178 - QUALITY OF LIFE AND PHYSICAL ACTIVITY: A SELF PERCEPTION STUDY OF PEOPLE IN VALE DO SINOS, SOUTHERN BRAZIL.

GRETA BERWANGER, CAMILA KUHN, JOÃO CARLOS J. PICCOLI,
GERALDINE A. DOS SANTOS, ANDRÉA CRISTINA DA SILVA BULHÕES.
Centro Universitário Feevale
Novo Hamburgo, RS, Brazil
greberw@gmail.com

INTRODUCTION

Mortality and morbidity rates have been used as the main indices for health measurements, a focus of growing attention (NEDJAT et al., 2008). Health is no longer defined as the simple absence of disease, but as a condition associated with well being and quality of life and as a dynamic, rather than only biological, process determined by society (BUSS, 2000).

According to the World Health Organization (WHO, 1997), quality of life is defined as the "individuals' 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" (p.1).

According to Fleck and Skevington (2007), health-related quality of life is defined as the individuals' general perception of their lives and the measurement of their health functioning in the physical, cognitive, emotional and social health domains.

The term "quality of life" (QOL) is closely associated with the practice of physical activities. However, physical activity and exercises are not the only factors to determine satisfactory QOL, a concept that is affected by several parameters of personal experiences (PASCOAL et al., 2006).

According to Pereira and Vecchio (2006), physical activity is any voluntary body movement performed with the use of skeletal musculature that results in energy expenditure above resting level. The association between physical activity and quality of life is complex and may result in poorer quality of life when positive health results are not obtained (ARAÚJO; ARAÚJO, 2000).

Pollock et al. (1998) found that the regular practice of physical activities and a high fitness level are associated with better QOL scores and lower mortality rates. Conversely, the lack of practice may result in poor functioning and physical damage, particularly to the muscle-skeletal system (RAMOS, 2003; BARBOSA, 2007).

Considering the importance of quality of life in the activities of daily life, it is hoped that this study contributes to healthcare providers and researchers for a better understanding of QOL and physical activity. The purpose of this study was then to evaluate the association between QOL and physical activity among adults aged 18 to 80 years in Vale do Sinos, southern Brazil.

METHODS

This descriptive study enrolled a convenience sample of 1003 adults aged 18 to 80 years in the following towns in the Vale do Sinos region, southern Brazil: Novo Hamburgo, Estância Velha, Dois Irmãos, Ivoti, Campo Bom, Sapiranga and São Leopoldo. All participants signed a written informed consent term before participation.

The International Physical Activity Questionnaire (IPAQ), short version, was used to divide participants into three groups according to physical activity: low (LA); moderate (MA); and high (HA) activities. Quality of life was assessed using the WHOQOL-100, which evaluates individuals' perception of their quality of life in the previous two weeks. Six broad domains and their respective facets were analyzed: physical health, psychological state, level of independence, social relations, environment, and spirituality/religion/personal beliefs.

ANOVA, the Tukey post-hoc test ($p=0.05$) and the SPSS 16.0 software were used for statistical analyses.

RESULTS AND DISCUSSION

When comparing the results of all the WHOQOL-100 domains (physical health, psychological state, level of independence, social relations, environment, spirituality/religion/personal beliefs) and the levels of physical activity (Table 3) it did not show any significant differences between variables ($p>0.05$).

However, participants in the low activity group tended to report greater fatigue and less energy (facet 2) than those in the moderate activity and high activity groups ($p=0.00$). Similarly, those that reported the greatest difficulty in performing activities of daily living (facet 10) were in the low activity group, followed by those in moderate activity ($p=0.01$). Shibata et al. (2007) found that people that followed the recommended levels of physical activity had better scores in some dimensions of health-related quality of life than individuals that did not meet those recommendations. Their findings suggest that the adequate practice of physical activities may not only bring physiological benefits, but it also improve physical and mental health. These data helped us to understand what Chatterji and Bickenbach (2008) called "health experience". Those authors subdivided functioning and disability into three dimensions according to the International Classification of Functioning, Disability and Health: functioning and body structures, intrinsic personal functioning, and completely contextual performance. In this sense, a person may have deficiency but no capability limitations, performance problems and capability limitations but no apparent deficiency, or performance problems but no deficiency or capability limitations.

Participants in the moderate activity group obtained higher scores in the mobility item (facet 9), followed by low activity and high activity ($p=0.00$). Acree et al. (2006) postulated that healthy elderly people that practiced physical activities for longer than one hour per week at moderate intensity had higher health-related quality of life scores (physical and mental domains) than those less active ones.

The analysis of QOL in the evaluation of positive feelings (facet 4) and its association with the participants' levels of physical activity showed that those in the moderate activity group had the highest scores, followed by those in high activity ($p=0.01$). In addition, high activity adults, followed by moderate activity, used to participate or have more opportunities to participate in recreation and leisure activities (facet 21) than those in the low activity group ($p=0.00$).

In the analysis of the environmental aspects, low activity participants obtained higher scores in facet 17 (home environment) than moderate activity and high activity respondents ($p=0.05$). Different results were found when the physical environment (facet 22) was analyzed. In this case, high activity respondents perceived it in a healthier manner than moderate activity and low activity participants ($p=0.05$). Yen et al. (2006) studied people with asthma and found that high rates of

neighborhood problems were associated with low QOL and physical functioning, as well as with more intense depressive symptoms.

The analysis of the four WHOQOL-100 general questions (facet 25) for QOL perception showed that participants in the moderate activity group had the highest scores, followed by high the activity and low activity ones (p=0.05).

Table 1 Distribution of the absolute frequency, mean, standard deviation and p values of WHOQOL-100 selected facets and IPAQ results (n=1003*).

Facets	IPAQ Classification	f	$\bar{X}$	SD	p
2 Energy and fatigue	LA	396	58.4386	18.72067	p=0.00
	MA	389	62.6982	18.15329	
	HA	215	64.4089	16.91099	
4 Positive feelings	LA	396	66.4089	15.53974	p≤0.01
	MA	389	69.4944	15.32440	
	HA	215	68.1202	14.97536	
9 Mobility	LA	393	71.0878	19.69862	p=0.00
	MA	387	74.9516	20.13700	
	HA	214	69.6651	20.08268	
10 Activities of daily living	LA	396	66.3668	18.78799	p≤0.01
	MA	389	69.8800	18.05538	
	HA	215	70.0291	17.26496	
17 Home environment	LA	396	72.6221	14.93145	p≤0.05
	MA	388	71.5475	16.08223	
	HA	215	69.0407	15.36341	
21 Participation in and opportunities for recreation/leisure	LA	396	51.7992	18.02990	p=0.00
	MA	389	56.9891	18.39374	
	HA	215	58.5078	17.42489	
22 Physical environment (pollution/noise/traffic /climate)	LA	396	57.1917	15.00853	p≤0.05
	MA	389	58.3012	15.60742	
	HA	214	60.3972	14.62169	
25 Overall quality of life and general health	LA	396	64.8516	16.34931	p≤0.05
	MA	387	68.0179	16.92249	
	HA	214	67.3676	16.23548	

*Total number of respondents was 1003, differences in the table were due to items not responded by the subjects.

Table 2 Distribution of the absolute frequency, mean and standard deviation of responses according to WHOQOL-100 domains (n=1003*).

Domains	f	$\bar{X}$	SD
1 Physical health	1003	59.24	15.15
2 Psychological state	1003	64.30	13.56
3 Level of independence	1000*	73.51	15.93
4 Social relations	1003	68.44	14.31
5 Environment	1002*	59.24	11.15
6 Spirituality/ religion/ personal beliefs	999*	73.85	17.95

*Total number of respondents was 1003; differences in the table are due to items not responded.

Table 3 Association of WHOQOL-100 domains with IPAQ classification. absolute frequency, mean and standard deviation (n=1003*).

Domains	IPAQ Classification	f	$\bar{X}$	SD
1 Physical health	LA	396	57.9800	15.33945
	MA	389	60.4274	15.38705
	HA	215	59.5930	14.23604
2 Psychological state	LA	396	63.3123	13.96120
	MA	389	64.7453	13.49782
	HA	215	65.5407	12.74962
3 Level of independence	LA	394	72.7779	15.89277
	MA	389	74.6050	16.01910
	HA	214	72.9288	15.89318
4 Social relations	LA	396	67.7908	13.84096
	MA	389	68.6697	14.75078
	HA	215	69.4832	14.22485
5 Environment	LA	396	58.7924	10.57944
	MA	388	59.6718	11.77287
	HA	215	59.4030	10.98321
Spirituality/ religion/ personal beliefs	LA	394	72.6523	17.51501
	MA	387	74.7578	18.30876
	HA	215	74.5543	17.71901

*Total number of respondents was 1003; differences in the table are due to items not responded by the subjects.

FINAL CONSIDERATIONS

Considering the assumption that physical activity and quality of life seem to be closely associated, in this study the low activity participants were more likely to show fatigue, had less energy and more difficulty in performing activities of daily life, reported fewer positive feelings, participated and had fewer opportunities to participate in recreational and leisure activities, and had a pessimistic perception of their physical environment.

In contrast, when the home environment facet was evaluated, the low activity participants had a better perception than the moderate and high activity ones. In the mobility facet, those classified as moderate activity had better results than the low activity and high activity adults.

In a general sense, when each WHOQOL-100 domain was associated to the sample subjects physical activity levels it was not found any significant differences between the variables. However, the analysis of the four general questions about QOL perception in WHOQOL-100 showed that moderate activity participants had the highest scores, followed by high activity and low activity (p=0.05). This suggests that physical activity, when practiced at an adequate intensity, may bring benefits to health and, consequently, improve quality of life

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55 51 9332-8889/ 55 51 3595-2123 greberw@gmail.com
Rua Guia Lopes, 4411/602 Jardim Mauá, Novo Hamburgo, CEP: 93410-3409 RS, Brazil.
joaopiccoli@feevale.br

QUALITY OF LIFE AND PHYSICAL ACTIVITY: A SELF PERCEPTION STUDY OF PEOPLE IN VALE DO SINOS, SOUTHERN BRAZIL.

ABSTRACT

This descriptive study evaluated the association of quality of life and physical activity among adults aged 18 to 80 years in Vale dos Sinos, southern Brazil. A convenience sample of 1003 adults responded the short version of the IPAQ for physical activity and the WHOQOL-100 for quality of life. Data were analyzed using the ANOVA and the Tukey post hoc test (p=0.05). No significant differences were found between WHOQOL-100 domains and levels of physical activity. However, participants classified as low activity (LA) reported more fatigue and less energy than those classified as moderate (MA) and high activity (HA) (p=0.00) Similarly, those that had greater difficulties in performing activities of daily living were in the LA group, followed by those in the MA group (p=0.01). The analysis of the mobility facet showed that MA participants had higher scores than those in the LA and HA groups (p=0.01). Individuals in the MA group had the highest mean scores for positive feelings, followed by HA and LA ones. (p=0.01). Moreover, HA and MA individuals participated more or had more opportunities to participate in recreation and leisure activities than the LA group, respectively (p=0.00). The analysis of the environment domain showed that LA participants had the highest scores in the home environment facet, followed by MA and HA groups (p=0.05), differently from what was found for physical environment. In this case, HA participants perceived it in a healthier manner than the other adults (p=0.05). In the analysis of the four general questions in WHOQOL-100, the highest scores were found for MA participants, followed by HA and LA (p=0.05). MA adults had the highest mean scores, followed by HA and LA, which suggests that physical activity, when practiced at adequate intensities, brings benefits to health and, consequently, improves quality of life.

Key words: Quality of life. Physical activity.

QUALITÉ DE VIE ET NIVEAU D'ACTIVITÉ PHYSIQUE : L'AUTO-PERCEPTION D'INDIVIDUS VIVANT DANS LA RÉGION *VALE DO SIN*OS, ÉTAT DU RIO GRANDE DO SUL, BRÉSIL.

RÉSUMÉ

L'objectif de cette étude descriptive est de mettre en rapport la qualité de vie et le niveau d'activité physique d'individus de 18 à 80 ans habitant dans la région *Vale do Sinos*, État du Rio Grande do Sul. Avec un échantillon de convenance de 1003 personnes, elle a évalué le niveau d'activité physique à travers l'IPAQ (version courte) et la qualité de vie à travers le WHOQOL-100. Après soumission des données aux tests ANOVA et post hoc de Tukey (p = 0,05), aucune différence significative n'apparaît entre les domaines du WHOQOL-100 et les niveaux d'activité physique des sujets étudiés. Cependant, les sujets dont la pratique physique est « faible » (F) sont plus fatigués et ont moins d'énergie que les sujets dont la pratique est « modérée » (M) ou « intense » (I) (p = 0,00). De manière similaire, ceux qui ont le plus de mal à réaliser les activités de la vie quotidienne (AVQ) sont les sujets F, suivis de M (p = 0,01). En termes de mobilité, les individus M obtiennent les meilleurs scores, suivis de F puis I (p = 0,01). Dans l'analyse des sentiments positifs, les sujets M ont des moyennes supérieures, suivis de I et F (p = 0,01). D'autre part, les sujets I, suivis de M, participent plus/ont plus d'opportunités de loisirs que les sujets F (p = 0,00). En matière d'environnement domestique, les scores les plus élevés apparaissent chez les sujets F, suivis de M et I (p = 0,05). Par contre, quand il s'agit de l'environnement physique les sujets I se perçoivent de manière plus saine que les sujets M et F (p = 0,05). Dans les quatre questions générales du WHOQOL- 100, les scores supérieurs sont obtenus par les sujets M, suivis de I et de F. De manière générale, les moyennes les plus élevées sont associées aux sujets M, suivis de I et F. Cela laisse supposer que l'activité physique d'intensité appropriée est meilleure pour la santé de l'individu et, en conséquence, augmente son niveau de qualité de vie.

Mots-clés : Qualité de vie. Activité physique.

CALIDAD DE VIDA Y NIVEL DE ACVITIDAD FÍSICA: LA AUTOPERCEPCIÓN DE INDIVIDUOS RESIDENTES EN LA REGIÓN DEL VALLE DEL SINOS, RIO GRANDE DO SUL, BRASIL

RESUMEN

El objetivo del estudio fue relacionar la calidad de vida y el nivel de actividad física de individuos de 18 a 80 años residentes en el Valle do Sinos, Rio Grande do Sul, Brasil. El estudio descriptivo, de 1003 sujetos escogidos por conveniencia, evaluó el nivel de actividad física mediante el IPAQ - versión corta, y la calidad de vida (CV) mediante el WHOQOL-100. Después de someter los datos a las pruebas ANOVA y Tukey post-hoc (p=0,05), no se observó diferencia significativa entre los dominios del WHOQOL-100 y los niveles de actividad física de los sujetos estudiados. Sin embargo, los sujetos clasificados como insuficientemente activos (IA) presentaron más fatiga y menos energía, si comparados a los suficientemente activos (SA) y muy activos (MA) (p=0,00). De modo semejante, los que presentaron más dificultad para realizar las AVDs eran IA seguidos de los AS (p=0,01). En la cuestión movilidad, los individuos SA presentaron mayores rangos, seguidos por los IA y MA (p=0,01). Cuando se analizaron los sentimientos positivos, los SA presentaron mayores promedios, seguidos por los MA e IA (p=0,01). Además, los MA, seguidos por los SA, participan más/tienen más oportunidades de recreación/ocio que los IA (p=0,00). En el dominio ambiental, se notó que los sujetos IA presentaron mayores rangos cuando se evaluó el ambiente del hogar, seguidos por los SA y MA, respectivamente (p=0,05). Diferentemente de lo que ocurre cuando se analiza el ambiente físico. En ese caso, los MA lo notaron de modo más sano que los SA e IA (p=0,05). En las cuatro cuestiones generales del WHOQOL-100, los mayores rangos fueron presentados por los individuos SA, seguidos por los MA e IA (p=0,05). Por lo general, los mayores promedios fueron presentados por los sujetos clasificados como SA, seguidos por los MA e IA, sugiriendo que la actividad física, cuando en intensidades adecuadas, trae más beneficios a la salud del individuo y, consecuentemente, aumenta el nivel de calidad de vida del mismo.

Palabras-clave: Calidad de vida. Actividad física.

QUALIDADE DE VIDA E ATIVIDADE FÍSICA: UM ESTUDO SOBRE A AUTO-PERCEPÇÃO DE INDIVÍDUOS RESIDENTES NO VALE DO SINOS, RS, BRASIL.

RESUMO

O objetivo do estudo foi relacionar a qualidade de vida e o nível de atividade física de indivíduos de 18 a 80 anos residentes no Vale do Sinos, RS. O estudo descritivo, de 1003 sujeitos escolhidos por conveniência, avaliou o nível de atividade física através do IPAQ - versão curta e, a qualidade de vida (QV), através do WHOQOL-100. Após submissão dos dados aos testes ANOVA e Tukey post-hoc (p=0,05), não se observou diferença significativa entre os domínios do WHOQOL-100 e os níveis de atividade física dos sujeitos estudados. Entretanto, os sujeitos classificados como insuficientemente ativos (IA) apresentaram mais fadiga e menos energia, quando comparados com os suficientemente ativos (SA) e muito ativos (MA) (p=0,00). Semelhantemente, os que apresentaram mais dificuldade para realizar as AVDs, eram IA seguidos dos SA (p=0,01). No quesito mobilidade, os indivíduos SA apresentaram maiores escores, seguidos dos IA e MA (p=0,01). Quando se analisou os sentimentos positivos, os SA apresentaram maiores médias, seguidos dos MA e IA(p=0,01). Além disso, os MA, seguidos dos SA, participam mais/têm mais oportunidades de recreação/lazer que os IA (p=0,00). No domínio ambiental, notou-se que os sujeitos IA apresentaram maiores escores quando se avaliou o ambiente do lar, seguidos dos SA e MA, respectivamente (p=0,05). Diferente do que ocorre quando analisado o ambiente físico. Nesse caso, os MA perceberam-no de forma mais saudável que os SA e IA (p=0,05). Nas quatro questões gerais do WHOQOL-100, os maiores escores foram apresentados pelos indivíduos SA, seguidos dos MA e IA (p=0,05). De maneira geral, as maiores médias foram apresentadas pelos sujeitos classificados como SA, seguidos dos MA e IA, sugerindo que a atividade física, quando em intensidades adequadas, traz mais benefícios à saúde do indivíduo e, consequentemente, aumenta o nível de qualidade de vida do mesmo.

Palavras-chave: Qualidade de vida. Atividade física.