# Social support and family functioning: a cross-sectional study of older people in the context of COVID-19

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## Abstract

*Objective*: To determine the association between perceived social support and family functioning in older people during the COVID-19 pandemic. *Method:* A cross-sectional study was carried out of 72 participants aged ≥60 years enrolled at an Open University of the Third Age (U3A) in the interior of Sao Paulo state, Brazil. The variables analyzed were socioeconomic and demographic conditions, social support (Medical Outcomes Study Scale), and family functioning (Family APGAR). The Chi-Square, Mann-Whitney, and Multivariate Poisson Regression tests were used for data analysis, with a significance level of 5%. *Results:* The type of support with the highest mean scores was affectionate (95.1 points) while the lowest was emotional (87.4 points). Family dysfunction rate was 22.2%. For every additional point of affectionate support score, there was a decrease in the probability of presenting family dysfunction (OR=0.96; p=0.001). *Conclusion:* Affectionate support was associated with family functioning. These findings highlight the importance of identifying family structure, dynamics, and relationships in planning comprehensive health care for the older population.

**Keywords:** Aged. Family Relations. Social Support. Universities. COVID-19.

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## INTRODUCTION

The longevity of the population and consequent shift in epidemiologic and health profile renders care for the older population a complex challenge for the economic, social and health system. This holds especially true regarding the need for provision of social inclusion and support in the older population, fundamental elements for ensuring healthy aging and maintaining quality of life, well-being and satisfaction with life in old age[1,2].

In Brazil, older adults report that their social network comprises family members as the primary social system and, hence, the main source of support[3]. In this system, the relationships among individuals are built over the life course and are key determinants for family functioning, i.e. satisfaction of the members with respect to components needed for the unity and functioning of any family, namely: adaptability, partnership, growth, affection and resolve[4].

With the aging of a family member, families tend to undergo situations (e.g. divorce, increased dependence) that can upset the harmony of the relationships, leading to family dysfunction. Dysfunctional families tend to be less able to meet the physical, emotional and economics needs of older individuals, representing a potential stressor affecting quality of life of all involved (older adult and family members)[5].

Studies have identified social support for older individuals as a protective resource against stress, serving to facilitate adaptation to losses experienced with aging, such as retirement, independence of offspring, becoming widowed, financial circumstances, declines in health, and death of relatives or friends[6,7]. By contrast, social isolation can be associated with poorer quality of life, lower satisfaction with life, worse mental and physical health outcomes, cognitive decline and death[8,9]. More recently, social isolation has been recognized as a risk factor for serious health problems such as obesity and smoking[10].

Following the covid-19 pandemic, older people became increasingly isolated due to lockdown measures adopted to curb the spread of the virus, exacerbated by policies of social-distancing and inclusion of older adults as a high-risk vulnerable group[11]. Social isolation can be defined as a state in which individuals have lower social engagement with others and the community. Social distancing, on the other hand, denotes a set of actions aimed at avoiding physical contact in order to reduce spread of a disease[11].

Social distancing measures had a number of negative effects on the social well-being and mental health of the older population[12-14], increasing isolation, feelings of loneliness and directly impacting the social support received[15,16]. In Brazil, there are few studies associating family functioning and social support. Studies conducted prior to the pandemic found that older adults were part of a family system with good functioning and more support[17,18].

Good family functioning promotes the maintenance and integrity of psychological and physical health of older people, ensuring well-being, social support and health-promoting life styles[19,20]. Amid the pandemic, it is assumed that older people whose family relationships were impacted received poorer or no social support. Thus, knowledge on family functioning of older people can help inform health professionals implement the necessary actions and interventions for each family, promoting a strengthening of family relationships.

In this respect, understanding social support and family functioning of older adults during the pandemic is paramount, given that these relationships can inform policymakers and health professionals in devising social support interventions during this period when older adults face a greater risk of loneliness, depression, and social isolation.

Therefore, the objective of this study was to determine the association between perceived social support and family functioning in older adults enrolled at an Open University for the Third Age (U3A) during the COVID-19 pandemic.

## METHOD

A cross-sectional analytical study at an Open University of the Third Age (U3A) in the city of Campinas, São Paulo state, was conducted. The U3A

is a program promoting activities including education, interaction, social inclusion and recuperation of autonomy, contributing to the physical, emotional and social health of older individuals. The U3A investigated in the present study emerged as an alternative to prepare workers of public university for pre-retirement, retirement and post-retirement, but expanded to include the community as a whole in Campinas city.

The study was designed according to the guidelines of the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) statement. The STROBE items outline the recommended content of studies, which should include title, Abstract, Introduction, Methodology, Results and Discussion sections, facilitating the understanding of the information reported.

The sample size was calculated using the software G*Power 3.1.9.2, based on a level of significance of 5%, test power of 80%, effect size of 0.15, and additional margin of 20% for potential losses, giving a minimum number of participants of 66.

For sample access and selection, the researchers were provided with support by the administration of the U3A, who sent out study participation invitations and a form collecting name, age, telephone number and availability for scheduling a call via telephone or WhatsApp. Sample selection was performed by convenience: only individuals who answered the questionnaire and expressed interest in taking part were interviewed. Inclusion criteria were being a participant at the U3A and aged ≥60 years. Individuals who failed to answer after 3 contact attempts were excluded from the study.

Participants were initially contacted via WhatsApp through a message describing the study, the researchers involved and dates and time for scheduling an interview. When an individual answered, data collection was carried out by making a telephone call, during which the study questionnaire was applied containing questions collecting information on demographic, socioeconomic and health status. Data collection was carried out during the period spanning from November 2020 to May 2021, via sessions lasting 30-60 minutes.

The variables analyzed were: age (continuous), gender (female; male), marital status (married; single; widowed; divorced/separated), education (≤12 years: >12 years), income (<4 minimum wages; 4-10 minimum wages; >10 minimum wages), living alone (no; yes), number of members of (continuous) and satisfaction with social network (no; yes), family dysfunction (no; yes) and social support (continuous).

The Family APGAR (***A****daption*, ***P****artnership*, ***G****rowth*, ***A****ffection,* ***R****esolve*) is a scale for measuring family functioning. Performance on the scale ranges from 0-10 points, with a score of 0-6 indicating family dysfunction and 7-10 good family functioning[4].

Perceived social support was measured using the Social Support Survey instrument from the Medical Outcomes Study (MOS), comprising 19 items covering 5 functional domains: material support; affectionate support; positive social interaction; and emotional/informational support. Scoring ranges from 20 to 100 points, with higher scores indicating greater level of social support[21]. The Cronbach alpha coefficient for the support types is 0.83-0.91, demonstrating good internal consistency.

The data were keyed into the RedCap platform. Qualitative variables were expressed as absolute and relative numbers, and quantitative variables as means, medians and standard deviation (SD). The dimensions of the Social Support Survey from the MOS were tested for normality using the Shapiro-Wilk test. For data analysis, the Chi-squared and Mann-Whitney tests were used to compare proportions and medians, respectively. Multivariate Poisson regression was used to analyse the association of family functioning with explanatory variables. The level of significance adopted for statistical tests was a p-value of < 5%.

The study conformed to Resolution Nos. 466/2012 and 510/2016. The research project was approved by the Research Ethics Committee of Unicamp (Permit no. 4.152.788/2020). All participants gave verbal consent to take part in the study, after checking the free and informed consent form. The verbal authorizations were filed on a cloud storage platform.

## RESULTS

A total of 72 participants were assessed in the study. Regarding profile of respondents, 81.9% were female, mean age was 67.6 years, number of social network members averaged 9.7 people, 50% were married, 80.9% reported education >12 years, 45.6% had an income of 4-10 minimum wages, and 37.5% lived alone. Family dysfunction rate was 22.2%. Although not reaching statistical significance, higher rates of dysfunction were seen in participants who were male (38.5%), single (37.5%), lived alone (29.6%), low-educated (30.8%), with a low income (33.3%) and family dissatisfaction (25%) (Table 1).

A summary of measurement of scores on the Social Support Survey for each of the 5 dimensions according to family functioning is given in Table 2. Results show that the highest scoring support type was Affectionate and the lowest was Emotional. A statistically significant difference is evident in median scores for all types of support according to family functioning categories, where participants with family dysfunction scored lower than those with good functioning.

**Table 1.** Characteristics of participants according to family dysfunction, socioeconomic and demographic conditions. Open U3A, Campinas, Sao Paulo state, 2020-2021. (n=72)

| Variables | Total n (%) | Family Dysfunction | | *p-value* |
|---|---|---|---|---|
| | | No n (%) | Yes n (%) | |
| Sex | | | | 0,120 |
| Female | 59 (81.9) | 48 (81.4) | 11 (18.6) | |
| Male | 13 (18.1) | 8 (61.5) | 5 (38.5) | |
| Age (Mean ± SD) | 67.6 (5.2) | 68.1 (5.4) | 66 (4.3) | 0.165 |
| Marital status | | | | 0.517 |
| Married | 36 (50.0) | 27 (75.0) | 9 (25.0) | |
| Single | 8 (11.1) | 5 (62.5) | 3 (37.5) | |
| Widow(er) | 15 (20.8) | 13 (86.7) | 2 (13.3) | |
| Divorced/separated | 13 (18.1) | 11 (84.6) | 2 (15.4) | |
| Living alone | | | | 0.242 |
| No | 45 (62.5) | 37 (82.2) | 8 (17.8) | |
| Yes | 27 (37.5) | 19 (70.4) | 8 (29.6) | |
| Education | | | | 0.313 |
| ≤ 12 years | 13 (19.1) | 9 (69.2) | 4 (30.8) | |
| >12 years | 55 (80.9) | 45 (81.8) | 10 (18.2) | |
| Income* | | | | 0.156 |
| <4 minimum wages | 24 (35.3) | 16 (66.7) | 8 (33.3) | |
| 4-10 minimum wages | 31 (45.6) | 27 (87.1) | 4 (12.9) | |
| >10 minimum wages | 13 (19.1) | 11 (84.6) | 2 (15.4) | |
| Number of members in social network (Mean ± SD) | 9.7 (7.2) | 10.4 (7.6) | 7.3 (5.1) | 0.151 |
| Satisfaction with family | | | | 0.776 |
| No | 8 (11.3) | 6 (75.0) | 2 (25.0) | |
| Yes | 63 (88.7) | 50 (79.4) | 13 (20.6) | |
| Total | 72 (100.0) | 56 (77.8) | 16 (22.2) | |

SD:Standard deviation; *Minimum wage = R$ 1,100.00. **Source:** authors (2021)

**Table 2.** Mean and median scores, minimum and maximum values on Social Support Survey according to support type and family functioning in participants. Open U3A, Campinas, Sao Paulo state, 2020-2021. (n=72)

| Social Support Type | Good family functioning | | | Family Dysfunction | | | *p-value* |
|---|---|---|---|---|---|---|---|
| | Mean (SD*) | Median | Min – Max | Mean (SD*) | Median | Min – Max | |
| Material | 89.6 (16.7) | 100.0 | 25.0 – 100.0 | 62.5 (27.1) | 56.3 | 25.0 – 100.0 | 0.001 |
| Affectionate | 95.1 (11.3) | 100.0 | 50.0 – 100.0 | 71.1 (27.2) | 66.7 | 25.0 – 100.0 | <0.001 |
| Emotional | 87.4 (17.8) | 93.7 | 31.3 – 100.0 | 61.5 (22.9) | 56.3 | 25.0 – 100.0 | <0.001 |
| Informational | 87.2 (18.5) | 100.0 | 37.5 – 100.0 | 60.7 (18.6) | 56.3 | 25.0 – 100.0 | <0.001 |
| Positive Social Interaction | 87.3 (15.9) | 100.0 | 31.3 – 100.0 | 68.3 (26.1) | 68.8 | 25.0 – 100.0 | 0.003 |

*SD: Standard deviation. **Source:** authors (2021).

On the univariate analysis, all types of support were associated with family functioning (Table 3). Following application of the multivariate Poisson regression model, affectionate support remained associated with family functioning (PR=0.96; p=0.001), after adjusting for sex and age. For every extra point on the affectionate support score there was a 4% decrease in the probability of presenting family dysfunction.

**Table 3.** Univariate analysis of factors associated with family functioning in participants. Open U3A, Campinas, Sao Paulo state, 2020-2021. (n=72)

| Variable | PR | p-value |
|---|---|---|
| Sex (female) | 0.48 | 0.179 |
| Age (continuous) | 0.93 | 0.216 |
| Marital status | | |
| Married | 1.00 | |
| Single | 1.55 | 0.543 |
| Widow(er) | 0.53 | 0.421 |
| Divorced/separated | 0.61 | 0.535 |
| Living alone (yes) | 1.66 | 0.307 |
| Education (>12 years) | 0.59 | 0.374 |
| Income (minimum wages*) | | |
| <4 | 1.00 | |
| 4-10 | 0.39 | 0.121 |
| >10 | 0.46 | 0.328 |
| Number of members in social network (Continuous) | 0.94 | 0.199 |
| Satisfaction with family (yes) | 1.21 | 0.801 |
| Social support type | | |
| Material | 0.97 | 0.001 |
| Affectionate | 0.97 | <0.001 |
| Emotional | 0.96 | 0.001 |
| Informational | 0.97 | 0.004 |
| Positive Social Interaction | 0.96 | 0.001 |

*Minimum wage = R$ 1,100.00. **Source:** authors (2021)

## DISCUSSION

The study results revealed that the older people, students of the U3A, with family dysfunction had lower median scores for all types of social support.

These results are noteworthy given that the family is an important source of social support for older adults, representing a place for building lasting bonds, provision of care and attention, and an entity promoting quality of life and social development[18]. In addition, modifications in family organization and the need to adapt can be conflicting, exerting a negative impact on relationships between family members and on the family structure[18, 22].

Dysfunctional families tend to report the absence of a support network, distance between members, lack of respect and reciprocity, as well as ineffective dialogue at times of crisis or otherwise. Under these conditions, support for the older individual may be impaired, causing a range of psychological, emotional, social and physiological consequences, directly impacting the older person´s perceived health and health status[2,18,23].

When family interaction deteriorates, there is weakening of social ties and this may adversely impact the life of older people. A lack of social support in older age can promote negative repercussions for the life of the individual, including social vulnerability, isolation, functional impairment and early death[9,18].

Although the literature reports that family dysfunction impacts social support in older people[3, 17, 18, 23, 25], it is unclear which types of social support are associated with good family functioning. In the present study, only affectionate support, which involves showing love and affection, value and interest, was associated with family functioning. The results suggest that older individuals who report having good affectionate support have lower odds of presenting family function. A recent study also found that affectionate support was reported as more important and perceived by older adults than other dimensions of social support, underscoring the key role of affection for older people in feeling supported and in building functional social bonds[26].

This finding is corroborated by the results of the present study which found highest scores for affectionate support and lowest scores for emotional/informational support. A similar finding was identified in a study investigating the roles of different sources of social support for emotional well-being among older Chinese individuals. Higher levels of family support were associated with emotional and informational support[27], suggesting that receiving more emotional support can promote feelings of greater closeness to their family members, thereby increasing the level of perceived social support[28].

Most studies analyzing the health impact of different types of social support in older people focus on its moderating effect in reducing depressive symptoms, anxiety and loneliness in senior citizens[7, 27, 29]. According to a systematic review, emotional and instrumental support are the types which most protect older individuals from depressive symptoms[29]. Low emotional support is also associated with cognitive impairment in older people[30].

Cugmas et al.[14], in a longitudinal study performed during the COVID-19 pandemic found the older adults had greater emotional support and lower instrumental support, emphasizing the need for support for older adults with low informational social support, given the difficulty this group encounters in having adequate sources of support.

In this context, affectionate and emotional support, involving the feelings of older individuals regarding their next-of-kin, such as love and respect, and informational support, defined as assistance in dealing with a problem or advice [18], are types of support that should be priority goals in social and health interventions for the older population. Fostering these types of support within the family unit should be encouraged by health professionals.

With regard to family functioning, amid the COVID-19 pandemic, the families of older individuals needed to change their routines in order to provide the elder with support, such as food shopping, purchase of medications or other necessities, placing extra demands on the support network in an effort to safeguard these individuals[31].

Consistent with previous studies, most participants (77.8%) reported good family functioning[17, 18, 24, 25]. According to a recent study investigating sources of social support during the pandemic[31], older individuals tend to perceive higher levels of family support compared to other age groups, a factor which appears to have been protective in coping with negative emotions during the pandemic period.

In the present study, the prevalence of family dysfunction was higher than in another survey carried out at a U3A[25]. Ferreira et al.[25] (2019) found a family dysfunction rate of only 7.4% among older adults enrolled at the university in a similar group to that assessed. This suggests the COVID-19 pandemic may have changed family dynamics and consequently impacted family functioning and reduced perceived social support during the period.

In this regard, participation of older individuals in settings which promote social interactions and acquiring of new knowledge represent important strategies for ensuring social support that extends beyond family relationships, positively influencing emotional and psychological state[25]. Relationships built upon reciprocity, trust and cooperation can lead to a significant improvement in the quality of life of older people[24].

Szczesniak et al.[16] (2020) showed that, although feelings of social isolation have a negative impact on life satisfaction of older adults, this relationship may be altered by empowering seniors' self-esteem through their involvement in lifelong learning.

Engagement of older adults in activities promoted by U3A have a moderating role in reducing feelings of loneliness and increasing satisfaction with life[16]. Thus, programs which support the development of social relationships among older individuals gain even greater importance in a pandemic situation, during which perceived family support by older people appears to have been affected.

In this respect, an important implication of this study for Gerontology is the sensitization of professionals on the need to establish care plans for older people that incorporate actions which stimulate learning and the expansion of social support networks, while also reducing family dysfunction. In addition, by mapping the social and health entities that can become part of the support network of the older population, particularly U3A, health professionals can help implement a line of integrative care for older people.



This study has some limitations that should be mentioned. The study is based on a sample of older individuals with specific characteristics, limiting the generalization of findings to other contexts (e.g. community-dwelling older adults with low education and income). The study results cannot be interpreted as causal, given the nature of the study and type of analysis performed. Another potential limitation includes the inherent difficulties of interpreting data collected over the telephone. Nevertheless, assessment of the data obtained using the Social Support Survey from the MOS showed satisfactory internal consistency for the population studied.

## CONCLUSIONS

The study results revealed that participants with family dysfunction had lower median social support scores than individuals with good family functioning. The study also found an association between affectionate support and family functioning, emphasizing the importance of assessing perceived social support and functioning of families. This is because the family constitutes an important source of support for older individuals and knowledge of the family structure and dynamic can aid health professionals in care planning and management.

The current findings highlight the need for future longitudinal studies exploring the relationship between social support and family functioning over time, which can help inform programs and policies for older adults with family dysfunction as a source of social support and health.

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