daibes.. to the best of his/her ability in English.

I have been told about the nature of the research in terms of methodology, possible adverse effects and complications (as per Participant Information Sheet).

After knowing and understanding all the possible advantages and disadvantages of this research, I voluntarily consent of my own free will to participate in the clinical research specified above.

I understand that I can withdraw from this research at any time without assigning any reason whatsoever.

Date: ……...……..….. Signature: ……

(Participant)

IN THE PRESENCE OF:

Name: Essa Daibes..……

Designation: ……Registered Head Nurse of Beit Afram ……

Signature: Essa Daibes.……

Appendix C: Depression, Anxiety and Stress Scale - 21 - Arabic Version

Arabic Memory Screening Test

Name: _____ Age: _____

Performed By: _____ Date:_____

Orientation To Time: **No Score**

1. في أي سنة نحن الآن؟ _____
2. في أي شهر نحن الآن؟ _____

Orientation to Place: **No Score**

3. في أي دولة نحن الآن؟ _____
4. في أي مدينة نحن الآن؟ _____
5. ما هو المكان الذي نحن فيه الآن أو في أي مبنى؟ _____

أو ماهو العنوان الذي نحن فيه الآن؟

Registration: **No Score**

Name 3 objects. Then ask the client to repeat them after you have said them all. Give 1 point for each correct answer. Repeat up to 5 times if needed.

ممكن أن تعيد أو تكرر الأشياء التالية:

(قطة، تفاحة، طاولة) أو (طاولة، قطة، سيارة) أو (كرة، سيارة، رجل)

Concentration & Attention: **Score: / 4**

- **ممكن تقول أسماء الشهور بالعكس .. إبتداءاً بذي الحجة أو ديسمبر** Score: /2

- **ممكن تقول الأيام بالعكس إبتداءاً بيوم الجمعة** Score: /2

(No Errors – 2 points, 1 Error – 1 point, 2 or more Errors – 0 points)

Delayed Recall: **Score: /3**

ماهي الكلمات التي طلبت منك حفظها؟ _____ _____ _____

Reference:
- Folstein's MMSE 1975 & translated Arabic MMSE by Farrag 2004
- Behavioural Neurology Assessment (BNA) by Darvesh 2002

Arabic DASS21

اسم:_____ التاريخ:_____

اقرأ كل من النصوص التالية ثم ضع دائرة حول الرقم ٠،١،٢ أو ٣ الذي يبين درجة انطباق هذا الشعور عليك في الأسبوع الماضي. لا يوجد إجابات صحيحة أو خاطئة. لا تقضي وقتاً طويلاً في أي منها.

استعمل التقديرات التالية:

٠ لا ينطبق عليّ بتاتاً
١ ينطبق عليّ بعض الشيء أو قليلاً من الأوقات
٢ ينطبق عليّ بدرجة ملحوظة أو بعض الأوقات
٣ ينطبق عليّ كثيراً جداً، أو معظم الأوقات

١	وجدت صعوبة في الاسترخاء والراحة	٠	١	٢	٣
٢	شعرت بجفاف في حلقي	٠	١	٢	٣
٣	لم يبدو لي أن بإمكاني الإحساس بمشاعر إيجابية على الإطلاق	٠	١	٢	٣
٤	شعرت بصعوبة في التنفس (شدة التنفس السريع، اللهثان بدون القيام بمجهود جسدي مثلاً)	٠	١	٢	٣
٥	وجدت صعوبة في أخذ المبادرة بعمل الأشياء	٠	١	٢	٣
٦	كنت أميل إلى ردة فعل مفرطة للظروف والأحداث	٠	١	٢	٣
٧	شعرت برجفة (باليدين مثلاً)	٠	١	٢	٣
٨	شعرت بأنني أستهلك الكثير في الطاقة العصبية (شعرت بأنني أستهلك الكثير من قدرتي على تحمل التوتر العصبي)	٠	١	٢	٣
٩	كنت خائفاً من مواقف قد أفقد فيها السيطرة على أعصابي واسبب إحراجاً لنفسي	٠	١	٢	٣
١٠	شعرت بأن ليس لدي أي شيء أتطلع إليه	٠	١	٢	٣
١١	شعرت بأنني مضطرب ومنزعج	٠	١	٢	٣
١٢	أجد صعوبة في الاسترخاء	٠	١	٢	٣
١٣	شعرت بالحزن والغم	٠	١	٢	٣
١٤	كنت لا أستطع تحمل أي شيء يحول بيني وبين ما أرغب في القيام به	٠	١	٢	٣
١٥	شعرت بأنني على وشك الوقوع في حالة من الرعب المفاجئ بدون سبب	٠	١	٢	٣
١٦	فقدت الشعور بالحماس لأي شيء	٠	١	٢	٣
١٧	شعرت بأن قيمتي قليلة كشخص	٠	١	٢	٣
١٨	شعرت بأنني أميل إلى الغيظ بسرعة	٠	١	٢	٣
١٩	شعرت بضربات قلبي بدون مجهود جسدي (زيادة في معدل الدقات، أو غياب دقة قلب، مثلاً)	٠	١	٢	٣
٢٠	شعرت بالخوف بدون أي سبب وجيه	٠	١	٢	٣

Appendix (D) General Health Questionnaire SF-36 - Arabic Version

استبيان صحي

الجنس☐ ذكر
☐ انثى

العمر_____سنة

المؤهل العلمي: ابتدائي ☐
اعدادي ☐
ثانوي ☐
بكالوريوس ☐
ماجستير ☐
دكتوراه ☐

من فضلك، أجب على كل الأسئلة الموجودة في هذا الاستبيان. في حالة عدم وضوح أي سؤال، أرجو اختيار أقرب اجابة لمفهومك للسؤال.

١- بصورة عامة، كيف ترى حالتك الصحية؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

☐ ممتازة
☐ جيدجدا
☐ جيدة
☐ لا بأس بها
☐ سيئة

٢- **مقارنة بعام مضى**، كيف تقيم حالتك الصحية **الآن** بصورة عامة؟

(اختر اجابة واحدة وضع علامة ✓ أمام الاجابة المناسبة)

☐ أفضل بكثير مما كانت عليه قبل عام
☐ أفضل نوعا ما من العام الماضي
☐ تقريبا على ما هي عليه
☐ أسوأ نوعا ما من العام الماضي
☐ أسوأ بكثير مما كانت عليه قبل عام

٣- تتعلق البنود التالية بأنشطة يمكن ان تقوم بها خلال يومك العادي، **في الوقت الحالي**، الى اي مدى **تقيدك حالتك الصحية**:	(اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)		
	نعم تقيدني كثيرا	نعم تقيدني قليلا	لا تقيدني اطلاقا
أ) من ممارسة **الأنشطة الشاقة** مثل: الجري، حمل الاشياء الثقيلة او مزاولة الأنشطة الرياضية المجهدة جدا؟	☐	☐	☐
ب) من ممارسة **الأنشطة متوسطة الجهد**، كتحريك الطاولة او التنظيف باستخدام المكنسة الكهربائية او تنظيف حديقة المنزل والعناية بها ؟	☐	☐	☐
ج) من حمل المشتريات من البقالة او السوق المركزي (السوبرماركت)؟	☐	☐	☐
د) من صعود الدرج **لعدة ادوار**؟	☐	☐	☐
هـ) من صعود الدرج **لدور واحد فقط**؟	☐	☐	☐
و) من الانحناء او الركوع او السجود ؟	☐	☐	☐
ز) من المشي لأكثر من **كيلومتر ونصف**؟	☐	☐	☐
ح) من المشي **لمسافة نصف كيلومتر**؟	☐	☐	☐
ط) من المشي **لمسافة مئة متر**؟	☐	☐	☐
ي) من الاستحمام او ارتداء الملابس بنفسك؟	☐	☐	☐

الصحة الجسمية

٤- تتعلق البنود التالية (أ ، ب ، ج ، د) بالمشاكل التي يمكن ان تواجهـــك خلال تأديتك لعملك او للأنشطة اليومية المعتادة نتيجة لحالتك الصحية الجسمية. **خلال الأسابيع الأربعة الماضية**، هل تسببت حالتك الصحية الجسمية في:	نعم	لا
أ) **التقليل من الوقت** الذي تقضيه في العمل او اي انشطة اخرى؟	☐	☐
ب) **التقليل** مما تود **انجازه** من العمل أو أي أنشطة أخرى؟	☐	☐
ج) **تقييدك في أداء نوع** معين من الأعمال أو أي أنشطة أخرى؟	☐	☐
د) **أن تجد صعوبة في** تأدية العمل أو أي أنشطة أخرى؟ (على سبيل المثال، احتجت الى جهد اضافي لتأديتها)	☐	☐

(اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)

الصحة النفسية

٥- تتعلق البنود التالية (أ ، ب ، ج) بالمشاكل التي يمكن ان تواجهك خلال تأديتك لعملك او الانشطة اليومية المعتادة كنتيجة لحالتك الصحية النفسية. (مثلا الشعور بالاكتئاب او القلق) **خلال الاسابيع الأربعة الماضية**، هل تسببت حالتك الصحية النفسية في:	نعم	لا
أ) **التقليل من الوقت** الذي تقضيه في العمل او اي انشطة اخرى؟	☐	☐
ب) **التقليل** مما تود **انجازه** من العمل أو أي أنشطة أخرى؟	☐	☐
ج) **عدم انجاز** العمل او اي انشطة اخرى **بالحرص المعتاد**؟	☐	☐

(اختر اجابة واحدة وضع علامة ✓ تحت الاجابة المناسبة)

Appendix D: Raw data of results to the DASS-21 and the SF-36

	Pretest										
	DASS-21			SF-36							
	Depression	Anxiety	Stress	General health	Pain	Social functioning	Emotional well-being	Fatigue /Energy	Role limitation due to emotional problems	Role limitation due to physical health	Physical functioning
P1	16	12	14	30	60	40	30	20	50	40	50
P2	18	14	16	30	40	15	20	35	25	40	30
P3	20	18	18	25	30	15	20	40	40	15	15
P4	10	12	12	40	15	40	40	25	45	55	50
P5	14	12	16	50	20	40	45	30	35	25	60
P6	8	12	10	40	60	10	15	50	30	65	35
P7	18	20	18	20	70	5	10	40	40	80	15
P8	16	10	10	45	30	40	50	30	35	45	60
P9	18	20	16	60	40	25	30	50	20	45	70
P10	12	14	12	25	80	10	15	60	50	90	20
P11	16	14	12	70	30	40	45	35	15	55	80
P12	14	10	8	40	15	70	50	20	60	75	80
P13	10	8	14	40	60	90	35	55	35	60	75
P14	8	10	10	45	35	30	40	30	35	45	45
P15	20	18	22	65	20	35	50	60	55	45	50
P16	16	20	14	40	70	30	20	55	45	80	25
P17	18	18	18	60	40	35	50	45	30	55	70
P18	12	16	14	30	60	20	25	50	40	70	15
P19	14	16	12	25	70	10	15	65	50	80	20
P20	16	18	14	35	45	40	55	40	20	60	55
P21	12	16	14	35	70	15	20	60	40	75	10
P22	10	8	12	45	50	30	40	50	25	55	40

	Posttest										
	DASS21			SF36							
	Depression	Anxiety	Stress	General health	Pain	Social functioning	Emotional well-being	Fatigue Energy	Role limitations due to emotional l problems	Role limitations ns due to physical health	Physical functioning
P1	14	8	12	35	60	40	40	25	55	40	50
P2	18	12	14	30	40	20	20	40	30	40	30
P3	16	16	18	25	25	15	25	40	45	15	10
P4	10	10	12	45	20	40	40	30	45	60	50
P5	16	12	14	50	20	40	50	30	35	25	60
P6	8	10	12	40	55	15	15	50	30	65	35
P7	16	18	16	30	70	25	10	40	40	75	20
P8	14	12	8	45	30	45	50	30	40	45	60
P9	14	16	16	60	50	25	30	50	20	50	70
P10	10	12	12	25	80	10	20	60	50	80	20
P11	14	12	10	65	30	35	50	40	15	55	75
P12	14	10	8	50	30	70	50	25	60	75	80
P13	10	6	12	40	60	90	35	50	35	65	75
P14	8	10	10	45	35	30	40	30	35	45	45
P15	18	18	20	55	20	35	50	45	55	45	45
P16	14	18	14	40	75	30	25	55	45	70	25
P17	16	16	18	60	40	40	55	45	40	60	70
P18	12	14	12	35	60	30	25	50	40	70	15
P19	12	16	12	25	70	15	20	65	50	80	20
P20	14	16	12	50	40	40	55	45	20	60	55
P21	12	14	14	40	70	15	25	55	40	75	15
P22	10	10	14	40	50	35	40	50	25	55	40

	Pretest											
	DASS-21				SF36							
	Depression	Anxiety	Stress		General health	Pain	Social functioning	Emotional well-being	Fatigue /Energy	Role limitations due to emotional problems	Role limitations due to physical health	Physical functioning
P1	14	12	16	14,00	60	30	45	55	25	15	50	70
P2	14	14	18	15,33	35	50	25	25	40	35	65	65
P3	20	16	18	18,00	30	35	35	30	55	45	75	45
P4	12	10	12	11,33	45	45	30	20	45	50	60	50
P5	14	12	14	13,33	35	55	25	35	55	55	70	30
P6	8	10	10	9,33	55	35	45	55	30	20	55	60
P7	20	20	18	19,33	50	30	35	45	25	15	50	50
P8	16	14	12	14,00	50	35	45	50	35	25	45	55
P9	16	20	18	18,00	45	50	60	25	45	40	75	35
P10	14	14	12	13,33	50	50	35	25	40	45	55	45
P11	14	12	16	14,00	40	40	30	20	30	30	60	35
P12	12	10	12	11,33	30	60	20	15	40	40	70	25
P13	8	12	14	11,33	35	55	45	20	50	50	60	40
P14	12	10	12	11,33	30	45	25	25	35	35	50	50
P15	22	20	18	20,00	30	50	20	25	55	45	55	30
P16	18	18	16	17,33	35	45	25	30	50	40	60	30
P17	18	16	18	17,33	30	40	20	25	60	50	70	40
P18	10	12	14	12,00	50	40	15	20	65	50	60	35
P19	14	14	12	13,33	45	50	30	35	60	40	55	45
P20	16	16	14	15,33	45	60	25	35	50	45	50	40
P21	12	14	16	14,00	45	25	35	40	45	25	50	45

تأثير البرنامج بين الأجيال على الضغط النفسي والقلق والاكتئاب وجودة الحياة لكبار السن في دور المسنين بالضفة الغربية– دراسة شبه تجريبية.

عيسى منصور مجيد دعيبس

د. ساجد غوادرة

د. عماد ابو خضر

د.خلف عليات

ملخص

المقدمة:

تمثل البرامج البينجيلية (Intergenerational Programs - IGPs) نهجاً ابتكارياً لمعالجة التحديات المتعددة الأبعاد المرتبطة بتقدم السكان في العمر. إذ يواجه كبار السن العديد من المشكلات الفسيولوجية والنفسية والاجتماعية التي قد تسهم في زيادة مستويات التوتر والقلق والاكتئاب، مما ينعكس سلباً على جودة حياتهم. وتبرز الحاجة إلى تحسين جودة الحياة لدى المسنين في ظل محدودية أساليب العلاج المتاحة لحالات التوتر والقلق والاكتئاب في دور رعاية المسنين، والتي تُعزى غالباً إلى مظاهر سريرية غير نمطية لهذه الاضطرابات في هذه الفئة العمرية.

الأهداف:

هدفت هذه الدراسة إلى تقييم أثر البرنامج البينجيلي على مستويات التوتر والقلق والاكتئاب وجودة الحياة لدى كبار السن المقيمين في دور رعاية المسنين في الضفة الغربية.

المنهجية:

أُستخدم في هذه الدراسة تصميم شبه تجريبي (quasi–experimental design) بتطبيق اختبار قبلي–بعدي لمجموعتين (تجريبية وضابطة)، مع دمج المنهجين الكمي والنوعي في جمع البيانات. تم استخدام مقياس DASS–21 لقياس مستويات الضغوط النفسية، القلق، والاكتئاب، ومقياس SF–36 لتقييم جودة الحياة قبل وبعد تنفيذ البرنامج. كما أُجريت ملاحظات نوعية لفهم تجارب المشاركين بشكل أعمق.

اعتمدت الدراسة أسلوب العينة القصدية (purposive sampling)وبلغ حجم العينة (22) من كبار السن. نُفّذ البرنامج البينجيلي على مدار ستة أسابيع، بهدف ربط الأجيال الشابة بالأجيال

الأكبر سناً من خلال أنشطة مشتركة تُعزّز التواصل الإيجابي، وتُنمّي الفوائد المتبادلة، وتُقلّل الفجوة الاجتماعية بين الأجيال.

النتائج:

أظهرت التحليلات الكمية وجود تأثير إيجابي ذي دلالة إحصائية للبرنامج البينجيلي على مستويات التوتر والقلق والاكتئاب وجودة الحياة لدى المشاركين من كبار السن، حيث كانت قيمة ($p < 0.05$) لكل من مؤشرات الاضطرابات النفسية وجودة الحياة. وتم تسجيل انخفاض ملحوظ في مستويات التوتر والقلق والاكتئاب، إلى جانب تحسّن واضح في جودة الحياة بعد المشاركة في أنشطة البرنامج، وذلك استناداً إلى التحسن الإحصائي في درجات مقياس DASS-21. كما دعمت النتائج النوعية هذه النتائج، حيث كشفت عن زيادة في التفاعل الاجتماعي والمشاركة العاطفية وتعزيز الروابط بين الأجيال أثناء تنفيذ البرنامج. وقد عبّر المشاركون عن شعورهم بالرضا والارتباط الإيجابي مع الجيل الأصغر، مما عكس الأثر الشامل للبرنامج على النواحي النفسية والاجتماعية لديهم.

الاستنتاج:

تُبرز هذه الدراسة الأثر الإيجابي للبرامج البينجيلية في خفض مستويات التوتر والقلق والاكتئاب لدى كبار السن، وتحسين جودة حياتهم. وتؤكد النتائج أهمية تطوير وتنفيذ تدخلات موجهة ومتكيفة مع احتياجات المسنين النفسية والاجتماعية، مع ضرورة معالجة التحديات اللوجستية لضمان استدامة مثل هذه البرامج.

الكلمات المفتاحية: القلق، الشيخوخة، الاكتئاب، التوتر، جودة الحياة.