

# The Impact of Inter-Generational Relationships on Depressive Symptoms in Elderly Parents in Rural Jammu, India

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## ABSTRACT

**Background:** Given the paucity of literature in the Jammu region on intergenerational relationships that contribute to a connected society promoting empathy and family support, this study was undertaken to evaluate its effect on depressive symptoms in older parents. The aim of this study was to examine patterns of intergenerational relationships between aging parents and their adult children.

**Setting and design:** A cross-sectional study conducted in Darsopur village in R S Pura block, Jammu district.

**Methods and Material:** This cross-sectional study was conducted on 350 male and female adults living in Darsopur village in RS Pura block of Jammu district. Study participants were selected using two-stage simple random sampling. Results were determined by ANOVA and binary logistic regression using IBM SPSS Statistics for Windows, version 20.0.

**Results:** The mean score with standard deviation for the Geriatric Depression Score was  $3.97 \pm 3.78$ , indicating a lower level of depressive symptoms. Binary logistic regression analysis revealed that consensual normative solidarity was inversely associated with depression.

**Conclusions:** The present research results showed a higher mean score of solidarity between parents and their children, which can be attributed to the fact that the study was conducted in rural India.

**Keywords:** Aging Parents, Consensual Normative Solidarity, Intergenerational Depression, Simple Random Sampling

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## INTRODUCTION

Intergenerational relationships between adult parents and children in India are complex and dynamic, influenced by various factors such as family structure, socio-economic status, cultural values and personal preferences. Intergenerational relationships are characterized by mutual care and support, an emotional bond and respect for older people. However, social developments such as a narrowing family structure and more time spent on adult education can bring more strain and discord into relationships affecting older people's mental well-being.<sup>1</sup> In the complex amalgam of human relationships, the bond between parents and their children occupies a pivotal position that shapes the development of an individual. The association between intergenerational relationships and depressive symptoms in older parents is mediated by the intimate emotional bond between aging parents and adult children. Receipt of financial support and close living proximity have been found to be associated with lower levels of depression and better psychological well-being in older adults.<sup>2</sup> As countries and regions in Asia develop economically and become more urban, family support for the elderly is declining. The Indian subcontinent experienced these transitional changes. But despite the changes in the structures and functions of Indian societies, families maintain the norms of social hierarchy (considering the elderly as an important part), cultural styles and way of life.<sup>3</sup> Contemporary sociologist Bengtson et al. developed the theory of intergenerational solidarity, an overarching concept describing the feelings, behaviours and attitudes between aging parents and their adult children. Intergenerational relations are understood as any form of exchange between generations. Six dimensions of exchange are distinguished, namely structural, associative, affective, consensual, normative and functional solidarity. The structural dimension refers to measures such as spatial distance and proximity to housing, housing arrangements, availability of relatives, parents, children and siblings, as well as their marital status, health status and work arrangements. The associative dimension refers to the richness of intergenerational contact and the level of communication face-to-face, by telephone, email or other means. The affective dimension includes emotional closeness, experiences, bond strength, and conflict as measures of the quality of the relationship between children and their parents. The consensual dimension refers to the level of agreement in values and cultural beliefs. It involves a degree of harmony and consensus in terms of attitudes, principles and norms across generations. The normative dimension refers to the level of social expectations, established conventions and the fulfilment of parental duties by the relevant family members. The functional dimension measures all kinds of financial and educational support, problem solving, caregiving, and emotional interdependence exchanged between parents and children.<sup>4</sup> Depression in older adults has become a

significant global public health problem that requires comprehensive attention and interventions. Globally, older parents are disproportionately affected by depression. High rates of depression among older adults have been attributed to multifaceted factors including social isolation, loss of social roles, and limited access to mental health resources.<sup>5</sup> The protective effect of strong social ties, engaging in social activities, maintaining friendships, and participating in community interactions is consistently associated with a reduced risk of geriatric depression in parents or older adults. The importance of these relationships is particularly pronounced in the family context, where family structures serve as essential sources of emotional support and companionship for older individuals.<sup>6</sup>

In this context, this study was designed to investigate the following questions: (1) assessment of geriatric depression scores in elderly parents and its association with various sociodemographic factors, (2) quality of intergenerational relationships between elderly parents and their adult children, (3) association between different domains of intergenerational relationships (i.e., structural-associational solidarity, consensual-normative solidarity, emotional closeness, intergenerational conflict) and depressive symptoms among parents.

## METHODOLOGY

This was a Cross-sectional analytical study.

**Place of Study:** One health zone out of eight zones in RS Pura block which happens to be the domain of Post Graduate Department of Community Medicine GMC Jammu was selected and one village i.e. Darsopur in this health zone was selected for data collection using two stage simple random sampling. Study population: The study was conducted in the adult population with at least one child above 18 years of age residing in village Darsopur, Block RS Pura of Jammu district. Duration of the study: The study was conducted for a period of 3 months (December to February 2023). Informed consent procedure: The purpose of the study was explained to participants before data collection, and those who agreed to participate in the study were asked to give written informed consent in the presence of a witness. Interviews were conducted in a separate room and anonymity was ensured. Illiterate participant's thumbprint was recorded on the consent form.

**Inclusion criteria:** Family domiciled in Jammu district (living in Darsopur for more than 10 years), having at least one child aged >18 years and gave written consent for participation were included in the study.

**Exclusion criteria:** The participants who were very ill or in no condition to provide correct information were excluded from the study.

**Sample Size:** Darsopur village has a total of 479

House-holds out of which 193 households had parents with adult children (above 18 years). All these households were visited by an interviewer in order to collect data from the parents. In 157 households both parents of adult children were interviewed, while in 36 households only one parent was present because the other parent had either died or they were divorced. This completed the total sample size of 350. Data Collection Instrument: A pre-prepared questionnaire was used to collect socio-demographic data, which included participants' name, age, gender, marital status, family income, family type, education and occupation. The quality of intergenerational relationships was measured using the validated Intergenerational Relationship Quality Scale for Aging Parents (IRQS-AP). This scale consists of 13 items covering four key areas of relationships: structural-associational solidarity, consensual-normative solidarity, emotional closeness, and intergenerational conflict. Measures of structural-associational solidarity included residential proximity between parents and children, frequency of personal contact between aging adults and their children. Affective closeness was measured by asking participants how well they get along with their children and how often they receive gifts or money from their adult children. Consensual-normative solidarity was assessed according to the similarity of shared views on social and political issues and the perception of family responsibility for the care of elderly relatives. Intergenerational conflict was assessed by the frequency of tension and strained feelings between aging parents and their children; the frequency of parents who feel that their children require too much of their help and support, or children who are overly critical of their parents. Cronbach's alphas for consensual-normative solidarity, structural-associative solidarity, emotional closeness, and intergenerational conflict were 0.873, 0.628, 0.667 and 0.713, respectively. Total IRQS-AP scores ranged from 13 to 65, with higher scores indicating higher quality of intergenerational relationships. Depressive symptoms were assessed using the 15-item Geriatric Depression Scale, which has been shown to be a suitable and valid scale for measuring depression in older adults. A score of 0–4 is considered normal, 5–8 indicates mild depression, 9–11 indicates moderate depression, and 12–15 indicates severe depression. The scale demonstrated satisfactory internal consistency in our sample (Cronbach's alpha = 0.874).

**Data collection procedure:** After explaining the purpose of the study, the interviewer obtained written informed consent from the parents before starting the interview. The questions were translated into the local language of the respondents by the interviewer and then back-translated for analysis. Each interview lasted approximately 30 minutes to obtain complete information.

**Ethical Considerations:** Ethical approval was obtained from the Institutional Ethics Committee (IEC) of GMC Jammu. (No.: IEC/GMCJ/2023/1644) Statisti-

cal analysis: The completeness of the data obtained from the respondents was checked. The data were then entered into MS Excel spreadsheets and categorized and tabulated using Microsoft Excel (version 2009). Qualitative data were presented as number and percentage and quantitative data as mean ( $\pm$  SD). Associations of the quality of parents' intergenerational relationships with their adult children and the presence of depressive symptoms among parents, if any, were determined using ANOVA and binary logistic regression using IBM SPSS Statistics for Windows version 20.0.  $P < 0.05$  was considered statistically significant.

## RESULTS

The parental age is significantly related to the presence of depressive symptoms ( $p = 0.000$ ) with the highest score among those aged  $>65$  years ( $7.0 \pm 4.57$ ). Women had higher geriatric depression scores ( $4.34 \pm 3.97$ ) compared to men. Higher scores were also observed for farmers ( $5.25 \pm 4.76$ ) and home makers ( $4.98 \pm 4.11$ ). Parents who were illiterate also had higher geriatric depression scores ( $6.88 \pm 4.66$ ). Sociodemographic variables found to be significantly associated with the presence of depression were parental age, number of children, employment status, educational level, and marital status ( $p < 0.05$ ). The mean geriatric depression score was 3.97 with a standard deviation of 3.78.

The majority of the participants (67.7%) had a Geriatric Depression Score  $< 5$ , indicating a lower likelihood of depression. A smaller proportion (32.3%) had a Geriatric Depression Score  $\geq 5$ , indicating a higher likelihood of depression.

The results showed that the mean scores of consensual-normative solidarity, structural-associational solidarity, emotional closeness, and intergenerational conflict were  $3.36 \pm 0.816$ ,  $3.81 \pm 0.957$ ,  $3.32 \pm 0.764$ , and  $2.61 \pm 0.836$ , respectively. The item total correlation of consensual-normative solidarity was 0.893, structural-associational solidarity 0.689, affective closeness 0.777, and intergenerational conflict 0.798. Cronbach's alpha for the Geriatric Depression Scale in our sample was 0.874. Cronbach's alpha for consensual-normative solidarity, structural-associative solidarity, emotional closeness, and intergenerational conflict were 0.873, 0.628, 0.667, and 0.713, respectively.

The consensual-normative solidarity (OR=0.75, CI=0.65-0.88) and intergenerational conflict (OR=1.22, CI=1.06-1.39) showed in aging parents significant association with depressive symptoms.

For statistical analysis, ANOVA was used in Table 1 to study the association of various sociodemographic variables with geriatric depression scores, as all variables were quantitative and categorized into more than 2 groups.

**Table 1: Geriatric Depression Score among aging parents and its association with their socio-demographic characteristics (N= 350)**

Socio-demographic variable	Participants (%) (N=350)	Geriatric Depression Score (Mean $\pm$ SD)	F value	p value
<b>Age</b>				
60-70 years	20 (5.71)	3.15 $\pm$ 3.40	15.69	0.000
70-80 years	290 (82.86)	3.61 $\pm$ 3.52		
>80 years	40 (11.43)	7.00 $\pm$ 4.57		
<b>Gender</b>				
Female	154 (44)	4.34 $\pm$ 3.97	2.62	0.106
Male	196 (56)	3.68 $\pm$ 3.63		
<b>Number of Children</b>				
One	2 (0.57)	7.50 $\pm$ 9.19	7.44	0.000
Two	189 (54)	3.49 $\pm$ 3.62		
Three	121 (34.57)	3.69 $\pm$ 3.30		
Four	35 (10)	7.31 $\pm$ 4.45		
Five	2 (0.57)	6.50 $\pm$ 2.12		
Six	1 (0.28)	1.00 $\pm$ 0.00		
<b>Occupational Status</b>				
Farmer	44 (12.57)	5.25 $\pm$ 4.76	8.06	0.000
Home maker	119 (34)	4.98 $\pm$ 4.11		
Government Job	53 (15.14)	2.57 $\pm$ 3.34		
Private job	109 (31.14)	2.91 $\pm$ 2.61		
Retired	25 (7.14)	4.56 $\pm$ 3.65		
<b>Type of family</b>				
Joint	97 (27.71)	4.32 $\pm$ 3.98	2.79	0.063
Nuclear	104 (29.71)	4.44 $\pm$ 4.16		
Three generation	149 (42.57)	3.42 $\pm$ 3.34		
<b>Educational level</b>				
Illiterate	50 (14.29)	6.88 $\pm$ 4.66	9.94	0.000
Primary education	83 (23.71)	3.81 $\pm$ 3.92		
Secondary education	42 (12)	4.29 $\pm$ 3.62		
Higher secondary education	88 (25.14)	3.66 $\pm$ 3.08		
Graduation	76 (21.71)	2.37 $\pm$ 2.79		
Post-graduation	11 (3.14)	4.45 $\pm$ 3.50		
<b>Marital Status</b>				
Married	314 (89.71)	3.62 $\pm$ 3.51	16.56	0.000
Divorced	2 (0.57)	1.50 $\pm$ 2.12		
Widowed	34 (9.71)	7.35 $\pm$ 4.67		
<b>Presence of Chronic Disease</b>				
Yes	42 (12)	4.95 $\pm$ 3.61	3.185	0.075
No	308 (88)	3.84 $\pm$ 3.80		

**Table 2: Mean scores of 13-item Intergenerational Relationship Quality Scale for Ageing Parents (N=350)**

Factors	Mean $\pm$ SD	Item total Correlation
<b>Factor 1: Consensual-normative solidarity</b>	3.36 $\pm$ 0.816	0.893
How similar are your opinions on social issues?	3.36 $\pm$ 0.816	0.923
Over all how similar are your opinions?	3.35 $\pm$ 0.779	0.865
How similar are your opinions regarding government versus family responsibility for the care of older adults?	3.37 $\pm$ 0.852	0.891
<b>Factor 2: Structural- associational solidarity</b>	3.81 $\pm$ 0.957	0.689
How closely located are your homes?	4.34 $\pm$ 1.178	0.767
How often have you had face-to-face contact in the past 12 months?	3.98 $\pm$ 0.869	0.828
How often do you help him/her perform household chores?	3.03 $\pm$ 0.901	0.552
How often have you contacted each other by phone, letter, or email in the past 12 months?	3.89 $\pm$ 0.879	0.608
<b>Factor 3: Affectual closeness</b>	3.32 $\pm$ 0.764	0.777
How well do you get along with him/her?	3.72 $\pm$ 0.75	0.861
What are your general feelings of closeness with him/her?	3.76 $\pm$ 0.748	0.798
How often do you receive gifts or money from him/her?	2.49 $\pm$ 0.793	0.672
<b>Factor 4: Intergenerational Conflict</b>	2.61 $\pm$ 0.836	0.798
How often do you think he/she makes excessive demands on you?	2.63 $\pm$ 0.905	0.794
How often do you think he/she criticizes you or your actions?	2.54 $\pm$ 0.788	0.793
How often do you have tense and strained feelings towards him/her?	2.65 $\pm$ 0.815	0.808

**Table 3: Binary logistic regression for the association between inter-generational relationship quality and depression**

Factors	Odds' Ratio	Confidence Interval	p value
Factor 1: Consensual-normative solidarity	0.75	0.65- 0.88	0.00
Factor 2: Structural- associational solidarity	0.94	0.84- 1.04	0.25
Factor 3: Affectual closeness	1.05	0.87- 1.27	0.6
Factor 4: Intergenerational Conflict	1.22	1.06- 1.39	0.004

Binary logistic regression was used in Table 3 to study the predictive ability of four key domains of intergenerational relationship quality on geriatric depression scores.

Numerical values were classified as quantitative data and categorical data such as gender were taken as qualitative data. The mean scores of all scales were numerical values and were therefore categorized as quantitative data.

In our study, parental age has a significant association with depressive symptoms, as the mean geriatric depression score increases with increasing age.

**Gender differences:** Women score higher because their caring social role often diminishes with age. **Hormonal changes in menopause** can also trigger symptoms of depression. **Education:** In our study, as the level of education among parents decreases from graduate to illiterate, depression scores increase because illiterate parents have less access to health information and communication barriers limit their ability to communicate with younger family members, leading to feelings of exclusion and loneliness.

**Interpreting Conflict:** Recommendations for reducing intergenerational conflict can be obtained by learning technology together, sharing life experiences, cooking, gardening, and encouraging older adults to remain involved in family decision-making.

## DISCUSSION

Factors that limit intergenerational contact between grandparents and their adult children include individualization, migration for work, higher education, economic independence, etc. The traditional family culture of old age in India with a strong emphasis on intergenerational contact is threatened by the above factors and in this context this study examined its effect on depressive symptoms in older parents.<sup>7</sup> The mean depression score among respondents in this study was 3.97, and more than two-thirds (67.7%) of respondents had a geriatric depression score of <5. Our results are consistent with those reported by Tosi M., who found depression scores of 3.1 and 5.1 at follow-up in fathers and mothers, respectively.<sup>8</sup> The authors further outlined those depressive symptoms increased to a greater extent in non-partnered fathers than in partnered fathers. Contrary to the results of this study, Xie Y outlined a higher mean depression score of 8.83 in the Chinese population and the prevalence of depressive symptoms was 37.5%.<sup>9</sup> The authors further reiterated that lower scores and

fewer depressive symptoms lead to a higher frequency of intergenerational contact. In a study among older Europeans, Xie et al. there was 31.5% prevalence of depressive symptoms.<sup>10</sup> In a rural study conducted in the USA, the authors concluded that the parent-child relationship was inversely associated with depressive symptoms.<sup>11</sup> The most likely reason for these disparate findings can be attributed to socio-economic and cultural differences between different geographical locations around the world. Among the sociodemographic variables in this study, age, employment status, education level, and marital status were found to be significantly associated with geriatric depression scores. Other authors similarly report low educational attainment, unmarried status, and residential location as variables associated with geriatric symptoms in older parents.<sup>12-14</sup> The association between the four intergenerational relationship domains revealed the highest mean score for structural associational solidarity followed by consensual normative solidarity, while conflict had the lowest mean score. These results are consistent with those of Silverstain et al. (2010) who found higher levels of solidarity despite conflict in areas such as job choice, political beliefs, lifestyle, values, etc.<sup>15</sup> Torabian M outlined a contrasting finding with a higher mean score for conflict.<sup>16</sup> Guo et al reported that the gender of aging parents was one of the main factors influencing intergenerational ambivalence between aging parents and their children. The high expectations of older fathers from their sons were also one of the reasons for the higher level of ambivalence.<sup>17</sup> This study was conducted in rural geriatric homes where one or more of their adult children usually live with them. Thus, the mean scores of solidarity both consensual and structural along with emotional closeness were on the higher side. A study conducted in Hong Kong by Zhou et al reported that older adult participants rated consensual-normative solidarity at the lowest level. The results of the current and previous studies emphasize harmonious parent-child relationships to prevent mental health problems in geriatrics beyond all doubt.<sup>18</sup> The association between the four intergenerational relationship domains revealed the highest mean score for structural associational solidarity followed by consensual normative solidarity, while the lowest mean score was found for intergenerational conflict. These results contrast with those reported by Torabian M. et al<sup>16</sup>, who reported higher mean conflict scores. However, the results of this study are consistent with those reported by Silverstain et al<sup>15</sup> (2010) who found higher levels of solidarity but reported conflict in areas such as job choice, political beliefs, lifestyle, values, etc. Further

analysis of the results revealed that older parents with higher intergenerational conflict with their adult children were more likely to have high geriatric depression scores, and emotional closeness and conflict were the two domains where OR >1. Zhou JJ et al.<sup>18</sup> also reported that emotional closeness showed relatively stronger association with depressive symptoms. Fu and Ji also outlined that structural associational solidarity was associated with depressive symptoms in Hong Kong among the elderly.<sup>19,20</sup> Xie Y and Teo AR also highlighted that the frequency of personal interactions with children was inversely associated with the development of depressive symptoms in elderly patients.<sup>21</sup>

In contrast to the Chinese population where majority of the geriatric age group people are living alone, the situation in rural area of India is better off as large-scale migrations of children away from their parents have not yet occurred.

**Socioeconomic Factors:** The migration rate in rural areas from as revealed in many studies was about 26.5%, with many young people leaving their villages for employment in cities. These movements lead to less frequent interaction between younger and older generations, contributing to decrease in intergenerational relationships and traditional family bonding.

**Contradictory Findings:** When presenting conflicting results from other studies, such as Torabian M and Silverstein et al., it would be helpful to speculate on why differences exist.: In India, family is highly valued as a support system, with a strong emphasis on familial obligations and respect for elders. In Western societies, individual autonomy is often prioritized, leading to more direct communication styles and possibly higher reports of conflict due to lower perceived stigma around discussing intergenerational disagreements.

## LIMITATIONS

The cross-sectional nature of this study negates a causal relationship between intergenerational contact and depressive symptoms. As many elderly parents lived together with adult children in this study, a social desirability bias cannot be ruled out. Only older parents were interviewed and none of the adult children were interviewed, which the authors consider another limitation of this study. Despite some limitations, the study is the first of its kind in India and the results clarified that face-to-face contact between grandparents and their children promotes social integration and meaningful belonging, which is positively related to parental mental health.

## CONCLUSION

The results have revealed a low depression score of  $3.97 \pm 3.78$  among the geriatric respondents. Further it was found that intergenerational conflict in the

current study was on the lower side with a value of  $2.61 \pm 0.836$ . On applying Binary logistic regression consensual normative solidarity was inversely associated with depression.

## RECOMMENDATIONS

Mentorship could involve farming techniques or craft skills fostering intergenerational ties by highlighting the elder's role as a teacher to the younger generations. Village councils or local NGOs could organize family bonding days that include activities like storytelling or emphasizing shared goals. Trained counselors could periodically visit villages to provide family counselling sessions for promoting family bonding, offering digital literacy programs for elders can help bridge the digital divide, reducing friction with younger family members over technology use.

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**Individual Authors' Contributions:** RM gave the study concept and performed data analysis and interpretation. HK did data collection and manuscript preparation. RKG recommended study design and also performed data analysis and interpretation. RG did data collection. BL suggested study design. RK helped in data analysis and interpretation. TK suggested study design. NC helped in manuscript preparation.

**Availability of Data:** For data, contact email address hemaalkoul1996@gmail.com

**Non-Use of Generative AI:** The authors affirm that no generative artificial intelligence tools were utilized in the design, analysis, interpretation of data, or preparation of this manuscript. All content is the result of the authors' original work.

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