

**УДК 796.011.3:371.71+370.113.2****ББК 75.6+53.54****Oleksii Fedoryuk, Serhii Popel****INFLUENCE OF RECREATIONAL ACTIVITY ON ELDERLY TEACHERS' LIFE QUALITY**

У результаті досліджень цілого ряду авторів показано, що у викладачів похилого віку виявляється низький рівень рухової активності і високий індекс маси тіла. При цьому більшість опитаних респондентів мають бажання займатися рекреаційними заходами, однак тільки незначний відсоток людей у віці 50–65 років займаються ними регулярно. Мета роботи – оцінити ефективність програми підвищення рекреаційної активності (ППРА) та її впливу на якість життя викладачів віком 50–65 років. Методи: Обстежено 150 викладачів Прикарпатського національного університету імені Василя Стефаника, Івано-Франківського національного медичного університету та Івано-Франківського національного технічного університету у віці 50–65 років (57 чоловічої і 93 жіночої статі). Всі учасники експериментальної програми були обстежені для визначення рівня соматичного здоров'я та якості життя. Учасники займалися за ППРА протягом 50 хв кожен день. Ефективність ППРА була визначена за результатами анкети короткої форми, яка складалась з 36 запитань. Результати: Впровадження ППРА дозволило суттєво змінити погляди викладачів на роль рухової активності та її вплив на якість їх життя. Встановлено, що зміни стосуються покращення психо-фізіологічного стану (показники збільшилися з 47,8% до 82,3%) та рівня соматичного здоров'я (з 12,5% до 43,0%), при цьому частка викладачів, які постійно відчували дискомфорт і біль в ділянці серця зменшилась з 53,4% до 12,0%. Висновки. 1. Стиль життя більшості викладачів похилого віку характеризується низьким рівнем соціального інтересу до фізичної культури і заходів з підтримки високого рівня рухової активності. Низька рекреаційна активність є загальною тенденцією для всіх респондентів. 2. Впровадження у повсякденне життя викладачів програми з підвищення рекреаційної активності дозволяє покращити їх якість життя і підтримати на достатньому рівні стан соматичного здоров'я, що підтверджується даними про функціональні резерви організму.

**Ключові слова:** програма підвищення фізичної активності, якість життя, соматичне здоров'я, викладачі, вік 50–65 років.

В результате исследований целого ряда авторов показано, что у преподавателей пожилого возраста выявляется низкий уровень двигательной активности и высокий индекс массы тела. При этом большинство опрошенных респондентов имеют желание заниматься рекреационными мероприятиями, однако только незначительный процент людей в возрасте 50–65 лет занимаются ими регулярно. Цель работы – оценить эффективность программы повышения рекреационной активности (ППРА) и её влияния на качество жизни преподавателей в возрасте 50–65 лет. Методы: Обследовано 150 преподавателей Прикарпатского национального университета имени В. Стефаника, Ивано-Франковского национального медицинского университета и Ивано-Франковского национального технического университета в возрасте 50–65 лет (57 мужского и 93 женского пола). Все участники экспериментальной программы были обследованы для определения уровня соматического здоровья и качества жизни. Участники занимались по ППФА на протяжении 50 мин каждый день. Эффективность ППРА была определена по результатам анкетой короткой формы, которая состояла из 36 вопросов. Результаты: Внедрение ППРА позволило существенно изменить взгляды преподавателей на роль двигательной активности и её влияние на качество их жизни ( $P < 0,05$ ). Показано, что изменения касаются улучшения физического состояния (показатели увеличились с 47,8% до 82,3%) и уровня соматического здоровья (з 12,5% до 43,0%), при этом частка викладачів, которые постоянно ощущали дискомфорт и боль в области сердца уменьшилась с 53,4% до 12,0%. Выводы. 1. Стиль жизни большинства преподавателей пожилого возраста характеризуется низким уровнем социального интереса к физической культуре и мероприятий по поддержке высокого уровня двигательной активности. Низкая рекреационная активность есть общей тенденцией для всех респондентов. 2. Внедрение в повседневную жизнь преподавателей программы по повышению физической активности позволяет улучшить их качество жизни и поддержать на достаточно высоком уровне состояние соматического здоровья, что подтверждается данными про функциональные резервы организма.

**Ключевые слова:** программа повышения физической активности, качество жизни, соматическое здоровье, преподаватели, возраст 50–65 лет.

*As a result of researches of whole row authors are shown, that at teachers of senior years the low level of motive activity and high index of mass of body appears. Thus most polled respondents has the desire to be engaged in recreation measures, however only insignificant percent of people at age 50–65 years is engaged in them regularly. Purpose of work – to estimate efficiency of the program of increase of recreation activity (PIRA) and its influence on quality of life of teachers by age 50–65 years. Methods: 150 teachers of the Precarpatian national university of the name of Vasilij Stefanik, Ivano-Francovsk national medical university and Ivano-Francovsk national technical university are inspected in age 50–65 years (57 masculine and a 93 women sex). All participants of the експериментальної program were inspected for determination of somatic health and quality of life level. Participants got busy for PIRA during 50 min every day. The PIRA efficiency was certain as a result of questionnaire of short form which was folded with 36 questions. Results: The PIRA Introduction allowed substantially to change the looks of teachers on the role of motive activity and its influence on quality of their life. It is set that the changes are up to the improvement of bodily condition (it was multiplied indexes from 47,8% to 82,3%) and somatic health (from 12,5% to 43,0%) level, here particle of teachers which constantly felt discomfort and pain in the region of heart diminished from 53,4% to 12,0%. Conclusions. 1. A lifestyle most teachers преклонных years is characterized by the low level of social interest to the physical culture and measures on support of high level of motive activity. Low recreation activity is general tendency for all respondents. 2. Introduction in everyday life of teachers of the program from the increase of physical activity allows to improve their quality of life and support the state of somatic health at sufficient level, that is confirmed by information about functional backlogs of organism.*

**Keywords:** recreation activity promotion programme, quality of life, somatic health, teachers, age 50–65 years.

**Introduction.** An essential public health goal is to reduce age-related disabilities in the elderly. Regular exercise and increased aerobic fitness are associated with a decrease in all-cause mortality and morbidity, and are proven to reduce disease and disability, and improve quality of life in older persons [9]. Observational studies have suggested that inactive teachers have more death risk due to no specific cause and from specific diseases (e.g., cardiovascular disease, diabetes, obesity and others) associated with physical inactivity [18]. There is evidence that regular physical activity contributes to the primary and secondary prevention of several chronic diseases and is associated with a reduced risk of premature death [8]. Non-pharmacological interventions, such as physical exercise may have a great impact on the quality of life, but this remains poorly studied. In particular, the studies carried out have used very heterogeneous exercise programmes, have evaluated quality of life in very different ways and have reported inconsistent results [14]. Exercise and physical activity have been suggested as effective means to maintain independent living in old age. Epidemiological studies have showed that physical activity has a protective effect towards cardiovascular disease. The physical activity helps to regulate the blood pressure. There are previous studies about the physician's role in promoting physical activity. However, it is necessary to clarify the power of promoting physical activity for inactive teachers. An essential public health goal is to reduce age-related disabilities in the elderly. Inactivity is an important contributor to impaired functioning and disability with age. Although many of the chronic conditions plaguing older populations are preventable through appropriate lifestyle interventions such as regular physical activity, persons in this age group represent the most sedentary segment of the adult population. The recommended intensity of aerobic activity takes into account the old person's aerobic fitness that maintain or increase flexibility are recommended and balance exercises are recommended for old teachers at risk of falls. In addition older teachers needs an activity programme for achieving recommended physical activity that integrates preventive and therapeutic recommendations. The promotion of physical activity in older population should emphasize moderate intensity aerobic activity, muscle strengthening activity, reducing sedentary behaviour and risk management. In previous studies, changes in the SF-36 questionnaire had been observed after performing a program of physical activity. These improvements were obtained in all the fields of the quality of life, except in the emotional role

and in general health [6]. Exercises are done by the individuals at old age but proper protocol is not followed including stretching exercises, balance, flexibility, muscle strengthening etc. Thus the study is undertaken with the purpose to provide the old population with a proper protocol that improves the quality of life and a part of primary prevention is given. The aim of the present study was to evaluate the effectiveness of the Physical Activity Promotion Programme (PAPP) on the quality of life for old teachers and objectives were to calculate changes in each dimensions of SF36 after PAPP and to calculate changes in the score of SF36 pre and post exercises.

**Methods.** The undertaken study design was experimental. Total 150 subjects were selected for the study by convenient sampling for the duration of 3 months. Out of (57 females and 93 males) 4 were the dropouts due to musculoskeletal problems. Study was done in Precarpatian national university named after V. Stefanik, Ivano-Frankivsk national medical university and Ivano-Frankivsk national university на Oil and gas. Subjects of fulfilling following inclusion criteria were selected for the study, individuals willing to participate for PAPP, according to ACSM inactive teachers, with moderate physical activity for at least thirty minutes, five times a week [13]. Both males and females between age group 50–65 years were included in the study. Subjects with following criteria were excluded-Recent heart attack in last 3 months, cognitive problems, inability to ambulate independently, neurological conditions affecting functional ranges, musculoskeletal disorders restricting the functional ranges significantly [1, 6, 10, 15]. Permission was taken from the ethical committee. All participants were screened for their previous medical history. All participants were given information about the study and a written consent was taken before participation. Physical Activity Promotion Programme (PAPP) was performed thrice a week for 8 weeks [1, 16, 20]. Activity plan according to ACSM guidelines: were adults should be encouraged for 150 minutes of physical activity programme in a week, including 60 minutes per week for aerobic exercises, 2 days a week for muscle strengthening, 90 minutes per week for balance, 2 days a week for flexibility exercises. A moderate intensity physical activity was performed and individualized to the person’s functional abilities [3, 5, 10, 11] The guidelines of American College of Sports Medicine and the American Heart Association for adults above age 50 promotes at least 150 minutes of moderate cardiovascular exercise per week and encourage daily 50-minute sessions [1, 4, 7, 16, 17, 19].

Table 1

Activity plan according to ACSM guidelines

| Mode                       | Type of activities  | Frequency   | Duration   |
|----------------------------|---|-------------|------------|
| Aerobic physical exercises | Walking, gardening, yard work, dancing  | 3 days/week | 60 minutes |
| Muscle strengthening       | lifting weights, carrying groceries)  | 2 days/week | 20 minutes |
| Balance                    | walking backward or sideways, heel walking, toe walking, and standing from a sitting position | 3 days/week | 90 minutes |
| Flexibility exercises      | Stretching activities   | 2 days/week | 20 minutes |

**RESULTS.** Figure 1 shows changes in dimensions of SF–36 after PAPP. The improvement was obtained in all fields, mainly in physical functioning and general health. The pain was reduced to 26,0%.

The overall changes improved to 82,3% from 47,8% after physical activity promotion programme (Fig. 2).

**DISCUSSION.** Quality of life improved significantly for old teachers who carried out the PAPP.

The improvements were obtained in all fields, mainly in physical functioning and general health by 12,5% and 43,0% resp. The overall changes improved to 82,3% from 47,8% after physical activity promotion programme.

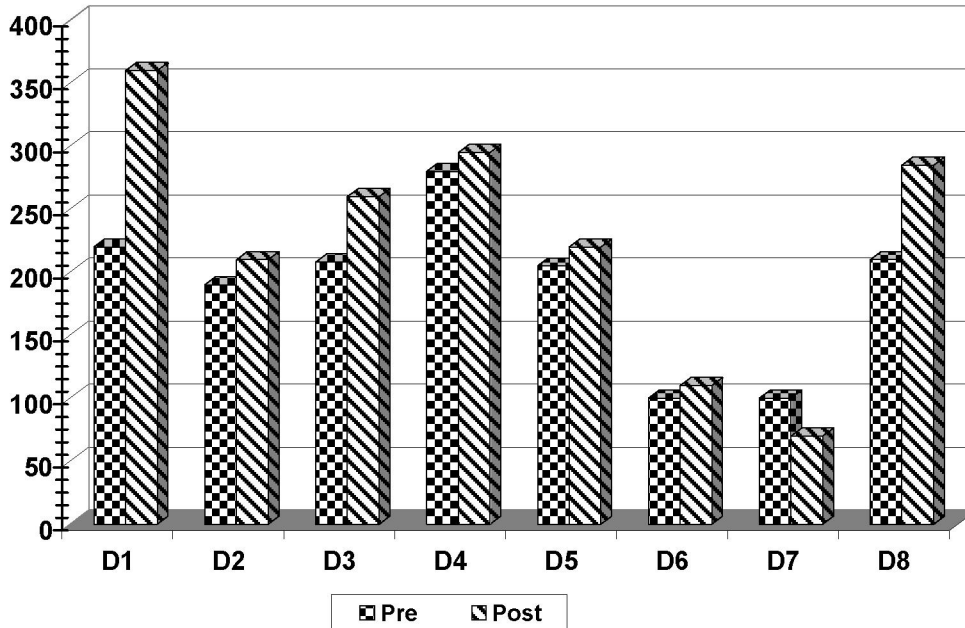


Figure 1. Changes in dimensions of SF-36 after PAPP

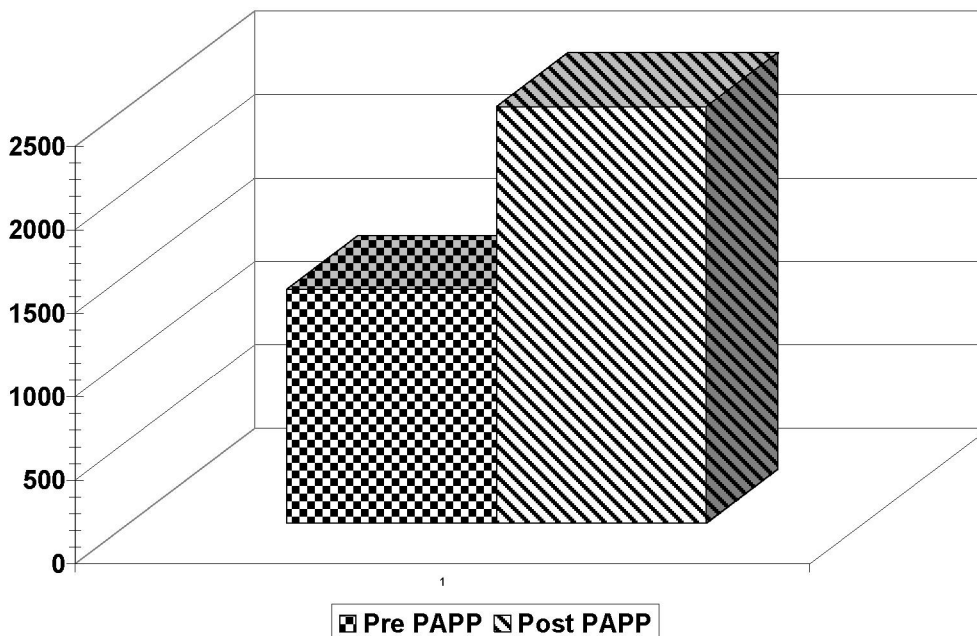


Figure 2. Overall difference in SF-36 score

Research shows that doing aerobic and muscle-strengthening physical activity of at least a moderate level can slow the loss of bone density that comes with age thus improves physical

functioning. Regular physical activity can help in thinking, learning, and judgment skills sharp as the age increases. It can also reduce risk of depression and may help improve sleep [14, 20]. Studies also showed that activity performed at least three days a week may reduce the risk of injury and excessive fatigue while producing health benefits and improving general function of body [1, 2, 3].

Table 2

**Statistical analysis.**

| Parameters | SF 36        |              |              |
|------------|--------------|--------------|--------------|
|            | Pre PAPP     | Post PAPP    | Diff         |
| MEAN±SD    | 1299,0±105,3 | 2387,0±151,4 | 1104,0±101,6 |

P value is 0,05, considered to be extremely significant

In the recent industrialized world, HQL in older adults is particularly important in view of the increasing number of olds [5, 8]. At this age physical abilities slow down and pharmacokinetic responses to treatment decline. The results of the current study are in agreement with Acree et al. who found that HQL of the elderly who exercise is higher than HQL of the elderly who do not, so that the adherence to exercise improves HQL. For adults, there is substantial evidence documenting the health-benefits associated with physical activity [10, 12]. Physical activity improves health even for chronically ill or frail older adults. The present study concluded that the quality of life measured with SF 36 in the group of old teachers were improved after PAPP [2, 7, 9]. In the present study no progressive strengthening exercises were given and no equipments were used [16, 17].

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