

HEALTH VALUES OF FORESTS IN THE OPINION OF POLISH RESIDENTS

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Abstract

Scientific evidence pointing to the therapeutic, health functions of forests has been growing recently. It has already been repeatedly proven that visits to nature contribute to the restoration and preservation of people's mental health, as well as stress reduction. With the growing scientific evidence of the therapeutic properties of the natural environment, the importance of the forest in promoting public health is increasing. Public awareness of the health-promoting importance of forests is also growing. The results of our research show that people are aware of the importance of forests for their health, noting that these benefits fall into both physical, mental and social well-being categories.

Key words: Human well-being, health benefits, forest ecosystem services, social preferences

Introduction

One of the most visible global changes in the world is the increasing urbanisation. It is estimated that more than 80% of Europe's population will live in urban areas by 2030. Urbanisation has brought many benefits to people such as increased well-being and improved provision of social services (education, administration, health, etc.) to communities. However, with advances in technology and civilisation, people are gradually starting to feel more and more disconnected from the natural world, with very negative consequences for health. Today, the major health problem of the 21st century is NCDs (non communicable diseases). The five 'major' NCDs are considered to be cardiovascular diseases (CVD), diabetes, cancer, chronic respiratory diseases and, more recently, mental disorders, including depression, which currently affects 7.2% of EU citizens. Underpinning many NCDs is obesity, which has been recognised as a chronic disease in its own right in many countries.

There are currently more than 38 million people living in Poland. The predominant group is people aged 15 to 64, but there is a clear increase in the proportion of older people, who today account for almost 19% of the total population. People's health is the subject of many analyses. Data on diseases are recorded by the Central Statistical Office. They show that the largest number of people recently died of cardiovascular diseases. Immediately behind them, the largest group were deaths from cancer and covid 19. There is also a large group of deaths from unexplained causes. Among the sick, a large group are people struggling with depression. Overweight is also a problem. Why are forests important for the preservation and protection of citizens in Poland? Firstly, Poland is dominated by public forests, largely managed by the State Forest Enterprise. By law, public forests are open to the public. Exceptions are forest crops, experimental areas, river headwaters. Secondly, Poland's forests account for nearly 30% of the country's total area, so they are in close proximity, easy to reach. The purpose of our survey was to determine the views of Polish people on the importance of forest ecosystem services for improving human health.

Material and methods

The research material consists of the results of questionnaire surveys, conducted in 2020 on the territory within the range of the Regional Directorate of State Forests (RDSF) in Radom, in the central-eastern part of Poland. Due to the ongoing pandemic, it was decided that an online survey would be conducted. A link to the survey, created on the Webankieta platform, was made available on social networks such as Facebook, Instagram and Twitter, as well as on the websites of the RDLP in Radom. An advantage of the online format was the elimination of the problem of unanswered questions, as moving to each next question required answering the previous one. The survey was open from July to September 2020. Respondents were asked to provide information on their gender, age, level of education, place of residence, number of children in the family. The questionnaire consisted of seventeen content questions, including two questions on the health benefits provided by forests. The results obtained are discussed in this manuscript. Statistical analysis was conducted using the Chi2 test.

Results

A total of 1402 respondents took part in the survey, including 655 women (46.7%) and 747 men (53.3%). Respondents aged 31-40 years were the most numerous group (31.1%). Respondents aged 18-30 accounted for 27.8% of respondents, those aged 41-50 (24%), and those aged 51 and over 17.1% of respondents. Urban residents were the most numerous group. The study involved 807 city dwellers (57.6%), of whom 18.6% of the respondents came from small cities (up to 15,000 inhabitants), 23.2% from medium-sized cities (15-100,000 inhabitants) and 15.8% from large cities (over 100,000 inhabitants). 42.4% of respondents came from rural areas. The vast majority of respondents had a university degree (64.6%). Secondary education was held by 32.0% of respondents, and those who finished with a primary education made up only 3.4% of respondents. The most numerous group were respondents with children (62.1%), of which two children in the family were declared by 47.4% of respondents; three and more children by 14.7% of respondents.

Research results indicate that forest provides a variety of benefits to people. Respondents mainly pointed to mental health benefits (41.6%), physical health benefits (31.5%), increases knowledge of the forest (11.5%). Forest, in particular recreation in the forest also allows people to develop passion and interests (10.4%) and provides better social integration (5%). Based on statistical analysis using the Chi2 test, the following socio-demographic variables were found to differentiate respondents' views on the importance of the forest's health function: gender ($p=0.0397$), education ($p=9.60E-08$) and family situation ($p=0.0057$). In the male group, the percentage indicating mental health benefits was lower than in the female group (36.3% and 47.8%, respectively). With higher education, respondents' belief in the importance of the forest's health functions and the forest's provision of mental health benefits increased, while the percentage indicating benefits such as "increased knowledge of the forest" or "nature, and social integration" decreased. Among those with 1-2 children and among those without children, the opinion that contact with the forest provides mental health benefits prevailed, while physical health benefits were more important among respondents from families with many children.

Forests are important for human health because improving social relations and environmental behaviour. For a large proportion of respondents (58.9%), spending time in the forest helps them to improve their relationships with loved ones. They also believe (30.4%) that being in the forest leads to behavioural changes. Health and well-being are associated with maintaining good social relationships. And it is an opportunity to meet new people (10.7%). Interestingly, women (23.2%) were more likely than men (14.9%) to emphasize the importance of the benefit of building ties with family/friends ($p=0.0012$). It also appeared more often in the responses of residents of rural areas (21.5%) and small towns (19.6%) (respectively: medium cities: 15.3% and large cities: 15.4%) ($p=0.006$).

We also asked respondents about the benefits the forest provides in terms of mental health. According to the respondents staying in the forest increases their well-being (47.3%). A very large group (42.5%) said that going to the forest has a stress relieving effect. For 10.2% of respondents it was important that contact with the forest allows them to maintain emotional balance.

Discussion

As Hartig et al. (2014) notes, people cannot stay healthy without clean air, clean water, food and other resources provided as "ecosystem services." Forests contribute significantly to maintaining and protecting human health. These benefits are related to the fact that forest ecosystems are an important place for recreation and leisure, the realization of physical activity, contribute to building good social relations and the formation of pro-environmental behavior. As our survey shows, health benefits are very strongly associated with recreation in forest areas in the opinion of respondents.

There are many studies that have analyzed the effect of contact with nature, the impact of the forest on people's mental health. Most of this type of work is based on psychological tests, analysis of physiological parameters (blood pressure, heart rate, skin thermal conductivity, salivary cortisol, etc.). This type of research shows exactly what is the effect of the forest on humans. Interestingly, most of these works examined the regenerative properties of the forest environment undertaken as a result of short-term recreational activities (Bielinis et al. 2020, Janeczko et al. 2020) or much longer - several-day recreational programs (Han et al. 2016). These studies provide detailed data on how different variations of the environment affect mood, the increase of positive or negative feelings, anger, depression, attentiveness, vitality, etc.

There is already sample evidence that nature can help people restore, regenerate psycho-physical forces. Previous studies have shown that recreation in the forest contributes to feelings of vitality (Bowler et al. 2010, Janeczko et al. 2019). Nature, by helping people maintain the adaptive resources needed to cope with the demands of life, can reduce the risk of chronic stress-related diseases, as well as promote a number of intermediate outcomes, such as increased subjective well-being (Hartig

et al. 2014). Previous research has already provided credible evidence of the benefits of contact with nature to avoid health problems associated with chronic stress and attention fatigue. Studies by Korpela et al. (2008), Pasanen et al. (2018), Jung et al. (2015) have shown that people's moods and positive feelings increase in natural areas. Jung et al. (2015) found that negative emotions were generally lower in the forest than in the city. Natural areas allow people to move away from stressors and/or reduce their perceptual range.

Rather, our research shows what is the general view of people about the health benefits provided by the forest and what is their awareness of the relationship between the forest and human health. Based on the results we can say that the awareness is quite high. That people understand that they need contact with the forest, they also know that physical activity is a prerequisite for health. The forest, especially those in the range of agglomerations, is also increasingly an arena for physical activities undertaken as part of organized sports (Janeczko et al. 2019). In Poland, the past few years have seen a significant increase in running, biking and walking events in forests in the vicinity of urban agglomerations.

Our results show that people have a need to seek information that is helpful in achieving better health and a longer life. They also see contact with the forest as an opportunity to build good relationships with their environment. Health and well-being are associated with maintaining good social relationships. Social isolation has already been proven to be a known predictor of morbidity and mortality (Nieminen et al. 2010). Green space can play an important role in supporting social interaction. Son and Ha (2013) found that increasing contact with nature helps improve social and emotional interactions in modern society, helps promote an overall sense of community, reduces loneliness and increases social support. For this reason, green spaces, including forests, are particularly important in tourism and recreation for people with disabilities and the elderly (Łobożewicz 2000, Woźnicka 2014). There are also studies that have shown that exposure to the forest can increase people's cooperation and involvement in solving environmental problems (Zelenski et al. 2015).

Conclusion

Changes in nature, environmental pollution are linked to many diseases. Forests contribute significantly to the maintenance and protection of human health. People are aware of the enormous importance of forests for their physical and mental health and also human well-being. With increasing scientific evidence on the therapeutic effects of the forest environment, the importance of the forest in promoting public health is growing. The links between the natural environment and human wellbeing is important to many organisations working within the public health and environmental sectors. Such activities in Poland are also undertaken by the State Forests. Thanks to ongoing programmes such as: "Train in the forest" or "I run because I like forests", as well as "Freedom is in nature" people are encouraged to do physical activities. Project "Good from the Forest" is also part of a society-wide campaign to raise consumer awareness, encourage the public to choose organic, natural and healthy food. Also Polish national parks engaged in promoting contact with nature. At the same time, there is a lot of other entities that, taking advantage of the wave of public interest in the health functions of forests, organise various types of holidays, walks related to the idea of forest bathing. In Poland, there is a growing number of organisations providing training, awarding various certificates and collecting money for this type of activity. These companies do not participate in the maintenance of the recreational infrastructure, in the breeding and management of the forest.

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Souhrn

S přibývajícími vědeckými poznatky o léčivých účincích lesního prostředí roste význam lesa pro podporu veřejného zdraví. Tento článek prezentuje výsledky dotazníkového šetření, které bylo provedeno v Polsku v roce 2000 mezi více než tisícovkou zájemců o rekreaci v lese. Výsledky ukazují, že lidé si uvědomují význam lesů pro své zdraví. Respondenti poukazovali především na blahodárné účinky na duševní zdraví, tělesné zdraví a zvyšování znalostí o lese. Lesy jsou důležité pro lidské zdraví, protože zlepšují sociální vztahy a ekologické chování. Podle respondentů pobyt v lese zvyšuje jejich pohodu, působí proti stresu a umožňuje jim udržovat emocionální rovnováhu. Je třeba předpokládat, že toto vysoké povědomí o prospěšnosti kontaktu s lesem je jedním z faktorů, které přispívají k rostoucímu významu sociálních funkcí lesa

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