

HEALTH BENEFITS OF WALKING IN PEOPLE AGED 50+

Grzegorz ZUREK *

University School of Physical Education in Wrocław, Department of Biostructure, Paderewskiego 35,
51-612 Wrocław, Poland, grzegorz.zurek@awf.wroc.pl

Public Higher Medical Professional School in Opole, Institute of Physiotherapy, Katowicka 68, 45-
060 Opole, Poland

Karolina RACZYŃSKA

Center of Rehabilitation in Szklarska Poreba, Kopernika 14, 58-580 Szklarska Poreba, Poland

semivit@gmail.com

Beata BRONCEL

Public Higher Medical Professional School in Opole, Institute of Physiotherapy, Katowicka 68, 45-
060 Opole, Poland

beata8425@o2.pl

Alina ZUREK

University of Wrocław, Institute of Psychology, Dawida 1, 50-527 Wrocław, Poland
a.zurek@psychologia.uni.wroc.pl

Abstract

The raising of the level of physical activity (PA) of the elderly is one of the priorities in the pro-health activities. There was a major comeback to viewing the PA in the category of *move for health*, now also in relation to senior citizens. The main problem was to select such a form of that would suit an average older person who will usually view PA as professional sport and consider these two notions identical. Nordic walking (NW) became successfully such a form of PA. The aim of this paper was to present selected, subjectively estimated health benefits of exercising nordic walking for people aged 50+.

In 2010, 90 men and women (average age = 55,6) exercising NW regularly for a period of at least six months were examined.

The respondents indicated that NW is a form of PA which is simple, easy to learn, and adjusted to the limits of physical strain natural for people aged 50+. They asserted, moreover, that it is an effective method for achieving a lasting decrease in the body mass; it also is significant for reducing various somatic complaints deriving from age.

According to the subjective assessment of the participants in the NW classes, the sport influences some of the markers of the efficient functioning of the body, i.e. stable body mass, better endurance of physical effort, reducing of pain; it can also play an important role in forming a positive self-image and in the subjectively understood psycho-physical health.

Key words: nordic walking, health benefits, adults

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INTRODUCTION

The insufficient amount of time devoted by an average contemporary person to physical activity has been worrying the scientists representing various branches of science for a long time now. The problem of hypokinesia is so urgent that already the previous Polish National Health Plan in the years 1995-2005 positioned the raising of the level of physical activity as the first priority and operational goal. The changes in social awareness that occurred at the time are significant, nevertheless avoiding physical activity still is not treated disapprovingly (Addendum to the Resolution nr 90/2007 of the

* Grzegorz Zurek

Council of Ministers). This behavior may be connected with distortions concerning the topic of physical effort. Some people associate it with intensive strain on the organism, whereas the intensity can be controlled. It is crucial mainly to the elderly due to the proven beneficial effect of the moderate physical effort on the widely understood health, including the intellectual health (Hillman et al., 2008, Chodzko-Zajko et al., 2009).

One of the dynamically developing forms of activity is nordic walking (NW). Although its roots reach back to the beginning of the 20th century, this dynamic development has been observed in Poland only for a few years. The increase in the popularity of NW can be translated into an increased interest in conducting scientific researches concerning this form of physical activity; their results indicate measurable objective health benefits. Despite the fact that the value of exercise cannot be denied, its positive influence on maintaining proper metabolism, hardening the organism, maintaining healthy skin, keeping a fit shape and body posture, as well as in prevention of such civilizational diseases as obesity, diabetes, or circulatory-respiratory disorders, but also in forming the psychological balance and preventing early disability, is still being underlined (Kocur et al., 2006, Ernst et al., 1998). It is also indicated that exercising NW can prove much more beneficial than regular walking, jogging, cycling, or swimming; it must be underlined that walking with sticks is more efficient than ordinary walking in that it engages the upper part of the body, i.e. the trunk and arms, activating thus a greater amount of muscles (Arrankoski et al., 2011). Although the opinions about the role NW takes in reducing weight on ankles, knee joints, hip joints, and the spine are diverse, the question of better ability to control one's balance and stability while walking on structurally different types of ground does not produce major doubts (Kleindienst et al., 2006, Hansen et al., 2008, Kamien, 2006).

With reference to the circulatory system: systematic walking with sticks helps to maintain a stable level of blood pressure and reduces the risk of sclerosis. What is more, the effort of lower extremities is conducive to a proper return of blood in the venous vessels, especially when the valves do not work properly, e.g. as a result of the fragility of tissue. Thus, walking with sticks can be treated as prevention of varicose veins, due to the active work of the crus muscles occurring in NW. It leads to an improvement of the pumping of blood in limbs, and therefore improves peripheral circulation (Jasinski et al., 2009). Regular NW exercise stimulates also mineralization of bones, decreasing the risk of osteoporosis which is a threat to women in the menopausal period, as well as short before and after it, and the elderly. The exercise with sticks helps especially the elderly persons to regain confidence and stability, leading to an improvement of quality of life it increases the sense of independence, facilitating thus residence in one's own house (it concerns especially the elderly who live alone) (Stefaniak, 2009). Importance of this form of physical activity in the prevention of the alimentary tract disorders has also been suggested (Wood, 1994).

The popularity of NW leads also to establishing associations, unions, and clubs, where people of different ages assemble to spend time together walking with sticks. The social aspect is to be emphasized for at times it is a fundamental (next to fashion) argument in favor of exercising NW (Figurska et al., 2008). Physical activity in the form of NW walk is also relaxing and regenerating for the nervous system. Relaxation and regeneration result from staying out in the company of other people and breathing fresh air. The positive effect is reduction of depression symptoms, improvement of the quality of sleep, better: motor coordination, mood, and psychological condition. Physical effort removes stress hormones (cortisol and adrenalin) from the organism and raises the level of hormones of happiness (endorphins). Thus, the "will to live" comes, increasing resistance to stress and tiredness (O'Neal et al., 2009).

The aim of this paper is to present subjectively assessed health benefits of exercising nordic walking for people aged 50+.

MATERIAL AND METHODS

The research constituting the basis of this paper was conducted in March and April 2010 among persons actively exercising NW for at least six months. The poll method was used in a group of 90 people (23 men and 67 women) aged 50-70 years, residents of the Lower Silesian Voivodeship and Opole Voivodeship. Before participating in the research they were informed of the aim of the research and asked for their voluntary participation in it. Among the examined persons with higher education

(42%) and with secondary education (40%) comprised the majority. The respondents were mostly professionally working, as the pensioners comprised only the 25,6% of the whole group. The other participants were white-collar workers (43,3%) and blue-collar workers (31,1%). The participation of professionally working persons in the organized workshops is a positive phenomenon, as it reveals their high awareness of the positive influence of exercise on an organism.

In the introductory part the respondents were asked questions about the frequency of their NW walks in a week (fig. 1). The examined answered usually that they exercise NW twice a week (37,8%), then thrice a week or once a week (both groups 24,4%). The smallest group of the examined indicated that they do it every day (13,3%). It can be assumed that approximately $\frac{3}{4}$ of the respondents exercise regularly.

The examined answered also a question about the amount of time devoted to one walk with sticks (fig. 2). The majority comprised those respondents who indicated that they were spending one hour or 1,5 hours on one (both 44,4% of the respondents). Only 11,2% of the examined devoted 2-3 hours to one walk with sticks.

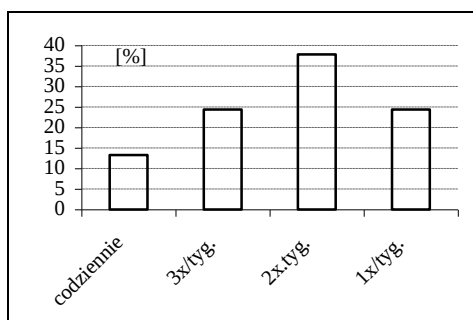


Figure 1. Frequency of NW exercise in one week

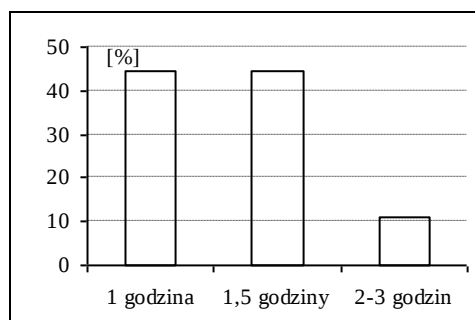


Figure 2. The amount of time devoted to one NW walk

The respondents indicated also that NW is relatively easy to learn; among all the examined only every tenth person believed that it was difficult to learn to walk with sticks (fig. 3). A clear majority (90%) of the respondents marked this form of physical activity as relatively easy to learn.

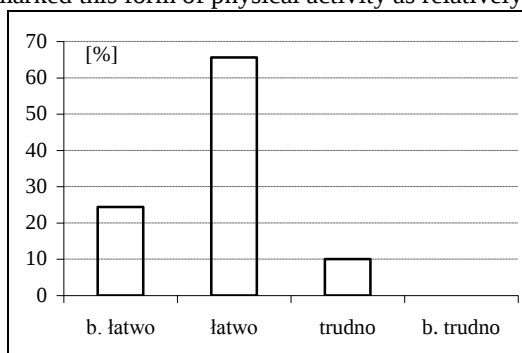


Figure 3. Was it difficult to learn to walk with sticks?

RESULTS

In the question about the reasons to exercise NW the respondents could mark no more than three out of eight answers, including one open question (fig. 4). The most frequently selected answer was: to exercise NW out in the open air (75,6%), the next most frequently selected answer – to improve one's mood (55,6%), then: to improve one's condition and fitness (51,2%), to lose weight (34,4%), to lessen spine and joint ache (23,4%), and because it is a safe sport (5,6%). None of the respondents marked the answer that they walk with sticks due to a lack of other occupations, and none gave his/her own answer about the reasons for taking up this form of physical activity.

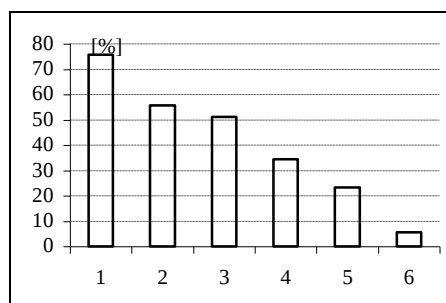


Figure 4. The reasons for exercising NW (1 – to exercise out in the fresh air, 2 – to improve one’s mood, 3 – to improve one’s fitness, 4 – to lose weight, 5 – to lessen pain in spine and joints, 6 – for safety.

Because the reason for avoiding physical activity by elderly persons is a fear of exhaustion, the respondents were asked how great the effort needed to exercise NW is. The great majority answered that the effort put into NW is moderate (64,4%), or not great (27,8%). Very seldom (7,8%) did they mark this form of physical activity as challenging and requiring great effort (fig. 5).

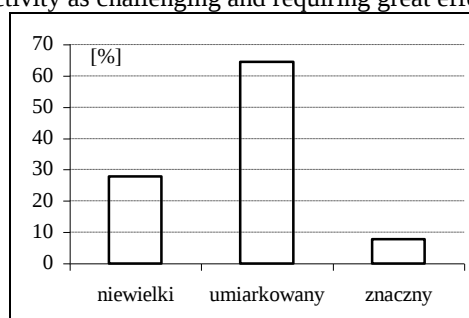


Figure 5. What expense of effort occurs in exercising NW?

Another fear expressed by the elderly concerning the physical activity is connected with maintenance of safety while being physically active. Regardless of sex and age all the respondents indicated that they feel safe walking with sticks; therefore, they treat NW as a safe form of exercise, adequate to their age.

Further the examined were asked whether they had had any pains before they started to walk with sticks. Answering this question, almost half of the respondents stated that they had had such complaints (fig. 6). Since the respondents had a possibility to specify the type of complaint, they indicated spine disorders (90%), also joint pains and sleep disorders (10%).

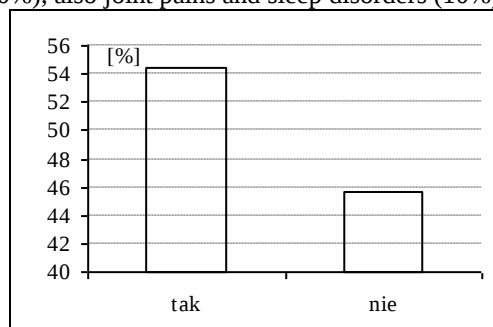


Figure 6. Have you had any pains or complaints before starting to exercise NW?

The persons who declared occurrence of complaints before starting to walk with sticks were asked what, in their subjective opinion, was the influence of NW on their complaints (fig. 7). Only 5,6% among them stated that they had not observed any difference; the other respondents (94,4%)

observed a decrease in the pain complaints and improvement in sleep patterns. Simultaneously none of the examined stated that they experienced sharper pains after having started to walk with sticks.

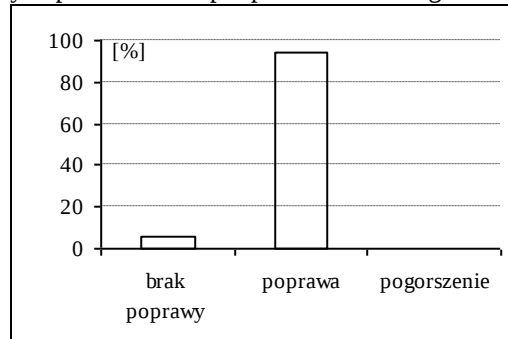


Figure 7. The influence of exercising NW on health complaints.

The respondents who had declared pain complaints were then asked whether they had simultaneously had any physical therapy to treat these disorders, and whether the therapy resulted in improvement. The vast majority of the respondents (80%) answered that the therapy had been successful, but only in a short period after having it administered, and a break in the therapy resulted in a recurrence of the complaint; only every fifth person declared that the therapy had been successful for a longer time. Among the respondents there were no persons whom the therapy had not helped at all. These answers seem to be symptomatic in the light of the common opinion about exercise and its beneficial influence on maintaining health.

A significant proportion of the examined observed also an influence of the regular physical activity (NW) on the body mass control. 57,8% lost weight, the others observed no change. It seems important to underline the fact that none of the examined gained weight (fig. 8).

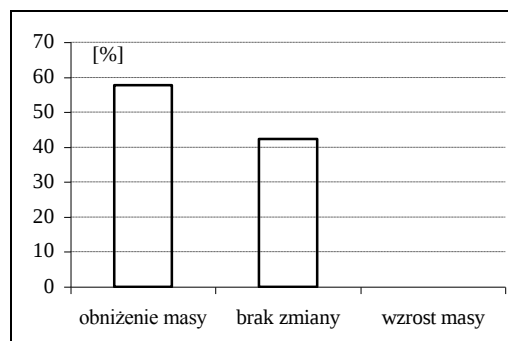


Figure 8. Influence of NW on the body mass

Answering the last question almost all the examined stated also that they had observed a positive influence of the regular activity on their condition and fitness, which resulted in raising the level of their physical endurance. Only 2,2% of the examined observed no such changes.

DISCUSSION

The growing in Poland interest in the active spending of leisure time is supported among others by the media, which promote such lifestyle, but also by the spectacular successes of Polish sportsmen, mainly in the individual sports. The emerging in such an atmosphere fashion for walking with sticks tallies with the expectations of not a small group of recipients who are not able to (or do not want to) take up any physical activity characterized by high intensity due to limitations springing out of age or health issues, but still want to spend their leisure time actively according to their ability. These people will find NW ideal, as it offers activity characterized by physical strain adequate to the abilities of the participants of NW classes. The fact that NW is based on natural walk could be a factor especially

encouraging to regular walking with sticks (Arrankoski et al., 2011). The latter – due to its simplicity – is proposed as a basic form of physical activity which can be exercised in any time or place with full safety (Manson et al., 1999, Hu et al., 2002).

The participants of the research had a secondary and higher education and most of them devoted up to 1,5 hours/week to active spending of time. It seems that the higher awareness about the impact of exercise on the maintenance of psycho-physical health among people with higher education is significant in reading the statistics. Simultaneously such amount of time devoted to physical activity is approximate to the time limit recommended for adults (Physical Activity Guidelines for Americans, 2008).

Among the reasons for which the participants of the classes took up NW prevail those directly connected with the lessening of pain (exercise out in the fresh air, better mood, improvement in condition, loss of weight). The respondents observed, thus, in this form of physical activity values related to satisfaction and positive frame of mind; they associate walking with sticks with the positive aspects of health. In another question a significant proportion of the respondents underscored the significant influence of NW on limiting the pain complaints. It seems, therefore, that the beneficial influence of NW is occurring “by the way” and the leading factors encouraging one’s motivation to exercise NW include other of its aspects. Similar conclusions have been reached by Piatkowska (2008); it follows that a regularly exercised physical activity leads to raising some markers of the self-image, i.e. improving one’s mood, better opinion of oneself, and a higher self-esteem level.

The respondents underscored that the effort of walking with sticks was not strenuous, although they simultaneously could observe its positive influence on their endurance ability. These results indirectly tally with the results of author’s research in which the participants walked over a distance of 2km using the technique of NW and this in time shorter than persons walking at natural pace (without sticks), resulting in almost identical post-exercise pulse rate in the control group and the examined group. It would follow that the physical cost of NW, understood objectively – in the researches mentioned (Kamien, 2008), as well as subjectively – the author’s research – remains on the level acceptable to the participant of the class.

The consequences of regular NW exercise as in relation to participants’ body mass remains an important issue (its decrease or stabilization). It might result from two factors, i.e. a faster metabolism and a change in the eating habits, and the obvious role of the physical activity. Its influence on quickening metabolism is undeniable; it is suggested in relation to NW that in comparison with ordinary walk an increase by 20% of the organism’s energy requirements takes place (Kamien, 2006). The Scandinavian research by Hansen et al. (2008) indicate that the body mass of people regularly walking with sticks can be reduced without special diet and limitations, but to achieve this NW must be exercised 3-4 times per week. A similar positive influence of exercising NW on the body mass control was indicated by persons from the author’s research, underlining that (in their opinion) also their physical fitness has improved. This aspect – of connecting the body mass control with the raising of one’s fitness level, marked together with the sense of safety during walking with sticks, accompanied by the simplicity of NW – seems to be a key to its success among the elderly. This information, completed by the research presenting NW as a proper form of physical activity for people with heart illnesses (Tanasescu et al. 2002, Lee et al., 2001, Oguma et al., 2004), which, moreover, can be proposed without any special supervision (Wilk et al., 2005), shows the good prospects of its application in recreation as well as in exercise rehabilitation. Taking into consideration simultaneously the simplicity and safety of exercising NW (which was indicated by the participants of the NW classes) and the fact that it engages more muscles (in contrast with natural walk) it seems that this form of physical activity can be propagated, especially among the middle-aged and the elderly, remembering, that according to the latest trends physical activity constitutes the fundament of the health pyramid, on which the further rows base (Willett et al., 2005).

CONCLUSIONS

Taking into account the result of the research it can be concluded that:

1. Walking with sticks in the subjective opinion of the NW classes participants influences selected markers of efficient functioning of the organism, i.e. stability of the body mass, better physical

endurance, lessening of the pain complaints.

2. Nordic Walking may play a significant role in shaping a positive self-image and a subjectively understood psycho-physical health.

REFERENCES

- Arrankoski T., Kettunen T., (2011) Il moderno nordic walking in movimento per tutta la vita, Askel Int. OY., Valkeakoski, Finland.
- Arrankoski T., Ribeiro da Silva Novaes Coelho D., Ribeiro da Silva Novaes Coelho T., Hughes C., Ingram K., Kofol T., Maas M., Ovsenek M., Stevenson P., Svensson M., Żurek G., (2011), Nordic walking instructor: course manual, B.m.: International Nordic Walking Federation, London, Great Britain.
- Chodzko-Zajko W., Schwingel A., Park C.H., (2009), Successful Aging: The Role of Physical Activity, in *Am J Lifestyle Med*, 3,20-28.
- Ernst E., Rand J.I., Stevinson C., (1998), Complementary therapies for depression: An overview, in *Arch Gen Psychiatry*, 55,1026-1032.
- Figurska M., Figurski T., (2008), Nordic walking dla Ciebie. Interspar, Warszawa, Poland.
- Hansen L; Henriksen M; Larsen P; Alkjaer T., (2008), Nordic Walking does not reduce the loading of the knee joint, in *Scandinavian Journal of Medicine & Science In Sports*, 18(4),436-441.
- Hillman C.H., Erickson K.I., Kramer A.F., (2008), Be smart, exercise your heart: exercise effects on brain and cognition, in *Nat Rev Neurosci*, 9,58-65.
- Hu F.B., Sigal R.J., Rich-Edwards J.W., et al., (2002), Walking compared with vigorous physical activity and risk of type 2 diabetes in women: a perspective study, in *JAMA*, 288,1433-1439.
- Jasiński R., Wierzbowska C., Konopacki D., Rudzińska E., (2009), Możliwości wykorzystania treningu nordic walking w rekreacji i rehabilitacji naczyniowej osób starszych, in *Postępy Rehabilitacji*,23(2),49-50.
- Kamień D., (2006), Nordic walking – zdrowo i na sportowo. Wychowanie Fizyczne i Zdrowotne,11-12,58-64.
- Kamień D., (2008), Test marszowy – kontrola wydolności w treningu zdrowotnym nordic walking, in *Wychowanie Fizyczne i Sport*, 52(3),141-144.
- Kleindienst F.I.; Michel K.J.; Schwarz J.; Krabbe B., (2006), Comparison of kinematic and kinetic parameters between the locomotion patterns in nordic walking, walking and running, in *Sportverletzung Sportschaden*, 20(1),25-30.
- Kocur P., Wilk M., (2006), Nordic walking – nowa forma ćwiczeń w rehabilitacji, in *Rehabilitacja Medyczna*,10(2),9-14.
- Lee I.M., Rexrode K.M., Cook N.R., Manson J.E., Burning J.E., (2001), Physical activity and coronary heart disease in women: is "no pain, no gain" passé?, in *JAMA*, 285,1447-1454.
- Manson J.E., Hu F.B., Rich-Edwards J.W. et al., (1999), A perspective study of walking as compared with vigorous exercise in the prevention of coronary heart disease in women, in *N Engl J Med*, 341,650-658.
- O'Neal H.A., Dunn A.L., Martinsen E.W., (2009), Depression and exercise, in *Int J Sport Psychol*, 31(2),110-135.
- Oguma Y, Shionoda-Tagawa T., (2004), Physical activity decreases cardiovascular disease risk in women: a review and meta-analysis, in *Am J Prev Med*, 26,407-418.
- Piątkowska M., (2008), Aktywność społeczeństwa polskiego na tle Europy, In *Kultura Fizyczna*, 3-4,11-18.
- Stefaniak M., (2009), Nordic walking w programowaniu aktywności fizycznej – osób starszych, in *Wychowanie Fizyczne i Zdrowotne*, 11,43-48.
- Tanasescu M., Leitzman M.F., Rimm E.B., Willett W.C., Stampfer M.J., Hu F.B., (2002), Exercise type and intensity in relation to coronary heart disease in men, in *JAMA*, 288, 1994-2000.
- U.S. Dept. Of Health and Human Services. Physical Activity Guidelines for Americans. 2008.
- Wilk M., Kocur P., Różańska A. et al., (2005), Ocena niektórych fizjologicznych efektów zastosowania nordic walking jako uzupełniającego elementu ćwiczeń fizycznych w drugim etapie rehabilitacji po zawale serca, in *Rehabilitacja Medyczna*, 2, 33-38.
- Willett W.C., Skerrett P.J., (2005), Eat, drink and be healthy: the Harvard Medical School Guide to healthy eating. Free Press, New York-London-Toronto-Sydney, s. 13.
- Wood P.D., (1994), Physical activity, diet and health: independent and interactive effects, in *Med Sci Sports Exerc*, 26,838-843.