Palestrica of the third millennium – Civilization and Sport
Vol. 14, no. 3, July-September 2013, 228–233

The psychomotor guidance centre's strategy for promoting a healthy lifestyle through diversified and individualized free time programs

Strategia centrului de consiliere psihomotrică pentru promovarea unui stil de viaţă sănătos prin programe de timp liber diversificate şi individualizate

Remus Dumitrescu[1], Daniela Aducovschi[2]
[1]*Psychomotor Guidance Center (CCMC-UB), University of Bucharest*
[2]*Department of Physical Education and Sport (DEFS), University of Bucharest*

Abstract

Background. The inauguration of the Centre, also presented in the Palestrica of the third Millennium had as its main objective the optimization of mental processes and functions as well as motor activities by having the academic community adopt a healthier lifestyle.

Aims. To attract as many professors, researchers and auxiliary personnel in the Centre's activities, to elaborate personalized programs based on each participant's anatomical-physiological particularities, aptitudes, interests and preferences. Participants are counseled and guided through different aspects pertaining to the understanding of the necessity of practicing physical exercise, kinotherapeutic programs and recovery, resulting in a state of well-being, which is an essential element of health and professional effectiveness.

Methods. Research, anamnesis, somatic and functional parameter measuring, testing and evaluation, guidance, appointment and periodic re-evaluation, "market research" questionnaire, data processing and the mathematical-statistical method.

Results. The results show that, one year after the Centre's inauguration, the number of people eager to do physical exercise has risen. There has been a more intense rise in the 25-45 year old category and a less intense one in the 46-60 year old category. The former category seeks improvement in physical condition and body shaping. According to the readings, this category has managed to reduce body weight and perimeters resulting in an improvement in their physical condition. The latter category seeks to improve physical condition and to treat various diseases through kineto-physio-therapeutic programs.

Conclusions. The data found demonstrate that the suggested individualized programs reached the predicted results in improving physical condition and general resistance, which led to a good state of well being, with more focus and effectiveness in professional activities.

The results of the somatic-functional measuring motivated the participants to follow group and individualized programs.

Key words: motivation, individualized programs, health.

Rezumat

Premize. Deschiderea centrului nostru, eveniment prezentat şi în revista Palestrica Mileniului III a avut ca scop principal atât optimizarea proceselor şi funcţiilor psihice, cât şi a activităţilor motrice, prin adoptarea unui stil de viaţă mai sănătos al comunităţii academice.

Obiective. Atragerea unui număr cât mai mare de profesori, cercetători şi personal auxiliar în activităţile centrului nostru, elaborarea de programe personalizate în funcţie de particularităţile anatomo-fiziologice, capacităţile, interesele şi preferinţele fiecărui practicant. În cadrul CCMC-UB practicanţii sunt consiliaţi şi îndrumaţi în diverse aspecte care ţin de conştientizarea necesităţii practicării exerciţiilor fizice, programelor kinetoterapeutice, refacerii şi recuperării, având consecinţe favorabile în privinţa stării de bine, factor esenţial al sănătăţii şi randamentului profesional.

Metode. Informarea şi documentarea, anamneza, măsurarea parametrilor somatici şi funcţionali, testarea şi evaluarea, îndrumarea, programarea şi reevaluarea periodică, chestionarul „market research", prelucrarea datelor şi metoda statistico-matematică.

Rezultate. Pe baza datelor şi rezultatelor culese, s-a constatat că în decurs de un an după deschiderea CCMC-UB, a crescut populaţia dornică de mişcare, fiind mai numeroasă între 25 şi 45 ani şi mai rară între 46 şi 60 ani. Prima categorie de vârstă urmăreşte ameliorarea condiţiei fizice şi modelării corporale. Conform măsurătorilor şi-au redus greutatea şi perimetrele, îmbunătăţindu-şi condiţia fizică. A doua categorie de vârstă urmăreşte ameliorarea condiţiei fizice şi tratarea unor afecţiuni cu ajutorul programelor kinetofizioterapeutice.

Received: 2013, May 14; *Accepted for publication:* 2013, June 25;
Address for correspondence: Department of Physical Education and Sport, University of Bucharest, M. Kogălniceanu Av. No. 36-46, sector 5, Bucharest
E-mail: remusdumitrescu@yahoo.com

Concluzii. Pe baza datelor culese din cercetare, programele individualizate propuse au dat rezultatele scontate prin ameliorarea condiţiei fizice şi a rezistenţei generale a organismului, concretizate printr-o bună dispoziţie, putere de concentrare şi randament în activităţile profesionale.

Rezultatele măsurătorilor somato-funcţionale au motivat participanţii să urmeze programele de grup şi individualizate.

Cuvinte cheie: motivaţie, programe individualizate, sănătate.

Introduction

The inauguration of our Centre, also presented in the *Palestrica of the third Millennium* journal had as its main objective the optimization of mental processes and functions as well as motor activity by having the academic community adopt a healthier lifestyle.

In order to promote a healthy lifestyle, certain measures are required to take effect on different levels, including creating and implementing efficient educational programs (Bartholomew et al., 2006; Lotrean et al., 2008).

There are many companies that offer their employees health-centre memberships in order to promote a diversity of physical activities and physical exercise during free time as a means for overall health improvement, social integration, personality development and teaching responsibility and self-discipline through sport (Dumitrescu et al., 2010).

We suggest promoting corporal activities in every higher education establishment, providing the resources, founding this type of psychomotor counseling centre and raising the quality of life for the academic community. An individual's ability to exercise is the cause and movement itself is the effect (Bompa, 2001).

We started from the idea that through the evaluation of the bio-psychomotor index, subjects can get to know their level compared to the standard possibilities of their age, gender and social status group, and both obesity and transfer possibilities can be monitored in order to raise the quality of life and assess what the most efficient means for prevention and intervention are.

Health education activities can have poor results if they do not focus on relevant factors that determine unhealthy individual behaviours. Such a model is the I-Plan Model (De Vries, 1998).

The Centre hosts the following activities: aerobic gymnastics, maintenance gymnastics, dance, tae-bo, fitness, bodybuilding, table tennis, cardio programs, kinanthropometry, kinetotherapy, physiotherapy and outdoor activities (hiking or nautical sports).

Of all motor activities, hikes and fieldtrips are probably the most accessible forms of leisure, as they do not require outstanding motor abilities, the presence of a specialist or material resources and are not costly for participants. Since they take place outdoors, the proposed goals are multiplied in the direction of the ability to relax, physical tone, ability to know and the moral feelings that animate the subject or the group (Bota, 2006).

We wish to continue and improve these activities and as our financial posibilities increase, we wish to add sauna and massage facilities. The participants, represented by professors, scientists, and technical, economic and social-administrative personnel, are eager to try different new activities that can distract them from professional responsibilities and refresh them, so that they can continue their work at full capacity.

Physically inactive subjects have higher levels of cholesterol or triglycerides in the blood than physically active people, which foster the onset of atherosclerosis and other cardiovascular diseases (Derevenco, 1998).

Researches have proven that the development and maintenance of muscle mass is the solution for avoiding the decay of immunity, atrophy and the onset of diseases often associated with the ageing process. As hormone levels and activity diminish, senile atrophy occurs. After the age of 30, the muscle mass begins to decrease, after the age of 50, climbing the stairs becomes a problem, and with ageing, innervation disorders appear in different tissues, so that at the age of 70, 40% of the muscle mass is lost.

Appreciating the importance of muscular performance linked to bone quality and also, the risk of relapse with its implications, we try to focus on implementing some specific adapted kinethotherapy programmes, which could be used according to age particularities (Dinu et al., 2011).

People who frequently participate in the courses of our centre are adults between 24 and 60 years old. They are mostly sedentary people who wish to change something in their life and especially to feel better.

For a sedentary adult, physical effort is represented by occupational effort (professional activity), domestic physical effort and possibly, occasional or recreational effort (Bocu, 2007).

At the University of Bucharest, professors, scientists and some of the TESA personnel have a professional activity that is mostly neuropsychic – high neural strain to the detriment of the neuromuscular component. These physically inactive adults present a higher risk of developing one of the following conditions:

- they are twice as predisposed to developing coronary diseases;
- they are predisposed to high blood pressure;
- high risk for colon cancer (3.6 times higher than for active people);
- high risk for developing type II diabetes;
- low bone density, which in time leads to osteoporosis (favouring more frequent fractures);
- high risk for cancer, osteoarthritis and spine conditions.

Another aspect is that since the need for exercise is a fundamental instinct, it can be channeled towards beneficial activities – obviously with adequate instruments and skilled animators. Otherwise, repressed energies may generate self-destructive or society-destructive behaviour (Ganciu et al., 2010).

By opening this Centre for psychomotor counseling, we wanted to attract a great number of professors, scientists and TESA personnel in the activities of our center, to inform them about the professional and ageing risks for sedentary persons.

Sedentary behaviour and physical activity represent essential components of lifestyle, models of physical, social and mental behaviour (Cordun, 2009).

Given the literature data, the types of methods and their caracteristics begin to settle into shape and the advantages/ disadvantages of each method, as well as different practical aspects that can be useful in research activity, are underlined (Lotrean & Mejia, 2010).

At CCMC-UB, participants are counseled and guided in different aspects related to the awareness of the necessity of physical exercise, kinetotherapeutic programmes and recovery, which cause favourable effects for well-being, an essential factor of health and professional efficiency (Art. 5. of R.O.F. of CCMC-UB).

Most of the scientists have highlighted the necessity of new studies with the purpose of determining the type and the application method of a therapeutic exercise with a view to improving muscular and functional performance (Taylor et al., 2007).

The specific activities of CCMC-UB (***. 2010)

A. Counseling

- psychomotor counseling;
- informing about the facilities granted to professors and TESA personnel;
- orientation with the purpose of making them aware about the opportunities of spending spare time;
- psycho-physical preparation;
- orientation in corporal and recovery activities according to the anatomo-physiological particularities of each participant;
- identification and improvement of different static vertebral afflictions;
- nutrition counseling;
- morpho-functional and motor ability and capacity diagnosis;
- applying deontologically approved psychosocial tests to employees;
- organizing cultural and entertainment sports events (hikes, mountain skiing, nautical tourism, etc.);
- collaborating with different associations and professional organizations with the same objectives (national and international).

B. Administrating informational resources through

- creating a database with the anthropometric, motor and physiological parameteres of the employees;
- systematization of location for physical activity offers in a virtual database;
- gathering information resources pertaining to the specialization and development opportunities in the PE area;
- creating a collection of training programs, analytical programs and monitoring sheets for training sessions and calory burning;
- pamphlet and poster distribution, posting up-to-date information on the Centre's site.

C. Financial resources

Raising funds in order to diversify the range of the Centre's activities by organizing and hosting different activities in order to promote programs and fundraisers for the endowment and the administration of the resources.

D. Punctual projects:

- organizing sports events for all course participants;
- publications with information relating to certain physical disciplines and their benefits for health and personality development through sport;
- opinions and cultural essays of academics and students from the physical education and health background.

Paper objectives

Attracting as many professors, researchers and TESA personnel as possible to our Centre's activities, creating personalized programs for their anatomo-physiological particularities, capacities, interests and preferences.

During the Centre's courses, the participants are counseled and guided in different aspects pertaining to the awareness of practicing physical activities, kinetotherapeutic programs and recovery with favourable consequences on their well-being, which is an essential factor of health and professional efficiency.

Hypothesis

Through individualized and group programs, diversified according to the participants' requirements and possibilities, we stimulate the participants' state of well-being, improve the BMI and increase their wish for physical exercise.

Materials and methods

One of the most important problems in the therapist - patient relationship, especially at the very beginning, is that of communication, which is hindered by the patient's anxiety, ignorance, or circumstances etc.; its augmentation is vital, especially from the standpoint of interpersonal verbal communication, which is more efficient than visual or written information (Epuran, 2006).

We mention that according to the Helsinki Declaration, Amsterdam protocol and Directive 86/609/EEC, the approval of the Ethics Commission of the University of Bucharest regarding research on human subjects was obtained and also, the subjects consens for their personal participation in the research.

Research protocol

a) *Period and place of the research*

The data were collected during a university year (2011, september-2012, july), based on which we calculated the body mass index. The research was appllied in the sport hall of the Psychomotric Guidance Centre's.

b) *Subjects and groups*

Our study included 140 participants, of which 12 researchers, 52 TESA personnel and 76 academics between 24 and 60 years of age. There were 16 men and 124 women (table I).

Participants are provided with courses of maintenance gynmnastics, aerobic gymnastics, fitness with appropriate devices, bodybuilding, cardio programs, table tennis, automassage, kinanthropometry, physiotherapy, and outdoor activities (hikes and nautical activities). These are included in 5 rooms that are available according to a certain program agreed upon at the beginning of the year together with the academics depending on their course schedule, in order for them to be able to incorporate in their

daily schedule time for physical activity. These courses are constantly being adapted to the individual and group according to their age, health level and training.

The time allocated for each lesson was 90 min.

c) *Tests applied*

- Researching and informing the participants with regard to their possibilities to practice and diversify the courses;
- Anamnesis;
- Counseling according to the obtained data for a program to be attended;
- Measuring somatic and functional parameteres;
- Testing and evaluating physical condition levels;
- Periodic appointment and reevaluation;
- Calculating BMI = W/H^2;
- Data processing using the mathematical-statistical method.

d) *Statistical processing*

We used Microsoft Excel, version 2007 to do computer graphics, process the data collected in our study, and calculation of statistical indicators and correlational analysis.

The tools provided by this software product used in our analysis are*: the arithmetic mean.*

Results

BMI was calculated for both men and women. We present in a graphical form the average BMI for women (Fig. 1 and Fig. 2) and for men (Fig. 3 and Fig. 4).

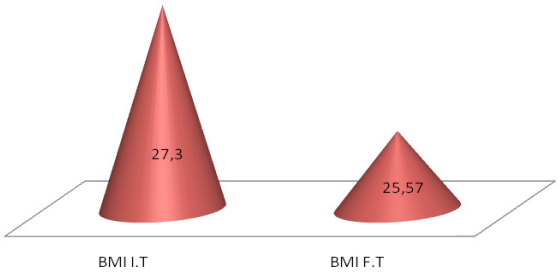

Fig. 1 - Arithmetic mean of female BMI.

Table II

Anthropometric measurement results obtained by calculating the female statistical indexes.

Women	Initial testing	Final testing
Arithmetic mean	27.29	25.54
Standard error	0.43	0.35
Median	27.77	25.54
Module	28.39	22.79
Standard deviation	4.77	3.91
Dispersion	22.81	15.28
Amplitude	20.12	18.51
Minimum	18.42	18.54
Maximum	38.54	37.05
Result sum	3357.6	3142.37
Confidence level (95%)	0.85	0.69
Variation coefficient	0.17	0.15
Total subjects	123	

Table I.

Table featuring active CCMC-UB members and the personal goals that lead them to participate in the courses.

Academics	Researchers	TESA personnel	Age	Gender M/F	Health	Discipline preference	Personal goal
65	-	-	25-54	F	V. good Good Satisfactory	fitness, tae-bo, dance, cardio, table tennis, aerobic gymnastics, kinetotherapy	- maintaining weight and physical condition; - regaining physical condition; - body remodeling; - muscle tone and general physical condition improvement; - weight loss.
11	-	-	24-60	M	V. good Good Satisfactory	fitness, dance, cardio, table tennis, aerobic gymnastics, kinetotherapy	- body remodeling; - weight loss; - relaxation; - better health; - regaining physical condition.
-	10	-	25-36	F	V. good Good	fitness, tae-bo, dance, cardio, table tennis, aerobic gymnastics	- maintaining weight and physical condition; - regaining physical condition; - body remodeling; - muscle tone and general physical condition improvement; - weight loss.
-	2	-	24-35	M	Good	bodybuilding	- health improvement and body shaping/ hypertrophy.
-	-	49	25-56	F	V. good Good	maintenace gymnastics, aerobic gymnastics, dance	- improvement in the quality of life, maintaining muscle tone and weight within optimal parameters; - obtaining a good corporal behaviour; - regaining a good physical condition; - flexibility, maintaining weight; - health improvement; - nice posture; - increasing endurance ; - maintaining a good disposition through dance.
-	-	3	24-47	M	Good	Maintenance gymnastics, fitness	- health improvement; - regaining good physical shape.

Table III

Bilateral hypothesis verification test for female test subjects.

WOMEN: Initial testing – Final testing	
Set confidence threshold	$\alpha = 0.05$
Null hypothesis H_0 (difference of the means = 0):	m_1-m_2= 0
Alternative hypothesis H_1:	m1 – m2 # 0
Freedom range – df	235
t Bilateral test critical val. (**t**-test table val.)	1.970
Statistical Indicators	**Values**
Pearson correlation	0.966
t Statistic (calculated)	3.143
p (T<=t) (resulting confidence threshold)	0.018

In the female group, there is a -1.55% difference between the means, p=0.018, the calculated probability is lower than 0.05. The test is statistically relevant. The effect mass index shows a moderate to high difference between the 2 tests (tables II and III).

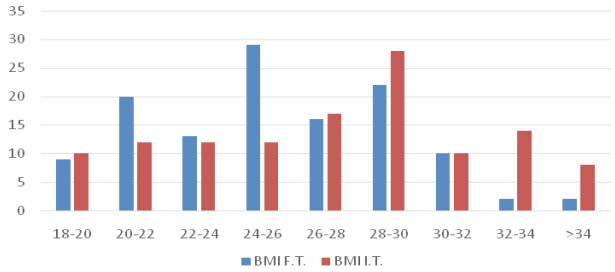

Fig. 2 – Female BMI distribution.

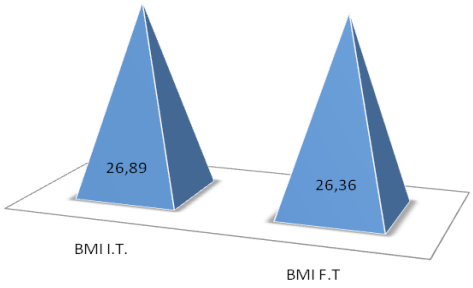

Fig. 3 – Arithmetic mean of male BMI.

Table IV

Anthropometric measurement results obtained by calculating the male statistical indexes.

Men	Initial testing	Final testing
Arithmetic mean	26.89	26.36
Standard error	0.98	0.85
Median	28.14	27.20
Module	29,34	28,40
Standard deviation	3.93	3.43
Dispersion	15.49	11.78
Amplitude	14.6	13.6
Minimum	18.13	18.95
Maximum	32.73	32.55
Result sum	430.32	421.91
Confidence level (95%)	2.09	1.82
Variation coefficient	0.14	0.13
Total subjects	**16**	

Table V

Bilateral hypothesis verification test for male test subjects.

MEN: Initial Testing – Final testing	
Set confidence threshold	$\alpha = 0.05$
Null hypothesis H_0 (difference of the means = 0):	m_1-m_2= 0
Alternative hypothesis H_1:	m1 – m2 # 0
Freedom range – df	29
t Bilateral test critical val. (**t**-test table val.)	2.045
Statistical Indicators	**Values**
Pearson correlation	0.989
t Statistic (calculated)	0.402
p (T<=t) (resulting confidence threshold)	0.690

In the male group, there is a -0.52% difference between the means, p=0.690, the calculated probability is higher than 0.05. The test is not statistically relevant. The effect mass index shows a small difference between the 2 tests (tables IV and V).

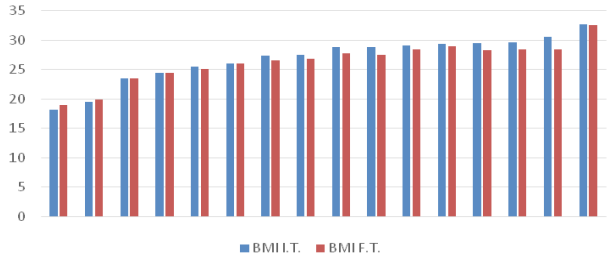

Fig. 4 – Male BMI distribution.

Since it is practically impossible to maintain adiposity levels within the essential fat paercentages throughout the course of life, certain charts have been created to define adiposity at a given time (Table VI). The figures refer to the adult population (aged over 25 years), based on ample US population studies, and they show clear gender (M/F) differences. Hence, they should not be referred to unconditionally, but only used as a rough guide, as it is possible for Romanian population standards to be slightly different (Dumitru, 1997).

On the grounds of the retrieved data and results it can be noted that within the year following the opening of the CCMC-UB, the number of people eager to do physical exercise levels rose, with a higher intensity in the 25-45 year old group and a lower intensity in the 46-60 year old group. The first age group, according to their personal files, seeks physical condition improvement.

The second age group seeks physical condition improvement and treatment for various diseases through kinetophysiotherapeutic programs.

According to WHO, BMI is the standard in adult weight excess risk evaluation. In the case of children and teenagers, it must be correlated with somatic growth nomograms. BMI assessment is a viable method for adults between the ages of 20 and 65. It cannot be used in the following cases: pregnant women, lactating women, muscular people (Cordun, 2009).

BMI average for our subjects is *moderatley high* for women and *high* for men.

Table VI
Body adiposity assessment criteria, Dumitru (1997), after Franks and Howley (1989).

Gender M/F	Body fat or adiposity					
	Very low	Low	Optimal	Moderately high	High	Very high
M	below 6%	6-10%	10-20%	20-25%	25-31%	over 31%
F	below 12%	12-15%	15-25%	20-25%	30-35%	over 35%

Discussion

The BMI of male subjects underwent small, statistically insignificant fluctuations. Individual progress was prioritized in order to attain the goals set for each subject. We believe that, considering the initial testing, the programs managed to reach their goal by the final testing, taking into account a period of accommodation and lifestyle reevaluation determined by the motives leading to psychomotor counseling.

Female subjects on the other hand had a statistically significant increase in BMI during the same accommodation and reevaluation period. The programs were also individualized and same goal groups were created, in order for a group level stimulation through mutual support to occur.

It is known that depending on age and gender (M/F) and related psychophysiological particularities, muscle mass in women makes up 27-32% of body mass, while in men, muscle mass represents up to 40-45% of body mass. The opposite is true for adipose tissue, 22-28% for women, and only 8-15% for men.

Based on psychological and psychomotor criteria, women are characterized by a good spirit of observation, good memory, manual dexterity and emotional instability (Derevenco 1998).

By their nature, women were more receptive to the indications given out and wanted to make a change in their lifestyle, always being interested in their achieved progress. This interest materialized in both individual and group results.

Conclusions

1. On the basis of the data gathered thoughout the research, the proposed individualized programs performed as expected, resulting in an improvement in physical condition and overall bodily endurance, which materialized in a better disposition, ability to focus and efficiency in professional activities.

2. The programs reached their goal by their accessibility, in the first place, and by becoming structured on individual possibilities.

3. The results of the somato-functional measurements motivated the participants to follow both group and individualized programs.

Conflicts of interest
There are no conflicts of interest.

Acknowledgement
The paper presents part of the means used to fulfil sustenance and physical recovery orientation objectives, thus answering information and psycho-physical engagement needs for all the employees of the University of Bucharest.

References

Bartholomew LK, Parcel G., Kok K, Gottlieb N. Planning Health Promotion Programs: Intervention Mapping, 2nd Edition, Willey and Sons, USA, 2006.

Bocu T. Activitatea fizică în viaţa omului contemporan, Ed. Casa Cărţii de Ştiinţă, Cluj-Napoca, 2007; 115.

Bompa T. Teoria şi metodologia antrenamentului. Periodizarea Ediţia a II-a. Ed. Tana, Curtea de Argeş. 2001; 270.

Bota A. Exerciţii fizice pentru viaţă activă. Activităţi motrice de timp liber. Ed. Cartea Universitară, Bucureşti, 2006; 227.

Cordun M. Kinantropometrie. Ed. Cd Press, Bucureşti, 2009; 62, 91.

De Vries H. Planing and Evaluating Health Promotion. In David S. And Weston R.. Evaluating Health Promotion. Stanley Thornes, Cheltenham, 1998.

Derevenco, P. Elemente de fiziologie ale efortului sportiv. Ed. Argonaut, Cluj-Napoca 1998; 140, 152.

Dinu H, Teleki N, Berteanu M, Dumitru L, Iliescu A. The particularities of specific kinetotherapy on eldery patients with osteoporotic vertebral fractures. Palestrica of the Third Millennium Civilization and Sport. 2011; 12 (4):387-390.

Dumitrescu R, Aducovschi D, Ganciu M, Sakizlian R, Moise D, Leştaru M. Eveniment inaugural al Centrului de Consiliere psihomotrică şi creştere a calităţii vieţii pentru cadrele de la Universitatea din Bucureşti, Palestrica Mileniului III, 2010; 11(3):270-272.

Dumitru G. Sănătate prin sport pe înţelesul tuturor. Ed Federaţiei Române Sportul pentru Toţi, Bucureşti, 1997; 20.

Epuran M (coord.), Cordun M, Mârza D, Moţet D, Ochiană G, Stănescu M. Asistenţă, consiliere şi intervenţii psihomedicale în sport şi kinetoterapie, Ed. Fundaţiei Humanitas, Bucureşti, 2006; 209.

Ganciu M, et al. Activitatea fizică independentă şi valorificarea prin mişcare a timpului liber. Ed. Universităţii din Bucureşti, 2010; 14

Lotrean LM, Laza V, Ionuţ C, de Vries Hein. Evaluarea activităţii fizice în rândul elevilor din Transilvania. Palestrica Mileniului III- Civilizaţie şi Sport, 2008; 9(1):34-37.

Lotrean LM, Mejia GT. Assessment of physical activity and food intake in order to promote a healthy lifestyle. Palestrica of the Third Millennium Civilization and Sport, 2011; 12(4):381-386.

Taylor AF, Saunders MM, Shingle L, Climbala JM, Zhou Z, Donahue HJ. Mechanically stimulated osteocytes regulate osteoblastic activity via gap junctions. Am J of Physiol-Cell Physiol, 2007; 292:545-552.

***. Regulamentul de Organizare şi Funcţionare al CCMC-UB, art.5, 12. Universitatea din Bucureşti, 2010; 2,3.