110 - PHYSICAL ACTIVITY AND NUTRICIONAL PROFILES OF ELDERLY PEOPLE OVER 60 YEARS OF AGE

MARTA GONZALEZ
JOÃO CARLOS JACCOTTET PICCOLI
ULBRA, Canoas, RS

INTRODUCTION

Aging can be defined as a series of processes that occur in living beings with the passing of time, decreasing their adaptability, causing functional alterations and eventually resulting in death (MATSUDO, 1997). Aging, therefore, any longer characterize developed countries, since the elder population has been growing as a result of a reduction in birth rates and improvements in health conditions (MONTEIRO, 2004).

Nowadays, with the advances in medicine and an increase in life expectancy, there is a growing concern with the third age, the period of human life starting at 65 (PAPALIA; OLDS, 2000). Studies have shown that people are living longer, and it is desirable that they do so with better quality of life. According to Nahas (2003), a variety of factors contribute to the quantity and quality of years of life; these include behaviour, environment and genetic factors, as well as lifestyle elements, diet, use of legal or illegal drugs and sedentary habits.

In industrialized societies, the practice of physical activity has been seen as a factor in quality of life, related to the health of individuals of different ages and conditions. To Nahas (2003), an active lifestyle is associated with a better capacity for both physical and mental work, a more enthusiastic approach to life, a sensation of well-being, less spending in health and a reduced risk of chronic degenerative diseases and premature death.

Considering health as a permanent and active process that needs to be constantly acquired and maintained, aimed at achieving full mental, social and physical well-being, physical activities and exercises are means that can be used to promote it among the population. With regards to individuals over 65 years of age, it is believed that physical exercises practised moderately can benefit health and foster a quality aging.

In order to achieve a good quality of life, it is known that in association with the practice of physical activities an adequate nutrition also has to be observed.

Energy needs normally decrease with age, due to a decline in the basal metabolic rate and a reduction of physical activity. The 1989 Recommended Dietary Allowances (RDA) advise a reduction in the daily energy intake per person over 51 years of age of up to 600 calories a day for females and 300 for males. To follow this recommendation for the elderly is something challenging, for, on the one hand, it reduces energy needs and, on the other, it reduces or increases the need of proteins, vitamins and minerals. The average calories intake for persons over 51 is of 2300 a day for men and 1900 for women, but health problems appear when the total intake is below 1500 calories a day (KRAUSE; STRUMP, 2002). According to Barbosa (2001), regular physical activity (RPA) and eating habits seem to positively affect many physiological functions, what has prompted debate about its role in improving people's health and quality of life. Even though it is difficult to distinguish each factor's contribution to the aging process, one cannot deny that RPA and a proper eating can reduce the physiological losses induced by illnesses associated with age, improving individual's bone, muscular and cardiovascular functions.

Considering the remarks above and concerned with the importance given to the practice of physical activity combined with an adequate nutrition, this study was conducted with the general aim of analyzing nutrition and physical activity levels of people over 60 years of age, contemplating more specifically the analysis of the subject's eating habits and body mass index, as well as their physical activity levels.

MATERIALS AND METHODS

The present study is characterized as a descriptive research, composed on a voluntary basis of a sample of 30 persons, 15 of which from the Instituto Vida and 15 from SESC, being 23 females and 7 males.

The evaluation of their dietary intake was done using the Dietary Inquiry method, measured by 24-hour recall interviews, in which participants informed their intake in the previous 24 hours (except on Saturdays and Sundays). As well as recording foods at the time they were eaten, a questionnaire was elaborated to collect the following data: name, date of birth, weight, height and other data connected to their eating habits and physical activities. Based on these data, an assessment was made of the energetic values of macro and micro nutrients that each participant ingested. The physical activity level was obtained using the short form of the International Physical Activity Questionnaire (IPAC).

In order to obtain the body mass index (IMC), an anthropometric evaluation (weight and height) was made, using the classification proposed by Bray apud Guedes and Guedes (1998).

Dietary recordings were analysed according to their amount of calories, macro and micro-nutrients and dietary fibers, using the Nutrition Support Program, NUTWIN, software of the Health Informatics Center of the Paulista School of Medicine (version 1.5, 2002). Foods and concoctions that did not appear in the list provided by the software were included applying complementary Brazilian charts. Besides energy, the following nutrients were also selected for analysis: carbohydrates, proteins, lipids, fibers and calcium. The domestic measurements recorded by the participants were converted to their amounts in grams. Nutritional status was evaluated using their body mass index (BMI), calculated from their weight and height information.

Body weight was measured on a Filizola platform scale. Height was determined using the scale's own vertical anthropometer. According to Bray apud Guedes and Guedes (1998), weight and height were related using the $BMI=w/h^2$ formula, ascertaining the participant's BMI. Similarly, nutritional status was assessed through the classification of desirable limits of weight and height according to age.

The information in the questionnaires was transferred to a database, which was used by the software APSS 12.0 to perform a descriptive statistical analysis (mean, standard deviation, percentage and frequency distribution).

The control of weigh and height variables was done by a single appraiser; the IPAC and nutritional inquiry questionnaires were only applied by the researcher.

DISCUSSION OF RESULTS

BODY MASS INDEX BMI

Table 1 Distribution of weight, height and BMI means

Items	n	Mean	Standard deviation
Weight	30	64.42	10.43
Height	30	160.28	7.03
Mody Mass Index	30	25.05	3.43

According to Guedes and Guedes (1998), the subjects' BMI is slightly above the upper limit of normality for men, which does not vary with age, and within the normality for women. As regards Rocha (1998), who relates BMI with mortality

risk, this is low for the subjects. BMI is considered the simplest and easiest tool to assess nutritional status. According to Tirapegui (2000), the relation weight/height² has been an instrument frequently used in nutritional assessment and its values are positively related do body fat.

DIETARY INQUIRY

Table 2 Mean distribution of nutritional results

Items	n	Mean	Standard deviation
kilocalories	30	1712.01	437.24
proteins	30	89.71	24.29
lipids	30	47.39	18.75
carbohydrates	30	232.15	62.07
fibers	30	2.85	1.73
calcium	30	687.56	281.79
zinc	30	4.38	2.33
saturated fatty acids	30	9.82	6.41
cholesterol	30	176.38	115.51

The mean of energy, carbohydrates, proteins, lipids and calcium intake fell within the 1989 RDA recommendations, William (1997). Subsequent studies (SIZER, 2003; RDI - Reference Daily Intake, 1998) recommend a daily intake of calcium of 1200 mg. Both methods are employed nowadays, yet the second has been favoured for it is considered to be more suitable to the prevention of pathologies such as osteoporosis. The dietary fiber intake is much lower than the recommended 20-30 daily grams, what is corroborated by Franco (1999). (endorses the authors findings that this intake is much lower than) A very low intake can increase the incidence of constipation, whereas a fiber rich diet has a laxative effect. In addition, fibers affect the glycidic metabolism and the glycemic regulation, as well as the reduction of triglycerides and cholesterol. The amount of zinc, an important micro-nutrient for the metabolic processes, was very low. According to De Angeles (1999), it is a component of more than 70 enzymes and its bioavailability is quite compromised by its function inhibitors, such as fibers and Phytic acid. Zinc deficiency is not very disseminated in developed countries; however, it should be taken into account when considering vulnerable groups, such as pregnant women, children and the elderly. Significant zinc deficiency can alter digestive processes and the use of vitamin A.

Cholesterol intake is adequate. For De Angeles (1999), dietary consumption of fatty acids and cholesterol is reduced among better-educated persons. Nowadays, they avoid eating cholesterol-rich red meat, trying not to ingest too much fat. In Brazil, specially, there is a growing awareness about the importance of maintaining an adequate weight and regularly practicing a physical activity.

As to the relation between physical activity and nutrition, according to Caminã (2004), the most relevant minerals to physical activity are calcium, sodium, chlorine, magnesium, iron, sulfur, phosphorus and zinc. It is therefore important to have a balanced diet, both qualitatively and quantitatively.

PHYSICAL ACTIVITY

Table 3 Distribution of activity level subject's IPAQ (n=30)

Classification	f	%
Sedentary	-	-
Insufficiently active	2	6.7
Active	28	93.3
Very active	-	-
Total	30	100.0

It was noted that 93.3% of the study's subjects were classified as active, possibly because they take part in elderly care programs, where physical activities like general gymnastics, dance and weight training are practised. Only 6.7% were classified as insufficiently active, for they did not participate in any regular physical activity program and moved very little to perform their daily tasks. For Nahas (2001), an appropriate exercise program could be suggested to older people, or they could be instructed on how to change their daily activities in order to attain a more active lifestyle.

About the number of hours the study's subjects spent sitting, it was noted that they sat on average for 2.59 hours a day in the last seven days, with a standard deviation of 1.19 hours a day. According to (Following) Matsudo's (2001a) study mentioned above, with regards to the physical activity level of the women participating in the physical activity program of the third age center involved in the research, around 60 to 90 percent of them said they remained sat while performing some kind of activity for a period ranging from 1 to 4 hours.

Table 4 Distribution of percentages: weekly frequency of physical activity practice (n=26)

Weekly frequency	f	%
1 to 2 times	13	54.2
3 to 4 times	8	33.3
More than 4 times	3	12.5
Did not answer	2	-
Total	26	100.0

As shown in table 4, weekly frequency is low, with the study's subjects practicing physical activity only 1 or 2 times a week. According to Matsudo and Matsudo (2001b), the new physical activity paradigm to promote health recommends the practice of moderate-intensity physical activity for at least 30 minutes a day on most days of the week, preferably every day, in a continuous or cumulative manner.

CONCLUSION

In conclusion, a balanced diet designed to achieve a dietary intake that is qualitatively and quantitatively adequate is beneficial for a healthy life. Health professionals play an essential role in the promotion and adherence of the elderly to physical activity programs in association with a balanced diet. The performance of daily tasks in an active way, withdrawing the elderly from sedentarism, is recommended for the reduction of degenerative diseases and organic illnesses. Due to the importance and complexity of the issue, further studies are needed, involving other elderly populations, to evaluate their nutritional and physical activity profiles, so that they can enjoy all the benefits of a balanced diet concomitant with regular physical activity to promote health and longevity.

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PHYSICAL ACTIVITY AND NUTRICIONAL PROFILES OF ELDERLY PEOPLE OVER 60 YEARS OF AGE

ABSTRACT

The present investigation intended to analyse nutrition and physical activity levels of people over 60 years of age, targeting particularly their dietary habits and body mass index, as well as evaluating their physical activity level using IPAQ. The study is characterized as a descriptive investigation, applying questionnaires with open and closed questions about nutritional aspects. The population studied was comprised of 30 persons, over 60 years of age, from elderly centers. By analysing their eating habits and physical activity, it was found that their diet is connected to their cultural and socioeconomic levels, being a typically Brazilian one, which includes the triad rice-beans-meat, a small amount of salad, white bread, milk, some fruit and raw vegetables, what is monotonous and rather poor in fibers. Nutritionally, through the analysis of some items such as calcium and zinc, dietary fibers were below the level endorsed in the RDA. As to the physical activity level, they were classified as active, taking into account the group's facility to practice physical activities in these centers. Education and public information about nutrition and physical activity proved to be quite significant for attaining good health and longevity. Similarly substantial is the existence of highly qualified professionals who are able to educate and inform the population about the quality of their diet and the importance of regularly practicing physical activities, at least 3 times a week, if not every day, for at least 30 minutes.

Key words: Physical activity. Nutrition. Ageing.

PROFIL DE NUTRITION ET D'ACTIVITÉ PHYSIQUE D'ÂGÉS AU-DESSUS DE 60 ANS

RESUMÉ

La présente investigation a eu l'objectif général d'analyser les niveaux d'activité physique et de nutrition de personnes âgées au-dessus de 60 ans, et comme des objectifs spécifiques d'analyser les habitudes alimentaires et l'indice de masse corporelle des sujets d'étude, évaluer le niveau d'activité physique à travers l'IPAQ. L'étude s'est caractérisé comme une investigation descriptive, dans laquelle a été utilisé un questionnaire à demandes ouvertes et fermées, sur les aspects nutritifs. La population analysée s'est constituée de 30 personnes au-dessus de 60 ans provenantes de centres de convenance d'âgés. Par l'analyse de leurs habitudes alimentaires et d'activité physique nous avons observé qu'il s'agît d'un groupe de personnes alimentées selon leur niveau socio-économique et culturel, avec l'alimentation typiquement brésilienne constituée de la triade riz-haricot-viande, très peu de salade, du pain blanc, du lait, de quelques légumes crus, composant une alimentation monotone et très pauvre en fibres alimentaires. Nutritivement, par l'analyse de quelques substances comme calcium, zinc, fibres alimentaires, ces personnes se trouvent au-dessous du préconisé par la RDA. Au niveau d'activité physique ils ont été qualifiés comme actifs, considérant la facilité du groupe à réaliser des activités physiques dans ces centres. Nous avons conclu l'importance de l'éducation et d'éclaircissements à la population à propos des bénéfices de l'activité physique et de la nutrition pour la manutention de la santé et de la longévité. Nous avons considéré aussi l'importance des professionnels hautement capables de renseigner la population sur la qualité de l'alimentation et de l'importance de pratiquer des activités physiques régulières, trois fois par semaine, au minimum, et si possible tous les jours, pendant 30 minutes.

Des Mots Clés : Activité physique, nutrition, importance de l'éducation.

NIVELES DE ACTIVIDAD FÍSICA Y NUTRICIÓN DE PERSONAS CON MÁS DE 40 AÑOS DE EDAD
RESUMÉN

La presente investigación tiene por objetivo general analizar los niveles de actividad física y nutrición de personas con más de 40 años de edad, y como objetivos específicos analizar los hábitos alimentares y el índice de masa corpórea de los sujetos del estudio, además de evaluar el nivel de actividad física a través del IPAQ. El estudio se caracterizó como una investigación descriptiva, en la cual fue utilizado un cuestionario con preguntas abiertas y cerradas sobre aspectos nutricionales. La población analizada se constituyó de 30 personas con más de 60 años provenientes de centros de convivencia de ancianos. Analizándose sus hábitos alimentarios y de actividad física se observó que se trataba de un grupo de personas que se alimentan según su nivel socio-económico y cultural, con la alimentación típicamente brasileña constituida por la combinación porotos-arroz-carne, poca ensalada, pan blanco, y leche, algunas frutas y vegetales crudos, siendo una alimentación monótona y muy pobre en fibras alimentares. En términos nutricionales, a través del análisis de algunos ítems, como calcio, zinc, fibras alimentares se constató que estaban debajo de lo aconsejado por la RDA. El nivel de actividad física fue calificado como activo, considerándose la facilidad del grupo en realizar actividades físicas en esos centros. Se concluyó que es importante la educación y las aclaraciones a la población acerca de los beneficios de la actividad física y nutrición para la manutención de la salud y la longevidad. También se consideró la importancia de profesionales altamente capacitados para aclarar a la población sobre la calidad de alimentación y la importancia de realizar actividades físicas regulares por lo menos tres veces por semana, si posible todos los días, durante un mínimo de 30 minutos

Palabras-claves: Actividad física. Nutrición.

PERFIL NUTRICIONAL E DE ATIVIDADE FÍSICA DE IDOSOS ACIMA DE 60 ANOS
RESUMO

A presente investigação teve como objetivo geral analisar os níveis de atividade física e nutrição de pessoas acima de 60 anos de idade, e como objetivos específicos analisarem os hábitos alimentares e o índice de massa corporal dos sujeitos do estudo, avaliar o nível de atividade física através do IPAQ. O estudo caracterizou-se como uma investigação descritiva, em que foi utilizado um questionário com perguntas abertas e fechadas, sobre aspectos nutricionais. A população analisada constituiu-se de 30 pessoas acima de 60 anos provenientes de centros de convivência de idosos. Analisando-se seus hábitos alimentares e de atividade física observou-se tratar de um grupo de pessoas que se alimentam conforme seu nível sócio-econômico e cultural, com a alimentação tipicamente brasileira constituída da tríade feijão-arroz-carne, pouca salada, pão branco, e leite, algumas frutas e vegetais crus, sendo uma alimentação monótona e muito pobre em fibras alimentares. Nutricionalmente, através da análise de alguns itens como cálcio, zinco, fibras alimentares encontravam-se abaixo do preconizado pela RDA. O nível de atividade física foi qualificado como ativos, considerando-se a facilidade do grupo em realizar atividades físicas nesses centros. Concluiu-se a importância da educação e esclarecimentos à população dos benefícios da atividade física e nutrição para a manutenção da saúde e longevidade. Também considerou-se a importância de profissionais altamente capacitados para esclarecer a população sobre a qualidade da alimentação e a importância de realizar atividades físicas regulares de no mínimo três vezes por semana, se possível todos os dias, por no mínimo 30 minutos.

Palavras-chave: Atividade física. Nutrição. Envelhecimento.