Level of Physical Activity and Quality of Life: A Study with Elderly from Coredes Alto Jacuí and Alto Botucaráí, Rio Grande Do Sul

Marilia de Rosso Krug¹, Solange Beatriz Billig Garces², Eduardo Osterkamp³, Cristielle Batista Frese⁴, Rodrigo de Rosso Krug⁵

¹Docente do Curso de Educação Física da Universidade de Cruz Alta – UNICRUZ e do Docente do Programa de Pós-Graduação em Atenção Integral a Saúde da UNICRUZ
²Docente do Curso de Educação Física da Universidade de Cruz Alta, UNICRUZ e do Programa de Pós-Graduação em Práticas Sócio Culturais da UNICRUZ
³,⁴Acadêmico do curso de Educação Física – Bacharelado da UNICRUZ
⁵Docente do Curso de Educação Física da Universidade de Cruz Alta, UNICRUZ e do Programa de Pós-Graduação em Atenção Integral a Saúde da UNICRUZ

Abstract—Brazil is currently undergoing an important change in its demographic pyramid, with progressive and accelerated aging of the population. Guaranteeing quality of life and functional longevity for this population has been pointed as a solution to the problem of the autonomy of the elderly in society. Thus, this study aims to analyze the relationship between quality of life (QL) and level of physical activity (LFA) in elderly individuals assisted by the Family Health Strategies (FHS) of the municipalities of Coredes Alto Jacuí and Alto Botucaráí - RS. This research was characterized as a descriptive cross-sectional study and the sample consisted of 1378 elderly (over 60 years old) representing 10% of the population assisted by the FHS of these municipalities. For evaluation of QL, the WHOQOLOLD questionnaire was used, and to determine the LFA, the International Physical Activity Questionnaire (IPAQ) was used. Data were analyzed with the support of descriptive statistics, absolute frequency distributions and measures of central and inferential tendency, Mann Whitney U test and Spearman correlation, considering significant values p <0.05. The present research could infer that the quality of life levels were better for those elderly classified as active. It is concluded that there is a relationship between the two variables and the observed pattern is that the more active the higher the quality of life.

Keywords—Aging. Health. Quality of life.

I. INTRODUCTION

Human aging deserves attention, especially considering the National Household Sample Survey - NHSS 2015 (IBGE, 2016). The participation of people aged 60 and over increased from 9.8% in 2005 to 14.3% in 2015. Pointing to the demographic aging trend, which corresponds to the increase in the percentage participation of the elderly in the population. This number leaves Brazil among the countries with the largest number of elderly in the world, occupying the sixteenth position in the number of elderly. By 2025, Brazil is expected to move to sixth place. This change will lead to a reduction in the percentage of young people from 42.6% to 20.6% and an increase from 2.7% to 14.6% in the elderly population. (CRUZ; ALHO, 2000).

According to Mazo et al. (2005), the rapid growth of the elderly population, has had a major impact on the country's economy and aggravation of problems in the socioeconomic and health sectors. In addition, the aging process is most often accompanied by an inactive lifestyle that favors disabilities and dependencies by showing how much professionals in various fields should be concerned with providing older people with the means by which to associate longevity to a good quality of life, thus rescuing their autonomy.

The term quality of life can be considered as the condition resulting from a set of individual, socio-cultural and environmental parameters that determine how human beings live (NAHAS, 2001; SILVA; REZENDE, 2006; PIMENTA et al., 2008). For the World Health Organization quality of life is “[…] an individual's perception of their position in life, in the context of the culture and value system in which they live, taking into account their goals, expectations, standards and your concerns ” (WHOQOL, 2008, p. 23). There is no unanimity of opinion related to good quality of life, but the
most commonly found elements are: health, safety, happiness, leisure, stable financial condition, family, love, aesthetics and work (MINAYO, HARTZ, BUSS, 2000; GONÇALVES; VILARTA 2004; SANTOS; SOUZA, 2015; ENTRINGER et al., 2018). Although a large body of knowledge, among them, Bauman (2004), Moraes et al. (2007), Castro et al. (2007) and Azevedo Filho et al. (2019) evidence the role of physical activity as one of the decisive elements in the promotion of health and quality of life, these levels remain low. According to United States Department of Health & Center for Disease Control and Prevention, 40% of adults did not perform physical activity in their free time, and only 15% performed moderately for 30 minutes or more, with weekly frequency of five to seven days a week (DHHS, 2001). To be physically active you need to do at least 150 minutes a week of moderate physical activity. (MONTÉRIL, 1996-1997; HALLAL, 2005) or 60 minutes a week of vigorous physical activity (HALLAL, 2005).

Studios say that physical activity improves the performance of older people in activities of daily living and reduces the risks of various chronic diseases such as heart disease, hypertension, obesity, diabetes mellitus, osteoporosis and some cancers (NAHAS, 2001; ALLSEN; HARRISON; VANCE, 2001; ALMEIDA et al., 2018; SCIANNI et al., 2019). Physical activity is also associated with well-being and quality of life, especially in middle age and old age, which is in this phase as a consequence of consolidating inactivity (NAHAS, 2001). However, there are still few studies that include a representative sample of a given population comparing the practice of physical activity in the elderly and the relationship with physical inactivity, the functionality in daily tasks, quality of life and other variables (LOPES 2015).

Thus, considering that epidemiological studies involving the elderly are important so that their results may direct health promotion programs, especially regarding the more active behavior of this population, which may result in positive impacts on the quality of life related to health. This study aims to analyze the relationship between the quality of life and the level of physical activity in elderly individuals assisted by the Family Health Strategies (FHS) of the municipalities of Coredes Alto Jacuí and Alto Botucarai - RS, which represented 10% of the population served by the FHS of these municipalities. We excluded from the study and replaced by another subject the elderly who did not have mental and / or physical conditions to respond to the instrument; those who did not sign or stamp the Informed Consent Form; and those who were not registered with the municipality's FHS.

As a research instrument, we used a form, which was applied as an interview, consisting of three questionnaires:

a) Personal information questionnaire, containing information such as: gender, age, marital status, education and monthly income, with the purpose of characterizing the socioeconomic and demographic situation of the sample;

b) WHOQOL-OLD Quality of Life Questionnaire, Brazilian version, standardized by Fleck et al (2003). This instrument assesses the quality of life in the elderly. It started in 1999, as a scientific cooperation of several centers. The aim of the project was to develop and test a generic measure of quality of life in older adults for international / cross-cultural.

Taking as a starting point the quality of life measure for younger adults (WHOQOL-100), its original version was published in 1998 (WHOQOL GROUP, 1998) and the Brazilian version in 2003 (FLECK et al., 2003). The WHOQOL-OLD consists of 24 Likert scale items assigned to six facets: “Sensory Functioning” assesses sensory functioning and the impact of loss of sensory skills on activities of daily living and the ability to interact with others on quality of life. of the elderly.

“Autonomy” refers to independence in old age, describing the extent to which one is able to live autonomously and make one's own decisions. “Past, Present, and Future Activities” refers to past, present, and future activities, describing satisfaction with life achievements and projects, future yearnings.

“Social Participation” refers to social participation, which delineates participation in everyday activities, especially in the community in which it operates. “Death and Dying”, which relates to concerns, concerns and fears about death and the dying. And “Intimacy,” which evaluates the perception of feeling loved and supported as well as loving. Each of the facets has four items; therefore, for all facets the score of possible values can range from 4 to 20, provided that all items in one facet are filled.

The scores of these six facets or the 24-item WHOQOL-OLD module values can be combined to produce an overall (“global”) score for quality of life in older adults, denoted as the “Total score” WHOQOL-OLD (FLECK) score. et al., 2003).
c) International Physical Activity Questionnaire (IPAC), short version (PARDINI et al., 2001) to assess the level of physical activity. This questionnaire was prepared by researchers from various countries, supported by the World Health Organization, as part of a multicenter study involving 12 countries, to know the population’s classification in relation to physical activity. Each participating country adapted and validated its questionnaire, taking into account the characteristics of the population. In Brazil, it was validated by the São Caetano do Sul Physical Fitness Laboratory Study Center (CELAFISC, 2008). It consists of eight questions regarding walking, moderate / vigorous / moderate + vigorous physical activity, whose product is the level of physical activity, in which the individual is classified as sedentary, insufficiently active, active and very active.

The collections took place in the homes of the elderly who were randomly selected in proportion to the number of elderly in each micro area of Coredes Alto Jacuí and Alto Botucarai - RS.

Data were analyzed with the support of descriptive statistics, absolute frequency distributions and measures of central and inferential tendency, Mann Whitney U test and Spearman correlation, considering significant values p < 0.05.

III. RESULTS AND DISCUSSIONS

The 1378 elderly who participated in the study were characterized by gender, age, education, marital status (Table 1) and level of physical activity (Table 2).

Table 1 - Sample distribution in relation to sociodemographic characteristics. Rio Grande do Sul, Brazil.

| Variables            | n  | %  |
|----------------------|----|----|
| Gender               | 542| 39.3|
| Female               | 836| 60.7|
| Age                  |    |    |
| 60 to 69 years       | 674| 49.9|
| 70 to 79 years       | 400| 35.6|
| 80 or more           | 214| 15.5|
| Civil status         |    |    |
| Married              | 897| 58.6|
| Single or Other      | 129| 8.7 |
| Widower              | 392| 28.4|
| Separate             | 50 | 3.3 |
| Schooling            |    |    |
| Illiterate           | 253| 18.4|
| Incomp. Elementary School | 931| 67.6|
| Complete primary education | 118| 8.6 |
| Complete high school | 61 | 4.4 |
| Higher Education Complete | 15 | 1.2 |

According to the data presented in table 1, it is observed that the sample consisted of 60.7% of female elderly and that 48.9% are between 60 and 69 years old. It is also observed that 58.6% are married and that the education level of more than half of the population is low, 67.6% have incomplete elementary school.

Among the factors that explain the higher number of female elderly we can show that life expectancy among women is higher than men. Still, we point to Souza and Siviero (2015) who specify that male mortality is higher than female mortality in all age groups, as well as life expectancy at birth and at other ages are also higher among women, and that the number Deaths due to violent causes, which affect the male population more intensely, have increased in recent years, leading to a reduction in male life expectancy.

Table 2 - Level of physical activity according to gender and age. Rio Grande do Sul, Brazil.

|                | Sedentary | Active | P    |
|----------------|-----------|--------|------|
| Gender         |           |        |      |
| Male           | 311       | 22.6   | 231  | 16.8 | 0.054|
| Female         | 516       | 37.4   | 320  | 23.2 |      |
| Age range      |           |        |      |
| 60-69 years    | 311       | 22.6   | 231  | 16.8 | 0.054|
| 70-79 years    | 296       | 21.5   | 194  | 14.1 | 0.001|
| 80 + years     | 151       | 11     | 63   | 4.6  |      |

The results presented in table 2 corroborate what some studies have already proven, that the practice of physical activity in search of health promotion declines over the years of life (ANDREOTTI; OKUMA, 2003; CARVALHO et al., 2010; LOPES et al., 2016). Another study that interviewed 1891 elderly people in the South Region in 2009 showed that 58% of the elderly were sedentary, and that the elderly aged 80 years or older were the least likely to receive counseling on physical activity in primary care units. (LOPES et al., 2015).

The statistical test called Pearson’s chi-square test was used to measure the association between the categorical variables gender and IPAQ. The chi-square statistic value was 2.584. The value of p = 0.054, thus indicating that there is no relationship of dependence between the variables gender and level of physical activity. Different result was found by another study that associated the factors age and sex, with or without physical exercise. The pattern found was that older male elderly are more sedentary when compared to other groups (FLORINDO, 2001).

The statistical test called Pearson’s chi-square test was used to measure the association between the categorical variables Age and physical activity level
The chi-square statistic value was 13.661. The \( p = 0.001 \) (bilateral) value found is highly significant at the significance level \( \alpha = 0.05 \), thus indicating that there is some dependence relationship between age and physical activity variables. We found that the higher the age group analyzed, the lower the percentage of elderly people who are active. This tendency has already been observed in similar studies that concluded that as chronological age increases there is a tendency for people to be less active and consequently less functional (MATSUDO, 2002; VECCHIA, 2005).

Table 3 presents the results found by the WHOQOL-OLD quality of life questionnaire regarding the physical activity level of the sample.

**Table 3: presents the results found by the WHOQOL-OLD quality of life questionnaire regarding the physical activity level of the sample.**

| Facets               | Active Average | Active SD | Sedentary Average | Sedentary SD | \( p \)   |
|----------------------|----------------|-----------|-------------------|--------------|----------|
| Intimacy             | 74.45          | 17.23     | 70.77             | 17.46        | 0.00     |
| Present, past and future activities | 66.48          | 15.47     | 65.86             | 14.91        | 0.260    |
| Autonomy             | 72.91          | 15.96     | 65.13             | 17.37        | 0.00     |
| Social Participation | 70.64          | 12.94     | 64.05             | 16.37        | 0.00     |
| Sensory Functioning  | 54.46          | 30.16     | 48.50             | 26.72        | 0.00     |
| Death and dying      | 51.60          | 38.21     | 45.59             | 34.59        | 0.006    |
| Overall Quality of Life | 65.09         | 12.30     | 60.22             | 12.14        | 0.00     |

Analyzing the results of quality of life as a function of physical activity level, it can be seen (Table 3) that in all six facets analyzed the active group had better quality of life when compared to the sedentary group, highlighting that the death and dying was the only one without statistically significant difference. Other studies, (LOPES et al., 2015), proved that increasing the level of physical activity is an important non-pharmacological treatment regimen for the treatment and prevention of various diseases. Highlighting that the systematic practice of physical exercises improves the general health of the individual at any stage of life (SILVA, 2006). Borges (2009) found that individuals aged 76 to 88 years old who had practiced physical activity at some point in their lives had slightly lower levels of dependence when compared to those who had never practiced, suggesting that physical activity may have influenced this result. It is noteworthy that there are still other scientific studies that associate the practice of physical activities with the general improvement of health, increased muscle strength, aerobic capacity, flexibility, balance, among other abilities, of the individual at any stage of life (SILVA, 2006; ROCHA, 2012; ROWE, 1997; KELL, 2001; CAVANI, 2002; TORAMAN, 2004).

The quality of life assessed by the WHOQOL-OLD showed a higher score for men and women in the intimacy facet (73.53 and 71.41, respectively) table 4. The lowest score for men and women was related to the Death and Dying facet (49.50 and 47.40, respectively). It was found that males had higher Intimacy facet score (71.41; \( p = 0.025 \)) when compared to females, the only variable that showed significant differences in quality of life as a function of gender.

**Table 4 – Quality of life according to gender. Rio Grande do Sul, Brazil, 2016.**

| Facets               | Female Average | Female SD | Male Average | Male SD | \( p \)   |
|----------------------|----------------|-----------|--------------|---------|----------|
| Intimacy             | 73.53          | 16.00     | 70.53        | 16.52   | 0.025    |
| Present, past and future activity | 65.83          | 14.93     | 66.54        | 15.42   | 0.700    |
| Autonomy             | 61.27          | 17.65     | 69.72        | 16.50   | 0.760    |
| Social Participation | 66.55          | 13.22     | 66.89        | 15.28   | 0.078    |
| Sensory Functioning  | 54.40          | 28.42     | 51.68        | 28.10   | 0.714    |
| Death and dying      | 47.40          | 32.28     | 49.50        | 37.01   | 0.022    |
| Overall Quality of Life | 61.65         | 12.29     | 62.97        | 12.47   | 0.551    |

It can be inferred that the quality of life of this sample was relatively good, as it is above average, considering the maximum value that could be observed, the average quality of life score was 61.65 and 62.97 for women and men respectively, to a maximum of 100. The worst score for quality of life was related to death and dying. This result can be considered as expected, because people in general, and especially older people, are aware of the finitude of life, and it is not related to certain attitudes or practices they may have (LOPES et al., 2015).

Table 5 clearly shows the decline in quality of life as a result of increasing chronological age, except for the Sensory Functioning and Death and Dying facets, probably because they relate less to physical abilities and more to emotional and psychological aspects, the last to decrease at the end of the elderly's life.

**Table 5 - Quality of life according to age. Rio Grande do Sul, Brazil, 2016.**
Knowing the linear relationship between the level of physical activity and the delayed decline in body functions (CARVALHO et al., 2010), we highlight the importance of practicing moderate or vigorous physical activity for 150 minutes or more per week for improvement in physical conditions, health maintenance and, above all, quality of life, and a possible and probable attenuation in the reduction of the values presented in table 5. Physical exercises of moderate / vigorous intensity were significantly associated with higher WHOQOL-OLD scores, in almost every domain.

IV. CONCLUSION

The present research could infer that the quality of life levels were better for those elderly classified as active. It is concluded that there is a relationship between the two variables and the observed pattern is that the more active the higher the quality of life (CUPERTINO, ROSA e RIBEIRO, 2007).

Thus, considering the effectiveness of physical activity as a prevention of various diseases, and with the increase and prolongation of the working capacity of the elderly, optimizing the performance of activities of daily living and preventing disability and dependence in the last years of life, as well as the positive relationship with quality of life, we point out that being active, performing physical exercises, is today one of the largest, if not the greatest, health promotion and quality of life tool available, easily accessible, low cost, and almost no contraindications.

REFERENCES

[1] ALLSEN, P. E.; HARRISON, J.H.; VANCE, B. Exercício e qualidade de vida: uma abordagem personalizada. São Paulo: Manole; 2001.
[2] ALMEIDA, H. F. R. et al. Effects of an Exercise Program on the Levels of Arterial Blood Pressure Older Women, Hypertension and Sedentary in Pharmacological Treatment Process. International Journal of Advanced Engineering Research and Science (IJAERS). V. 5, n. 7, p. 256-261, 2018.
[3] AMERICAN HEART ASSOCIATION. Fighting heart disease and stroke: strategic plan for promoting physical activity. Dallas; 1995.
[4] ANDREOTTI, R.A.; OKUMA, S.S. Validação de uma Bateria de Testes de Atividades da Vida Diária para Idosos Fisicamente Independentes. Revista Paulista de Educação Física. São Paulo, n. 1, jun. 1999. Disponível em: <http://www.usp.br/cefri/rpef/v13n1/v13n1p46.pdf>. Acesso em: 10 nov. 2017.
[5] AZEVEDO FILHO, E. R. et al. Percepção dos idosos quanto aos benefícios da prática da atividade física: um estudo nos Pontos de Encontro Comunitário do Distrito Federal. Revista Brasileira de Ciências do Esporte, v. 41, n. 2, p. 142-149, 2019.
[6] BAUMAN, A. E. Updating the evidence that physical activity is good for health: an epidemiological review 2000-2003. J. Sci. Med. Sport. v. 7, n.1, p.6-19, 2004.
[7] BERLESI, E.M.; ROSA, P.V. da; SOUZA, A.C.A. de; SCHNEIDER, R.H.. Comparação Antropométrica e do Nível de Aptidão Física de Mulheres acima de 60 anos Praticantes de Atividade Física Regular e não Praticantes. Revista Brasileira de Geriatria e Gerontologia, Rio de Janeiro, n. 3, jan. 2006. Disponível em: <http://www.unati.uerj.br/tse/scielo.php?script=sci_abstract &pid=S1809-98232006000300005&lng=pt&nrm=iso>. Acesso em: 20 nov. 2007.
[8] BORGES, M.R.D; MOREIRA, A.K. Influências da prática de atividades físicas na terceira idade: estudo comparativo dos níveis de autonomia para o desempenho nas AVDs e AIVDs entre idosos ativos fisicamente e idosos sedentários. Motriz, Rio Claro, v. 15, n.3, p.562-573, jul./set. 2009. R. Suhl, Eds. New York: Academic, pp. 271–350.
[9] BORGES, M.R.D; MOREIRA, A.K. Influências da prática de atividades físicas na terceira idade: estudo comparativo dos níveis de autonomia para o desempenho nas AVDs e AIVDs entre idosos ativos fisicamente e idosos sedentários. Motriz, Rio Claro, v. 15, n.3, p.562-573, jul./set. 2009. R. Suhl, Eds. New York: Academic, pp. 271–350.
[10] CASTRO, O.S.; TAHARA, N.; REBELATTO, J.R.; DRIUSSO, P.; AVEIRO, M.C.; OISHI, J. Influência da Universidade Aberta da Terceira Idade (UATI) e do Programa de Revitalização (REVT) sobre a qualidade de vida de adultos de meia-idade e idosos. R. Bras. Fisioter. São Carlos, v. 11, n. 6, p. 6-461-7. 2007.
[11] CAVANI, V.; et al. Effects of a 6-week resistance training program on functional fitness of older adults. Journal of
agining and physical activity. Champaign, v. 10, n. 4, p. 443-452, out./2002.

[12] CRUZ, I.B.M.; ALHO C. Envelhecimento populacional: panorama epidemiológico e de saúde do Brasil e do Rio Grande do Sul. In: JECKEL-NETO E.A, CRUZ IBM (org) Aspectos Biológicos e Geriâtricos do envelhecimento. Porto Alegre. Edipucrs, 2000.

[13] CUPERTINO, A.P.F.B.; ROSA, F.H.M.; RIBEIRO, P.C.C. Definição de envelhecimento saudável na perspectiva de indivíduos idosos. Psicol. Reflex. Crit. Porto Alegre. v. 20, n.1, p.81-86. 2007.

[14] DEPARTMENT OF HEALTH AND HUMAN SERVICES & CENTER FOR DISEASE CONTROL AND PREVENTION. Increasing physical activity. A report on recommendations of the task force on community preventive services: morbidity and mortality. Atlanta: DHHS; 2001.

[15] ENTRINGER, T. C et al. Analysis of the quality of life in Brazilian offshore companies. International Journal of Advanced Engineering Research and Science (IJAERS). V. 5, n. 12, p. 43-51, 2018.

[16] FLECK, M. P. de A.; CHACHAMOVICH, E.; TRENTINI, C. Projeto Whoqol-old: Método e Resultados de Grupos Focais no Brasil. Revista Saúde Pública, Porto Alegre. V.22, n.1, p.45-56. jul. 2003. Disponível em: <www.fsp.usp.br/whoqolold>. Acesso em: 15 nov. 2017.

[17] FLORINDO, A. et al. Fatores associados à prática de exercícios físicos em homens voluntários adultos e idosos residentes na Grande São Paulo, Brasil. Revista Brasileira de Epidemiologia, São Paulo, v. 4, n. 2, p. 105-113, ago./2001.

[18] GONÇALVES, A.; VILARTA, R. Qualidade de vida e atividade física: explorando teorias e práticas. Barueri: Manole; 2004.

[19] HALLAL, P.C.; MATSUDO, S.M.; MATSUDO, V.K.R.; ARAÚJO, T.L.; ANDRADE, D.R.; BERTOLDI, A.D. Physical activity in adults from two Brazilian areas: similarities and differences. Cad. Saúde Publ. Rio de Janeiro, v. 2, n. 21., p.573-80. 2005.

[20] INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA- IBGE. Síntese de Indicadores Sociais: uma análise das condições de vida da população brasileira. Rio de Janeiro: IBGE, 2010. (Estudos & Pesquisas, n. 27. Disponível em: <http://www.ibge.gov.br/home/estatistica/populacao/condic_aodevida/indicadoresminimos/sinteseindicossociais2010/SIS_2010.pdf>). Acesso em: 28 mar. 2018.

[21] LOPES, D.C. et al. Níveis de atividade física relacionados às atividades básicas e funcionais em idosos do Rio Grande do Sul – Brasil. Estud. interdiscipl. envelhec., Porto Alegre, v. 20, n. 1, p. 73-85, 2015.

[22] LOPES, M. A. et al. Barreiras que influenciam a não adoção de atividade física por longevas. Revista Brasileira de Ciências do Esporte, v. 38, n. 1, p. 76-83, 2016.

[23] MATSUDO, S. M. Envelhecimento, atividade física e saúde. Revista mineira de educação física, Viçosa, v. 10, n. 1, p. 193-207, mar./2002.

[24] MAZO, G.Z. et al. Nível de Atividade Física, Condições de Saúde e Características Sócio-demográficas de Mulheres Idosas Brasileiras. Revista Portuguesa de Ciências do Desporto. Porto, n. 2, mai. 2005. Disponível em <http://www.scielo.oeces.mctes.pt/scielo.php>. Acesso em: 24 nov. 2017.

[25] MINAYO, M.C.S.; HARTZ, Z.M.A.; BUSS, P.M. Qualidade de vida e saúde: um debate necessário. Ci. Saúde Col. Rio de Janeiro, n.5, n. 1, p. 22-44, 2000.

[26] MORAES, H.; DESLANDES, A.; FERREIRA, C.; POMPEU, F.A.M.S.; RIBEIRO, P.; LAKS, J. O exercício físico no tratamento da depressão em idosos: revisão sistemática. R. Psiquiatr. Rio Grande do Sul, v. 1, n. 29, p.70-9, 2007.

[27] NAHAS, M.V. Atividade física, saúde e qualidade de vida: conceitos e sugestões para um estilo de vida ativo. Londrina: Midiograf; 2001.

[28] PARDINI, R.; MATSUDO, S.; ARAUJO, T.; MATSUDO, V.; ANDRADE, E.; BRAGGION, G. et al. Validação do questionário internacional de nível de atividade física (IPAQ – versão 6): estudo piloto em adultos jovens brasileiros. Brasília: R. Bras. Ci. Mov. Brasília, v. 3, n. 9, p.45-51. 2001.

[29] PIMENTA, F.A.P.; SIMIL, F.F.; TÔRRES, H.O.G.; AMARAL, C.F.S.; REZENDE, C.F.; COELHO, T.O. et al. Avaliação da qualidade de vida de aposentados com a utilização do questionário SF-36. R. Assoc. Med. Bras. São Paulo, v. 1, n. 54, p. 55-60, 2008.

[30] ROCHA, V. R. F. A influência da atividade física na qualidade de vida e capacidade funcional dos praticantes de ginástica de academia do SES-Campina Grande-PB-2012. 2012. 27 f. Trabalho de Conclusão de Curso (Licenciatura em Educação Física) – Centro de Ciências Biológicas e da Saúde, Departamento de Educação Física, Universidade Estadual da Paraíba, Campina Grande, 2012. Disponível em: <http://estud. interdiscipl. envelhec., Porto Alegre, v. 20, n. 1, p. 73-85, 2015.

[31] ROWE, J. W.; KAHN, R. L. Successful aging.New York:Pantonon Books. 1998.

[32] SANTOS, G.; SOUSA, L. Qualidade de vida em pessoas idosas no momento de internamento hospitalar. Revista Portuguesa de Saúde Pública, v. 33, n. 1, p. 2-11, 2015.

[33] SCIANNI, A. A.et al. Efeitos do exercício físico no sistema nervoso do indivíduo idoso e suas consequências funcionais. Revista Brasileira de Ciências do Esporte, v. 41, n. 1, p. 81-95, 2019.

[34] SILVA, M. P. et al. Apontamento funcional de mulheres idosas mediante programa supervisionado de atividades físicas generalizadas ou caminhadas regulares sem supervisão. Revista Brasileira de Atividade Física & Saúde, Pelotas, v. 11, n. 2, p.3-12, jul. 2006.

[35] SILVA, T.E.; REZENDE, C.H.A. Avaliação transversal da qualidade de vida de idosos participantes de centros de convivência e institucionalizados por meio do questionário...
genérico WHOQOL-BREF. (Monografia). Uberlândia: Universidade Federal de Uberlândia; 2015.

[36] SOUZA, G. L.; SIVIERO, P.C.L. Diferenciais de mortalidade entre homens e mulheres: Sul de Minas Gerais, 2002 e 2012. Cad. Saúde Colet. Rio de Janeiro, v.23 n.1, p. 25-31, 2015.

[37] TORAMAN, F. N. et al. Effects of multicomponent training on functional fitness in older adults. Journal of Aging e Physical activity, Champaign, v. 12, n. 4, p. 538-553, Oct. 2004.

[38] VECCHIA, R. D. et al. Qualidade de vida na Terceira idade: um conceito subjetivo. Revista Brasileira de Epidemiologia. São Paulo, v. 8, n. 3, p. 246-52, set. 2005.

[39] WHITE SM, WÓJCICKI TR, MCAULEY E. Physical activity and quality of life in community dwelling older adults. Health Qual Life Outcomes. 2009; 7:10.