



Intergenerational communication and elderly well-being

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ABSTRACT

Background: Mental fitness and well-being are essential elements of human life. They help humans overcome hardships and fulfill their desires successfully. This study looked at the effects of interaction with children on well-being among the elderly.

Methods: A quasi-experimental pretest-posttest control group design was employed, and the institutionalized elderly were selected using a purposive sampling method. They were then allocated equally into experimental and control groups. Children included in the study were selected based on a validated rating scale that measured their attitude towards the elderly. The WHO (five) well-being index was used to gather data. The elderly in the experimental group had an opportunity to interact with the children once a week for 12 weeks whereas the control group didn't have access to the children.

Results: There was a significant difference ($P < 0.001$) in the mean posttest scores of well-being among the elderly in the experimental group (81.76 ± 11.56) when compared to the control group (37.02 ± 14.13).

Conclusion: The findings of this study suggest that the interaction with children promotes well-being among the elderly. Interaction of children with the elderly residing in the elderly homes can be included as a part of the curriculum in schools and it may contribute to the holistic development of children's attitude.

1. Introduction

The globe is confronting a demographic revolution. The number of individuals over age 60 is rapidly rising in nearly every country. The boom is mainly because of the improved longevity, dipping fertility, and betterment in health.¹ The statistics of 2021 revealed that there are 138 million elderly in India, including 67 million men and 71 million women. An increase of almost 34 million elderly was seen in 2021 over the population census of 2011. By 2031, this number is expected to increase by 56 million. The increasing portion of the elderly is one of the most remarkable social transformations of the 21st century, which has implications on various sectors, including the family network and intergenerational connections.²

Family is the immediate source of support for the elderly. Family provides emotional, physical, and economic aid to them.³ But owing to rapid automation, family patterns are altering drastically. Youths are less likely to adopt the joint family system and share the obligations of caring for their elderly.⁴ As per the 2001 census, 51.7% of families in India were nuclear, while the share increased to 52.1% in the 2011 census. The joint family count fell drastically from 19.1% to 16.1%

across India.⁵ This transition in the family arrangement has resulted in the emergence of elderly homes. In 2016, there were roughly 500 elderly homes in India, while the number has risen to 728 by 2021. It is estimated that there could be an annual increase of around 25% of the elderly homes in India.^{6,7}

In the elderly homes, the residents encounter loneliness and depression, either due to living isolated or lacking close family associations and less contact with their peers.⁸ A study undertaken to analyze the relationships among depression, loneliness, and sociability in older people documented a remarkable association between depression and loneliness.⁹

Well-being in the old age can be boosted by maintaining a healthy lifestyle, upholding social interactions, strengthening social networks, creating a more profound spiritual bond, and playing games.^{10,11} Association with children is an intervention that has benefited the elderly in many ways. Intergenerational programs provide contact and communication between the children and elderly¹² and help alleviate elderly loneliness, anxiety, and depression.^{13,14} The literature also presents that interaction with the children can enhance well-being,^{15,16} boost social contact,¹⁷ and reduce distress¹⁸ in the elderly. The present

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study has thus desired to assess the effect of interaction with children on the elderly well-being in an Indian setting.

2. Materials and methods

2.1. Design

A quasi-experimental pre-test post-test control group design was utilized to evaluate the effect of interaction with children on elderly well-being.

2.2. Study participants

Participants were ≥ 65 years, living in elderly homes of Mangaluru, Karnataka, India. The school children aged 7–14 years were involved in the interaction with the elderly.

2.3. Inclusion and exclusion criteria

Children who score >20 in the attitude towards the elderly scale and able to communicate in the language known to the elderly were included in the study. Elderly who were able to hear and interact with the children were included, while those with severe physical, mental and cognitive impairment were excluded from the study.

2.4. Sample size determination

The sample size was computed using nMaster software based on the SD of the preliminary work results. With a 5% level of significance and 90% power, the required sample was 40 per group. Assuming 10% attrition, each group needed 44 samples. A total of 84 elderly participated in the entire study. School children were chosen based on their score in the attitude towards the elderly scale.

2.5. Description of the procedure

Initially, two schools were chosen to find the students attitudes towards the elderly. A pretested, validated rating scale ($\alpha = 0.92$) was used to assess the attitude towards elderly among 52 school children. The scale had five sections, namely inclination, hygiene and moral values, ability to accept change, involvement, interest, and knowledge, with 20 items ranked in a three-point likert scale as agree, neutral, and disagree with maximum marks for agree for positive questions and disagree for negative questions. The scores ranged between 0 and 40. A total of 24 children who scored >20 were selected for the interaction with the elderly. A two-day training (around 8 hours) was given to the children, and the various activities planned in the interaction module were taught by the investigators themselves. The children were divided into groups, and the investigators taught them the various activities in the module through videos and live demonstrations. The interaction module comprised activities such as a welcome ceremony, pairing, board games, artwork, craftwork, storytelling, celebrating birthdays, action songs, riddles, games, an exhibition of work, and a concluding ceremony. The children were made to demonstrate every activity in the module, and their proficiency was assessed using a checklist.

Next, 88 elderly who passed the study's inclusion criteria were selected by purposive sampling technique and were divided equally into the experimental and control groups. Overall, attrition was 4.54% (three from the experimental and one from the control group). Hence 84 elderly only completed the study. Both groups were interviewed to assemble their demographic data and their level of well-being. The demographic proforma had 11 items. The WHO (five) well-being index is a short self-reported measure of current mental well-being that the WHO introduced. It has been found to have adequate validity in screening well-being. It has five statements scored on a six-point rating scale ranging from zero to five (5- all the time, 4- most of the time, 3- more

than half of the time, 2- less than half of the time, 1- some of the time, 0- at no time). The total raw score, ranging from 0 to 25, is multiplied by 4 to give the final score, with 0 indicating the worst imaginable well-being and 100 denoting the best imaginable well-being. The tool is free of cost and requires no permission to use.

The children interacted with the elderly in the experimental group once a week for 12 weeks for about 45–60 minutes. The interaction was virtual, involving five children and five elderly. The same set of the elderly and children was maintained for 12 weeks. The children and the elderly logged in from their respective settings through google meet. The investigators supervised both groups throughout the sessions. The video was displayed on an LED for better visualization, and audio was connected to the speakers for better audibility. The children introduced themselves and instructed the elderly on the various activities. The investigators provided the materials needed to the children and the elderly. Both groups completed the sessions with mutual interactions and communication. They were also free to discuss anything that interested them by the end of the weekly session. The control group of the elderly continued doing their daily routines and didn't have any interaction with the children. After 12 weeks of interaction, a post-test was conducted using the same well-being scale.

2.6. Statistical analysis

Descriptive statistics (mean, SD) was calculated for continuous data and frequency (percentage) for categorical data to learn the disposition of the study population. The effectiveness of the interaction was assessed by the improvement in the mean post-test scores of well-being compared with the mean pre-test. The *t*-test was applied to test for the level of significance in the well-being scores between the experimental and control groups. A *P* value <0.05 was considered to be statistically significant. Data was analyzed using the IBM SPSS version 23.

3. Results

3.1. Organization of the study findings

The data is presented under the following sections:

SECTION 1: Description of sample characteristics.

SECTION 2: Effectiveness of interaction with children on well-being among the elderly.

3.2. SECTION 1: Description of sample characteristics

The data presented in Table 1 indicates that majority (83.3%) of the children were females, most of the children belonged to nuclear families (54.2%), and had grandparents (87.5%). The mean age of the children was 12.13 ± 1.15 years, and the class of study was between 4th to 9th standard.

The mean age of the experimental group elderly was 71 ± 6.9 years, and the control group elderly was 69.65 ± 5.39 years. Majority of the elderly in either group were between 65 and 74 years of age. Table 2 shows that most of the elderly (75.6%) in the experimental group were females compared to the control group, with 34.9% females. Most (48.8%) of the elderly in the control group were unmarried, while 68.3% of the experimental group elderly were married. Both the groups had the

Table 1
Distribution of Children according to their Demographic Characteristics N = 24.

Characteristics of the children	Values
Gender	16.7% males, 83.3% females
Type of family	54.2% nuclear, 41.7% joint, 4.2% extended
Grandparents	87.5% yes, 12.5% no
Age	12.13 ± 1.15 years (range: 9–14 years)
Class of study	Range: 4–9th standard

Table 2
Frequency and percentage distribution of elderly as per the demographic characteristics N = 84.

Sl. No.	Variables	Experimental Group	Control Group	P value
		Frequency (%)	Frequency (%)	
1	Age (in years)			0.32
	a) 65-74	31 (75.6)	35 (81.4)	
	b) 75-84	8 (19.5)	7 (16.3)	
	c) 85-94	2 (4.9)	1 (2.3)	
2	Gender			<0.001*
	a) Male	10 (24.4)	28 (65.1)	
	b) Female	31 (75.6)	15 (34.9)	
3	Marital status			0.11
	a) Married	28 (68.3)	22 (51.2)	
	b) Unmarried	13 (31.7)	21 (48.8)	
4	Education			0.004*
	a) No formal education	15 (36.6)	6 (14)	
	b) Primary	22 (53.7)	25 (58.1)	
	c) Secondary and above	4 (9.7)	12 (27.9)	
5	Type of family			0.004*
	a) Nuclear	11 (26.8)	26 (60.4)	
	b) Joint	5 (12.2)	3 (7)	
	c) No family	25 (61)	14 (32.6)	
6	Contact with family			0.001*
	a) Yes	7 (17.1)	22 (51.2)	
	b) No	34 (82.9)	21 (48.8)	
7	Visitors			0.003*
	a) Yes	6 (14.6)	19 (44.2)	
	b) No	35 (85.4)	24 (55.8)	
8	Financial source			0.016*
	a) Supported by family	1 (24)	9 (20.9)	
	b) None	40 (97.6)	34 (79.1)	
9	Duration of stay			0.92
	a) < 1 year	7 (17.1)	9 (20.9)	
	b) 1-2 years	12 (29.3)	10 (23.3)	
	c) > 2 years	22 (53.6)	24 (55.8)	
10	Leisure activity			0.98
	a) Yes	23 (56.1)	24 (55.8)	
	b) No	18 (43.9)	19 (44.2)	
11	Comorbidities present			0.03*
	a) Yes	19 (46.3)	30 (69.8)	
	b) No	22 (53.7)	13 (30.2)	

highest elderly who completed their primary education. Sixty-one percent of the experimental and 32.6% of the control group elderly had no family. Majority of the (82.9%) elderly in the experimental group had no contact with their families, whereas 51.2% of the control group, maintained contact with their families. Either group had most of the elderly who reported no visitors at the elderly home and no financial support. The duration of stay in the elderly home was >2years for 53.6% and 55.8% of the experimental and control group elderly, respectively. Both groups had the highest participants participating in leisure activities. While 46.3% of the elderly in the experimental group had comorbidities, it was 69.8% in the control group.

Table 3
The pre-test and post-test results of the experimental and control groups N = 84.

Group	Pre-test well-being Mean (SD)	Post-test well-being Mean (SD)	Mean difference	Paired 't' value	Independent 't' value	P value
Experimental (n = 41)	38.54 (12.12)	81.76 (11.56)	-43.22	-22.6	-15.8	<0.001*
Control (n = 43)	38.7 (17.28)	37.02 (14.13)	1.674	1.46		

*- significant P <0.05.

3.3. SECTION 2: Effectiveness of interaction with children on well-being among the elderly

The mean well-being during the pre-test among the elderly in the experimental group was 38.54±12.12, and in the control group was 38.7±17.28. Whereas the mean well-being during the post-test in the experimental group was 81.76±11.56, and that of the control group was 37.02±14.13. A significant improvement (P <0.001) was noted in the experimental group compared to the control group. Thus, the study findings indicated that interaction with children effectively promotes well-being among the elderly (Table 3).

4. Discussion

The literature on happiness studies mainly involves the Western samples, also intergenerational research is not carried out in the Indian setting. Hence, a novel attempt is made by the researchers through this study.

Children play a vital role in the life of the elderly.¹⁹ Grandparent-grandchild relationship is emotionally close and predominantly compassionate in nature.²⁰ Conflict between parents and grandparents,²¹ and marital discord in the parental generation²² bear a negative impact on the grandparent-grandchild relationship. The elderly who have an important role in their children's life have better survival.²³ Social support, love and care from the children influences elderly well-being.²⁴ The present study has revealed that the interaction with the children effectively promotes the elderly well-being.

A review by Gualano et al.²⁵ on learning the influence of intergenerational programs stressed on the positive consequences of interaction for children and the elderly. Reported literature have shown that intergenerational activities positively influenced the elderly well-being, depression, self-reported health, and self-esteem. Also, the opportunity to nurture and mentor children helped in increasing the elderly self-esteem¹⁵ and self-worth.¹⁷ A study confirmed that the involvement with the children was helpful to promote intellectual activity and physical functioning in the older adults.²⁶ Morita and Kobayashi revealed that constructive behavior and intergenerational dialogue was higher in the elderly involved with the children.¹² Skropeta et al.²⁷ led a study which showed an improvement in the elderly's self-esteem, and dignity, and helped create a feeling of connectedness and companionship. A focused ethnographic evaluation on the intergenerational practice helped the children and the elderly to feel more socially included.²⁸ Another qualitative analysis revealed the perceived health benefits, sense of purpose and sense of usefulness, and relationships.²⁹

Belgrave and colleagues,³⁰ conducted a study which revealed a decrease in the negative descriptions of the elderly and an increase in the positive descriptions. But the study showed that there was no significant improvement in the psychological well-being of the elderly.

5. Limitations of the study

The present study was limited to four elderly homes, and the children between 7 and 14 years were involved in the interaction. The children and elderly interactions were only once a week for 12 weeks.

6. Conclusion

The study emphasizes the necessity to devise and enforce options for

the elderly to associate with the children and the need for various amusement ventures to be included in the organizations to maintain the elderly well-being. The results of this study highlight the need for activities that help raise the well-being and quality of life among the institutionalized elderly. The study can be conducted in other settings involving children with various age groups.

Ethical consideration

Ethical approval of the study was obtained from the Institution Ethics Committee of Nitte Usha Institute of Nursing Sciences, Nitte (Deemed to be University). The nature and purpose of the study were explained to the participants through a participant information sheet, and written informed consent was obtained from all participants. As the school children were minors, written consent from the parents and assent from the children, wherever applicable, were obtained. The participation in the study was on a voluntary basis, and participants were informed of their right not to participate in the study if they do not want to participate and the right to withdraw from the study at any point. Moreover, if the reports were made public confidentiality of the information was assured.

Summary of work done by the contributors

All four authors conceptualized the study. JMD and NK were involved in data acquisition. JMD and NK performed data analysis. JMD drafted the manuscript while AC and NK critically revised the manuscript. All authors read and approved the final version of the manuscript.

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Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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