



# Quality of life of older adults participating in community groups in the Brazilian Western Amazon: a cross-sectional study

Aristeia Nunes Sampaio<sup>1,2</sup> Jader de Andrade Bezerra<sup>2</sup> Maria Aline do Nascimento Oliveira<sup>1</sup> Isabela Saura Sartoreto Mallagoli<sup>1</sup> Italo Everton Bezerra Barbosa<sup>1</sup> Angélica Gonçalves Silva Belasco<sup>1</sup>

## Abstract

**Objective:** To compare the quality of life of older adult participants and non-participants of community groups in a region of the Brazilian Western Amazon. **Method:** An observational, cross-sectional study was conducted. A total of 424 older adult users of the Family Health Strategy were included. Data collection was performed using a sociodemographic questionnaire and the WHOQOL-BREF and WHOQOL-OLD scales for measuring quality of life by the World Health Organization. Participants were stratified according to participation in 3 different community groups: Group 1: physical exercise group; Group 2: physical exercise and health education group; Group 3: religious activities and/or community association group; and non-participants in community groups. The chi-square and multinomial regression tests were used to compare quality of life (QoL) among the groups. A 5% level of significance was adopted. **Results:** The sample had a mean age of 69.86 years, community group participation of 44.22%, and predominance of females (66.75%). There was a statistically significant difference ( $p < 0.05$ ) in QoL between community group participants and non-participants. Group 1: Psychological (OR=0.21); Environment (OR=0.16; OR=0.21) and Social Participation (OR= 0.35) domains. Group 2: Environment (OR=0.29; OR=0.19); Autonomy (OR=0.12; OR=0.26); Past, Present and Future Activities (OR=0.44); Social Participation (OR=0.27) and General Score (OR=0.46) domains. Group 3: Environment (OR=0.31); Autonomy (OR=0.56) and Social Participation (OR=0.10; OR=0.47) domains. **Conclusion:** Participation in community groups was associated with better QoL score, confirming that social engagement confers important benefits for health and QoL and contributes to healthy aging.

**Key words:** Aged. Quality of Life. Social Participation. Primary Care.

<sup>1</sup> Universidade Federal de São Paulo, Programa de Pós-Graduação em Enfermagem. São Paulo, SP, Brasil.

<sup>2</sup> Universidade Federal do Acre, Centro de Ciências da Saúde e Desporto. Rio Branco, Acre, Brasil.

No funding was received in relation to the presente study.

The authors declare that there is no conflict in the conception of this work.

Correspondence  
Aristeia Nunes Sampaio  
aristeia.sampaio@ufac.br

Received: December 4, 2023

Approved: July 4, 2024

## INTRODUCTION

Community groups for older adults promote improvements in quality of life (QoL) by offering physical and intellectual activities that can enhance physical and mental health. Social contact reduces loneliness and depression, increasing wellbeing and self-esteem. Expanding social support networks is a beneficial strategy for older individuals and for health services<sup>1</sup>. These groups prevent social isolation, promoting a sense of belonging and purpose in life. In addition, this social interaction facilitates access to relevant information and services. Adopting inclusive, empathic policies for the older population is fundamental to ensure healthy aging,<sup>2</sup>

There is growing interest in the factors associated with longevity and in the aging process, given the older population have specific health needs. Aging is accompanied by greater prevalence and severity of problems, including chronic diseases, which can negatively impact QoL and autonomy, creating the need for remodeling public health policies<sup>3</sup>.

The quality of life theme is associated with a variety of approaches and concepts. However, the most widely known concept is that defined by the WHO<sup>4</sup> as: “an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns.”

The observation of Munford et al.<sup>5</sup> regarding participation in community groups highlights a crucial aspect for QoL. Social participation in these groups not only fosters active aging, but is also associated with improved QoL and lower costs of care. This suggests that engagement in communities can be a valuable component for promoting a healthy satisfying life, particularly for older individuals.

Group activities, such as religious groups, associations, and physical or leisure activities, contribute positively to self-rated health and confer important gains in QoL<sup>6</sup> and active aging, providing opportunities for leisure, socialization, learning and enhancing mental and physical health<sup>1</sup>.

Maintaining good health in late-life enables continued effective involvement in family and community life, representing a pivotal element for strengthening societies<sup>7</sup>.

Conversely, poor health, social isolation and dependence are associated with increased health system utilization and higher public spending. Thus, implementing measures which seek to replace curative models with integral care models allow older adults to successfully enjoy this phase of life.

As an example, the Ministry of Health<sup>9</sup> introduced, via ruling no. 2.528/2006, the National Health Policy for Older Adults (PNPSI) implemented by means of a network of Family Health Strategy (ESF). The primary goal of the PNPSI is to restore, maintain and promote the autonomy and independence of older individuals through collective and individual health measures, pursuant to the principles and recommendations of the Brazilian National Health System (SUS).

Public policies that stimulate and reinforce the importance of maintaining good health status are pivotal factors for promoting healthy aging, where health professionals should stay abreast of the aspects of longevity affecting the older population<sup>10</sup>.

Previous studies<sup>11-13</sup> focusing on QoL of older adults and exploring aspects related to physical exercise intervention programs have mostly been conducted in the more developed South and Southeast regions of Brazil or in developed countries that have different sociodemographic characteristics.

Investigations of participation in community groups and its impacts on QoL are essential, especially studies involving older individuals from less developed regions such as the North of Brazil. The infrastructure of Primary Care teams in these areas is often poorer and the distribution of health services uneven relative to other regions<sup>14</sup>.

In the Northern state of Acre, 94% of the population are users of the public health system, which is available mainly in the capital (Rio Branco) city of the state. A number of challenges are evident,

including the socioeconomic and cultural diversity of cities located in remote areas, geographical barriers hampering access to health services, disparities between municipal priorities and national guidelines, and also issues pertaining to access to local health services by the riverside-dwelling population, indigenous reserves and immigrants from border areas<sup>15</sup>. The increase in migration of patients from the interior to urban centers in search of medical care can lead to higher local demand for health services. This burden leads to the need for allocation of additional resources to recruit medical professionals, purchase equipment and expand facilities. As a result, waiting times for appointments, tests and medical treatments can be longer, causing delays and dissatisfaction among public health users from Rio Branco city.

Understanding the ways in which participation in community groups can influence QoL in this specific setting is fundamental for developing public policies and implementing effective interventions that cater for these communities. Therefore, the objective of this study was to compare the QoL of older adult participants and non-participants of community groups in a region of the Brazilian Western Amazon.

## METHOD

A cross-sectional, observational study of older adult users of four basic health units (UBS) located in the 1<sup>st</sup> district of the city of Rio Branco, Acre state, was conducted according to the STROBE guidelines by the EQUATOR network. The UBS were selected by simple random draw from units that met the criteria for inclusion of catering for older adults and belonging to different regional health sectors.

Sample size was calculated using Sample Size for Proportion (Finite Population). The population was defined as the 5,809 older adult users of the UBS which catered for groups of older individuals belonging to the 1<sup>st</sup> district of the city of Rio Branco city, Acre state. The necessary sample size based on a population of 5,809 people, with a 95% confidence level and 5% margin of error, was 365 older adults. A further 15% was added to this total to account for potential losses, giving a final estimated sample size of at least 420 people.

Interviews were conducted between 01 June and 30 November 2022 by the researcher with the assistance of community health workers (CHW), based on a preexisting list of older adult users registered at each UBS.

Sample selection was by convenience and performed when patients sought treatment and during home visits made by CHWs. Individuals that agreed to take part scheduled a date and time for application of the questionnaires at their homes.

Eligibility criteria were individuals age  $\geq 60$  years registered at the selected UBS, and not diagnosed with cognitive disorders or bedridden at the time of interview. Exclusion criteria were not being found after 3 tries by interviewer or failure to complete all the forms required for the study.

Information was obtained by applying instruments collecting sociodemographic and QoL data via interviews (average duration 50 minutes) conducted individually at each respondent's home.

Sociodemographic data were obtained using a structured questionnaire collecting information on age, sex, color, education, marital status, occupation, family income, number of diseases, use of medications, participation in community groups and self-rated health status.

Participants were stratified into groups according to their responses regarding participation or otherwise in community groups and types of activities undertaken. Thus, the sample was divided into the following categories: i) Community group involving physical exercise (Group 1); ii) Community group involving physical exercise and health education (Group 2); iii) Community group involving religious activities and/or community associations (Group 3); and iv) Comparator group containing non-participants in group activities (Group 0).

Quality of life was assessed using two instruments devised by the WHO: the short version of the World Health Organization Quality of Life Group (WHOQOL-BREF)<sup>16</sup> and the specific version for older adults (WHOQOL-OLD)<sup>17</sup>, with both

translated into Brazilian Portuguese and validated for use in the Brazilian older population.

The WHOQOL-BREF comprises 26 items divided into 4 domains, namely: Physical health, Psychological, Social relationships and Environment. The WHOQOL-OLD is specifically for use in the older population and applied together with the WHOQOL-BREF. The WHOQOL-OLD comprises 24 items divided into 6 facets each containing 4 items: Sensory Abilities; Autonomy; Past, Present and Future Activities; Social Participation; Death and Dying; and Intimacy. Scores for these 6 facets, or the values for the 24 items of the WHOQOL-OLD module, can be combined to yield a general score.

Scores on both these scales range from 0-100, where higher score indicates better QoL. Results were expressed as means, with categorized values<sup>18,19</sup>. For the calculation, the values of each domain are summed and divided by the number of questions to give an average score of 1 to 5. These values are transformed into categorical variables: score of 1-2.9 = needs improving; 3-3.9 = Fair; and 4-5 = Good/Very Good.

The chi-square or Likelihood Ratio tests were used to analyze the associations of the domains and facets of QoL by group. Subsequently, Odds Ratios were calculated using Multinomial Regression to verify the associations of domains and facets between the types of groups. A 5% ( $p < 0.005$ ) level of significance was adopted.

The study was conducted according to the ethics legislation in compliance with the ethics recommendations for research involving humans pursuant to National Board of Health Resolution CNS N° 466/2012. The project was submitted to the Research Ethics Committee of the Universidade Federal de São Paulo (UNIFESP) and approved under permit no. 5.358.027. All participants agreed to take part in the study by signing the Free and Informed Consent form.

## DATA AVAILABILITY

The complete anonymized dataset underpinning the results of the present study are available on figshare from [<https://doi.org/10.6084/m9.figshare.25746663>].

## RESULTS

At conclusion of data collection, 428 older adults were invited to take part in the study. Of this total, 3 individuals refused to participate and 1 failed to complete all the questionnaires, giving a final total of 424 subjects that met the inclusion criteria.

Sample participants had a mean age of 69.86 years and were predominantly female, brown, married, retired, had incomplete primary education, mean income of 1.63 minimum wages and no participation in community groups. Regarding health status, most participants reported as being healthy, having an average of 1.07 diseases and using a mean of 2.45 medications daily (Table 1).

Analysis of QoL using the WHOQOL-BREF revealed a statistically significant group difference ( $p < 0.005$ ). For the Psychological domain ( $p = 0.0071$ ), the percentage of Good/Very good responses was greater among participants in Groups 1 (82%), 2 (55%) and 3 (54%) than in Group 0 (47%). Similarly, for the Environment domain ( $p < 0.001$ ), the percentage of Good/Very good responses was greater among participants in Groups 1 (33%), 2 (33%) and 3 (18%) than in Group 0 (9%). The analysis using the WHOQOL-OLD revealed a statistically significant group difference ( $p < 0.005$ ) for the facet Autonomy ( $p < 0.001$ ), where the percentage of Good/Very good responses was greater in Groups 1 (39%), 2 (55%) and 3 (35%) than in Group 0 (22%); and for the facet Social Participation ( $p < 0.001$ ), where the percentage of Good/Very good responses was greater in Groups 1 (55%), 2 (61%) and 3 (48%) than in Group 0 (29%). (Table 2).

**Table 1.** Sociodemographic characteristics of older adult users (n=424) of UBS in Rio Branco city, Acre state, Brazilian Western Amazon, 2022.

Variables	n (%)
Sex	
Female	283 (66.75)
Male	141 (33.25)
Color	
White	60 (14.15)
Black	34 (8.02)
Yellow	4 (0.94)
Brown	326 (76.89)
Marital status	
Single	86 (20.33)
Married	159 (37.59)
Separated	66 (15.60)
Widowed	112 (26.48)
No answer given	1 (0.24)
Education	
No formal schooling	88 (20.80)
Primary incomplete	195 (46.10)
Primary complete	44 (10.40)
Secondary complete	23 (5.44)
Secondary incomplete	53 (12.53)
Higher complete	19 (4.49)
Higher incomplete	1 (0.24)
No answer given	1 (0.24)
Occupational status	
Retired	314 (74.06)
Employed	25 (5.90)
Home maker	57 (13.44)
Self-employed	21 (4.95)
Other	07 (1.65)
Overall, do you consider yourself healthy?	
Yes	327 (77.49)
No	95 (22.51)
No answer given	02 (0.47)
Participation in community groups	
Yes	179 (42.22)
No	245 (57.78)
Diseases	
Yes	304 (71.70)
No	120 (28.30)
	M (SD)
Number of diseases	1.07 ( $\pm$ 0.85)
Medications per day	2.45 ( $\pm$ 1.97)
Age	69.86 ( $\pm$ 6.96)
Income (minimum wage)	1.63 ( $\pm$ 1.16)

Author elaboration, 2023, from databases. Other=Unemployed (n=5); Priest (n=2).

**Table 2.** Analysis of associations of domains and facets of QoL on WHOQOL-BREF and WHOQOL-OLD with group type (n=424). Rio Branco city, Acre state, 2022.

WHOQOL-BREF	GROUP				<i>p-value</i>
	0	1	2	3	
<b>Physical domain</b>					
Needs improving	30 (12.1%)	1 (3%)	6 (12.2%)	14 (14.7%)	0.5292*
Fair	134 (54.3%)	17 (51.5%)	26 (53.1%)	44 (46.3%)	
Good/Very good	83 (33.6%)	15 (45.5%)	17 (34.7%)	37 (38.9%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>Psychological domain</b>					
Needs improving	10 (4%)	0 (0%)	2 (4.1%)	5 (5.3%)	<b>0.0071**</b>
Fair	122 (49.4%)	6 (18.2%)	20 (40.8%)	39 (41.1%)	
Good/Very good	115 (46.6%)	27 (81.8%)	27 (55.1%)	51 (53.7%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>Social relationships</b>					
Needs improving	11 (4.5%)	2 (6.1%)	1 (2%)	5 (5.3%)	0.3220**
Fair	80 (32.4%)	5 (15.2%)	14 (28.6%)	34 (35.8%)	
Good/Very good	156 (63.2%)	26 (78.8%)	34 (69.4%)	56 (58.9%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>Environment</b>					
Needs improving	39 (15.8%)	3 (9.1%)	8 (16.3%)	9 (9.5%)	<b>0.0001*</b>
Fair	185 (74.9%)	19 (57.6%)	25 (51%)	69 (72.6%)	
Good/Very good	23 (9.3%)	11 (33.3%)	16 (32.7%)	17 (17.9%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
WHOQOL-OLD	GROUP				<i>p-value</i>
	0	1	2	3	
<b>Sensory abilities</b>					
Needs improving	34 (13.8%)	3 (9.1%)	11 (22.4%)	14 (14.7%)	0.4552*
Fair	63 (25.5%)	6 (18.2%)	11 (22.4%)	28 (29.5%)	
Good/Very good	150 (60.7%)	24 (72.7%)	27 (55.1%)	53 (55.8%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>Autonomy</b>					
Needs improving	35 (14.2%)	0 (0%)	2 (4.1%)	9 (9.5%)	<b>0.0001*</b>
Fair	157 (63.6%)	20 (60.6%)	20 (40.8%)	53 (55.8%)	
Good/Very good	55 (22.3%)	13 (39.4%)	27 (55.1%)	33 (34.7%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>Past, present and future activities</b>					
Needs improving	19 (7.7%)	1 (3%)	3 (6.1%)	3 (3.2%)	0.1331*
Fair	125 (50.6%)	16 (48.5%)	16 (32.7%)	43 (45.3%)	
Good/Very good	103 (41.7%)	16 (48.5%)	30 (61.2%)	49 (51.6%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	

to be continued

Continuation of Table 2

WHOQOL-OLD	GROUP				<i>p-value</i>
	0	1	2	3	
<b>Social participation</b>					
Needs improving	16 (6.5%)	1 (3%)	1 (2%)	1 (1.1%)	<b>0.0000**</b>
Fair	159 (64.4%)	14 (42.4%)	18 (36.7%)	48 (50.5%)	
Good/Very good	72 (29.1%)	18 (54.5%)	30 (61.2%)	46 (48.4%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>Death and dying</b>					
Needs improving	46 (18.6%)	10 (30.3%)	7 (14.3%)	21 (22.1%)	0.5317*
Fair	54 (21.9%)	5 (15.2%)	8 (16.3%)	19 (20%)	
Good/Very good	147 (59.5%)	18 (54.5%)	34 (69.4%)	55 (57.9%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>Intimacy</b>					
Needs improving	29 (11.7%)	2 (6.1%)	4 (8.2%)	8 (8.4%)	0.5882*
Fair	52 (21.1%)	9 (27.3%)	8 (16.3%)	26 (27.4%)	
Good/Very good	166 (67.2%)	22 (66.7%)	37 (75.5%)	61 (64.2%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	
<b>General score</b>					
Needs improving	15 (6.1%)	1 (3%)	1 (2%)	2 (2.1%)	0.0834**
Fair	155 (62.8%)	18 (54.5%)	23 (46.9%)	54 (56.8%)	
Good/Very good	77 (31.2%)	14 (42.4%)	25 (51%)	39 (41.1%)	
Total participants	247 (100%)	33 (100%)	49 (100%)	95 (100%)	

Author elaboration, 2023, from databases. *p*\*= chi-square test; *p*\*\*= Likelihood ratio test; Group 0 = non-participants in group activities; Group 1= physical exercise community group; Group 2= physical exercise and health education community group; Group 3= religious activities and/or community associations group.

The odds ratios for QoL on the domains of the WHOQOL-BREF and facets of the WHOQOL-OLD according to Group type are presented in Table 3.

On the analysis of QoL, Group 1 participants had lower odds of rating QoL as “Needs improving” or “Fair” on the Psychological domain (Fair x Good/Very good; OR=0.21) and Environment domain (Needs improving x Good/Very good; OR=0.16) and (Fair x Good/Very good; OR=0.21), and on the Social Participation facets (Fair x Good/Very good; OR=0.35) than Group 0 participants. Group 2 participants had lower odds ratio of rating QoL as “Needs improving” or “Fair” on the Environment domain (Needs improving x Good/Very good;

OR=0.29) and (Fair x Good/Very good; OR=0.19) and the facets of Autonomy (Needs improving x Good/Very good; OR=0.12) and (Fair x Good/Very good; OR=0.26), Past, present and future activities (Fair x Good/Very good; OR=0.44), Social Participation (Fair x Good/Very good; OR=0.27) and General score (Fair x Good/Very good; OR=0.46) than Group 0 participants. Group 3 participants had a lower odds ratio of rating QoL as “Needs improving” or “Fair” on the Environment domain (Needs improving x Good/Very good; OR=0.31) and the facets of Autonomy (Fair x Good/Very good; OR=0.56) and Social Participation (Needs improving x Good/Very good; OR=0.10) and (Fair x Good/Very good; OR=0.47) than Group 0 participants.

**Table 3.** Odds Ratio (OR) - WHOQOL-BREF and WHOQOL-OLD, according to Group type (n=424). Rio Branco city, Acre state, 2022.

WHOQOL-BREF	OR	95% CI	<i>p-value</i>
Physical domain (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	0.18	[0.02; 1.46]	0.1089
Group 2	0.98	[0.35; 2.71]	0.9635
Group 3	1.05	[0.50; 2.20]	0.9039
Physical domain (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.70	[0.33; 1.48]	0.3528
Group 2	0.95	[0.48; 1.85]	0.8742
Group 3	0.74	[0.44; 1.23]	0.2454
Psychological domain (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	0.04	[0.0; 21.63]	0.8547
Group 2	0.85	[0.18; 4.11]	0.8418
Group 3	1.13	[0.37; 3.47]	0.8342
Psychological domain (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.21	[0.08; 0.53]	0.0009
Group 2	0.70	[0.37; 1.31]	0.2652
Group 3	0.72	[0.44; 1.17]	0.1891
Social relationships (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	1.09	[0.23; 5.21]	0.9131
Group 2	0.42	[0.05; 3.34]	0.4101
Group 3	1.27	[0.42; 3.81]	0.6742
Social relationships (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.38	[0.14; 1.01]	0.0532
Group 2	0.80	[0.41; 1.58]	0.5259
Group 3	1.18	[0.72; 1.96]	0.5116
Environment (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	0.16	[0.04; 0.64]	0.0093
Group 2	0.29	[0.11; 0.80]	0.0159
Group 3	0.31	[0.12; 0.81]	0.0173
Environment (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.21	[0.09; 0.51]	0.0005
Group 2	0.19	[0.09; 0.42]	0.0000
Group 3	0.50	[0.25; 1.0]	0.0504

to be continued



Continuation of Table 3

WHOQOL-OLD	OR	IC de 95%	<i>p-value</i>
Sensory abilities (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	0.55	[0.16; 1.94]	0.3533
Group 2	1.80	[0.81; 3.98]	0.1477
Group 3	1.17	[0.58; 2.34]	0.6668
Sensory abilities (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.60	[0.23; 1.53]	0.2803
Group 2	0.97	[0.45; 2.07]	0.9375
Group 3	1.26	[0.73; 2.17]	0.4088
Autonomy (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	0.01	[0.0; 6.12]	0.9937
Group 2	0.12	[0.03; 0.52]	0.0049
Group 3	0.43	[0.18; 1.0]	0.0508
Autonomy (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.54	[0.25; 1.16]	0.1122
Group 2	0.26	[0.13; 0.50]	0.0001
Group 3	0.56	[0.33; 0.96]	0.0342
Past, present and future activities (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	0.34	[0.04; 2.71]	0.3075
Group 2	0.54	[0.15; 1.96]	0.3499
Group 3	0.33	[0.09; 1.18]	0.0873
Past, present and future activities (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.82	[0.39; 1.73]	0.6083
Group 2	0.44	[0.23; 0.85]	0.0147
Group 3	0.72	[0.44; 1.18]	0.1906
Social participation (Needs improving X Good/Very good)			
Group 0	-		-
Group 1	0.25	[0.03; 2.01]	0.1926
Group 2	0.15	[0.02; 1.18]	0.0717
Group 3	0.10	[0.01; 0.76]	0.0265
Social participation (Fair X Good/Very good)			
Group 0	-		-
Group 1	0.35	[0.17; 0.75]	0.0065
Group 2	0.27	[0.14; 0.52]	0.0001
Group 3	0.47	[0.29; 0.77]	0.0028

to be continued

Continuation of Table 3

WHOQOL-OLD	OR	IC de 95%	p-value
Death and dying (Needs improving X Good/Very good)			
Group 0	-	-	-
Group 1	1.78	[0.77; 4.12]	0.1810
Group 2	0.66	[0.27; 1.58]	0.3502
Group 3	1.22	[0.67; 2.23]	0.5171
Death and dying (Fair X Good/Very good)			
Group 0	-	-	-
Group 1	0.76	[0.27; 2.14]	0.5979
Group 2	0.64	[0.28; 1.47]	0.2934
Group 3	0.94	[0.51; 1.73]	0.8429
Intimacy (Needs improving X Good/Very good)			
Group 0	-	-	-
Group 1	0.52	[0.12; 2.33]	0.3935
Group 2	0.62	[0.21; 1.87]	0.3944
Group 3	0.75	[0.33; 1.73]	0.5014
Intimacy (Fair X Good/Very good)			
Group 0	-	-	-
Group 1	1.31	[0.57; 3.01]	0.5313
Group 2	0.69	[0.30; 1.58]	0.3786
Group 3	1.36	[0.78; 2.37]	0.2766
General score (Needs improving X Good/Very good)			
Group 0	-	-	-
Group 1	0.37	[0.04; 3.0]	0.3497
Group 2	0.21	[0.03; 1.63]	0.1346
Group 3	0.26	[0.06; 1.21]	0.0863
General score (Fair X Good/Very good)			
Group 0	-	-	-
Group 1	0.64	[0.3; 1.35]	0.2414
Group 2	0.46	[0.24; 0.86]	0.0147
Group 3	0.69	[0.42; 1.13]	0.1379

Author elaboration, 2023, from databases; OR: Odds Ratio.  $p^*$ = Multinomial Regression; Group 0= non-participants in group activities; Group 1= physical exercise community group; Group 2= physical exercise and health education community group; Group 3= religious activities and/or community associations group.

## DISCUSSION

In the present study, the results of the analysis of the QoL of participants in community groups (Groups 1, 2 and 3) showed a higher rate of “Good/Very good” responses compared to non-participants (Group 0) on the Psychological, Environment, Autonomy and Social Participation domains. Of the different types of activities engaged in by the groups, those of Group 2, which included the combination

of physical exercise plus health education actions promoted by the UBS, showed the best results on the QoL analysis compared with the other groups.

Regarding the sociodemographic characteristics of the older adults in the study sample, most participants were female, self-declared brown, and married. This profile was similar to that seen in the studies of Bezerra<sup>20,21</sup>, also involving older adults in the state of Acre. Another factor which might explain the

higher number of women in the sample is that males tend to seek primary care services as a preventive measure less than females<sup>22</sup>, and the sample studied was drawn from older adults who sought health services. Moreover, the predominance of females in the older population is a phenomenon commonly observed in many other parts of the world<sup>23</sup>.

Most study participants were retired and had a monthly income of <2 minimum wages. Also, the participants were mainly low-educated, with majority reporting incomplete primary level, followed by no formal schooling. These data corroborate the findings of a previous study in Brazil, which found that older individuals with more educational and financial resources had greater access to activities associated with health and well-being<sup>24</sup>. Moreover, lower educational level can represent a barrier to attaining good health in that it can hamper the search for knowledge and information for disease prevention and promoting a healthy lifestyle<sup>25</sup>.

High levels of income and education are known factors facilitating social participation of older adults, highlighting the importance of implementing health promotion programs, providing financial support and developing transport infrastructure<sup>26</sup>.

The present study results revealed that over half of the older adult users of the UBS participated in no community groups run by the UBS or available in the community. These findings mirror the results of a population-based study in Southeast Brazil, showing that the population depending on the national health service had lower rates of participation in activities that benefit health<sup>24</sup>.

Social participation has great potential for improving the general health of older individuals and, hence, the importance of services that integrate them into their communities<sup>27</sup>. Strategies which increase levels of social participation during the life span, particularly in the transition to older age, confer a protective effect against the emergence of physical and mental disability and play a facilitating role in adjustment of the individual and in their adaptation to losses inherent to the aging process<sup>28</sup>.

Although the majority of study participants reported having some type of disease, when probed

about their health status respondents stated they felt healthy. This shows that harboring a disease and being in use of medications does not necessarily impact subjective perceived health. Recent studies<sup>29,30</sup> investigating social participation strategies of older individuals found these strategies had a significant positive impact on mental health and perceived health status of the subjects assessed, suggesting that they can be deployed as a means of promoting health.

The analysis of QoL of the groups revealed a statistically significant difference among participants in the community groups (Groups 1, 2 and 3) compared to non-participants (Group 0) on the Psychological and Environment domains, and on the Autonomy and Social Participation facets. Participation in these groups likely has a beneficial effect on the aspects of emotional wellbeing, positive feelings, and satisfaction with life and with the physical and social environment to which subjects are exposed. Expanding the availability of these activities and stimulating greater participation in social activities are ways of improving the QoL of older adults<sup>30</sup>.

The current findings are consistent with those of Blancafort et al.<sup>31</sup>, affirming that group interventions with a strong social component run in the primary health setting appear to be a promising solution for improving health strategies offered to older adults.

Generally, engagement in community groups is a factor that contributes to improved QoL. Similar results were found in the study by Munford et al.<sup>32</sup>, confirming that community asset participation increases QoL, whereas older adults who do not participate obtain the worst scores.

The multiple regression analysis showed an association in the community group involving physical exercise plus health education activities (Group 2) with most of the domains and facets analyzed. The actions performed in this group entailed a combination of engaging in physical exercise and health education activities, such as talks, healthcare workshops, conversation circles and socialization of experiences. Community groups have great potential to offer participants the opportunity to promote health, prevent disease and provide integrated care<sup>33</sup>. Also, studies have shown a significant association between regular involvement in social activities and longer

overall survival in older adults<sup>34</sup>. Furthermore, such groups encourage engagement in physical activities, representing a key factor in delaying the transition from robustness to frailty in this group<sup>35</sup>.

Improving the social participation of older adults is a key factor for essential aspects of aging including physical and mental health. A recent study showed a significant relationship between physical activity, anxiety, stress and QoL. The inclusion of physical activity in groups for older adults constitutes an alternative for improving other variables affecting health such as anxiety and stress.

The present results should be interpreted with caution in as far as the conclusions cannot be generalized to other contexts because the sample consisted of urban older adults only. Another aspect to take into account is that factors such as duration and frequency of participation in the groups were not investigated, aspects which may have influenced the QoL scores attained. Lastly, the QoL of the participants may have been overestimated, since subjects with more severe disabilities, such as cognitive impairment or being bedridden, were excluded from the sample.

## CONCLUSION

The present study revealed that participation in community groups was associated with better QoL scores. Notably, the physical exercise plus health education group, with an emphasis on activities such as engaging in guided physical exercise and health education actions, attained better QoL scores on the domains and facets assessed.

## REFERENCES

1. Previato GF, Nogueira IS, Luís Mincoff RC, Jaques AE, Carreira L, Baldissera VDA. Conviviality groups for elderly people in primary health care: contributions to active aging. *Rev Pesqui Cuid é Fundam Online* [Internet]. 2019 Jan 1;11(1):173–80. Available from: <https://doi.org/10.9789/2175-5361.2019.v11i1.173-180>
2. Silva Santos PR, Soares Pereira AE, Costa e Silva SP, Oliveira FMRL de. Benefícios da inserção da pessoa Idosa em Grupos de Convivência: Revisão Integrativa. *ID line Rev Psicol* [Internet]. 2023 Feb 28;17(65):213–24. Available from: <https://idonline.emnuvens.com.br/id/article/view/3678>. <https://doi.org/10.14295/idonline.v17i65.3678>

Generally, participation in community groups is an important factor in strengthening ties, feelings of belonging and individual and collective wellbeing, promoting enhanced QoL and, consequently, healthy aging.

These findings underscore the importance of implementing public policies centered community programs for older adults, fostering participation and involvement in activities which optimize social connections, fundamental for improving and maintaining QoL, particularly in the population reliant on the public health system.

## AUTHOR CONTRIBUTIONS

- Aristeia N. Sampaio – Responsible for all aspects of the study, vouching for any issues related to the accuracy or integrity of any part of the study and approval of the version for publication.
- Jader A. Bezerra – Data analysis and interpretation.
- Maria A. do N. Oliveira – Critical review of manuscript.
- Isabela S. S. Mallagoli – Critical review of manuscript.
- Italo E. B. Barbosa – Data analysis and interpretation.
- Angélica G. S. Belasco – Critical review and approval of version for publication.

Edited by Lilian Dias Bernardo and Isac Davidson S. F. Pimenta

3. Torres KRB de O, Campos MR, Luiza VL, Caldas CP. Evolução das políticas públicas para a saúde do idoso no contexto do Sistema Único de Saúde. *Physis Rev Saúde Coletiva* [Internet]. 2020;30(1):1–22. Available from: <http://dx.doi.org/10.1590/s0103-73312020300113>
4. WHOQOL GROUP. The World Health Organization quality of life assessment (WHOQOL): Position paper from the World Health Organization. *Soc Sci Med*. 1995 Nov 1;41(10):1403–9. Available from: [https://doi.org/10.1016/0277-9536\(95\)00112-K5](https://doi.org/10.1016/0277-9536(95)00112-K5)
5. Munford LA, Wilding A, Bower P, Sutton M. Effects of participating in community assets on quality of life and costs of care: longitudinal cohort study of older people in England. *BMJ Open* [Internet]. 2020 Feb 6;10(2):e033186. Available from: <https://doi.org/10.1136/bmjopen-2019-033186>
6. Oliveira BLCA de, Lima SF, Costa ASV, Silva AM da, Alves MTSS de B e A. Social participation and self-assessment of health status among older people in Brazil. *Cien Saude Colet* [Internet]. 2021 Feb;26(2):581–92. Available from: <https://doi.org/10.1590/1413-81232021262.203420197>
7. Organização Pan-Americana da Saúde. Década do Envelhecimento Saudável 2020-2030. *Organ Pan-Americana da Saúde*. 2020;1–29. Available from: <https://www.who.int/docs/default-source/decade-of-healthy-ageing/final-decade-proposal/decade-proposal-final-apr2020-en.pdf>
8. Belasco AGS, Okuno MFP. Reality and challenges of ageing. *Rev Bras Enferm*. 2019;14(128):1–2. Available from: <http://dx.doi.org/10.1590/0034-7167.2019-72suppl201>
9. Brasil. Ministério da Saúde. PORTARIA No 2.528 DE 19 DE OUTUBRO DE 2006 [Internet]. Available from: [https://bvsms.saude.gov.br/bvs/saudelegis/gm/2006/prt2528\\_19\\_10\\_2006.html](https://bvsms.saude.gov.br/bvs/saudelegis/gm/2006/prt2528_19_10_2006.html)
10. Souza Madeira E, Ramos Machado da Silva J, Alfradique de Souza P, Cristina Macedo E, Magno Carvalho da Silva C, Yuji Koike Felix R. Quality of life in elderly attend of a social center / Qualidade de vida em idosos integrantes de um centro de convivência. *Rev Pesqui Cuid é Fundam Online* [Internet]. 2022 Oct 4;14:1–7. Available from: <https://doi.org/10.9789/2175-5361.rpcf.v14.11865>
11. de Oliveira L da SSCB, Souza EC, Rodrigues RAS, Fett CA, Piva AB. The effects of physical activity on anxiety, depression, and quality of life in elderly people living in the community. *Trends Psychiatry Psychother* [Internet]. 2019 Mar;41(1):36–42. Available from: <http://dx.doi.org/10.1590/2237-6089-2017-0129>
12. Figueira HA, Figueira OA, Figueira AA, Figueira JA, Polo-Ledesma RE, Lyra da Silva CR, et al. Impact of Physical Activity on Anxiety, Depression, Stress and Quality of Life of the Older People in Brazil. *Int J Environ Res Public Health* [Internet]. 2023 Jan 8;20(2):1127. Available from: <https://doi.org/10.3390/ijerph20021127>
13. Fiorilli G, Buonsenso A, Centorbi M, Calcagno G, Iuliano E, Angiolillo A, et al. Long Term Physical Activity Improves Quality of Life Perception, Healthy Nutrition, and Daily Life Management in Elderly: A Randomized Controlled Trial. *Nutrients* [Internet]. 2022 Jun 17;14(12):2527. Available from: <https://doi.org/10.3390/nu14122527>
14. Soares Filho AM, Vasconcelos CH, Dias AC, Souza ACC de, Merchan-Hamann E, Silva MRF da. Atenção Primária à Saúde no Norte e Nordeste do Brasil: mapeando disparidades na distribuição de equipes. *Cien Saude Colet* [Internet]. Jan 2022;27(1):377–86. Available from: <https://doi.org/10.1590/1413-81232022271.39342020>
15. Teston LM, Mendes Á, Carnut L, Louvison MCP. Desafios políticos e operacionais na percepção de gestores sobre a regionalização em saúde no Acre. *Saúde em Debate* [Internet]. Apr 2019;43(121):314–28. Available from: <https://doi.org/10.1590/0103-1104201912102>
16. Fleck MP, Louzada S, Xavier M, Chachamovich E, Vieira G, Santos L, et al. Aplicação da versão em português do instrumento abreviado de avaliação da qualidade de vida “WHOQOL-bref.” *Rev Saude Publica* [Internet]. Apr. 2000 [accessed on: 2021 Sept 7];34(2):178–83. Available from: <https://doi.org/10.1590/S0034-89102000000200012>
17. Fleck MP, Chachamovich E, Trentini C. Development and validation of the Portuguese version of the WHOQOL-OLD module. *Rev Saude Publica* [Internet]. 2006 Oct [accessed on: 2021 Sept 7];40(5):785–91. Available from: <https://doi.org/10.1590/S0034-89102006000600007> *Rev Bras Saúde Func* [Internet]. Dec 2021 10;9(3):43–52. Available from: <https://doi.org/10.25194/rebrasf.v9i3.1480>
18. Marian Otto Barrientos A, Alves e Silva K, Ferreira dos Santos C, Priscila Batista Farias E, Ricardo Nepomuceno Pereira S, Cipriano Santos M, et al. QUALIDADE DE VIDA UTILIZANDO WHOQOL-BREF EM DIABÉTICOS NA ATENÇÃO BÁSICA DE SAÚDE EM CACHOEIRA-BA. *Rev Bras Saúde Func* [Internet]. Dec 2021 10;9(3):43–52. Available from: <https://doi.org/10.25194/rebrasf.v9i3.1480>

19. Hoffmann-Horochovski MT, Castilho-Weinert LV. O WHOQOL-Bref para avaliar qualidade de vida como instrumento de apoio à Gestão Pública. *NAU Soc* [Internet]. Apr 2018 30;9(16):59–68. Available from: <https://doi.org/10.9771/ns.v9i16.31412>
20. Bezerra PC de L, Rocha BL da, Monteiro GTR. Fatores associados à fragilidade em pessoas idosas usuárias de serviços de Atenção Primária à Saúde de uma capital da Amazônia Brasileira. *Rev Bras Geriatr e Gerontol* [Internet]. 2023;26. Available from: <https://doi.org/10.1590/1981-22562023026.230018.pt>
21. Bezerra PC de L, dos Santos EMA. Perfil sociodemográfico e situação de saúde de idosos acompanhados na Atenção Primária à Saúde em uma capital da Amazônia Ocidental\*. *Rev Kairós-Gerontologia* [Internet]. 2020;23(1):451–69. Available from: <https://dx.doi.org/10.23925/2176-901X.2020v23i1p451-469>
22. Miranda JF, Araújo MP de, Oliveira KGZ. O homem na busca dos serviços de atenção primária em saúde na cidade de Imperatriz-MA. *Res Soc Dev* [Internet]. 2022 Jan 15;11(1): e56011124946. Available from: <https://dx.doi.org/10.33448/rsd-v11i1.24946>
23. United Nations Department of Economic and Social Affairs (UNDESA). *The World's Women 2010* [Internet]. 2010 p. 153. Available from: [https://unstats.un.org/unsd/demographic/products/worldswomen/WW\\_full\\_report\\_BW.pdf](https://unstats.un.org/unsd/demographic/products/worldswomen/WW_full_report_BW.pdf)
24. Sousa NF da S, Lima MG, Barros MB de A. Desigualdades sociais em indicadores de envelhecimento ativo: estudo de base populacional. *Cien Saude Colet* [Internet]. 2021 Oct ;26(suppl 3):5069–80. Available from: <https://doi.org/10.1590/1413-812320212611.3.24432019>
25. Ha NT, Le NH, Khanal V, Moorin R. Multimorbidity and its social determinants among older people in southern provinces, Vietnam. *Int J Equity Health* [Internet]. 2015 Dec 30;14(1):50. Available from: <http://dx.doi.org/10.1186/s12939-015-0177-8>
26. Jalali MT, Sarikhani Y, Askarian F, Marzaleh MA, Najibi SM, Delavari S. Factors facilitating and inhibiting the social participation of the elderly in health-oriented activities in Shiraz, Southern Iran. *BMC Geriatr* [Internet]. 2023 Mar 27;23(1):175. Available from: <https://doi.org/10.1186/s12877-023-03892-4>
27. Douglas H, Georgiou A, Westbrook J. Social participation as an indicator of successful aging: An overview of concepts and their associations with health. *Aust Heal Rev*. 2017;41(4):455–62. Available from: <http://dx.doi.org/10.1071/AH1603822>
28. Silva SR, Marques FDC, Lavado N, Parente LFD, Rafael ACM, Gonçalves DP, et al. Qualidade de Vida e Participação em Iniciativas de Base Comunitária: Um estudo num município da zona centro de Portugal. *Rev Kairós Gerontol* [Internet]. 2019 Sept 30;22(3):43–66. Available from: <http://dx.doi.org/10.23925/2176-901X.2019v22i3p43-66>
29. Ma X, Piao X, Oshio T. Impact of social participation on health among middle-aged and elderly adults: evidence from longitudinal survey data in China. *BMC Public Health* [Internet]. 2020 Dec 15;20(1):502. Available from: <https://doi.org/10.1186/s12889-020-08650-4>
30. Palmes MS, Trajera SM, Ching GS. Relationship of Coping Strategies and Quality of Life: Parallel and Serial Mediating Role of Resilience and Social Participation among Older Adults in Western Philippines. *Int J Environ Res Public Health* [Internet]. 2021 Sep 23;18(19):10006. Available from: <https://doi.org/10.3390/ijerph181910006>
31. Blancafort Alias S, Monteserín Nadal R, Moral I, Roqué Fígols M, Rojano i Luque X, Coll-Planas L. Promoting social capital, self-management and health literacy in older adults through a group-based intervention delivered in low-income urban areas: results of the randomized trial AEQUALIS. *BMC Public Health* [Internet]. 2021 Dec 7;21(1):84 Available from: <https://doi.org/10.1186/s12889-020-10094-9>
32. Munford LA, Panagioti M, Bower P, Skevington SM. Community asset participation and social medicine increases qualities of life. *Soc Sci Med* [Internet]. 2020 Aug;259(March):113149. Available from: <https://doi.org/10.1016/j.socscimed.2020.113149>
33. Silva DS da, Mota JL, Silva EV da, Almeida PS, Caixeta GG, Lima LF de, et al. Senescência: percepções sobre este processo e a sua singularidade na vida de idosos que participam de um grupo de convivência. *Rev Eletrônica Acervo Saúde* [Internet]. 2022 Mar 28;15(3):e9975. Available from: <https://doi.org/10.25248/reas.e9975.2022>
34. Wang Z, Zheng Y, Ruan H, Li L, Duan L, He S. Association between social activity frequency and overall survival in older people: results from the Chinese Longitudinal Healthy Longevity Survey (CLHLS). *J Epidemiol Community Health* [Internet]. 2023 May;77(5):277–84. Available from: <https://doi.org/10.1136/jech-2022-219791>
35. Hayashi C, Toyoda H, Ogata S, Okano T, Mashino S. Long-term participation in community-based group resistance exercises delays the transition from robustness to frailty in older adults: a retrospective cohort study. *Environ Health Prev Med* [Internet]. 2021 Dec 20;26(1):105. Available from: <https://doi.org/10.1186/s12199-021-01028-x>