ORIGINALES

Quality of life in older caregivers of grandchildren in northern and southwestern Mexico

Calidad de vida en adultos mayores cuidadores de nietos del norte y suroeste de México

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ABSTRACT:
Objective: Determine the relationship of personal characteristics with the quality of life in elderly people who care for their grandchildren from northern and southwestern Mexico.
Method: Descriptive-correlational and comparative method, using a sample of 326 older adults who take care of their grandchildren; this sample was collected through convenience sampling and making sure that people met the inclusion criteria. A personal data card and the self-perceived quality of life scale were applied in elderly people in the community ($\alpha=0.93$). The data were analyzed with descriptive and inferential statistics such as U Mann-Whitney, Chi Square, and Spearman tests. It was approved by the Ethics Committee, in compliance with national and international regulations.
Results: The population had an M of 68.56 years, being 54.9% male and 45.1% female, with one M of 9.10 hours of care of the grandchild. The association of quality of life with the geographical area of Mexico was found (Chi=35,695, p<0.05). The relationship between age (r=-0,155) and number of children (r=-0,279) and quality of life was seen.
Conclusions: It was seen that the older the age and number of children, the lower the quality of life. Similarly, quality of life is associated with the geographical area. It is recommended that care be given within physical, psychological, and social health of this vulnerable group.

Keywords: Quality of life, Elderly, Parental responsibility, Mexico.

RESUMEN:

Objetivo: Determinar la relación de las características personales con la calidad de vida en adultos mayores cuidadores de nietos del norte y suroeste de México.

Métodos: Descriptivo-correlacional y comparativo, con una muestra de 326 adultos mayores cuidadores de nietos, recolectado mediante muestreo a conveniencia y que cumpla con los criterios de inclusión. Se aplicó una cedula de datos personales y la escala de Calidad de Vida Autopercibida en Adultos Mayores en Comunidad (α=0.93). Los datos se analizaron con estadística descriptiva e inferencial como pruebas de U de Mann-Whitney, Chi cuadrada y Spearman. Contó con la aprobación del Comité de ética, acatándose los reglamentos nacionales e internacionales.

Resultados: La población tuvo una de M=68.56 años, siendo el 54.9% hombre y el 45.1% mujer, con una de M=9.10 horas del cuidado del nieto. Se halló asociación de la calidad de vida con la zona geográfica de México (Chi=35.695, p<0.05). Se observó relación de la edad (r=-0.155) y el número de hijos (r=-0.279) con la calidad de vida.

Conclusiones: Se observó que, a mayor edad y número de hijos, menor calidad de vida. De igual manera, la calidad de vida se asocia con la zona geográfica. Se recomienda prestar atención en la salud física, psicológica y social de este grupo vulnerable.

Palabras clave: Calidad de vida, Adulto mayor, Responsabilidad parenteral, México.

INTRODUCTION

The accelerated increase of older adult population is associated to social, economic, and demographic changes. The National Health Survey (ENSATU by its acronym in Spanish) in Mexico shows that the older adult persons (PAM by its acronym in Spanish) represents 19.6% of the population older than 20 years of age[1]. At regional level, in Coahuila up to 2020 there was the presence of 349,000 PAM while in Yucatan there were 288,000, focusing on the 60 to 69 year age group, seeing an increase in the life expectancy during old age[2].

It is in this stage of life that changes in the PAM role occur, being one of these taking care of their grandchildren and currently this situation occurs frequently in homes; however, at national level health sectors have underestimated this problem. Some of the factors that enable this role there are the gradual incorporation of woman in the work life, the good health of the PAM, the short geographic distance between the house of the caregiver and the grandchildren, and the lower number of grandchildren to who have to be cared for. Likewise, the PAM uses family help as they age, and it is a determining factor in the time they stay in their house and subsistence, offering in exchange the care of the child[3].

Additionally, life expectancy has propitiated more PAM with more probabilities to be caregivers during more time, which allows seeing changes in their relationships as the grandchildren grow. This role of grandparents also is modified by the historic-social characteristics and by the needs of the families that can demand a more active role[4]. This care emerges as a phenomenon as consequence of the current globalized life of the parents, which includes the change of the role of older adults who become active caregivers of the grandchildren. This change of responsibility demands to the PAM a physical and psychological wear that in many occasions affects them, which could cause affectations in their quality of life (CV by its acronym in Spanish)[5].

Quality of life is defined as the evaluation that a person makes of his general vital experience in a given moment [6]. Within the CV several components are demonstrated, the first one is the general wellbeing, which alludes to a fast assessment of the satisfaction of the older adult with his life in general; followed by

financial needs, where the satisfaction of the PAM is measured with respect to the availability of economical resources to fill their material needs[7].

Subsequently, there is the self-determination and life plan, where it is focused in the aspects that are related to decision making of everyday life; next, there is the self-sufficiency component, where it is mentioned the difficulties that PAM have to carry out basic activities of daily life; then there is work and environment, whose component is focused in how they working life was; followed by intra-subjective wellbeing, which considers the use of religious activities or religious cults in order to generate wellbeing or satisfaction and happiness in people. And finally, there is the component regarding support and recreation networks, which assess the closeness of the older adult with friends through friendship and help in difficult situations[7]. That having said, it can be seen that the CV can be influenced in the PAM who take care of grandchildren by demographic factors, illnesses that are common in the population, availability of treatments, psychosocial factors, social and cultural context, among others[7]. This way, PAM's family life frequently poses highly demanding, and in some way, their physical and emotional capacity affects the performance of the multiple house activities which prevent them from developing as individuals, keeping them always at the service of these members of the family who frequently demand their attention. Therefore, it has to be considered that the nursing professional also considers the family approach, which implies include to each individual that provide their care to others.

OBJECTIVE

Determine the relationship of personal characteristics with quality of life in older adults who take care of their grandchildren in the North and Southwest of Mexico.

METHOD

Study with descriptive-correlational and comparative design. The sample was comprised by 360 people 60 or over with at least one grandchild in their care; the sample was collected through convenience sampling, since it had to meet the inclusion criteria, that is, to be an older adult, have at least one grandchild, live in the North or northwest of Mexico, have worked at some moment in their life, show a score of 9-10 points in the Pfeiffer test and do not have diagnosed with hearing loss.

Prior to the collection of data, the informed consent was read; once it was accepted to participate in the study it was proceeded to the administration of the measurement instruments; first, the personal data card was applied, where age, sex, marital status, place of residence, hours of sleep, number of children, and time they care for the grandchild were addressed. Data were collected from November 2019 to April 2020.

Subsequently, the Quality of Life Questionnaire for Elderly People in Community QQLOAC (ECVAM-60 by its acronym in Spanish), which includes 60 items with a likert type scale that goes from 0 to 4 points in agreement with every one of the following seven dimensions: 1. General wellbeing; 2. Financial needs; 3. Self-determination and life plan; 4. Self-sufficiency; 5. Work and environment; 6. Intra-subjective wellbeing; and 7. Support and entertainment networks. The interpretation of the results is as follows: the higher the score, the better the quality of life. Likewise, due to the features

of the instrument, it allows to obtain percentiles of the average score of the subscales and of the total sum of the QQLOAC-30 scale, classifying it from 0 to 129 points as low quality of life; from 130 to 150 points as middle quality of life; and more than 150 points as high quality of life. This has a reliability level of Cronbach alpha of 0.093[7].

Data were assessed with the Statistical Package for Social Sciences (SPSS) version 22 for Windows 2010. Descriptive statistics was used getting absolute frequencies, proportions, and percentages. A distribution analysis of the continuous variables was carried out using the Kolgomorv-Smirnov test determining the variables as nonparametric. In the inferential statistics, for the different of means the Mann-Whitney U Test was used; for the association of the variables, the Chi Squared test was used; and for the correlations, the Spearman test.

The research proposal had the approval of the Ethics Committee of the Nursing School "Dr. Santiago Valdés Galindo" of the Universidad Autónoma de Coahuila, thus meeting the ethical principles. The informed consent was applied based on the 1975 Helsinki's Declaration with the revision of October 2000, and the regulation of the General Health Act for Research, such as article 13, article 14, sections I, II, II, IV, V, VI, article 17,18, 20 and article 21, section III, V, VI, VII and VII.

RESULTS

In the study, 326 older adults who care grandchildren participated. They had an average age (M) of 68.56 years of age, SD=7.094, with a maximum and minimum value of 95 to 60 years of age. With respect to the amount of children, they had an M=4.81, SD=2.416 children; regarding hours of sleep the average was 7.35 y SD=1.484 hours, and, finally, for the time of care of the grandchild numbers were M=9.10 hours, SD=5.823 hours. It is seen in Table 1 that most of them belongs to the male sex, from the state of Coahuila, married, and the maximum schooling was elementary school.

Table 1. Personal data card.

Variable	fr	%
Sex		
Woman	147	45.1
Man	179	54.9
State		
Coahuila	201	61.7
Yucatán	125	38.3
Marital status		
Married	202	62
Single	16	4.9
Divorced	52	16
Widow(er)	37	11.3
Common law	11	3.4
marriage	8	2.5
Separated		
Schooling		
Elementary	126	38.7
Junior High	47	14.4

High School	61	18.7
Technical	25	7.7
Bachelor's Degree	54	16.6
Engineering	13	4
Postgraduate Studies		

Note: *fr*=frequency, %=percentage

With respect to the variable quality within the older adult population in general, the following was found: M=150.58, SD=29.722, defining as low level of quality of life 23.6% (77), middle level of quality of life 28.2% (92), and high level of quality of life 48.2% (157). In table 2 can be seen the score of the subscales for the population in general.

Table 2. Description of the subscales of the quality of life.

Subscale	M	SD	IC
General wellbeing	36.76	6.914	35.98-37.49
Financial needs	18.59	8.233	17.69-19.49
Self-determination and life plan	38.08	11.022	36.99-39.28
Self-sufficiency	22.63	6.555	21.91-23.34
Work and environment	6.95	5.853	6.31-7.59
Intra-subjective wellbeing	16.90	3.249	16.53-17.28
Support and entertainment networks	10.70	6.067	10.04-11.36

Note: M= mean, SD=standard deviation, IC= confidence intervals.

Table 3 shows the significant difference with the number of hours of care given to the grandchild; the subscales regarding financial needs, self-determination and life plan, self-sufficiency, support and entertainment networks and the total score regarding quality of life, being these higher for the state of Coahuila. Likewise, significant differences were found with respect to the number of children, of the work and environment and intra-subjective wellbeing subscales, where the means in the state of Yucatan were higher.

Table 3. Difference of means regarding personal data, quality of life, and their subscales with the states of Coahuila and Yucatán.

	Coahuila	Yucatán	U	p
	M	M		
Age	68.60	68.50	12,426.500	0.869
Number of children	4.59	5.16	9,979.500	0.02
Number of hours of care to the grandchild	9.80	7.97	9,584.000	0.000
General wellbeing	37	36.30	11,729.500	0.314
Financial need	20.87	14.92	7,192.000	0.000
Self-determination and life plan	41.38	32.78	6,598.500	0.000

Self-sufficiency	23.10	21.86	11,300.500	0.116
Work and environment	5.78	8.83	9,362.000	0.000
Intra-subjective wellbeing	16.44	17.66	9,884.500	0.001
Support and entertainment networks	11.99	8.62	8,334.500	0.000
Quality of life	156.56	140.97	8,206.500	0.000

Note: U= Mann-Whitney U, p= significance level.

Additionally, the association of the quality of life with the geographic zone in Mexico was performed between both variables, obtaining a *Chi*=35.695, *p*=0.000. Likewise, in the Spearman correlation a relationship of age (r=-0.155) and the number of children (r=-0.279) with the quality of life was found, that is the older the person and the higher the number of children the lower the quality of life that older adults who take care of grandchildren has.

Table 4. Correlation between the variables of study.

Variable	1	2	3	4
1. Age	1			
2. Number of children	0.227*	1		
3. Number of hours of care to the grandchild	0.035	-0.018	1	
4. Quality of life	-0.155**	-0.279**	.027	1

Note: **p<0.001, *p<0.05

DISCUSSION

The objective of the research was to determine the relationship of the personal features with quality of life in older adults who take care of grandchildren in the North and southwest of Mexico, finding an M related to age of 68 years, most belonging to the male gender and with married as marital status. These data differ to those found by Ariansola eta al and Muñoz et al, since most people in their study was comprised by women. This can be due to most inclusion of men in the care as consequence of social changes and increase in life expectancy, which causes new roles in PAM, such as the care of grandchildren[8].

Additionally, a high CV level was found in most of the population in the study (48.2%). These results were similar to those from Nigeria and Spain, where 31.4% and 40% of their grandchildren caregivers[9,10] had a high CV. This is because the PAM not only show a significant alteration of the day-to-day activity, specially reducing the time they invest in entertainment and that invested on them, but also that they usually show low financial level, self-sufficiency, religious fervor, and lack of support in their social networks; moreover, the primary caregivers show worst levels of wellbeing although in this latter aspect no all studies agreed with this statement[11].

Likewise, it was seen significant differences in the hours of care given to the grandchild and quality of life, being higher in the population from the North part of Mexico; also, an association of quality of life with the geographic zone was found, in coincidence with

those performed in Guerrero, Mexico State, and Mexico City[12–14]. This must be to the fact that the zones with higher CV depend a lot of the financial, health, culture and social development, which are higher in the North part of Mexico, since this part is more economically productive, along that there are situations inside the regional and family context such as the demographic ageing and changes in the comorbidity which imply that PAM live more years after their grandchildren are born, thus making possible that PAM live their senior years in better health conditions, but with deficiencies in their CV[15].

In this manner, the CV in old age depends of many individual factors, not only social but also related to the features of the context where they live, influencing on the satisfaction they experience in their role and in the environmental factors that could affect their life, either positively or negatively, and that can take them to a situation where they have to provide partial or total care to their grandchildren[16].

Finally, it was found that older the person and higher the number of children, the quality of life of the older adults who take care of their grandchildren is lower. These results are confirmed by studies carried out in Brazil, Cuba, Spain and Mexico, where these components are part of the loss of wellbeing and life satisfaction, which is also related to the ageing process[17–20]. That is why that this role can produce negative effects. Some of them can experience a higher work load, which increases their exposure to stressful situations, existing the possibility of a decline in their physical and psychological status, as well as impact their personal life, social relationships, and quality of life[21].

CONCLUSIONS

Significant differences were found between age, number of hours invested in caring the grandchild and the quality of life, being higher in older adults of Coahuila. Likewise, it was obtained an association between quality of life with the geographic zone of residence of the older adults; and, finally, it was found that higher the age and number of children, the quality of life of the older adults who take care of grandchildren is lower.

It is recommended to perform a constant tracking and assessing of this vulnerable group with respect to their physical, psychological and social aspects, being necessary an intervention that helps to maintain or improve the former three areas, providing guides to keep a balance in their health due to the fast labor changes that young adults are experiencing in this country.

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