

Walking Towards Health: A Public Health Initiative for the Increment of Physical Activity Level in the Local Community in Croatia

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Abstract

This paper points out the health benefits of walking and the possibilities of implementing a public health initiative in the local community. Indications for the beneficial health effects of walking were established. Walking, as the basic form of movement and the most accessible physical activity, should be promoted in all population groups, regardless of age and gender. To encourage regular physical activity in leisure time, Croatian Institute of Public Health, in collaboration with county public health institutes, initiated and implemented the project activity Walking towards Health in all of 21 Croatian counties. The Croatian Institute of Public Health had organized the group walking with expert leaders on arranged and marked walking trails. In 2019, the regular implementation of Walking towards Health activities began in all Croatian counties. In that year, 514 activities were carried out with the participation of 12017 walkers, which is on average 24.5 actions per county with 23.4 participants per activity. National Walking Day as well as Croatian walking festival had been established and celebrated. Raising the physical activity level is possible through the joint engagement of all stakeholders in the local community and the conduction of an elaborated public health initiative. Therefore, health systems should have a more active role in the promotion of physical activity.

Key words: *community; Croatia; physical activity; public health; walking.*

Introduction

Modern times are characterized by a decrease in physical activity (PA) (Blair, 2009).

According to the World Health Organization (WHO), fourth leading risk factor for death in the world is physical inactivity (World Health Organization, 2009). The European Strategy for the Prevention and Control of Noncommunicable Diseases has identified cardiovascular diseases, neuropsychiatric conditions, cancer, digestive diseases and respiratory diseases as five most common noncommunicable diseases (NCD) nowadays. Physical inactivity is recognized as one of the seven risk factors for developing today's most common NCD (WHO Regional Office for Europe, 2006).

The positive effects of PA are numerous. People engaged in walking activities more often experience enhanced health (Barajas & Braun, 2021), especially those involved in group walking (Hanson & Jones, 2015).

Regular engagement in moderate PA of 150 minutes per week, in both men and women, reduces the risk of coronary heart disease by 20-30 %, stroke by 10-20 % (Li & Siegrist, 2012), high blood pressure by 11 % (Huai et al., 2013), breast cancer by 12 % (Wu et al., 2013), lung cancer by 13 % (Sun et al., 2012) and type 2 diabetes by 31 % (Jeon et al., 2007). Additionally, engagement in high levels of PA decreases the risk of dementia by 18 % (Blondell et al., 2014) and asthma by 12 % (Eijkemans et al., 2012). Positive impact of moderate PA is also evident in overweight and obesity prevention programs. Adults as well as children and adolescents spend more time sitting and watching TV, playing video games, surfing the Internet and sitting in the car (Pearson et al., 2014). Therefore, they are more engaged in sedentary behavior and screen time. The number of people going out of the house or walking to the supermarkets is reduced. The level of normal daily PA and energy expenditure decreases in adults as well as in schoolchildren and adolescents. A drastic reduction in daily activities was observed in children who were just starting school (Hills, Andersen, & Byrne, 2011). Accordingly, an increase in the prevalence of overweight and obesity has been observed.

Hence, children who are more involved in sedentary behavior rather than in physical activities in their leisure time are at greater risk of becoming overweight or obese in adulthood (Hind, 2016). Thus, the encouragement and engagement of children in regular PA should be essential in childhood obesity prevention. Regular exercise, especially in children and young people, can help to maintain good health, without disease development (Hills, King, & Armstrong, 2007).

Additionally, drug addiction and smoking are less common in families involved in an active lifestyle. Active lifestyle helps the battle against depression, the rehabilitation of numerous diseases as well as assuring self-sufficiency in old age (Hills, Dengel, & Lubans, 2015).

Given the significant share of under-active people in the world and Europe (European Union, 2017; Hallal et al., 2012), the promotion of regular PA has become one of the leading public health priorities. Contemporary literature (Guthold et al., 2018) confirms and explains the role of PA as a significant instrument in the prevention and

correction of NCD. Recent public health approach is aimed at promoting a physically active lifestyle. The promotion of moderate daily PA aims to preserve and improve health, prevent several NCDs and increase the quality of life.

Following this, the WHO, a leading world health institution, has issued recommendations for the levels of PA for all ages (World Health Organization, 2020). According to these recommendations, individuals aged 18 years and over should be engaged in moderate-intensity aerobic PA at least 150 to 300 minutes per week or 75 to 150 minutes of high-intensity aerobic PA. Additionally, moderate and high-intensity PA can be combined. Strength exercises for large muscle groups should be performed at least twice a week. Children under 5 years of age should exercise for a minimum of 180 minutes per day (World Health Organization, 2019), while children and adolescents, aged 5 to 17 years, should engage in daily moderate to high-intensity PA for a minimum of 60 minutes (World Health Organization, 2020). During the day, the recommended or anticipated level of PA can be realized in several periods. Added positive health effects in adults can be achieved by increasing the level of moderate-intensity aerobic PA to more than 300 minutes per week or high-intensity aerobic PA to more than 150 minutes per week. In order to be carried out safely and effectively, any type of PA must follow the health condition and functional abilities of the individual (World Health Organization, 2020).

Public health plays a major role in promoting and raising awareness of the benefits of regular PA, which helps to maintain and improve one's health.

This paper aims to present a successful initiative in fighting against the scourge of today, physical inactivity, and show how cross-sectoral cooperation can have a quality impact on reducing physical inactivity and adopting healthy lifestyles.

Methods

The project activity *Walking towards Health* (WTH) was implemented in all of 21 Croatian counties. The Croatian Institute of Public Health (CIPH), all county public health institutes and local communities at the county level were actively involved in this project. In this project, group walking is carried out on arranged and marked walking trails with an expert leader who motivates the participants and conducts the activity regularly.

A working group consisting of representatives of the county public health institute, regional and local self-government, tourist boards, and civil society organizations has been formed in each county. Based on the established criteria, one walking trail for regular walking activity was selected in each county. Further, the education of expert leaders and county coordinators on the criteria and requirements for project implementation was conducted. The main points of education included the organization of group walking, participants' motivation, regular conduction, recording and reporting of the activity. Afterwards, CIPH and county public health institutes continuously monitor the implementation of activities and, in cooperation with cities, participate in arranging and labelling selected walking trails. The development

of a yearly walking calendar was encouraged, as well as the visibility in local media and communication with civil society organizations. To promote the activities, promotional materials were produced and distributed. The implementation of activity was assessed by the expert leaders' reports, which included the number of conducted activities per month and the number of participants per activity.

Results

The implementation of the activity WTH began on October 25, 2014, in Slatina, in Virovitica-Podravina county. Afterwards, in 2015, the activity became the part of the national program *Healthy Living*. *Healthy Living* project activities have been co-financed by the European Social Fund from December 2016 to 2022. That collaboration have strengthened the implementation of the National Program activities.

In 2017, the implementation of the project activity WTH started in three Croatian counties (Zagreb, Požega-Slavonia and Lika-Senj), with total number of activities amounting for 12, while total number of participants was 408 (Figure 1).

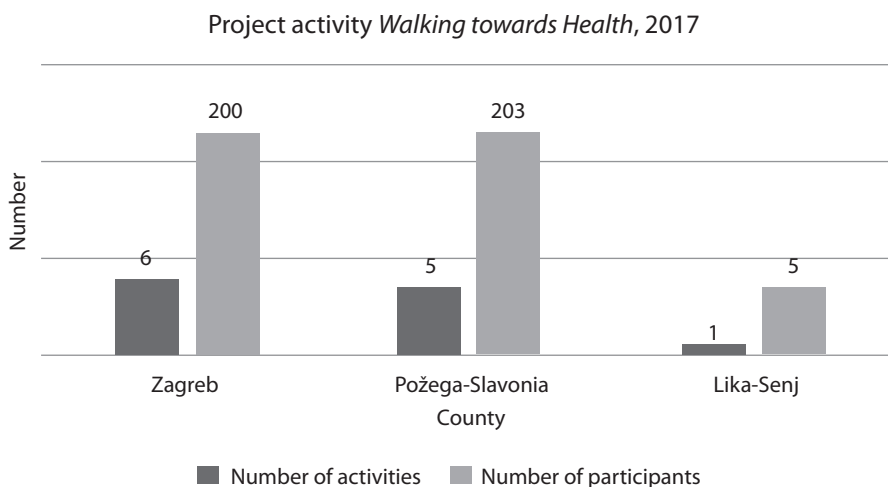


Figure 1. Project activity *Walking towards Health*: number of activities and participants in Croatian counties, 2017

In 2018, the activity was implemented in 20 out of 21 Croatian counties. The biggest number of activities and participants was recorded in Zagreb, 52 and 996, respectively, while the lowest number was observed in Lika-Senj county, 6 and 41, respectively (Figure 2).

In 2019, the project activity WTH was operational in all 21 Croatian counties. The highest number of activities and participants was detected in Osijek-Baranja county, 48 and 2614, respectively. In Bjelovar-Bilogora county, only 1 activity was carried out, but the lowest number of participants, 96, was noticed in Split-Dalmatia county (Figure 3).

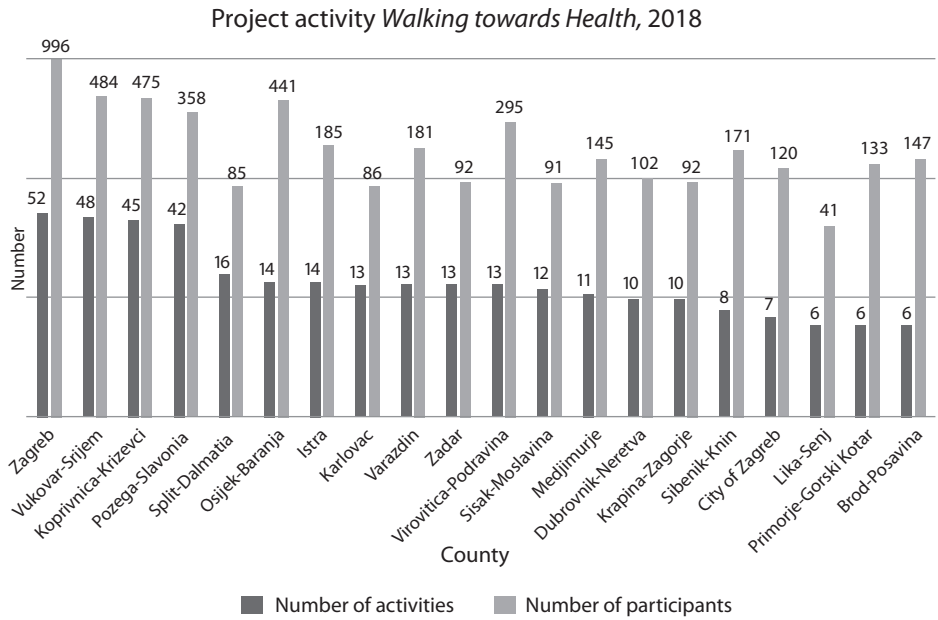


Figure 2. Project activity *Walking towards Health*: number of activities and participants in Croatian counties, 2018

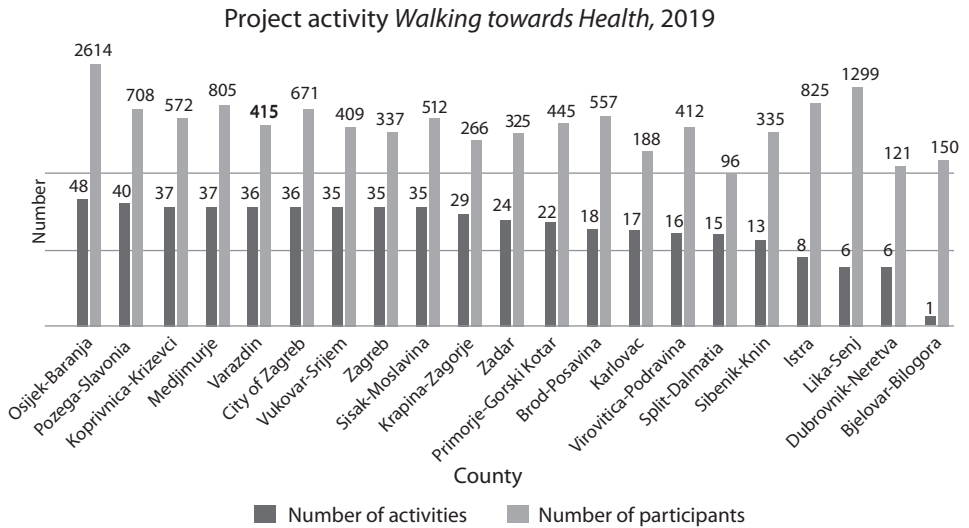


Figure 3. Project activity *Walking towards Health*: number of activities and participants in Croatian counties, 2019

As the implementation of the project activity started in all Croatian counties, the number of activities and participants per year has become larger. In 2017, there were 12 activities with 408 participants, while in 2019, there were 514 activities with 12017 participants. The highest average number of activities was recorded in 2019, 24.5, but the highest average number of participants was in 2017, 34.0 (Figure 4).

Project activity *Walking towards Health*, 2017, 2018 and 2019

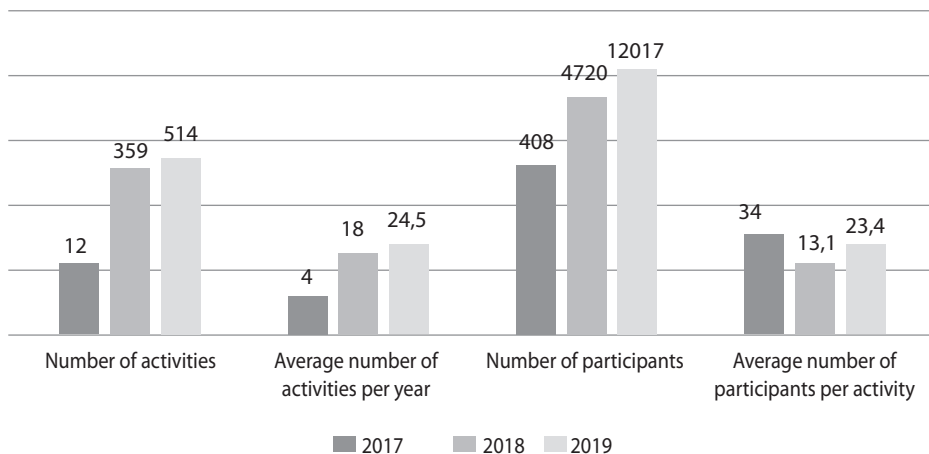


Figure 4. Project activity *Walking towards Health*: number of activities and participants per year, average number of activities per year and average number of participants per activity in 2017, 2018 and 2019 in Croatia

Discussion

Physical activity levels in the Republic of Croatia

Data on the level of PA of adults in the Republic of Croatia (CRO) were obtained through the Eurobarometer survey in 2017 (European Union, 2017). The level of PA in Croatian adults is lower in comparison to the other EU member states. In CRO, 76 % of the adult population, compared to 60 % of adults in EU member states, hardly ever or never engage in sports or recreational activities. In CRO, 20 % of people hardly ever exercise and 56 % never exercise or play sport. However, 5 % of Croatian adults regularly participate in PA and 19 % do it occasionally, while in other EU member states 7 % regularly and 33 % occasionally practice sports (European Union, 2017). The data from European Health Interview Survey conducted in Croatia in 2015 show that only 18.6 % of adults exercise during a week, out of those 52.9 % exercise more than 300 minutes per week, 24.3 % 150-300 minutes, 18.0 % 60-150 minutes and 4.7 % less than 60 minutes per week (Musić Milanović et al., 2017).

Data on the level of PA in children aged 11, 13, and 15 years in CRO were gathered through the Health Behavior in School-aged Children research in 2018 (Pavić Šimetin et al., 2020). The prevalence of female and male students engaged in moderate to intense PA at least 60 minutes per day is declining with age, equally

for both sexes. The prevalence of male students decreases from 30.9 % to 27.5 % and 21.4 % at the ages of 11, 13, and 15. Female students also recorded a decline from 25.1 % at the age of 11, to 21.6 % at the age of 13, and to 13.0 % at the age of 15 (Pavić Šimetin et al., 2020).

Based on the evident decrease of PA levels in all three age groups, special attention and interventions are needed. The PA level of 15-year-old Croatian students has also been declining over the years. The highest prevalence of physically active male students at the age of 15 was observed in 2002 and amounted to 33.5 %; in 2014, it was 25.4 %, and in 2018, it was 21.4 % (Pavić Šimetin et al., 2020). The data show that the prevalence of female students aged 15 engaged in PA in 2002 was twice lower than the prevalence of male students, 16.8 % compared to 33.5 %. In 2014, the prevalence was even lower, 11.7 %, but increased to 13.0 % in 2018 (Pavić Šimetin et al., 2020).

According to the Childhood Obesity Surveillance Initiative, Croatia 2018/2019, 35.0 % of children aged 8 to 8.9 years are overweight or obese, 37.0 % of boys and 33.1 % of girls. Furthermore, 41.2 % of children spend two or more hours a day on weekdays watching TV or using electronic devices, while on weekends 78.3 % of children do so. 58.9 % of children spend three or less hours per week in organized PA. In terms of time that children spent outdoors, according to the survey, 9.1 % of children spend less than 1 hour a day playing outdoors on weekdays, while while 2.5 % of children do so on weekends (Musić Milanović, Lang Morović, & Križan, 2021). All these mentioned factors are recognized as risks factors for obesity development. In Croatia, almost all primary schools, 90.1 %, have an outdoor playground and 93.3 % of schools allow its pupils to use it outside of classes. Slightly fewer primary schools have a sports hall, 64.2 %, and only 2.0 % of schools allow their pupils to use the sports hall outside of classes. About one third of all schools, 38.5 %, organize free extracurricular physical activities at least once a week for all classes, while more than one half of the children participate in organized free extracurricular physical activities in 26.4 % of schools (Musić Milanović et al., 2021).

The role of the Croatian Institute of Public Health in physical activity promotion

CIPH has a crucial role in disease prevention and health promotion in CRO. This leading public health institution is characterized by a high level of knowledge and professional employees. In addition, based on the current public health problems, it evaluates population's needs, predicts and manages future trends in order to preserve and improve health. Aiming to create preconditions for a healthier and simpler lifestyle, cross-sectoral cooperation, equal relations among all stakeholders and coordination by the CIPH at the national level, and the network of county public health institutes at the regional and local level are necessary. Health promotion teaches people how to take care of their own health and how to improve it before a health problem or health threat occurs. This can be achieved by proposing, encouraging,

organizing and implementing various initiatives and programs regarding health promotion in a supportive social environment. Following its role, CIPH expert team has designed a project activity WTH incorporated in the National Program *Healthy Living* and implemented it in all Croatian counties. The aim of this activity is to emphasize the positive effects and benefits of walking, as a basic form of movement, which is often neglected among various types of PA. Additionally, the activity aims to encourage and initiate regular group walking under the expert guidance in all Croatian counties. In the process of raising awareness, developing and adopting the habit of regular PA in children, parents should provide a positive example (Walton et al., 2014). Moreover, WTH enables and supports intergenerational communication in the local community.

Walking as a physical activity

Walking is a tremendously effective and healthy form of PA (Baker et al., 2008), which, in comparison to other PA, does not require special knowledge, skills nor equipment. Walking is accessible to everyone regardless of age, gender or previous participation in physical activities. Time, comfortable shoes, and a little goodwill are all it takes to walk. With all mentioned above, people should walk in accordance with their potentials, physical condition, and current possibilities. The beneficial effect and protective role of walking have been identified in the prevention of diseases caused by the sedentary lifestyle, which is more often nowadays (Freeman et al., 2017; Harris et al., 2019; Mandini et al., 2020). For physically inactive people, especially for those with overweight or obesity, interventions as walking helped to improve the body mass, fat mass, waist and hip circumference as well as blood lipid levels (Sadowska-Krepa, et al., 2020). Nevertheless, walking in nature in the fresh air provides an additional health benefit (Olafsdottir et al., 2020).

Walking towards Health - good practice example in the local community

This project activity, WTH, was modelled on the idea of the global international project *The Walk of the World*, which organizes a 4-days walk (The Four Days Marches, 2021). The aim was to establish cooperation with already active countries that are implementing the same or similar projects that promote walking as a healthy lifestyle. One of the goals was to present, launch and implement the first walking festival in CRO. In 2018, Lika-Senj County Tourist Board, as one of CIPH partners in the *Healthy Living* project, has organized *Croatian Walking Festival* which lasted for two days (first Saturday and Sunday in September). In Gospić and Otočac, activities were carried out on several routes, formed on multiple-day walking festivals in other European countries. The average two-day attendance at the festival was around 1200 walkers. *Croatian Walking Festival* has been held regularly every year on the first weekend in September. The festival is in a process of becoming a part

of the non-political, non-profit organization *International Marching League (IML) Walking Association*, which aims to promote walking as a valuable and healthy PA. This organization also encourages international participation in a multiple-day non-rival walking events held in each member country (International Marching League (IML), 2015).

Additionally, in cooperation with the county public health institute network, CIPH initiated and successfully celebrated the first *National Walking Day* on October 5, 2019, by implementing a public health campaign WTH in all 21 Croatian counties. Through the joint work of CIPH, county public health institutes coordinators, on the local community associates, the goal of engaging a large number of Croatian citizens was met, and a message about the benefits of regular exercise and PA for all age groups was sent.

Until the end of the project, in 2022, the plan is to set up fitness equipment and public health messages written on the boards on the walking trails in Croatian counties. In addition, the goal is to implement walking activities in each county 39 times per year and conduct the *National Walking Day* with more participants involved.

Conclusion

Considering the data on the high prevalence of insufficient PA in children and adults in CRO and the importance of PA for lifelong health, CIPH wants to inform and sensitize citizens of all ages about the positive aspects and benefits of regular PA. The goal is to reach the minimum of recommended levels of PA. Since the relationship between PA and health benefits has been scientifically and empirically established, exercise should be observed as a worthwhile medication and generally recommended as a first treatment for the majority of chronic diseases (Craike et al., 2020). Correspondingly, an increasing number of studies have confirmed the contributory association and the impact of regulated environment in the neighborhood and the increase in the level of PA of the population (Smith et al., 2017). The most used public amenities for the increase of PA in citizens are parks, open spaces like Street Workout, bicycle and walking trails. The proximity, orderliness, accessibility, and security of this infrastructure contribute in increasing the level of PA among urban residents (Sugiyama et al., 2018; Liu et al., 2017). In conjunction with the essential infrastructure, the promotion of healthy lifestyle is extremely important for raising the level of PA among citizens, as well as the short and long benefits it brings to citizens (Bauman et al., 2012). Moreover, recent literature provides several systematic reviews that emphasize the role of accessible and organized walking environments in reaching recommendations on PA level through active transportation or leisure time (Gražulevičienė et al., 2020; Mavoja et al., 2019; White et al., 2016;).

This paper showed the potential to promote regular PA through primary health care activities and cross-sectoral cooperation at national, regional, and local levels,

as well as strengthened and enhanced the impact of promotion and increment of the populations' PA level. Although, the goal of implementing 39 WTH project activities per county per year, i.e. 819 in CRO, has not been achieved. However, the activity coordinator can be satisfied with 514 realized activities in 2019, considering it was the initial phase of the project. In line with some previous studies (Durand et al., 2011; Hunter et al., 2015; Wendel-Vos et al., 2007), this initiative suggests that by upgrading walkability and infrastructure development, establishing safe and accessible walking trails, installing fitness outdoor equipment, organizing the regular implementation of PA under the expert leadership, and providing easily reachable settings, it is possible to rise PA level of all population groups in the local community. To determine more precise health benefits of this project activity in the accessible, built environment, additional studies are needed.

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Conflict of interest

The authors declare no conflicts of interest.

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Ethical approval

All activities were carried out in accordance with ethical principles.

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Hodanjem do zdravlja: javnozdravstvena inicijativa za povećanje razine tjelesne aktivnosti u lokalnoj zajednici u Hrvatskoj

Sažetak

U ovom radu ukazuje na zdravstvene dobrobiti hodanja i mogućnosti provođenja javnozdravstvene akcije u lokalnoj zajednici. Utvrđene su indikacije za blagotvorne učinke hodanja na zdravlje. Hodanje, kao osnovni oblik kretanja i najpristupačniju tjelesnu aktivnost, treba promicati u svim skupinama stanovništva, bez obzira na dob i spol.

Kako bi se potaknula provedba redovite tjelesne aktivnosti u slobodno vrijeme, Hrvatski zavod za javno zdravstvo u suradnji sa županijskim zavodima za javno zdravstvo pokrenuo je i proveo projektnu aktivnost „Hodanjem do zdravlja“ u svim hrvatskim županijama, u njih 21.

Hrvatski zavod za javno zdravstvo organizirao je grupna hodanja uz stručno vodstvo na uređenim i obilježenim hodačkim stazama. Redovita provedba aktivnosti „Hodanjem do zdravlja“ započela je u svim hrvatskim županijama 2019. godine. Te je godine provedeno 514 aktivnosti uz sudjelovanje 12017 hodača, što u prosjeku iznosi 24,5 akcija po županiji s 23,4 sudionika po aktivnosti. Uspostavljeni su i obilježeni Nacionalni dan hodanja te Hrvatski festival hodanja.

Podizanje razine tjelesne aktivnosti moguće je zajedničkim uključivanjem svih dionika u lokalnoj zajednici i provođenjem razrađene javnozdravstvene akcije. Zdravstveni sustavi trebali bi imati aktivniju ulogu u promicanju tjelesne aktivnosti.

Ključne riječi: hodanje; Hrvatska; javno zdravstvo; tjelesna aktivnost; zajednica.

Uvod

Moderna vremena karakterizira smanjenje tjelesne aktivnosti (TA) (Blair, 2009).

Prema podacima Svjetske zdravstvene organizacije (SZO) tjelesna neaktivnost četvrti je vodeći rizični čimbenik smrtnosti u svijetu (World Health Organization, 2009). Europska strategija za prevenciju i kontrolu kroničnih nezaraznih bolesti identificirala

je kardiovaskularne bolesti, neuropsihijatrijska stanja, rak, bolesti probavnoga sustava i respiratorne bolesti kao pet najčešćih kroničnih nezaraznih bolesti (KNB) današnjice. Tjelesna neaktivnost prepoznata je kao jedan od sedam čimbenika rizika za razvoj današnjih najčešćih KNB-a (WHO Regional Office for Europe, 2006).

Pozitivni učinci TA su mnogostruki. Ljudi koji se bave hodačkim aktivnostima češće ostvaruju zdravstvene koristi (Barajas i Braun, 2021), posebno oni koji su uključeni u grupno hodanje (Hanson i Jones, 2015).

Redovito bavljenje umjerenom TA 150 minuta tjedno, i kod muškaraca i kod žena, smanjuje rizik za razvoj koronarne bolesti srca za 20 %, moždanoga udara za 10-20 % (Li i Siegrist, 2012), visokoga krvnog tlaka za 11 % (Huai i sur., 2013), raka dojke za 12 % (Wu, Zhang i Kang, 2013), raka pluća za 13 % (Sun, Shi, Gao i XU, 2012) i šećerne bolesti tipa 2 za 31 % (Jeon, Lokken, Hu i van Dam, 2007). Dodatno, sudjelovanje u TA visokoga intenziteta smanjuje rizik od demencije za 18 % (Blondell, Hammersley-Mather i Veerman, 2014) i astme za 12 % (Eijkemans, Mommers, Draaisma, Thijs i Prins, 2012). Pozitivan učinak umjerene TA vidljiv je i u programima prevencije prekomjerne tjelesne mase i debljine. Odrasli, kao i djeca i adolescenti, provode sve više vremena sjedeći i gledajući TV, igrajući videoigrice, surfajući internetom i sjedeći u automobilu (Pearson, Braithwaite, Biddle, van Sluijs i Atkin, 2014). Stoga su skloniji sjedilačkom ponašanju i provođenju više vremena ispred ekrana. Smanjuje se broj ljudi koji izlazi iz kuće ili hoda do trgovine. Razina uobičajene svakodnevne TA i potrošnje energije smanjuje se kako u odraslih tako i u školske djece i adolescenata. Drastično smanjenje dnevne aktivnosti opaženo je s polaskom djece u školu (Hills, Andersen i Byrne, 2011). Sukladno tome, uočeno je i povećanje prevalencije prekomjerne tjelesne mase i debljine.

Djeca koja su više uključena u sjedilačko ponašanje, a ne u tjelesne aktivnosti u slobodno vrijeme, imaju veći rizik od razvoja prekomjerne tjelesne mase i debljine u odrasloj dobi (Hind, 2016). Stoga bi poticanje i uključivanje djece u redovitu TA trebao biti ključan čimbenik u prevenciji debljine u djece. Redovito vježbanje, pogotovo u djece i mladih, može pomoći pri održavanju dobrog zdravlja, bez razvoja bolesti (Hills, King i Armstrong, 2007).

Nadalje, ovisnosti o drogama i pušenju rjeđe su u obiteljima koje su uključene u aktivan način življenja. Aktivni stil života značajan je i u borbi protiv depresije, u rehabilitaciji niza bolesti i pri osiguranju neovisnosti u starijoj životnoj dobi (Hills, Dengel i Lubans, 2015).

S obzirom na značajan udio nedovoljno aktivnih osoba u svijetu i Europi (European Union, 2017; Hallal i sur., 2012), promicanje redovite TA prometnulo se u jedan od vodećih javnozdravstvenih prioriteta. Suvremena literatura (Guthold, Stevens, Riley i Bull, 2018) potvrđuje i objašnjava ulogu redovite TA kao značajnoga instrumenta u prevenciji i kontroli KNB-a. Noviji javnozdravstveni pristup usmjeren je promicanju tjelesno aktivnoga načina života. Promicanje svakodnevne umjerene TA ima za cilj očuvanje i poboljšanje zdravlja, prevenciju niza KNB-a te povećanje kvalitete života.

Na tragu navedenoga, SZO je, kao krovna svjetska zdravstvena institucija, izdala preporuke za razine TA za sve dobne skupine (World Health Organization, 2020).

U skladu s tim preporukama, osobe od 18 i više godina trebale bi biti uključene minimalno 150-300 minuta tjedno u aerobne TA umjerenoga intenziteta ili 75-150 minuta tjedno u aerobne TA visokoga intenziteta. Tjelesne aktivnosti umjerenoga i visokoga intenziteta mogu se i međusobno kombinirati. Vježbe snage za velike mišićne skupine treba provoditi barem dva puta tjedno. Djeca mlađa od 5 godina trebala bi vježbati minimalno 180 minuta dnevno (World Health Organization, 2019), dok bi djeca i adolescenti u dobi od 5 do 17 godina trebali svakodnevno sudjelovati u tjelesnim aktivnostima umjerenoga do visokoga intenziteta minimalno 60 minuta (World Health Organization, 2020). Tijekom dana preporučena ili željena razina TA može se postići kroz nekoliko perioda. Dodani pozitivni zdravstveni učinci u odraslih mogu se ostvariti povećanjem razine aerobne TA umjerenoga intenziteta na više od 300 minuta tjedno ili aerobnom TA visokoga intenziteta na više od 150 minuta tjedno. Kako bi se provodila na siguran i učinkovit način, svaka TA mora biti u skladu sa zdravstvenim stanjem i funkcionalnim sposobnostima pojedinca (World Health Organization, 2020).

Veliku ulogu u promicanju i osvještavanju koristi redovite TA pri očuvanju i unaprjeđenju vlastita zdravlja ima javno zdravstvo.

Cilj je ovoga rada predstaviti uspješnu inicijativu u borbi protiv pošasti današnjice, tjelesne neaktivnosti te pokazati kako međusektorska suradnja može kvalitetno utjecati na smanjenje tjelesne neaktivnosti i usvajanje zdravih stilova života.

Metode

Projektna aktivnost *Hodanjem do zdravlja* provedena je u 21 hrvatskoj županiji. U ovaj projekt aktivno su se uključili Hrvatski zavod za javno zdravstvo (HZJZ), svi županijski zavodi za javno zdravstvo i lokalne zajednice na županijskoj razini. U ovom projektu grupno hodanje provodi se na uređenoj i označenoj hodačkoj stazi, uz stručnoga voditelja koji motivira sudionike i redovito provodi aktivnost.

U svakoj županiji formirana je radna skupina koju čine predstavnici županijskoga zavoda za javno zdravstvo, regionalne i lokalne samouprave, turističkih zajednica te udruga civilnoga društva. Na temelju utvrđenih kriterija u svakoj županiji odabrana je po jedna staza za redovitu provedbu aktivnosti hodanja. Nadalje, provedena je edukacija stručnih voditelja i županijskih koordinatora o kriterijima i uvjetima za provedbu projekta. Glavne točke edukacije bile su organiziranje grupnoga hodanja, motivacija sudionika, redovito provođenje, bilježenje i izvještavanje o aktivnosti. Nakon toga, HZJZ i županijski zavodi za javno zdravstvo kontinuirano prate provedbu aktivnosti te u suradnji s gradovima sudjeluju u uređenju i označavanju odabranih hodačkih staza. Potaknuta je izrada godišnjega kalendara hodanja, kao i osiguravanje vidljivosti aktivnosti oglašavanjem u lokalnim medijima i kroz komunikaciju s organizacijama civilnoga društva. Za promicanje aktivnosti izrađeni su i distribuirani promotivni materijali. Provedba aktivnosti procijenjena je na temelju izvješća stručnih voditelja koja uključuju broj provedenih aktivnosti na mjesečnoj bazi i broj sudionika po aktivnosti.

Rezultati

Provedba aktivnosti *Hodanjem do zdravlja* započela je 25. listopada 2014. godine u Slatini, u Virovitičko-podravskoj županiji. Od 2015. godine aktivnost postala je dio Nacionalnoga programa Živjeti zdravo. Aktivnosti projekta Živjeti zdravo od prosinca 2016. do 2022. godine sufinancirane su sredstvima Europskoga socijalnog fonda. Na taj se način osnažila provedba aktivnosti Nacionalnoga programa.

U 2017. godini započela je provedba projektne aktivnosti *Hodanjem do zdravlja* u tri hrvatske županije, Zagrebačkoj, Požeško-slavonskoj i Ličko-senjskoj, s ukupnim brojem aktivnosti od 12, dok je ukupan broj sudionika bio 408 (Slika 1).

Slika 1.

U 2018. godini aktivnost se provodila u 20 od 21 hrvatske županije. Najveći broj aktivnosti i sudionika zabilježen je u Zagrebačkoj, 52 odnosno 996, dok je najmanji broj zabilježen u Ličko-senjskoj županiji, 6 odnosno 41 (Slika 2).

U 2019. godini projektna aktivnost *Hodanjem do zdravlja* provodila se u svim hrvatskim županijama, u njih 21. Najviše aktivnosti i sudionika zabilježeno je u Osječko-baranjskoj županiji, 48, odnosno 2614. U Bjelovarsko-bilogorskoj županiji provedena je samo 1 aktivnost, dok je najmanji broj sudionika, njih 96, zabilježen u Splitsko-dalmatinskoj županiji (Slika 3).

Slika 2.

Slika 3.

Od početka provedbe projektne aktivnosti u svim hrvatskim županijama broj aktivnosti i sudionika svake je godine sve veći. U 2017. godini provedeno je 12 aktivnosti u kojima je sudjelovalo 408 sudionika, dok je u 2019. godini provedeno 514 aktivnosti uz sudjelovanje 12017 sudionika. Najveći prosječni broj aktivnosti zabilježen je u 2019. godini i iznosio je 24,5, dok je najveći prosječan broj sudionika po aktivnosti bio u 2017. godini, njih 34,0 (Slika 4).

Slika 4.

Rasprava

Razine tjelesne aktivnosti u Republici Hrvatskoj

Podatci o razini TA odraslih osoba u Republici Hrvatskoj (HR) dobiveni su istraživanjem Eurobarometra u 2017. godini (European Union, 2017). Razina TA odraslih osoba u HR niža je u usporedbi s drugim zemljama članicama Europske unije (EU). U Hrvatskoj se 76 % odrasle populacije, u usporedbi sa 60 % odraslih u zemljama članicama EU, rijetko ili nikad se ne bavi sportsko-rekreacijskim aktivnostima. U HR 20 % ljudi rijetko i 56 % nikada ne vježba ili se bavi sportom. Međutim, 5 % odraslih osoba u HR redovito, a njih 19 % povremeno sudjeluje u TA, dok se u ostalim državama članicama EU 7 % odraslih redovito i 33 % povremeno bavi sportom (European Union, 2017). Podatci Europske zdravstvene ankete provedene 2015. godine u Hrvatskoj pokazuju

da samo 18,6 % odraslih vježba tijekom tjedna, od toga 52,9 % vježba više od 300 minuta tjedno, 24,3 % vježba 150-300 minuta, 18,0 % 60-150 minuta i 4,7 % vježba manje od 60 minuta tjedno (Musić Milanović i sur., 2017).

Podatke o razini tjelesne aktivnosti djece u dobi od 11, 13 i 15 godina u HR prikupljeni su istraživanjem Zdravstveno ponašanje djece školske dobi u 2018. godini (Pavić Šimetin i sur., 2020). Prevalencija učenika i učenica koji su uključeni u TA umjerenoga do visokoga intenziteta najmanje 60 minuta dnevno opada s dobi, podjednako za oba spola. Prevalencija kod učenika opada s 30,9 % na 27,5 % i 21,4 % u dobi od 11, 13 i 15 godina. Učenice također bilježe pad s 25,1 % u dobi od 11 godina, na 21,6 % u dobi od 13 godina te na 13,0 % u dobi od 15 godina (Pavić Šimetin i sur., 2020). Na temelju evidentnoga smanjenja razine TA u sve tri dobne skupine potrebna je posebna pozornost i intervencije. Tijekom godina pada i razina tjelesne aktivnosti kod 15-godišnjih hrvatskih učenika. Najveća prevalencija tjelesno aktivnih učenika u dobi od 15 godina zabilježena je 2002. godine i iznosila je 33,5 %, u 2014. godini iznosila je 25,4 %, dok je u 2018. godini bila 21,4 % (Pavić Šimetin i sur., 2020). Podatci pokazuju da je prevalencija učenica u dobi od 15 godina uključenih u TA u 2002. godini bila dvostruko niža od prevalencije učenika, 16,8 % u odnosu na 33,5 %. U 2014. godini prevalencija bila je još niža, 11,7 %, ali je porasla na 13,0 % u 2018. godini (Pavić Šimetin i sur., 2020).

Prema Europskoj inicijativi praćenja debljine u djece, Hrvatska 2018./2019., 35,0 % djece u dobi od 8 do 8,9 godina ima prekomjernu tjelesnu masu ili debljinu, 37,0 % dječaka i 33,1 % djevojčica. Nadalje, 41,2 % djece radnim danom provede dva ili više sati dnevno gledajući TV ili koristeći elektroničke uređaje, dok vikendom to čini 78,3 % djece. Čak 58,9 % djece sudjeluje tri ili manje sati tjedno u organiziranoj tjelesnoj aktivnosti. Što se tiče vremena koje djeca provode na otvorenom, prema istraživanju, 9,1 % djece radnim danom provede manje od 1 sat dnevno igrajući se na otvorenom, dok vikendom to čini 2,5 % djece (Musić Milanović, Lang Morović i Križan, 2021). Svi navedeni čimbenici prepoznati su kao čimbenici rizika za razvoj debljine. U HR gotovo sve osnovne škole, njih 90,1 %, imaju vanjsko sportsko igralište, a 93,3 % škola svojim učenicima dopušta korištenje igrališta izvan nastave. Nešto manje osnovnih škola ima sportsku dvoranu, njih 64,2 %, a samo 2,0 % škola svojim učenicima dozvoljava korištenje sportske dvorane izvan nastave. Oko trećine svih škola, njih 38,5 %, organizira besplatne izvannastavne tjelesne aktivnosti najmanje jednom tjedno za sve razrede, dok više od polovice djece sudjeluje u ovoj organiziranoj besplatnoj izvannastavnoj tjelesnoj aktivnosti u 26,4 % škola (Musić Milanović i sur., 2021).

Uloga Hrvatskog zavoda za javno zdravstvo u promicanju tjelesne aktivnosti

HZJZ ima ključnu ulogu u prevenciji bolesti i promicanju zdravlja u HR. Ovu vodeću javnu zdravstvenu ustanovu odlikuje visoka razina znanja i stručnih djelatnika. Na temelju aktualnih javnozdravstvenih problema HZJZ procjenjuje potrebe stanovništva,

predviđa i upravlja budućim trendovima u cilju očuvanja i unaprjeđenja zdravlja. U cilju stvaranja preduvjeta za zdraviji i jednostavniji način života neophodna je međusektorska suradnja, ravnopravni odnosi svih dionika i koordinacija HZJZ-a na nacionalnoj razini te mreže županijskih zavoda za javno zdravstvo na regionalnoj i lokalnoj razini. Smisao promicanja zdravlja jest naučiti ljude kako da se sami brinu o vlastitom zdravlju i unaprijede ga prije nego nastanu zdravstveni problem ili ugroženost zdravlja. To se može ostvariti predlaganjem, poticanjem, sudjelovanjem u organizaciji i provođenjem raznih inicijativa i programa promicanja zdravlja u podržavajućem društvenom okruženju. U skladu sa svojom ulogom, stručni tim HZJZ-a kroz Nacionalni program Živjeti zdravo osmislio je javnozdravstvenu aktivnost *Hodanjem do zdravlja* i implementirao ju u svim županijama RH. Cilj je ove aktivnosti naglasiti pozitivne učinke i dobrobiti hodanja, kao osnovnoga oblika kretanja čovjeka, koje je često zanemareno u lepezi brojnih oblika TA. Također, ova aktivnost ima za cilj potaknuti i pokrenuti redovito grupno hodanje pod stručnim vodstvom u svim hrvatskim županijama. U procesu podizanja svijesti, razvijanja i usvajanja navike redovite tjelesne aktivnosti kod djece, roditelji bi trebali pružiti pozitivan primjer (Walton, Simpson, Darlington i Haines, 2014). Štoviše, *Hodanjem do zdravlja* omogućuje i podržava međugeneracijsku interakciju u lokalnoj zajednici.

Hodanje kao tjelesna aktivnost

Hodanje je iznimno učinkovit i zdrav oblik TA (Baker i sur., 2008), koji u usporedbi s drugim tjelesnim aktivnostima ne zahtijeva posebna znanja, vještine ni opremu. Hodanje je dostupno svima bez obzira na dob, spol i prijašnju uključenost u neke druge tjelesne aktivnosti. Vrijeme, udobna obuća i malo dobre volje je sve što je potrebno za hodanje. Uz sve navedeno, ljudi bi trebali hodati u skladu sa svojim sposobnostima, kondicijom i trenutačnim mogućnostima. Utvrđeno je blagotvorno djelovanje i zaštitna uloga hodanja u prevenciji bolesti uzrokovanih sjedilačkim načinom života, koji je danas sve češći (Freeman, Akhurst, Bannigan i James, 2017; Harris i sur., 2019; Mandini, Conconi, Mori, Grazi i Mazzoni, 2020). Za tjelesno neaktivne osobe, posebice za one s prekomjernom tjelesnom masom ili debljinom, intervencije poput hodanja pomogle su u smanjenju tjelesne mase, masnoga tkiva, opsega struka i bokova, kao i razine lipida u krvi (Sadowska-Krępa i sur., 2020). Hodanje u prirodi na svježem zraku pruža dodatnu zdravstvenu korist (Olafsdottir i sur., 2020).

Hodanjem do zdravlja - primjer dobre prakse u lokalnoj zajednici

Ova projektna aktivnost *Hodanjem do zdravlja* nastala je po uzoru na ideju globalnoga međunarodnog projekta *The Walk of the World*, u sklopu kojeg se organizira 4-dnevno hodanje (The Four Days Marches, 2021). Namjera je bila uspostaviti suradnju s već aktivnim zemljama koje provode iste ili slične projekte koji promoviraju hodanje kao zdrav način života. Također, jedan od ciljeva bio je predstaviti, pokrenuti i provesti prvi festival hodanja u HR-u. Turistička zajednica Ličko-senjske županije, kao jedan

od partnera HZJZ-a u projektu Živjeti zdravo, organizirala je 2018. godine *Hrvatski festival hodanja* koji je trajao dva dana (prva subota i nedjelja u rujnu). U Gospiću i Otočcu aktivnosti su se odvijale na nekoliko ruta po uzoru na višednevne hodačke festivale u drugim europskim zemljama. Prosječna dvodnevna posjećenost festivala bila je oko 1200 sudionika. *Hrvatski festival hodanja* od 2018. godine održava se redovito svake godine prvog vikenda u rujnu. Festival je u procesu učlanjenja u nepolitičku, neprofitnu organizaciju *International Marching League (IML) Walking Association*, koja promiče hodanje kao korisnu i zdravu TA. Također, ova organizacija potiče na međunarodno sudjelovanje u višednevnim nekonkurentnim hodačkim događajima koji se održavaju u svakoj zemlji članici (*International Marching League (IML)*, 2015).

Uz to, treba istaknuti da je HZJZ u suradnji s mrežom županijskih zavoda za javno zdravstvo pokrenuo i uspješno obilježio prvi *Nacionalni dan hodanja* 5. listopada 2019. godine provedbom javnozdravstvene kampanje *Hodanjem do zdravlja* u svim hrvatskim županijama. Zajedničkim radom HZJZ-a, koordinatora županijskih zavoda za javno zdravstvo i suradnika lokalne zajednice ostvaren je cilj angažiranja većega broja građana u RH te je poslana poruka o koristima redovitoga vježbanja i TA za sve dobne skupine.

Do završetka projekta, 2022. godine, planira se postavljanje *fitness* opreme i javnozdravstvenih poruka ispisanih na pločama na uređenim hodačkim stazama u svim županijama. Osim toga, cilj je 39 puta godišnje u svakoj županiji provoditi aktivnosti hodanja te provesti *Nacionalni dan hodanja* s velikim brojem sudionika.

Zaključak

S obzirom na podatke o visokoj prevalenciji nedovoljne TA u djece i odraslih u HR te važnosti redovite TA za cjeloživotno zdravlje, HZJZ želi informirati i senzibilizirati građane svih dobnih skupina o pozitivnim aspektima i koristima iste. Cilj je doseći minimalnu preporučenu razinu TA. Budući da je odnos između tjelesne aktivnosti i zdravstvenih dobrobiti znanstveno i empirijski utvrđen, vježbanje treba promatrati kao vrijedan lijek i općenito preporučiti kao prvi tretman za većinu kroničnih nezaraznih bolesti (Craike, Klepac Pogrmić i Calder, 2020). Sukladno tome, sve veći broj studija potvrđuje povezanost i utjecaj uređenoga okoliša u susjedstvu te povećanje razine TA stanovništva (Smith i sur., 2017). Najviše korišteni javni sadržaji za povećanje TA građana su parkovi, otvoreni prostori za vježbanje poput *street workout*, biciklističke i hodačke staze. Blizina, urednost, pristupačnost i sigurnost ove infrastrukture doprinose povećanju razine TA među stanovnicima urbanih područja (Sugiyama, Carver, Koohsari i Veitch, 2018.; Liu, Li, Li i Zhang, 2017). Uz nužnu infrastrukturu, promicanje zdravoga načina života iznimno je važno za podizanje razine TA među građanima, kao i kratkoročnih i dugoročnih koristi koje ona donosi građanima (Bauman i sur., 2012). Štoviše, novija literatura pruža nekoliko sustavnih pregleda koji naglašavaju ulogu pristupačnoga i organiziranoga hodačkog okruženja pri postizanju preporučenih razina TA kroz aktivni prijevoz ili u slobodno vrijeme (Gražulević i sur., 2020; Mavoja i sur., 2019; White i sur., 2016).

U ovom radu pokazane su mogućnosti promicanja redovite TA u aktivnostima primarne zaštite i međusektorsku suradnju na nacionalnoj, regionalnoj i lokalnoj razini te mogućnost ojačavanja i poboljšanja učinka promicanja i povećanja razine TA stanovništva. Iako cilj provedbe 39 projektnih aktivnosti *Hodanjem do zdravlja* po županiji godišnje, odnosno njih 819 u HR-u, nije ostvaren, koordinator aktivnosti može biti zadovoljan s 514 realiziranih aktivnosti u 2019. godini, s obzirom na to da je to bila početna faza projekta. U skladu s nekim prethodnim studijama (Durand, Andalib, Dunton, Wolch i Pentz, 2011; Hunter i sur., 2015; Wendel-Vos, Droomers, Kremers, Brug i van Lenthe, 2007) ova inicijativa sugerira da je nadogradnjom pristupačnosti i razvojem infrastrukture, uspostavljanjem sigurnih i pristupačnih hodačkih staza, postavljanjem *fitness* opreme uz stazu, organizacijom redovite provedbe aktivnosti hodanja pod stručnim vodstvom te osiguravanjem lako dostupnih sadržaja, moguće podići razinu TA u svim dobnim skupinama stanovništva u lokalnoj zajednici. Za utvrđivanje preciznijih zdravstvenih koristi ove projektne aktivnosti u pristupačnom izgrađenom okruženju potrebne su dodatne studije.

Priznanja

Autori zahvaljuju županijskim zavodima za javno zdravstvo i stručnim voditeljima aktivnosti na trudu i entuzijazmu.

Sukob interesa

Autori izjavljuju da nema sukoba interesa.

Financiranje

Nisu primljena nikakva sredstva za provođenje ovoga istraživanja i/ili pripremu ovoga rada.

Etičko odobrenje

Sve aktivnosti provedene su u skladu s etičkim načelima.