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Pro-health measures as a creator of new behavior norms and attitudes

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Abstract: The monograph analyzes health behaviors and main factors on the basis of which it is possible to transform a lifestyle generally focused on the well-being of an individual and society. According to WHO, health is a state of complete physical, mental and social well-being, and not only the absence of a disease. The definition clearly explains its multidimensional and multithreaded character dependent subjectively on every individual and on social and cultural conditions. Health in its general meaning becomes a subjective human feeling. Each individual plays an important role in the process of providing it. Good health condition can be achieved by proper nutrition, regular doctor's check-up visits and active way of life. Health behaviors are still a key element of the daily activity of everyone. Despite the fact that full knowledge of the concept of "healthy lifestyle" prevails, still many people avoid categorical statements. In response to questions about lifestyle, a significant number of respondents often indicate an intention or willingness to change, or to partially comply with the requirements, which results from weakness and lack of determination in action. Knowledge supported by the offer of attractive models that promote the right patterns of behavior can have a positive impact on the global health of the society.

Keywords: health, healthy lifestyle, physical activity, health behavior, health promotion.

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Types of health behaviors

Health behaviors occur in the form of specific actions of individuals that directly or in an undefined time dimension have any impact on its quality. The whole process takes place in a broader social context, on the basis of dependencies and interactions. In gen-





eral, health behaviors can be divided into health-promoting or anti-health behaviors. Health-promoting behaviors focus all efforts aimed at good-quality health, its maintenance, disease prevention and, in the event of its occurrence, quick recovery. Basically, they account for about 50% of all factors that influence the level of health [1]. For this reason, it is important to popularize these types of attitudes in society on a large scale.

In medical research on healthy lifestyle, particular attention is paid to the negative effects of smoking, alcohol abuse, the need for physical activity and the ability to overcome stress. In sociological analysis, research of different lifestyles plays an important role, where social (external) factors are an important element in determining the behavior of an individual. Thus, the analysis considers not only autonomous individual decisions regarding a healthy lifestyle, but also the cultural context influencing individual decisions. Describing this issue from the perspective of various academic disciplines creates an opportunity for a more in-depth and broad analysis of a given phenomenon. In this regard, it is necessary to constantly conduct additional sociological research showing the social factors of a healthy lifestyle [2].

The term "health literacy" appeared in 1970s. At the heart of its concept is the ability of people to keep themselves and their families healthy. This term can often be found in medical literature when describing the behavior and abilities of individuals and societies in the process of making conscious decisions. In a general sense, it leads to raising the level of education as the basic factor influencing the condition and lifespan. Adequate health awareness of an individual is a clear and undeniable evidence of benefits. Rasu et al. associated higher pro-health awareness with shorter hospitalization time and lower frequency of using medical services [3]. The situation is different in the case of people with lower financial status and the elderly with a limited sense of responsibility for the state of their body. The main problem of those with awareness deficits in terms of their health condition is little interest in disease prevention. In these cases, more frequent hospitalizations and visits to hospital emergency departments are noted. Such individuals generate significant costs of maintaining the health care system. Some studies estimate its burden, caused by low health awareness, at the level of 3-5% of the annual budget [4].

An important element determining the quality of life is the range of specific behaviors of individuals or in a wider dimension, those of a social group. Knowledge of the human nature, his individual tendencies towards different behaviors and their consequences, should lead to early health education. The learning process is a longterm phenomenon that affects every stage of life. Health science is a specialist knowledge, therefore it often requires substantive support from other people [5].

Anti-health behaviors, in turn, lead to numerous diseases and have a negative impact on the physical, mental and emotional spheres. Behaviors that are unfavorable to health include the consumption of all kinds of stimulants (cigarettes, drugs, alcohol) and disregard to pro-health behavior.



Shaping pro-health attitudes

A sense of social awareness determines which option will be accepted by an individual. According to WHO, there are three areas of division on the criteria of pro-health behaviors: physical, mental and social (Table 1).

Table 1. Areas of health according to WHO and examples of their implementation according to Gruszczyńska [6].

PHYSICAL	MENTAL	SOCIAL
Healthy eating Active lifestyle	A sense of belief in one's abilities and skills	Creating healthy relationship among people
Personal hygiene	Resistance to stress High self-esteem	Active participation in the life of the community through establishing contacts and
Environment	riigh sen-esteem	resolving conflicts

The degree and scope of health behavior modeling is influenced not only by an individual, but also by his environment. The first stage in shaping attitudes and habits is the family. Subsequently, the supporting function is taken over by consecutive levels of the education system. Better results are achievable when there is a correlation between school knowledge and what is conveyed to a youngster by his parents. Schools as mass institutions, in a sense, ensure effective and wide access to health education. The concept of the Health Promoting School (HPS) has already been implemented in many countries. The curriculum assumptions of school education lead to providing students with knowledge and skills, based on which they will be able to make conscious choices on their physical and mental health. An important issue is to ensure the right atmosphere, conducive towards the creation of healthy interpersonal relationships while learning [7]. The aim of education has become an encouragement to accept health-oriented behaviors. Changing one's current preferences is not easy. In the process of their transformation, it will be necessary to set a specific course of action. A high level of motivation is necessary to achieve the goal and then to be able to maintain it. An individual without adequate environmental support may have problems with obtaining a satisfactory result. Therefore, it is important to create support groups, promote positive models, and eliminate environmental difficulties. Individual friendships, social and professional circles play an important role in this process. Better effects are possible when individuals become convinced that the presented offer is acceptable and guarantees an effective goal achievement [8].



Changing health behavior patterns

There are many barriers hindering or even preventing the transformation of health behaviors. In addition to the above-mentioned readiness to implement a change, one should also point out the personality, susceptibility to external influences, or the views of an individual. Three theoretical types of models describing the process of taking up and maintaining activity in relation to health were distinguished: motivational, post-intentional and phase [6].

Motivational models describe those factors that accompany the appearance of an intention. These include: attitudes, norms, expectations regarding behavior change, habits, awareness of seriousness of the disease. Post-intentional ones explain the way the intention is realized. They include elements such as self-efficiency and probability of achieving a goal. They play a complementary role in relation to motivational models due to lack of factors necessary to determine the intention to change one's behavior. Phase models specify further stages of behavior change (e.g. the motivational and volitional phase). Subsequently, social and cognitive variables are distinguished which determine the course of the successive phases. The sense of self-efficiency as a variable is characteristic of each of the models described above [9].

The difference between intention and behavior can be explained by volitional factors. Analyzing and understanding the 2 phases and 3 steps of Ralf Schwarzer's HAPA (Health Action, Process Approach) process model may explain why individuals accept and sustain a wide range of health behaviors. In the motivational phase, there appears an intention to adopt a specific behavior, then, in the volitional phase, a plan and implementation of the project are created. A person in the motivation phase, once he has not yet decided whether to adopt the behavior, is considered a candidate. In the next stage, the individual is determined or is currently in the process of adopting the target behavior [10] (Fig. 1).

The stability of attitudes learnt in early childhood results in good health when becoming an adult. Cultural and social conditions of the community affect the standard of living, knowledge, degree of understanding or perception of certain problems, conditions and relationships. An important role to play in shaping people's attitudes is assigned to the media. Due to their informative and persuasive nature, they provide a variety of knowledge on any topic.

Words, knowledge and awareness in terms of public health are often used to express general information or observations. Sometimes it may refer to individual cases of specific people, as well as knowledge and awareness of the service providers. Health coaching is increasingly used in the process of ensuring and maintaining good health. A thorough medical knowledge cannot always guarantee a change in a certain behavior. Through the use of coaching, which is both a signpost to achieve a goal and a method of self-cognition, more satisfactory effect can be attained. The person



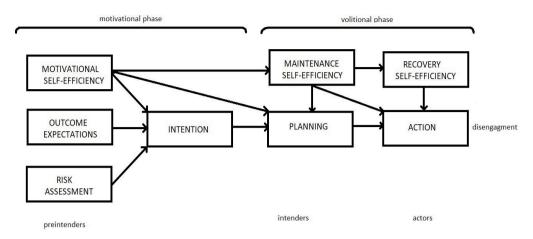


Fig. 1. Processual model of health behaviors [11].

professionally prepared to perform the function of a health coach, through the exchange of views and opinions, develops solutions on the basis of which it is possible to provide effective help [12]. As an alternative to group programs, coaching is an initiative of individual support focused on self-healing. The action is dedicated to an appointed person who has specific individual requirements. Many studies show that this form of care becomes very effective, especially with regard to nutrition, physical activity and compliance [13]. Similar progress was noted in the case of telephone coaching, where improvements in general condition and self-efficiency were observed among people with diabetes type 2 [14].

Obstacles in access to information

The role of information in the process of health education is gaining importance especially nowadays, when many threats related to health issues result directly from the nature of human behavior. These are the channel, source, recipient and content that are essential components of views exchange based on communication. James Carey defined communication process as a message and a ritual. It is obvious that communication helps to manage the knowledge, but also in the ritual dimension it situates individuals as elements of a larger entirety. All the procedures aimed at behavior reviews are regarded as a communicative act. The transmission value of information exchange does not always have to take care of its ritual component. Each recipient of the message should check its origin. Thus broadcast channels are important, as well as the nature of the recipient to whom it is addressed. In ritual dimension, individuals are treated as components of a community susceptible to various relations [15].



Research conducted in the USA suggests that good health is determined by access to medical care and individual predispositions aimed at maintaining it. Social and material factors are of less importance in that case [16].

Mental inequalities and too large intellectual disproportions cause difficulties in reaching all those who require accessible information. In high developed societies, such situations are less and less frequent. The problem occurs between the doctor (as an educated person) and the patient, who will not always be able to cooperate at the level which guarantees effective communication. Nevertheless, social status requires a specific intellectual effort to develop effective methods of influence. This situation is particularly visible in multicultural countries with a significant social stratification. Constant work and educating others should be perceived as mutual endeavors. It is an action in which we both give and take; we educate others while learning; we bring up, through our personal development, all that carried out with full awareness that not everyone shares our views in this respect [17]. Effective persuasion is a common reason for changing preferences.

Knowledge, education, and welfare influence different approaches to the issue of health or disease. The World Health Organization defines its social determinants as those in which people are born, grow up, work, live, and reach elderly age, along with factors shaping everyday lifestyle, and at the same time responsible for the entire baggage of health inequalities [18]. It is the physician who has an important role to play in building pro-health awareness, which is why he should actively participate in reducing negative effects associated with social determinants of health. As many as 85% of physicians (study by Robert Wood Johnson Foundation, 2011) know that the failure to meet the social needs among their patients negatively affects their health. However, only four in five doctors showed their ability to do anything in this direction. A higher level of pro-health awareness is displayed by educated individuals with a well-established material status [19].

Education, as the most important element of influence aimed at changing individual behavior in terms of health, determines finding appropriate and effective forms of its distribution. In order to achieve the desired effect, it is necessary to consider how to provide knowledge, who is supposed to do it, and how the recipient will respond to it. Understanding human behavior in this aspect required theoretical decisions on the role of emotions, social norms, risk perception and uncertainty in the area of health care [20].

Threats to a healthy lifestyle

Various types of stimulants (cigarettes, alcohol, drugs) have become a particular threat to the quality of health. Low resistance to stress, emotional immaturity and dependence on others are some of the personality traits responsible for falling into addictions [21].



According to WHO, 60% of factors which influence health and quality of life are related to lifestyle. Before one starts changing the quality of his lifestyle, it is important to recognize the specific health reason to do so. Following, a defined action plan based on effective methods should be adopted and approved. Failure to comply with certain criteria in this respect exposes the population to diseases, disabilities and contributes to number of deaths. Unhealthy lifestyle causes cardiovascular, metabolic and many other diseases. Improper nutrition, stimulants, drug abuse, stress and the lack of exercise lead to negative health consequences. This can result in a variety of disorders, both physical and psychological.

It might seem that health problems should motivate towards changing one's life-style. However, people rarely change their behavior under a threat [22]. Bad health news triggers defensive reactions. Brain imaging studies have confirmed that the greater the risk is, the smaller response to this type of information is revealed [23]. For example, in one of the studies, heavy cigarette smokers and those attracted to drinking alcohol were provided with brochures containing visualizations of different content, more or less influencing their imagination. Then, the respondents assessed the effectiveness of the brochures and their own potential health risk in relation to a given addiction. In the group of smokers, the sense of disease risk was reported as low and the quality of information as poor. In the case of those who turned to alcohol, the situation was similar, however a stronger defense mechanism was noticed on the part of regular alcohol consumers [24].

Changing lifestyle can often contribute to the reduction of occurrence in various diseases among genetically burdened people. In this group of patients, a healthy lifestyle reduced the risk of coronary episodes by almost fifty percent [25].

One of the most important determinants of good health is the diet, which directly translates into the overall quality of life. Unhealthy diet and its consequences in the form of obesity is a major health problem, especially for city dwellers. Widespread access to fast food and processed food that is poor in nutrients is the cause of numerous diseases [26]. Even slight weight loss significantly reduces cardiovascular risk factors. Physical activity along with a healthy diet is a guarantee of good health for everyone. There is a relationship between reasonable physical activity and maintaining healthy habits. Physically active people are characterized by greater self-esteem and optimism, they care for healthy eating and avoid stimulants [6].

Another factor important for health, greatly underestimated, is the sleep. It is closely related to the style of human functioning and directly affects both mental and physical condition. The demand for sleep length, which gives a sense of a rest, depends on individual needs. Sleep is needed primarily for the brain, but also to other organs that work continuously. Modern technologies undoubtedly improve the quality of life, nevertheless, their unwise use can cause sleep disorders; addiction to cell phones is often the cause of depression [27].



Another significant problem, often negatively affecting the quality of health of an individual and society, is the so-called self-treatment, especially drug abuse, including antibiotics and even some vitamins. Such behavior negatively affects the immune system. Even if their usage seems to be a necessity, antibiotics may turn out ineffective. As many as 10% among people in the group of supporters of self-treatment experience serious complications — drug resistance is one of them [28]. Excessive supply of vitamin A may cause birth defects and hepatotoxicity in adults [29].

According to CBOS survey, 81% of Poles claim that they properly care for their health state. It is difficult to agree with these statements when looking at the statistics of people who regularly undergo preventive examinations, supporters of all kinds of stimulants or those who actively spend their free time [30]. This is also evidenced by the low response to the vaccination campaign against the COVID-19 epidemic, which is observed not only in Poland, but also worldwide.

In recent years, health sociology and psychology have made significant progress towards identifying ways to change health behaviors. Wilson et al. in their metaanalysis revealed that lifestyle improvement measures become effective once they include a reasonable number of recommendations. Such an amount should be low enough not to be too demanding but at the same time high enough to trigger a satisfactory level of motivation for their implementation [31]. Motivation is an important factor in achieving success. Its lack significantly reduces the effects due to noncompliance with the recommendations.

The method of achieving the assumed goal through gradual implementation of individual components of the recommendation seems to be effective in that case. Experience gained on the way to success in changing an individual's health behavior enhances the sense of self-strength and effectiveness, which in return may help in implementation of others, previously considered impossible to achieve. Individual effectiveness is the driving force behind action, regardless of temporary problems. Along with the belief in one's own abilities to perform a task, motivation to define intentions increases and consequently leads to making a change. Trying to modify many health behaviors at a time increases the feeling of being overwhelmed, which does not prognosticate well due to high risk of physical and mental strain. An acceptable level of risk is the one that allows for a specific benefit achievement. A large dose of uncertainty makes it impossible to implement a specific action. The basic factor thanks to which we are able to properly manage risk is the knowledge. It becomes significant to evaluate possible gains or losses based on objective information. It is difficult to assess the degree of risk once the behavior change has already taken place. The new situation and the lack of experience limit objective estimate of its scale.



Summary

In order to avoid the feeling that the goals set are too distant, even unattainable, the principle of an individual approach should be used. For some people, many recommendations are not a problem — thanks to their inner force, self-discipline and the ability to properly identify threat, they will be able to achieve the desired effect. Others may receive that impossible to happen for various reasons. The timing of the process of changing health behavior is also important. Best results can be achieved in the medium and long term with a moderate number of recommendations implemented.

Conflict of interest

None declared.

References

- Ostrowska A.: Styl życia a zdrowie. Instytut Filozofii i Socjologii Polskiej Akademii Nauk, Warszawa. 1999: 14.
- Ostrowska A.: Prozdrowotne style życia. Promocja Zdrowia. Nauki Społeczne i Medycyna. 1997; 10– 11: 9.
- 3. Rasu R.S., Bawa W.A., Suminski R., Snella K., Warady B.: Health Literacy Impact on National Healthcare Utilization and Expenditure. International Journal of Health Policy and Management. 2015; 4 (11): 747–755.
- 4. Eichler K., Wieser S., Brugger U.: The Costs of Limited Health Literacy: A Systematic Review. International Journal of Public Health. 2009; 54 (5): 313–324.
- 5. Syrek E.: Zdrowie w aspekcie pedagogiki społecznej. Wydawnictwo Uniwersytetu Śląskiego. 2000: 11-12.
- 6. *Gruszczyńska M.*, *Bąk-Sosnowska M.*, *Plint R.*: Zachowania zdrowotne jako istotny element aktywności życiowej człowieka. Stosunek Polaków do własnego zdrowia. Hygeia Public Health. 2015; 50 (4): 558–565.
- 7. Lee A., Lo A., Li Q., Keung V., Kwong A.: Health Promoting Schools: An Update. Applied Health Economics and Health Policy. 2020; 18 (5): 605–623.
- 8. McEvoy C.T., Moore S.E., Appleton K.M., Cupples M.E., Erwin C., Kee F., Woodside J.V.: Development of a peer support intervention to encourage dietary behaviour change towards a Mediterranean diet in adults at high cardiovascular risk. BMC Public Health. 2018; 18: 1194.
- 9. Gromulska L., Piotrowicz M., Cianciara D.: Self-efficacy in health behaviour models for health education. Przegląd Epidemiologiczny. 2009; 63 (3): 425–430.
- 10. Freivogel C., Visschers V.N.M.: Antimicrobial-resistant bacteria in food: which behaviour change strategies increase consumers' risk awareness and preventive food-handling behaviour? Health Psychology and Behavioral Medicine. 2021; 9 (1): 350–379.
- 11. Zarski A.C., Berking M., Reis D., Lehr D., Buntrock C., Schwarzer R., Ebert D.D.: Turning Good Intentions Into Actions by Using the Health Action Process Approach to Predict Adherence to Internet-Based Depression Prevention: Secondary Analysis of a Randomized Controlled Trial. Journal of Medical Internet Research. 2018; 20 (1): e9.
- 12. Wong-Rieger D., Rieger F.: Health Coaching in Diabetes: Empowering Patients to Self-Manage. Canadian Journal of Diabetes. 2013; 37: 41–44.
- 13. Olsen J.M., Nesbitt B.J.: Health coaching to improve healthy lifestyle behaviors: an integrative review. American Journal of Health Promotion. 2010; 25 (1): e1–12.



- 14. McGowan P., Lynch S., Hensen F.: The Role and Effectiveness of Telephone Peer Coaching for Adult Patients With Type 2 Diabetes. Canadian Journal of Diabetes. 2019; 43 (6): 399–405.
- 15. Rimal R.N., Lapinski M.K.: Why health communication is important in public health [Editorial]. Bulletin of the World Health Organization. 2009; 87: 247.
- Towe V.L., May W. L., Huang W., Martin L.T., Carman K., Miller C.E., Chandra A.: Drivers of differential views of health equity in the U.S.: is the U.S. ready to make progress? Results from the 2018 National Survey of Health Attitudes. BMC Public Health. 2021; 21: 175.
- 17. Ventres W.B, Fort M.P.: Eyes wide open: an essay on developing an engaged awareness in global medicine and public health. BMC International Health and Human Rights. 2014; 14: 29.
- 18. World Health Organization. Global status report on alcohol and health. 2018.
- 19. Andermann A.: Screening for social determinants of health in clinical care: moving from the margins to the mainstream. Public Health Reviews. 2018; 39: 119.
- 20. Bavel J.J.V., Baicker K., Willer R.: Using social and behavioural science to support COVID-19 pandemic response. Nature Human Behaviour. 2020; 4: 460-471.
- 21. *Ogińska-Bulik N.*: Czynniki sprzyjające rozwojowi zachowań kompulsywnych związanych z wykonywaniem czynności. [In:] Zachowania ryzykowne i szkodliwe dla zdrowia. Ogińska-Bulik N (ed.). Akademia Humianistyczno-Ekonomiczna, Łódź. 2010: 23–42.
- 22. Peters G.J.Y., Ruiter R.A.C., Kok G.: Threatening communication: A critical re-analysis and extension of meta-analyses test of fear appeal theory. Health Psychology Review. 2013; 7: 8–31.
- 23. *Kessels L.T.E., Ruiter R.A.C., Brug J., Jansma B.M.*: The effects of tailored and threatening nutrition information on message attention. Evidence from an event-related potential study. Appetite. 2011; 56: 32–38.
- 24. Ten Hoor G.A., Peters G.J.Y., Kalagi J., de Groot J.: Reactions to threatening health BMC Public Health. 2012; 12: 1011.
- 25. *Khera A.V.*, *Chaffin M.*, *Aragam K.G.*, *Haas M.E.*, *Roselli C.*, *Choi S.H.*, *et al.*: Genome-wide polygenic scores for common diseases identify individuals with risk equivalent to monogenic mutations. Nature Genetics. 2018; 50: 1219–1224.
- 26. Mozaffarian D., Hao T., Rimm E.B., Willett W., Hu F.B.: Changes in diet and lifestyle and long-term weight gain in women and men. The New England Journal of Medicine. 2011; 364: 2392–2404.
- 27. Yang J., Fu X., Liao X., Li Y.: Association of problematic smartphone use with poor sleep quality, depression, and anxiety: a systematic review and meta-analysis. Psychiatry Research. 2020; 284: 112686.
- 28. Farhud D.D.: Impact of Lifestyle on Health. Iranian Journal of Public Health. 2015; 44: 1442-1444.
- 29. Castaño G., Etchart C., Sookoian S.: Vitamin A toxicity in a physical culturist patient: a case report and review of the literature. Annals of Hepatology. 2006; 5: 293–395.
- 30. CBOS: Raport z badań. Polacy o swoim zdrowiu oraz prozdrowotnych zachowaniach i aktywnościach. Warszawa 2012.
- 31. Wilson K., Senay I., Durantini M., Sanchez F., Hennessy M., Spring B., Albarracín D.: When it comes to lifestyle recommendations, more is sometimes less: A meta-analysis of theoretical assumptions underlying the effectiveness of interventions promoting multiple behavior domain change. Psychological Bulletin. 2015; 141: 474–509.