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METHODOLOGICAL DIRECTIVE EFFECT OF SHAPING CLASSES FOR FEMAIL STUDENTS

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МЕТОДИЧНА СПРЯМОВАНІСТЬ ФІЗКУЛЬТУРНО-ОЗДОРОВЧИХ ЗАНЯТЬ ШЕЙПІНГОМ ЗІ СТУДЕНТКАМИ. Ганна СКИДАН[1], Сергій СЕВДАЛЕВ[1],Євген ВРУБЛЕВСКИЙ[2] *[1]Гомельський державний університет імені Ф.Скорини, Гомель, Білорусь, [2]Поліський державний університет, Пінськ, Білорусь і Зеленогурський університет, Зелена Гура, Польща*

Анотація. Єдина державна програма з фізичної культури для вищих навчальних закладів, на думку фахівців, не забезпечує оптимального обсягу рухової активності студентів. Сформована ситуація ще більше ускладнюється зниженням інтересу учнівської молоді до традиційних занять фізичною культурою і відсутністю в неї стійкої потреби в руховій активності, що обумовлює необхідність пошуку нових засобів, методів і форм фізичного виховання.

Мета роботи: теоретично обґрунтувати, розробити та апробувати оздоровчу методику занять шейпінгом зі студентками в процесі фізичного виховання.

Методи та організація дослідження: теоретичний аналіз і узагальнення; педагогічний експеримент за участю 15 студенток із зайвими жировими відкладеннями; заняття тривалістю 60 хв проводилися по 2 рази на тиждень упродовж 3 місяців; методи математичної статистики: $\overline{X}$, m, $t_{крит.}$

Результати дослідження. Проведений педагогічний експеримент містив застосування цілеспрямованого комплексу вправ за «шейпінг програмою» з певною послідовністю впливу, з урахуванням індивідуальних параметрів фігури для кожної дівчини на основі комп'ютерної програми. До початку експерименту маса тіла, показники обхватних розмірів (талія, сідниці, стегно) достовірно ($p<0,05$) відрізнялися від оптимальних для обстежуваних цієї вікової категорії. По закінченні педагогічного експерименту відмінності між розрахунковими ідеальними і фактичними показниками маси тіла, обхватних розмірів і чотирьох із восьми жирових складок студенток стали недостовірними ($p>0,05$). Відмінності у величині жирових складок стегна залишилися достовірними, хоча вони мали тенденцію до зменшення.

Висновок – розроблена методика занять шейпінгом дозволила нормалізувати масу тіла.

Ключові слова: студентки, шейпінг, здоров'я, статура, мотивація.

Topicality. Remodeling of the current physical education system by means of introduction of new nontraditional modes differential approaches to fitness development of youth turns to be one of the major spheres of integrated approach to health improvement and healthy lifestyle promotion for students. These new sound approaches should be introduced in accordance with individual motivational needs, students' lifestyle, their social, psychological and functional status. This issue is of a paramount importance for health of the nation depends mainly upon the state of health of this particular group of population [2, 4].

Intensification of higher school training adversely affects students' fitness indices: their physical condition, psychological and reproductive health. Permanent tight time causes stress-induced tension with high probability of disadaptation syndrome. Students' level of health of late years has become a matter of serious concern. Despite the current opinion that youth constitutes the most fit and healthy group of population [1, 2, 4, 11] young people today present the most socially vulnerable part, that neither possess nor make use of the possibilities for their adequate all-round development.

According to certain authors [4, 5 и др.] the integrated state physical education curriculum for higher schools does not compensate the deficiency of motion activity in students. Steady decline of students' interest to regular exercises as well as lack of stable need for physical activity aggravates the situation even more [2, 6]. As a result the system of education in general and each higher educational establishment in particular face the task of maintaining students' physical, psychological and moral health. Thus each institute of higher learning should be ready to initiate and administer a committed and effective work directed at preservation, rehabilitation and augmentation of students' health status. At present this work is gaining impetus, acquiring a systemic nature. New methods of health rehabilitation as well as modern ways of diagnostics are introduced, while logistical support of the universities and colleges is growing permanently [7, 9, 10].

A whole range of fitness groups and health promoting organizations has been booming at a cosmic speed in almost all the advanced countries of the world. A great number of new state-of-the-art fitness programmes aimed at constitution improvement and health promotion offer their services [7, 12].

According to current research [3, 5, 9, 10] standard classical forms of conducting exercises classes for students are of little effect. They fail to create motivation sufficient enough for students' physical activity, provide inadequate motivation for exercising, do not compensate the deficiency of motion activity in students. Young female students aging 18 to 21 for instance dispose very low physical growth and development as well as inadequate level of their functional preparedness, which is caused by insufficient motion abilities and functional state development [1, 2, 11].

In recent years, there has been growing interest in new modern fitness systems and technologies intended mainly for women [7]. The choice of one or another fitness method oriented at health improvement usually depends upon circumstances, affordability and interests. Shaping has become extremely popular with women, for it helps to solve effectively physical perfection tasks [8, 12 и др.].

At all times attractiveness of women has been considered to imply two mutually complementary virtues: external beauty and intrinsic appeal. Woman' appearance is regarded mainly in terms of her body organization, which is manifested by her bearing, isogony and body weight. The majority of individuals are perfectly aware of negative consequences of obesity; however the number of people suffering from overweight is growing unceasingly. The problem is especially touchy for young girls with surplus adipopexis (excessive fat deposits) causing obesity, which tells not only on motion activity but on mental health and all body organs' and systems' functioning [7-9].

Objective of the study: to present a theoretical substantiation of shaping classes administration as a new physical education methodology for female students, to elaborate and test the above mentioned methodology in higher school setting.

The tasks of the study:

1. To substantiate individual training routine and differential approach to the assessment of the functional state of a female organism in the system of shaping.
2. To test the efficiency of the elaborated health improving method of practicing shaping by female students.

Research methods and management: the review of methodological publication has been carried in terms of elucidation of the prevailing viewpoints concerning the problem in question, which tackles the issue of youngsters' physical education process' improvement.

Educational experiment has been carried out in the setting of the department of theory and methodology of physical education of the Gomel State University named after F. Skorina and has been conducted in accord with the established procedures. To study the influence of shaping upon their physical development indices 15 female students who's special subject is pedagogics have been examined. Special "Shaping" computer programme made it possible to achieve ideal figure values for those participating in the experiment.

It should be noted that the students' experimental group was formed by means of selecting the girls with excess of fat deposits with the view of figure improvement in general and configuration change of certain body parts. The classes for the experimental group were conducted according to the methodology elaborated by us for three months running two times a week during extracurricular

time. The effectiveness of the exercises was assessed by means of revealing the difference between the tests indices obtained before and after the experiment.

Pedagogical observations were held within the whole period of the study. Execution of the elaborated methodological mode of exercises as well as female students' response to the physical load served as the object under observation. The workload response was measured by the results of the express-tests and assessed by the external indications of fatigue.

Real volume and the offered health improving load intensity were specified and corrected in the course of pedagogical observations depending on functional state test results and the subjective evaluation of the way the subject felt.

Method of anthropometry was applied for physical development assessment during the experiment. Anthropometry comprised: a) body weight and length measurements; b) estimation of the neck, the arms, the thorax, the breast, the waist, the buttocks, the thigh girth indices; c) measurements of fat folds on the forearm, shoulder from the front and from behind, back from the top and from the bottom, abdominal muscles from the top and from the bottom, lateral view of the trunk, the front, rear, from inside and lateral views of the thigh.

All the above cited indices were logged into the computer. Standard methods of mathematical statistics were applied. Reliability of average values' differences was defined according to Student t-test.

Research results and their discussion. Major peculiarity of shaping group classes consisted in sequential administration of specially elaborated set of exercises enhancing purposeful alteration and remodeling of the body parts.

One separate shaping class lasted 60 minutes and consisted of several stages – warming-up exercises (introductory part lasting 10 min.), muscle-strengthening exercises (major part lasting 35 to 40 min.) and concluding part (6 min.).

The content of the major practical part of the class included the exercises divided into 11 blocks (series) and implied successive muscles groups working out (Table 1).

Table 1

Structure of shaping classes for female students

STRUCTURE OF THE CLASSES			
Blocks implied for muscle groups work-out		Duration (min.)	Part of the class:
1	Warming up	10	I Introductory
2	Front view of the thigh	4	II Major
3	Rear view of the thigh	4	
4	View of the thigh from inside	4	
5	Lateral view of the thigh	4	
6	Buttocks muscles	4	
7	Abdominal muscles from the top	4	
8	Abdominal muscles from the bottom	4	
9	Waist	4	
10	Individual - first zone - second zone - third zone	 4 4 4	III Additional
11	Cooling down	6	IV Concluding

The obtained numeric data made it possible to detect the existing deviations from standard anthropometric indices at the beginning of the educational experiment. The results of examination are presented in Table 2.

Hence the weight of female students from the experimental group at the beginning of the experiment exceeded considerably the ideal indices (deviations from the standard made 6,71±0,2 kg).

Studying the research data of the body girth parametres (waist – 66,22±0,16 cm; buttocks – 96,3± 0,23 cm; thighs -55,35±0,34 cm), one can conclude the occurrence of deviations significantly higher from the standard (3,41±0,24 cm; 6,36±0,27 cm; 3,87±0,28 cm).

Table 2

Level of physical development in girls (n=15) before the educational experiment

Indices	Before the experiment $\overline{X} \pm m$	Standard indices (SI) $\overline{X} \pm m$	Deviations from SI $\overline{X} \pm m$	p
Body weight (kg)	59,05±0,14	52,34±0,21	6,71±0,23	<0,05
Girths:				
Waist (cm)	66,22±0,16	62,81±0,19	3,41±0,24	<0,05
Buttocks (cm)	96,3±0,23	89,94±0,31	6,36±0,27	<0,05
Thigh (cm)	55,35±0,34	51,48±0,23	3,87±0,28	<0,05
Folds of fat:				
Abdominal muscles from the top (mm)	13,87±0,12	6,50±0,17	7,37±0,17	<0,05
Abdominal muscles from the bottom (mm)	19,76±0,14	10,0±0,23	9,76±0,19	<0,05
Lateral view of the trunk (mm)	12,1±0,21	5,92±0,27	6,18±0,22	<0,05
Back from the bottom (mm)	30,16±0,23	18,99±0,31	11,17±0,23	<0,05
Front view of the thigh (mm)	27,2±0,17	15,0±0,25	12,2±0,23	<0,05
Rear view of the thigh (mm)	37,86±0,31	16,0±0,17	21,86±0,26	<0,05
View of the thigh from inside (mm)	21,41±0,25	9,50±0,19	11,91±0,20	<0,05
Lateral view of the thigh (mm)	47,36±0,23	20,0±0,29	27,36±0,22	<0,05

The highest deviations in millimeters from the standard indices occurred during examination of the fat folds. Thus the abdominal muscles from the top and from the bottom made 7,37±0,17; lateral view of the thigh – 6,18±0,22; back from the bottom – 11,17±0,23; front, rear, from inside and lateral views of the thigh – 12,2±0,23; 21,86±0,26; 11,91±0,20; 27,36±0,22 correspondingly.

All the received data display significant difference ($p<0,05$) between the female students' physical development rates and standard indices of physical development for the particular female age group.

After finishing the educational experiment (Table 3) significant difference ($p<0,05$) between physical development indices of the female students from the experimental group and standard indices (SI) were revealed while fat folds were measured: the thigh front view (19,47±0,31) displayed the 4,47±0,27 deflection from SI; the thigh front view (26,45±0,13) displayed the 10,45±0,21 deflection from SI; from inside – (12,71±0,17) displaying 3,21±0,18 deflection from SI; lateral – (31,1±0,21) showing 11,31±0,27 deflection from SI. Deflections from standard indices decreased considerably if compared with the beginning of the experiment.

Data analysis of the body girth sizes obtained after finishing the experiment (waist – 63,3±0,36 deflection from SI – 1,12±0,26; buttocks – 91,7±0,34 deflection from SI – 1,33±0,32; thigh – 52,9±0,23 deflection from SI – 0,81±0,22) revealed no significant difference from standard indices ($p>0,05$), which speaks in terms of their normalization.

The results of the fat folds measurements of abdominal muscles from the top (8,84±0,15 deflection from SI – 2,32±0,14), abdominal muscles from the bottom – (12,84±0,21 deflection from SI – 2,84±0,19), lateral view of the trunk (7,75±0,24 deflection from SI –1,83±0,24), back from the bottom (19,98±0,23 deflection from SI –0,99±0,31) also reveal no significant difference from standard indices (>0,05). The above mentioned indices are within normal.

Moreover it should be noted that high level of the classes attendance as well as the occurrence of keen interest with the students to regular physical exercises.

Table 3

Level of physical development in girls (n=15) after the educational experiment

Indices	After the experiment $\overline{X} \pm m$	Standard indices $\overline{X} \pm m$	Deflection from SI $\overline{X} \pm m$	p
Body weight (kg)	53,49±0,31	52,34±0,21	1,15±0,21	>0,05
Girths				
Waist (cm)	63,93±0,36	62,81±0,19	1,12±0,26	>0,05
Buttocks (cm)	91,27±0,34	89,94±0,31	1,33±0,32	>0,05
Thigh (cm)	52,29±0,23	51,48±0,21	0,81±0,22	>0,05
Folds of fat:				
Abdominal muscles from the top (mm)	8,84±0,15	6,50±0,17	2,32±0,14	>0,05
Abdominal muscles from the bottom (mm)	12,84±0,21	10,0±0,23	2,84±0,19	>0,05
Lateral view of the trunk (mm)	7,75±0,24	5,92±0,27	1,83±0,24	>0,05
Back from the bottom (mm)	19,98±0,23	18,99±0,31	0,99±0,31	>0,05
Front view of the thigh (mm)	19,47±0,31	15,0±0,25	4,47±0,27	<0,05
Rear view of the thigh (mm)	26,45±0,13	16,0±0,17	10,45±0,21	<0,05
View of the thigh from inside (mm)	12,71±0,17	9,50±0,19	3,21±0,18	<0,05
Lateral view of the thigh (mm)	31,31±0,21	20,0±0,29	11,31±0,27	<0,05

Hence shaping as a health improvement procedure actually enabled to bring closer the physical indices of the female students from the experimental group to standard indices.

Conclusions.

1. The suggested methodology of practicing shaping enabled to diminish considerately the fat component of the students' body weight, to contribute to the growth of psychoemotional state of the female students and to develop stable motivation to exercises.

2. Shaping classes conducted according to the suggested fitness methodology contributed reliably to the students' body build perfection as well as enabled to bring their figure characteristics nearer to that of a shaping model.

3. The obtained results justify that the suggested methodology could be adopted for the academic purposes during physical education classes at higher school, as well as a supplementary fitness methodology for female students.

Possible further research in the area might consist in purposeful study of the effect of shaping as a fitness activity upon different body functions in women of various age groups and constitution.

Список литературы

1. *Белкина Н. В.* Здоровьеформирующая технология физического воспитания студенток вуза / Белкина Н. В. // Теория и практика физической культуры. – 2006. – № 2. – С. 7–11.

2. *Козлов В. И.* Прогрессирование дефицита двигательной активности у студенток и выбор средств его компенсации : дис. ... канд. пед. наук : 13.00.04 / В. И. Козлов ; МГАФК. – Малаховка, 1995. – 196 с.

3. *Коваленко В. А.* Физическая культура в обеспечении здоровья и профессиональной психофизической готовности студентов / В. А. Коваленко // Физическая культура и спорт в Российской Федерации (студенческий спорт) : сб. науч. тр. – М., 2002. – С. 43 – 66.

4. *Лобанова Л. А.* Исследование динамики потребности в физической культуре и спорте будущих учителей / Л. А. Лобанова, В. П. Каргаполов, Р. А. Огай // Физическая культура, спорт и здоровье населения Дальнего Востока. Проблемы образования в области физической культуры : материалы межрегион. науч.-практ. конф. – Хабаровск, 1999. – Ч. 2. – 30 с.

5. *Лубышева Л. И.* О программных основах вузовского физкультурного воспитания / Л. И. Лубышева, Г. М. Грузных. – М. : Физкультура и спорт, 1991. – 12 с.

6. *Лю Юн Цянь.* Физическая культура в ценностных ориентациях современных студентов / Лю Юн Цянь // Мир спорта. – 2008. – № 1 (30). – С. 33 – 34.

7. *Постол О. Л.* Методика оздоровления студенток вузов на занятиях по физическому воспитанию с применением традиционных и нетрадиционных средств : автореф. дис. … канд. пед. наук : 13.00.04 / О. Л. Постол. – Хабаровск, 2004. – 222 с.

8. *Прохорцев И. В.* Способ тренировки тела человека – типа «Шейпинг» / И. В. Прохорцев. – М., 1991. – 125 с.

9. *Сысоев В. В.* Формирование у студентов непрофильных педагогических специальностей потребности в физическом самосовершенствовании : автореф. дис. … канд. пед. наук : 13.00.04 / В. В. Сысоев. – Брянск, 2003. – 190 с.

10. *Трещева О. Л.* Формирование культуры здоровья в условиях современного образования : монография / О. Л. Трещева. – Омск, 2002. – 268 с.

11. *Тимошенков В. В.* Физическое воспитание студентов и учащихся, имеющих отклонения в состоянии здоровья : учеб. пособие / В. В. Тимошенков, А. Н. Тимошенкова.– 2-е изд. – Мн. : Веды, 2000. – 196 с.

12. *Щанкина В. В.* Новые физкультурно-спортивные виды. Шейпинг : учеб. пособие / В. В. Щанкина ; Рязан. гос. ун-т им. С. А. Есенина. – Рязань, 2006. – 64 с.

МЕТОДИЧЕСКАЯ НАПРАВЛЕННОСТЬ ФИЗКУЛЬТУРНО-ОЗДОРОВИТЕЛЬНЫХ ЗАНЯТИЙ ШЕЙПИНГОМ СО СТУДЕНТКАМИ

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Аннотация. Единая государственная программа по физической культуре для высших учебных заведений, по мнению специалистов, не обеспечивает оптимального объема двигательной активности студентов. Сложившаяся ситуация еще больше осложняется снижением интереса учащейся молодежи к традиционным занятиям физической культурой и отсутствием у нее устойчивой потребности в двигательной активности, что обусловливает необходимость поиска новых средств, методов и форм физического воспитания.

Цель работы: теоретически обосновать, разработать и апробировать оздоровительную методику занятий шейпингом со студентками в процессе физического воспитания.

Методы и организация исследования: теоретический анализ и обобщение; педагогический эксперимент с участием 15 студенток с излишними жировыми отложениями; занятия длительностью 60 мин проводились по 2 раза в неделю в течение 3 месяцев; методы математической статистики: $\overline{X}$, m, $t_{крит.}$

Результаты исследования. Проведенный педагогический эксперимент включал в себя применение целенаправленного комплекса упражнений по «шейпинг программе» с определенной последовательностью воздействия, с учетом индивидуальных параметров фигуры для каждой девушки на основе компьютерной программы. До начала эксперимента масса тела, показатели обхватных размеров (талия, ягодицы, бедро) достоверно ($p<0,05$) отличались от оптимальных для исследуемых этой возрастной категории. По окончании педагогического

эксперимента различия между расчетными идеальными и фактическими показателями массы тела, обхватных размеров и четырех из восьми жировых складок студенток стали не достоверными (p >0,05). Различия в величине жировых складок бедра остались достоверными по они имели тенденцию до уменьшения.

Вывод – разработанная методика занятий шейпингом позволила нормализовать массу тела.

Ключевые слова: студентки, шейпинг, здоровье, телосложение, мотивация.

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Abstract. Experts consider that the integrated state physical education curriculum for higher schools does not ensure optimum bulk of motion activity for students. Decline of students' interest to classical exercises as well as lack of stable need for physical activity aggravates the situation even more, which denotes that the search for new means, methods and forms of physical education remains current.

The objective of the research: to present a theoretical substantiation, to elaborate and test fitness methodology of shaping for female students as a part of physical education classes.

Reasearch methods and management: theoretical analysis and generalization; educational experiment involving 15 female students suffering from overweight; 60 min. long classes were held twice a week within 3 months; methods of mathematical statistics: $\overline{X}$, m, $t_{crit.}$

Research results. The educational experiment consisted in application of purposeful set of shaping exercises with a particular succession of the effect, with a glance at individual body dimensions for each female student calculated with the help of a computer programme. Before the beginning of the experiment body weight, girth dimensions (waist, buttocks, and thigh) differed reliably (p<0,05) from optimal ones peculiar to this age category. After the completion of the experiment the difference between estimate ideal indices and factual body weight indices, of embracing dimensions and of four from eight folds of fat became not valid (p >0,05). Size differences of the thigh folds of fat became significant though with a tendency to diminution.

Conclusion – the elaborated methodology of shaping activities allowed normalizing body weight.

Key words: female students, shaping fitness, constitution, motivation.

References

1. *Belkina N. V.* Zdorov'eformirujushhaja tehnologija fizicheskogo vospitanija studentok vuza [Health-technology high school physical education students] // Teorija i praktika fizicheskoj kul'tury. – 2006. – № 2. – S. 7–11. *(Rus.)*

2. *Kozlov V. I.* Progressirovanie deficita dvigatel'noj aktivnosti u studentok i vybor sredstv ego kompensacii [Progression of motor activity deficits in students and a choice of his compensation] : dis. ... kand. ped. nauk : 13.00.04, MGAFK. – Malahovka, 1995. – 196 s. *(Rus.)*

3. *Kovalenko V. A.* Fizicheskaja kul'tura v obespechenii zdorov'ja i professional'noj psihofizicheskoj gotovnosti studentov [Physical training in health and professional psychophysical readiness of students] // Fizicheskaja kul'tura i sport v Rossijskoj Federacii (studencheskij sport) : sb. nauch. tr. – M., 2002. – S. 43 – 66. *(Rus.)*

4. *Lobanova L. A., Kargapolov V. P., Ogaj R. A.* Issledovanie dinamiki potrebnosti v fizicheskoj kul'ture i sporte budushhih uchitelej [Investigation of the dynamics needs physical culture and sport of the future teachers] // Fizicheskaja kul'tura, sport i zdorov'e naselenija Dal'nego Vostoka. Problemy obrazovanija v oblasti fizicheskoj kul'tury : materialy mezhregion. nauch.-prakt. konf. – Habarovsk, 1999. – Ch. 2. – 30 s. *(Rus.)*

5. *Lubysheva L. I., Gruznyh G. M.* O programmnyh osnovah vuzovskogo fizkul'turnogo vospitanija [On the foundations of high school sports program of education]. – M. : Fizkul'tura i sport, 1991. – 12 s. *(Rus.)*

6. *Lju Jun Cjan'.* Fizicheskaja kul'tura v cennostnyh orientacijah sovremennyh studentov [Physical education in the value orientations of modern students] // Mir sporta. – 2008. – № 1 (30). – S. 33 – 34. *(Rus.)*

7. *Postol O. L.* Metodika ozdorovlenija studentok vuzov na zanjatijah po fizicheskomu vospitaniju s primeneniem tradicionnyh i netradicionnyhsredstv [Technique improvement The students are in class for physical education using both traditional and non-traditional means] : avtoref. dis. … kand. ped. nauk : 13.00.04. – Habarovsk, 2004. – 222 s. *(Rus.)*

8. *Prohorcev I. V.* Sposob trenirovki tela cheloveka – tipa «Shejping» [Way of training the body – such as "Shaping"]. – M., 1991. – 125 s. *(Rus.)*

9. *Sysoev V. V.* Formirovanie u studentov neprofil'nyh pedagogicheskih special'nostej potrebnosti v fizicheskom samosovershenstvovanii [Formation of students' non-core pedagogical skills needs in physical self-improvement] : avtoref. dis. … kand. ped. nauk : 13.00.04. – Brjansk, 2003. – 190s. *(Rus.)*

10. *Treshheva O. L.* Formirovanie kul'tury zdorov'ja v uslovijah sovremennogo obrazovanija [Formation of students' non-core pedagogical skills needs in physical self-improvement] : monografija. – Omsk, 2002. – 268 s. *(Rus.)*

11. *Timoshenkov V. V., Timoshenkova A. N.* Fizicheskoe vospitanie studentov i uchashhihsja, imejushhih otklonenija v sostojanii zdorov'ja [Physical education students and students with variations in health status] : ucheb. posobie.– 2-e izd. – Mn. : Vedy, 2000. – 196 s. *(Rus.)*

12. *Shhankina V. V.* Novye fizkul'turno-sportivnye vidy. Shejping [New types of physical culture and sports. Shaping] : ucheb. posobie; Rjaz.gos. un-t im. S. A. Esenina. – Rjazan', 2006. – 64 s. *(Rus.)*

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