Co-funded by the Erasmus+ Programme of the European Union

Villages on Move

KUAS experience in the projects regarding healthy ageing

FINAL SEMINAR – LITHUANIA, 28TH NOVEMBER 2019

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KAUNO KOLEGIJA University of Applied Sciences

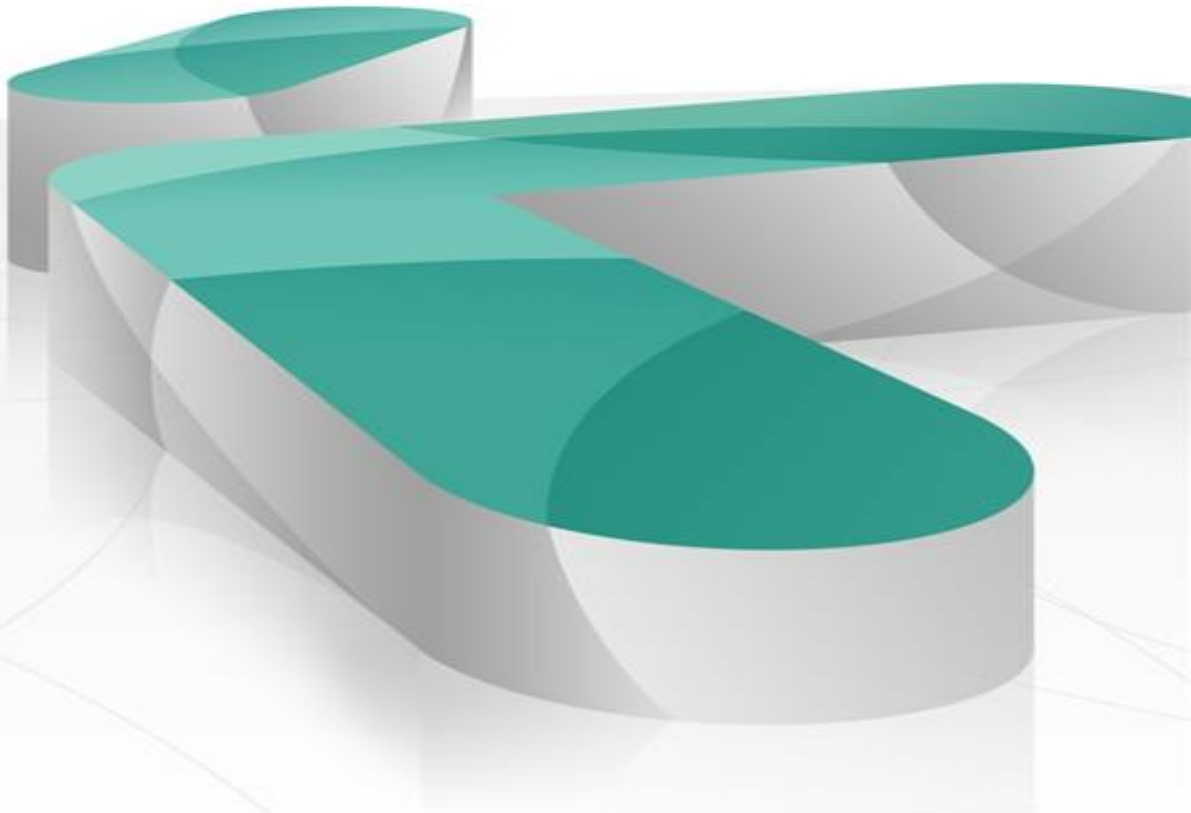
XAMK South-Eastern Finland University of Applied Sciences

ESLI Etelä-Savon Liikunta ry Southern Savo Sports Federation

POLITÉCNICO DE LEIRIA ESCOLA SUPERIOR DE EDUCAÇÃO E CIÊNCIAS SOCIAIS

UC Leuven Limburg MOVING MINDS

BEST PRACTICES OF APPLIED RESEARCH IN HEALTHLY AGEING



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Reasearch “Expression of physical activity in the elderly” (2016)

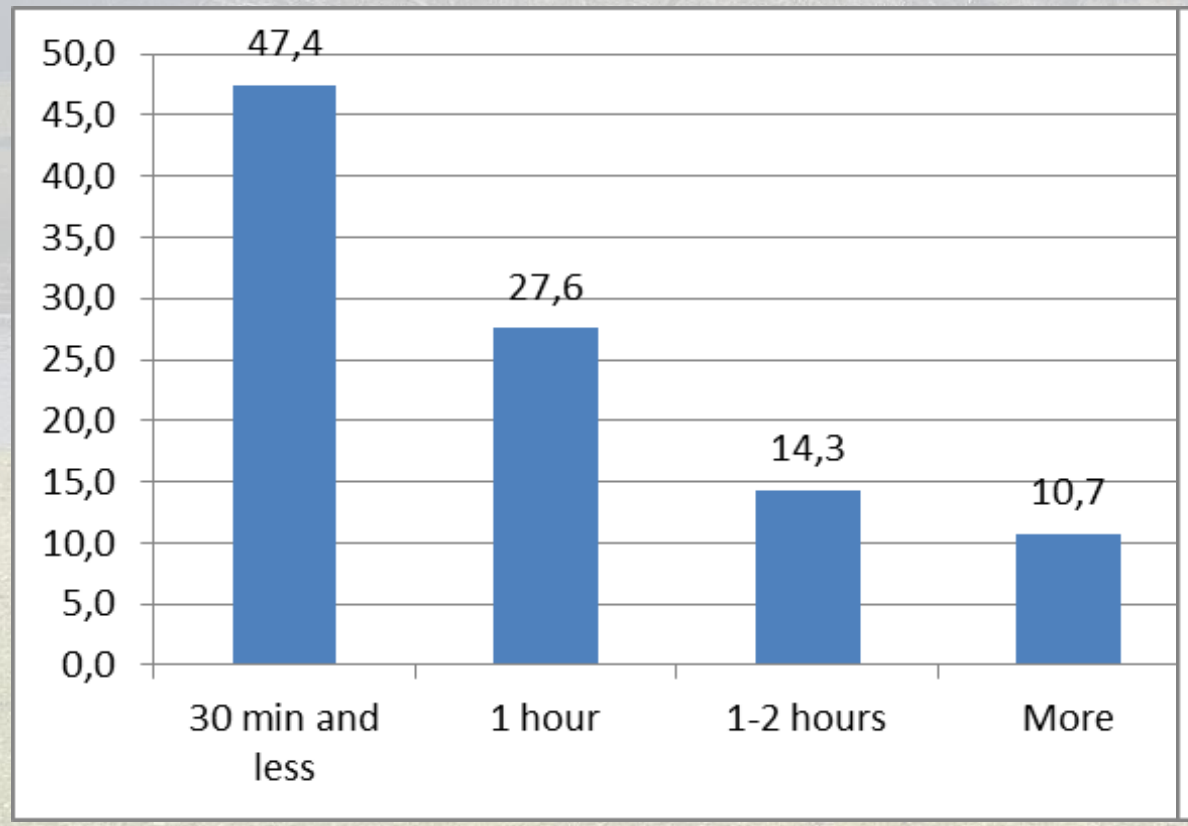
Aim – to assess expression of physical activity in the elderly.

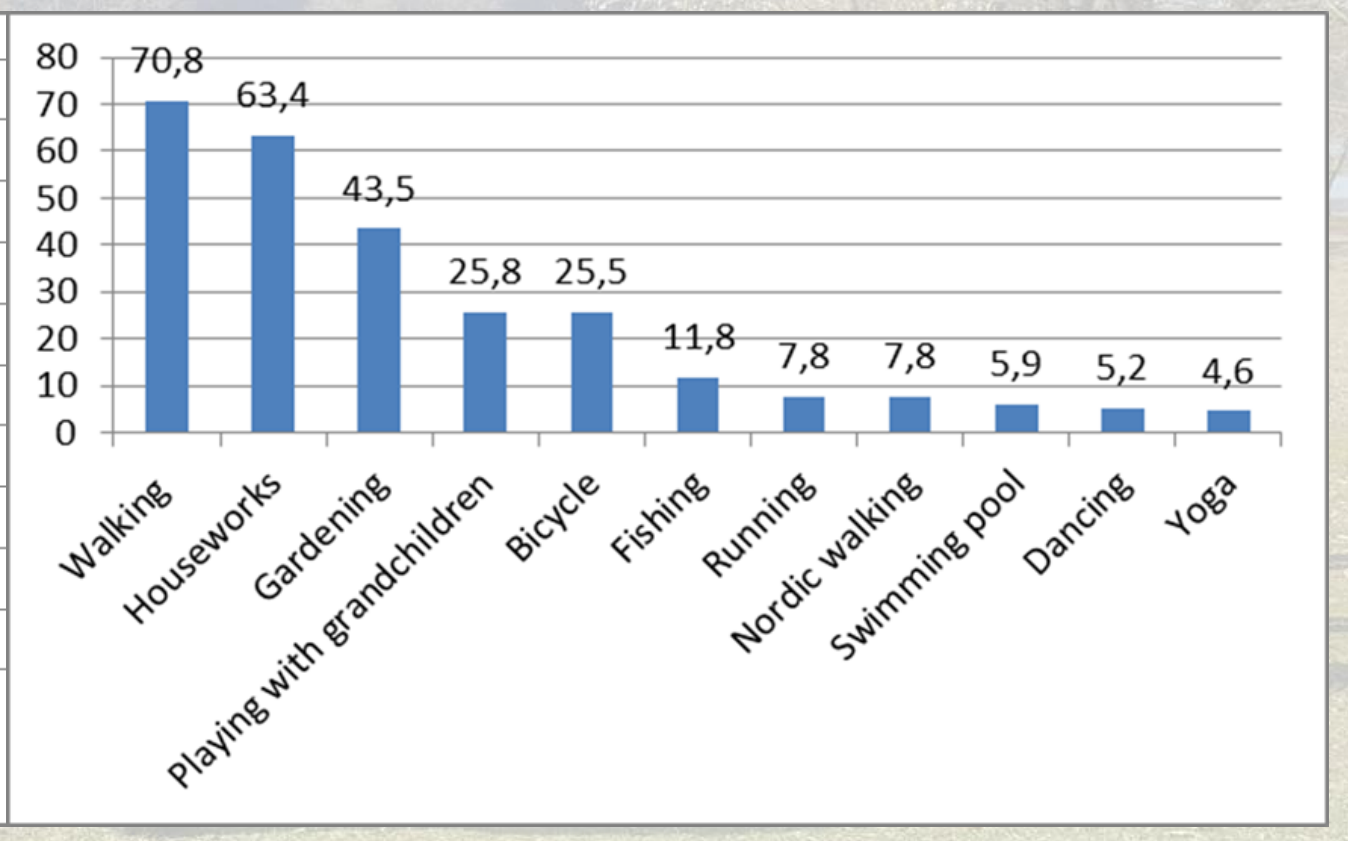
Methods: structured questionnaire.

Respondents – 307.

Characteristics of respondents	N (%)
Age	
60-74	238 (77,5%)
75-90	65 (21,2%)
More then 90	4 (1,3%)
Gender	
Female	203 (66,1%)
Male	104 (33,9%)
Living location	
City	181 (59%)
Settlement	55 (17,9%)
Country side	71 (23,1%)

Elderly and old people spending time for PA/day and types of PA





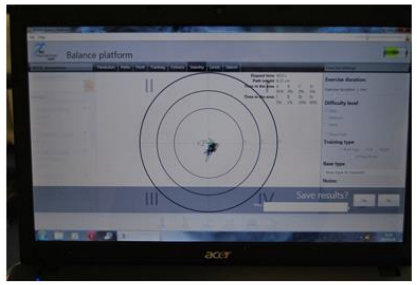
Interfaces by the correlations ($p \leq 0,05$)

- **Nordic walking** has the strongest and the best impact on good night **sleep**.
- People who were using physical activity forms such as **yoga, dancing, jogging, riding a bike and Nordic walking** used **less medicine** during the last 3 months.
- There were no statistical significant differences found between BMI and the form of physical activity used.
- Who **dance** tend to **fall** the least.
- People who **dance** have indicated the longest duration of **sleep**.

- ✓**Falls** are one of the most common problems in older age, containing physical activity limiting problems.
- ✓The early diagnosis and prevention of the falls risk can reduce the mortality. The balance can be studied with **subjective clinical tests and objective instrumental** studies.
- ✓Balance can be developed by activity games (video), yoga, different forms of Asian art also by other physical activity.

Research group (2012-2016)

L. Rutkauskiene, A. Kavaliauskiene, V. Piscalkienė,
B. Zachovajeviene, M. Gintiliene, E. Lapinskas, J. Knasiene, V. Kubaitis, D. Krasuckiene, E. Lamsodiene, D. Smaidziunaiene,
R. Januskeviciute, V. Rasteniene R. Balciuniene etc.



PHYSICAL ABILITIES AND PHYSICAL ACTIVITY INTERFACE OF OLDER PEOPLE

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INTRODUCTION

Ageing of society is common problem in humanity's all over the world and is deeply connected with an often physical and emotional discomfort of elderly people, quality of life and level of everyday physical activity. It is foreseen that in the beginning of 2030, 28.9 % of Lithuania's inhabitants will be elderly people (60 years old and above) and the situation in the European Union will be similar – 30.4 % of people will be older than 60.

People living in the European Union do not live a physically active life (Special Eurobarometer, Sport and Physical activity, 2014). The high level of physical activity ascertains healthy ageing, helps to avoid the risk of falling, prevents from all kinds of physical damages, betters psychological state and cognitive characteristics, and helps to avoid diseases such as overweight, etc.

Keywords: older people, physical activity, evaluation of the static and dynamic balance, Romberg test, falls.

The aim of the research: to assess interface of physical abilities and physical activity in older age.

METHODOLOGY

Methods: analysis of the scientific literature, hand grip strength measurement, tests (dynamic balance assessment by "Timed up end go" test, static balance assessment by the modified "Romberg" test and the assessment tool "Sigma Balance PAD" (see Fig. 1), anthropometric measurments (body height and weight, BMI, thikness of calfs and upper arms), oral interviews, statistical data analysis using SPSS 17 (descriptive statistics, T test, Anova test, correlation analysis).

Sample. 65 people (mean 74.3 years): min age - 60 years, max age - 86 years.

RESULTS

The results of the modified „Romberg" test tended to worsen in the face of the complexity of the task requirements. The subjects succeeded to better perform the modified „Romberg" test with their eyes open than closed. The test "Timed up end go" took the average time - 15.9 sec.

In assessing the hand grip strength we found that the right and left hand averaged 24 kg. The left upper arm thickness is 31.9 cm, the right 32.5 cm The left calf - 38.3 cm, the right - 38.2 cm.

The static balance was measured by using "Sigma Balance Pad". The length of the visual field was 12.6 cm, and the size of the visual area was 0.46 cm².

Evaluating the static balance, relevant differences appeared which show that the lengt of the visual field at the time of measuring is connected with the size of the visual area (strong correlation). Also, the visual length is statistically significantly associated with the subjects' calfs thikness (weak statistical relation). We found that participants who currently have higher level of physical activity have higher results of dynamic balance ($p \leq 0.05$).

The persons who participated in the study and who over the past six months have not experienced any falls, had a better results of left and right hand grip strenght ($p \leq 0.05$). The test "Timed up and go" was more quickly performed by the group of inexperienced any falls ($p \leq 0.05$). The group of participants who did not experience fallings had better results of static balance ($p \leq 0.05$). Persons who are more physically active (they practice walking, working in the garden, and so on) are less likely to experience fallings ($p \leq 0.05$).

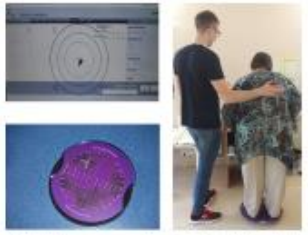

Fig. 1. *Balance assessment by using "Sigma Balance Pad"*

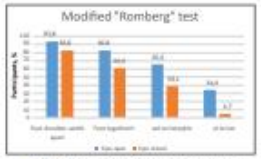

Fig. 2. *The results of modified „Romberg" test*

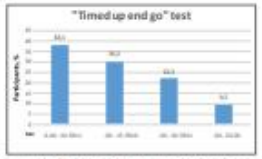

Fig. 3. *The results of test „Timed up and go"*

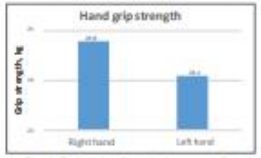

Fig. 4. *The results of hand grip strength (kg)*

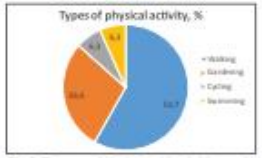

Fig. 5. *The types of physical activity of older people*

Table 1. *The thickness of upper arms and calfs*

Indicators	Left upper arm thickness (cm)	Right upper arm thickness (cm)	Left calf thickness (cm)	Right calf thickness (cm)
Mean	31,9	32,5	38,3	38,2
Standard deviation	±5,03	±5,46	±4,76	±4,65
Min value	22,00	23,00	29,50	30,00
Max value	50,00	50,00	60,00	61,00

*Values of correlation coefficient (R): * - 0 – 0,3 weak relation; ** - 0,3 – 0,7 medium relation; *** - 0,7 – 1 strong relation*

Table 2. *The correlation between physical abilities and physical activity (Spearman coefficient)*

Measurements	Index of physical activity
Left hand grip strength (kg)	Sig. 0,271*
Right hand grip strength (kg)	Sig. 0,317*
The test "Timed up and go" (sec)	Sig. 0,478**
Length of visual field "Sigma Balance Pad" (cm)	-
Size of visual area "Sigma Balance Pad" (cm)	-
Modified „Romberg" test with eyes open	Sig. 0,409**
Modified „Romberg test with eyes closed	Sig. 0,323**
Left and right upper arm thickness	-
Left and right calf thickness	-

*Values of correlation coefficient (R): * - 0 – 0,3 weak relation; ** - 0,3 – 0,7 medium relation; *** - 0,7 – 1 strong relation*

CONCLUSION

- After summarizing the data of the research, we can claim that the physical activity of older people is insufficient.
- Participants who currently have higher level of physical activity have higher results of testing physical abilities – both hands grip strength, static and dynamic balance.
- Thickness of upper arms and calfs, BMI are not depending of physical activity.

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- ✓ Physical activity of older people is insufficient.
- ✓ Participants who currently have higher level of physical activity have higher results of testing physical abilities – both hands grip strength, static and dynamic balance.
- ✓ Thickness of upper arms and calfs, BMI are not depending of physical activity

„Ainiai“
„Mintinis“
„Dziaukis“
„Lankesa“

https://www.youtube.com/watch?v=fZGwYB95cq0

Research “Balance changes of dancing and not-dancing Lithuanian folk dances

a) Not dancing Lithuania seniors

b) Not dancing Wales seniors

c) Lithuania seniors dancing in Lithuanian folk dance ensembles

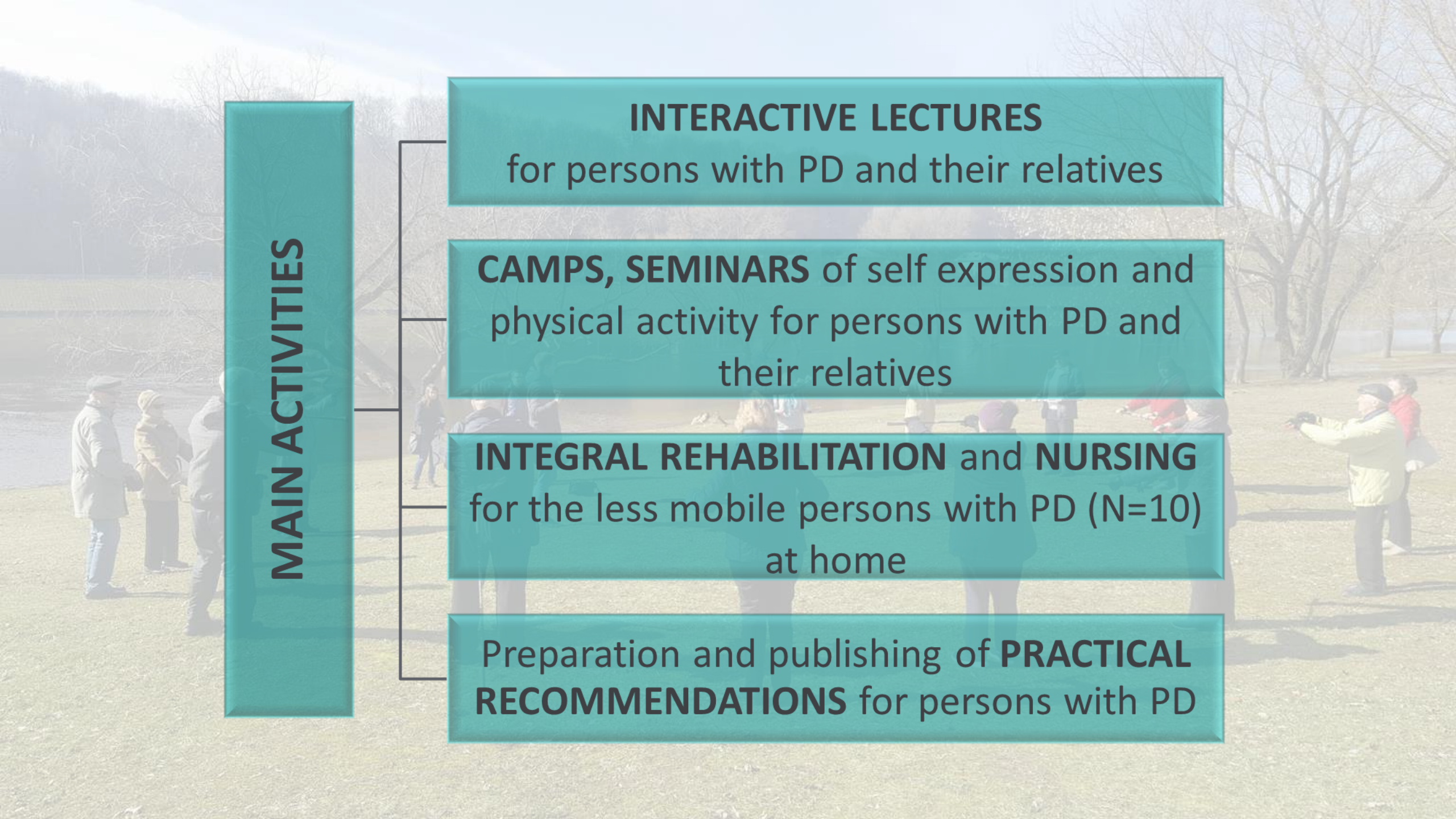
d) Young and middle-aged group

N = 152

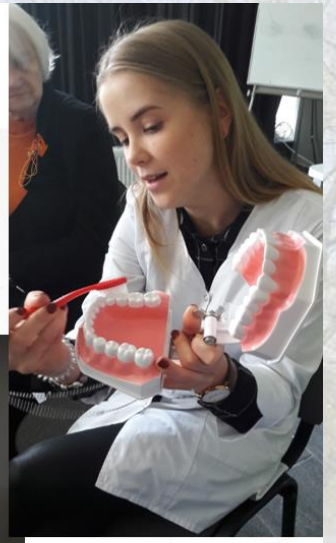
- The worst balance indicators, such as the length of the path, the visual area were set in not dancing Lithuania seniors group ($p \leq 0.05$).
- For seniors, dancing Lithuanian folk dances, these indicators are better what leads to confirm that folk dancing is an effective tool for balance training.

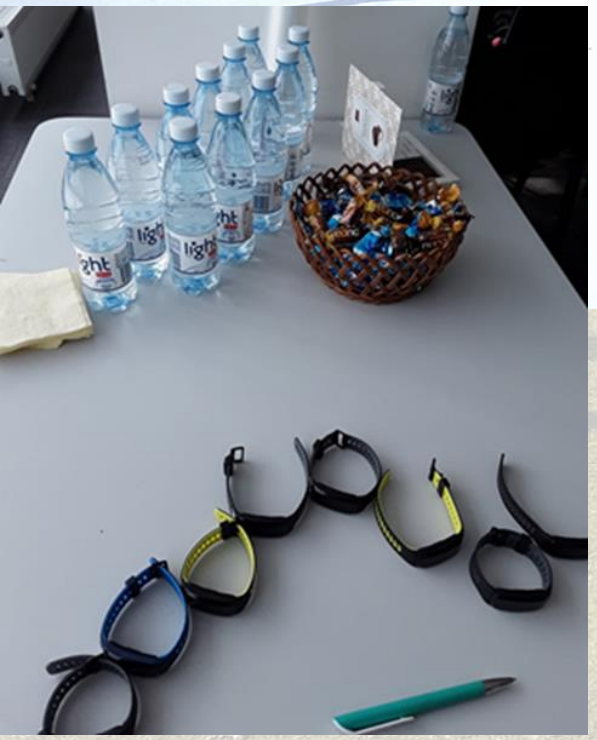
Project “Persons with Parkinson's disease the life quality improving: physical and psychosocial approach ”
(2016-2018)

The aim of Project – to improve life‘s quality of the people with Parkinson’s disease (PD), with physical and psychosocial approach.
Target group of Project – people with PD (N=60) and their relatives (N=20).
Interdisciplinary team of Project - 30 lecturers and 40 students-volunteers.


MAIN ACTIVITIES
INTERACTIVE LECTURES
for persons with PD and their relatives
CAMPS, SEMINARS of self expression and physical activity for persons with PD and their relatives
INTEGRAL REHABILITATION and NURSING for the less mobile persons with PD (N=10) at home
Preparation and publishing of PRACTICAL RECOMMENDATIONS for persons with PD

BURNOS LIGŲ PROFI
SERGANT PARKINSO





TRANSIMEKSA
logistics – pure and simple

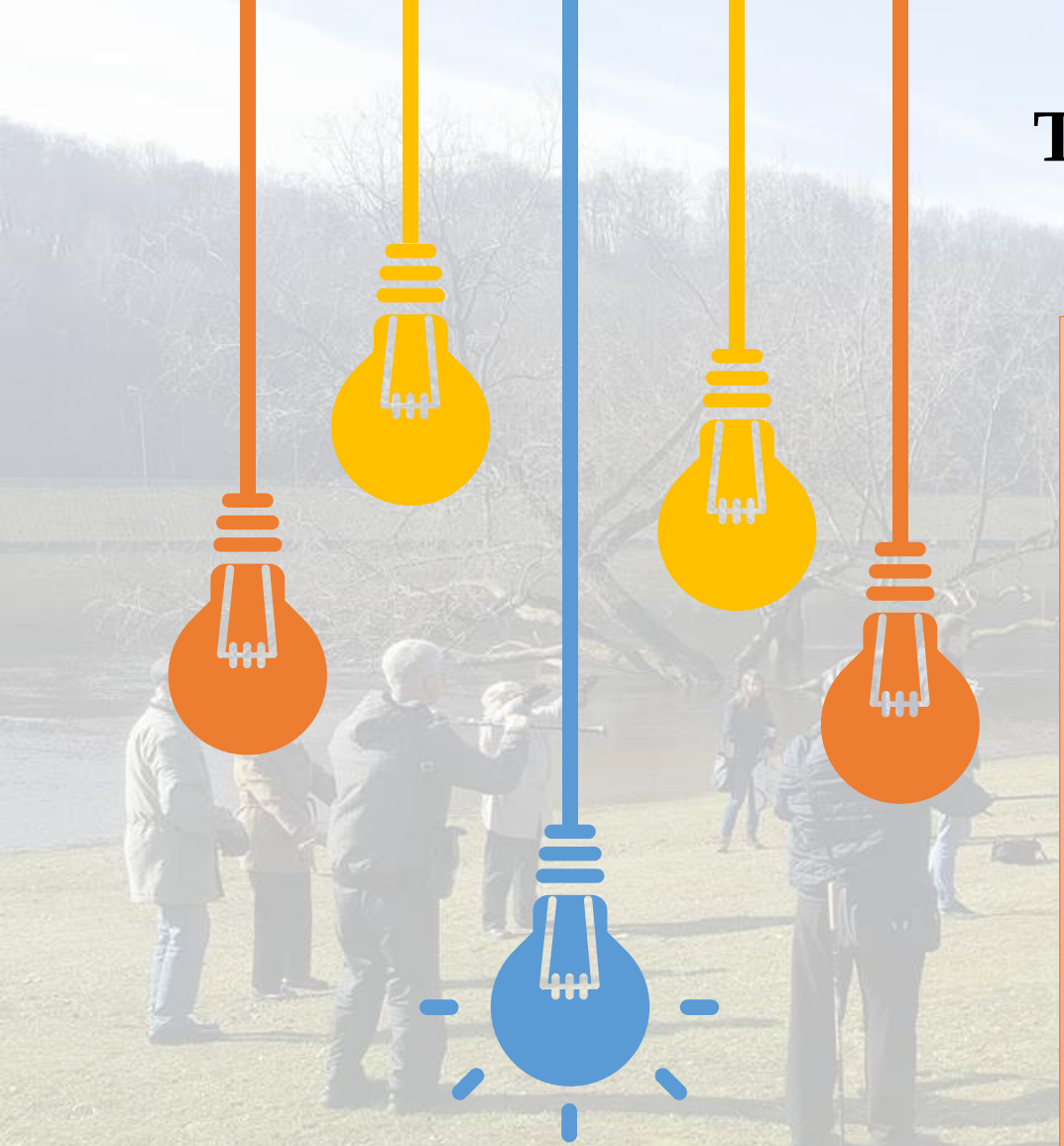
KINEZITERAPIJA

KINEZITERAPIJA

Published PRACTICAL RECOMMENDATIONS for the persons with PD and their relatives: „HOW TO LIVE WITH PARKINSON‘S DISEASE?“

HUMAN JOINTS AND LIGAMENTS
HUMAN MUSCULAR SYSTEM
HUGO

Ceremony of the end of the project



The advantages of participating in the project

- ✓ Increased self esteem and self confidence
- ✓ Time spent in a friendly and warm environment
- ✓ The advantage for movement function
- ✓ Testing of physical condition
- ✓ Positive rate of interactive lectures
- ✓ Deepened knowledge about drug use and nutrition
- ✓ Got useful information on how to deal with insomnia and incontinence problems
- ✓ Got useful information on oral hygiene
- ✓ Got useful information on first-aid if choking
- ✓ Positive evaluation of cosmetic procedures