

Infectious Diseases transmitted by fecal-oral Transmission and their social Aspects

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Original Article

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Source: *Clinical Social Work and Health Intervention*
Pages: 27 – 34

Volume: 14
Cited references: 15

Issue: 3

Reviewers:

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Jirina Kafkova
MSF, Freetown, SL

Keywords:

Hygiene. Fecal-oral Transmission. Social Class. Health Education.

Publisher:

International Society of Applied Preventive Medicine i-gap

CSWHI 2023; 14(3): 27 – 34; DOI: 10.22359/cswhi_14_3_04 © Clinical Social Work and Health Intervention

Abstract:

Objective: The aim of our research was to find out whether the respondents know what the alimentary diseases are and whether they think that people with worse social or economic situation have the same access to health care as the average population.

Design: Observational-descriptive research.

Participants: 140 respondents from the age of 18 with a secondary vocational education were contacted to complete a questionnaire during the month of April 2023. The research involved 100 women and 40 men, with the highest proportion of respondents (48.6%) are in the 26-35 age group and with a high school education (39.3%). The collection of the questionnaire responses was done at random to ensure the highest possible internal validity of the research and distribution as in the general population.

Methods: Comparison of the number of responses and allo-

cation of the percentage (relative) result. Expression of the statistical and technical decision.

Results: The research sample shows that up to 70% of respondents do not know what the alimentary diseases are and 53% of respondents think that people with worse social or economic conditions do not have the same access to health care as the average population.

Conclusion: According to our research, there is also a large group of people from the majority population who do not know what these are and who have a distorted view of the health conditions and habits of the minority population.

Background

Infectious diseases transmitted by fecal-oral transmission are caused by insufficient adherence to hygiene principles, especially personal hygiene, hand hygiene and food and water hygiene. Typical diseases caused by "dirty hands" and insufficient personal hygiene include hepatitis A, staphylococcal enterotoxigenesis, shigellosis, typhoid fever, Norwalk virus and many others, including parasitic infections such as scabies, pediculosis, taeniasis or ascariasis. Why are there constant epidemics of these infectious diseases when prevention is so simple? Is it difficult to wash your hands regularly with soap and water? Take care of your personal hygiene, pay attention to the purity of water and the safety of food? The answer may be the social, economic and cultural aspects that are present in different social groups and the level of knowledge of the general population about the issue of infectious diseases. On this topic, we conducted an observational-descriptive research focused on the level of knowledge about infectious diseases and hygiene habits on a sample of 140 respondents who filled out our non-standardized questionnaire in April 2023.

A significant difference in access to hygiene can be seen even among small children, depending on the social class and economic situation of the family. It is ideal to work on hygiene habits with children and to start active health education as soon as possible, to which public health workers, social workers, schools or resocialization facilities can also contribute if it fails family.

A low level of hygiene means a high risk of disease

The lower the level of hygiene habits, socio-economic level and awareness of health

protection methods, the higher the risk of developing and spreading infectious diseases and mortality (Sclar, 2016). Fecal-oral transmission is typical for infections spreading among this population. Wagner and Lanoix (1958) conceived the so-called principle 5F in fecal-oral transmission of enteric pathogens: fluids, fingers, food, fields and flies. In practice, the transmission of infection can be direct or indirect. In the case of direct transmission, the carrier itself is present, i.e. the source of infection, namely a sick infected person. Transmission can also be indirect, when the source may not be present, but the infection continues to spread through infected objects, surfaces, water or food. In the case of direct transmission, early diagnosis and isolation of the patient, including early therapy, prove to be an effective tool for eliminating the emergence and spread of infection. In the case of indirect transmission, other interested parties and authorities, state health supervision, public health professionals or EHS managers also play an important role.

The task of these parties is to create rules for safe work, hygienic work with food, control of the health safety of drinking water, health and hygiene education. In order for this process to work, the cooperation of all components is necessary. However, this is not always possible. Various psychosocial factors, cultural aspects, social dogmas or low economic income come into play.

Current situation in the world and in Slovakia

According to WHO and UNICEF (2015) there are more than 2.4 billion people in the world without adequate sanitation and without access to clean drinking water. These are mainly

the countries of Western and South Asia, sub-Saharan Africa, Latin America, etc. In most cases, this is a population living in the countryside outside the cities, where access to clean water that is safe for health is difficult, and hygiene habits and health education are not emphasized, mainly due to the low economic level of the population, poor access to health care and education, political or cultural wars. In Slovakia, there is generally good access to healthy and high-quality drinking water, but there are also groups of the population that are threatened by generational poverty, lack of education and struggle with social and cultural problems. They are mainly marginalized groups of residents who, like the rest of the world, live mainly in rural areas outside cities. Their exact number is also unknown, it is estimated that there are approximately 500,000 inhabitants from this group, while two thirds of them live in ghettos or settlements isolated from the majority population (Stupak, 2013). Poor hygienic and social conditions mean higher mortality from infectious diseases. Children who continue their parents' way of life are also at risk, as it is practically impossible to get out of this vicious circle without outside intervention. Children who get to re-education centers have the opportunity and chance to get an education and basic hygiene habits. Pedagogical workers and public health professionals are dedicated to them. Some re-education centers determine the level of hygiene habits of newly admitted clients to the facility and also examine personal anamnesis in the case of infectious alimentary diseases such as hepatitis A, shigellosis, but also skin and mucous membrane infections such as scabies or parasitic pediculosis.

Education for health

Health education is a complex process including pedagogical, medical, epidemiological and social activities, but also environmental and marketing activities, the goal of which is the education and training of correct hygiene habits for the protecting, supporting and further developing health of the population, reducing the incidence of infectious diseases and reducing mortality. It requires the cooperation of experts, executive authorities and, if the social situation allows, families. It should be aimed at imparting knowledge about personal hygiene, hand hy-

giene, intimate hygiene, hair and nail hygiene, the need for clean clothes and linen and dental hygiene. In order for health education to be complete and comprehensive, it is necessary to supplement these habits with basic knowledge of food hygiene and work with them, as food and water are frequent factors in the transmission of infectious diseases.

In the case of infectious diseases transmitted fecal-oral, the goal of health education is to educate about the chain of infection and ways to break it. The chain of infection includes all possible potential risks of infection, while often these are places and surfaces that do not appear to be dirty or contaminated at first glance (RSPH, 2019). The chain starts at the source of infection, which is humans, animals, contaminated water and food. Proceeding from this source (feces, vomit, exudates, fluids, mucus, skin scales, liquids and juices from food), pathogens are spread through the hands to surfaces, tools, clothing, household items or food. The entrance gate is the mouth, eyes, nose, mucous membrane or small wounds on the skin. The chain is closed by entering the recipient, who participates in this cycle of pathogens, in most cases completely unknowingly. Some people have a higher risk of developing a manifest disease based on genetic predispositions or other external factors (stress, poor nutrition, weakening of the body).

People who live in poor social conditions, do not have sufficient financial resources, access to education and health care, do not have the opportunity to know this chain and do not know how to defend themselves against infections. As a result of chronic stress from existential problems and unhealthy nutrition, their organism is weakened, which causes a higher risk of pathogen multiplication and disease outbreak. Complicated access to adequate health care in turn increases morbidity.

Supporting the health of children in socially weaker communities

Efforts to improve children's health development are among the main goals of public health activities. The good health of children is the basis of the social and economic development of the entire society (Hamade, 2010). Health promotion takes place with the active participation of individuals, groups, communities, organiza-

tions and society as a whole. Individuals can learn a healthy lifestyle and thereby take an active role in their own health. The company's task is to create such conditions for individuals so that a healthy lifestyle can be realized. These conditions include the protection and creation of a healthy environment, care for a good standard of living, creation of working conditions, support of education and information in relation to a healthy way of life (Machova, 2015).

In society, we observe inequality in the health of the population, especially in vulnerable communities. Disadvantaged, vulnerable, marginalized communities are population groups that, for various reasons, do not have the same access to education, health care and other areas of social life. Risk factors of vulnerability can be divided into non-influenceable (ethnicity, age, gender) and influenceable (poverty, health, education). Disadvantaged groups include the disabled, the unemployed, the homeless, children from socially weak families, the elderly and the Roma community living in segregated settlements. The residents of segregated settlements are demonstrably the most endangered and poorest population group in Slovakia (Hegyí, 2013).

Gulasova et al. (2010) describes the social situation of the Roma ethnic group as serious. A low level of housing, a devastated and polluted environment, poor quality nutrition, consumption of alcohol and tobacco products are factors in the unfavorable health status of the Roma community. Relatively often, compared to the majority, infectious diseases transmitted by fecal-oral, airborne and blood-borne routes occur in this population. These are infectious diseases of the digestive tract, skin, hair, diarrhea, viral hepatitis, sexually transmitted diseases and others. The massive disease burden is linked to insufficient hygiene, sanitation and water supply (Van der Geest, 2015). The deteriorating health status of the Roma population is the result of increased costs to society for treatment, hospitalization and incapacity for work. Therefore, health support programs for disadvantaged communities in Slovakia are essential.

Thus, health inequalities are largely attributed to social determinants of health. Inadequate hygiene can also be a cause of social rejection, especially for children from poorer families. Being rejected by peers for being dirty or smelly

creates in children a need to avoid such rejection. Motivation for positive hygienic behavior decreases and integration and socialization among peers becomes difficult. The family has the greatest influence on the formation of hygiene habits (Ramos-Morcillo et al. 2019).

With increasing evidence of the toxic effect of poverty on health and the widening gap in society (between the poor and the rich), families face challenges that adversely affect their ability to fulfill their fundamental role of preparing children for healthy and productive lives (McNeill, 2010).

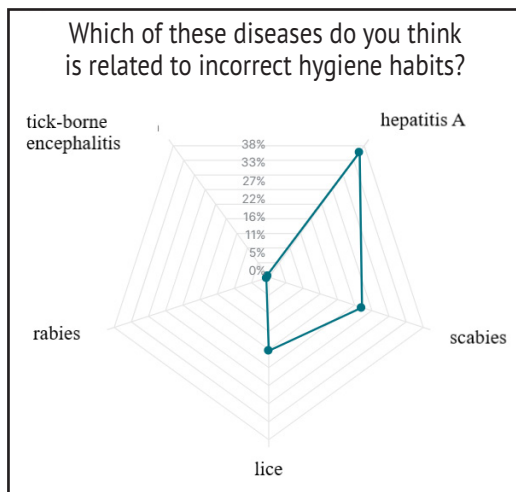
In the case of a dysfunctional family education strategy, inclusive education in schools could be a current solution. It is an open and dynamic process in which the diversity of pupils is positively accepted and enables empathy, equality, tolerance, non-discrimination and socialization. It creates favorable conditions for stimulating children's education. It significantly supports the health-preventive content of education, in which pedagogical and professional employees participate. Professional consultations for parents of students from socially disadvantaged backgrounds are a health intervention. A very effective strategy is the application of an all-day education system with the aim of directing the possible negative effects of the family and social environment. However, positive results are not possible without the cooperation of the family and the community. Without two-way communication, goals will remain at the level of one-sided efforts and good intentions (Liba, 2016).

Hygienic habits and knowledge about infectious diseases

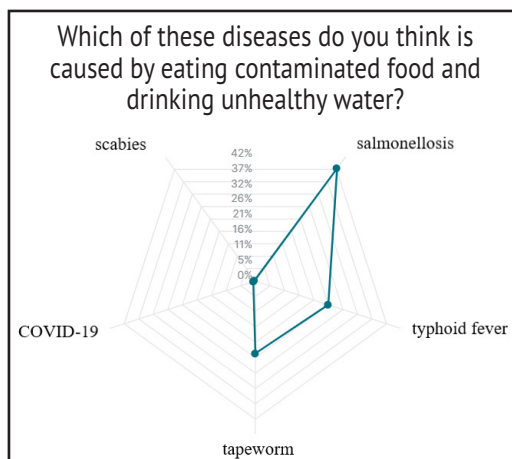
In connection with the issue of food-borne diseases and health education, we carried out an observational-descriptive research in which 140 respondents participated by random selection in order to ensure the same chance for respondents to participate. The inclusion criteria were over 18 years of age and a secondary vocational education. The exclusion criterion was age below 18 years. We chose a non-standard questionnaire with 21 questions as a data collection method. More than half of the respondents (55.4%) filled out the questionnaire in an average of 2-5 minutes, the success rate of the questionnaire was

at the level of 78.2% (a total of 179 participants were approached, of which 140 questionnaires were completely filled out and 39 were not filled in, only displayed). The questionnaire was filled out by 100 women and 40 men, while respondents in the 26-35 age group (48.6%) showed the greatest interest in participating in the survey, followed by the 36-45-year-old group (20%) and 18-25-year-olds (15, 7%). Regarding the question of the highest level of education achieved, the sample of respondents was more evenly distributed - 39.3% of respondents had completed high school education with a high school diploma, 27.1% of respondents had a first-level university education, and 23.6% of respondents had a second-level university education degree.

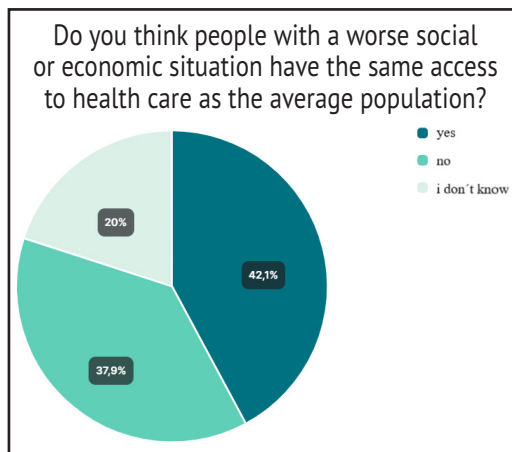
People do not know what alimentary diseases are



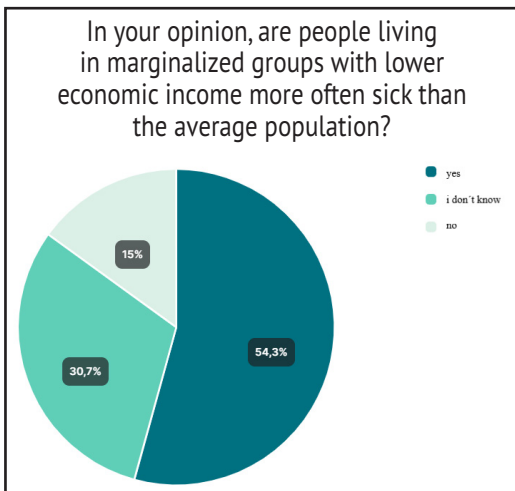
According to our sample up to 70% of respondents do not know what alimentary diseases are. However, when the respondents were given the choice to mark diseases that they believe are related to incorrect hygiene habits, most of the answers leaned in the right direction. Respondents could mark several answers at once. The majority of respondents (46.7%) associate hepatitis type A with incorrect hygiene habits, while up to 40.7% of respondents associate salmonellosis with the consumption of contaminated food.



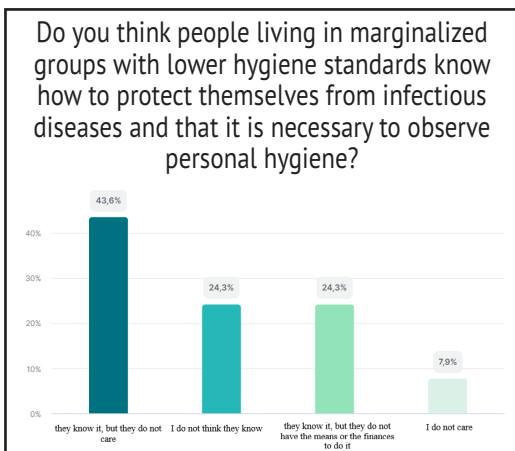
We also asked respondents about their opinion on morbidity in marginalized population groups and equal access to health care. According to 42.1% of respondents, persons with a worse social and economic situation from marginalized groups have the same access to health care as the majority population, 37.9% of respondents answered no and 20% of respondents could not answer.



According to 54.3% of respondents, people living in marginalized groups with lower economic income are sick more often than the general population, 15% of respondents could not answer and up to 30.7% of respondents think that they are not sick more often than the majority society.



We also asked the respondents for their opinion on whether, according to them, members of marginalized groups deliberately do not observe hygiene habits, according to 43.6% of the respondents, these people know how to protect themselves from infectious diseases but they still deliberately do not observe hygiene habits, 24.3% of the respondents think that they do not know it at all, another 24.3% of respondents think that these people know how to protect themselves from infections but do not have the means to do so, and for 7.9% of respondents, this issue is completely unimportant.



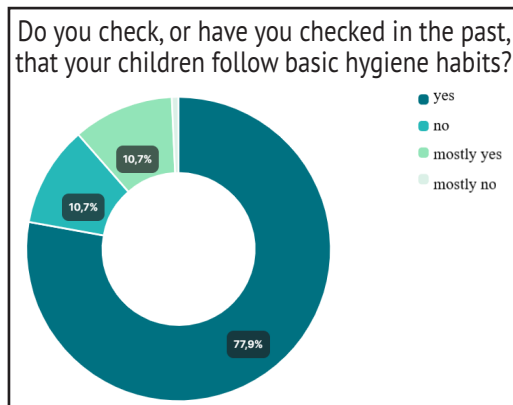
Personal hygiene habits

We also ascertained the interviewees' personal level of compliance with personal habits. In the questionnaire, we asked whether they wash their hands before eating, 66% said that

they always wash their hands before eating, 31.9% of respondents usually wash their hands before eating, 1.4% of respondents usually do not wash their hands before eating, and one the respondent even answered that he does not wash his hands at all before eating.

Education for health

We also asked our sample of respondents about their opinion on health education and basic knowledge about infectious diseases or whether they consider it important, while the majority of answers were unequivocally in favor of health education (94.3%), some respondents could not express their position on the question (4.3%) and two respondents even answered that health education is not important in their opinion (1.4%). Despite this, only 77.9% of respondents check or have checked in the past their children's hygiene habits (in the case of parents, respondents who do not have children were excluded from the question), 10.7% of parents mostly check their children's hygiene and 10.7% do not control the hygiene habits of their children.



Conclusion

According to our research, up to 70% of respondents do not know what alimentary diseases are, including parents, while 10.7% of them do not check their children's hygiene habits at all. A significant part of the respondents (43.6%) from our research also think that people from marginalized and excluded groups with a lower economic income deliberately do not follow hygienic habits, even if they know that they are exposing themselves and their surroundings to the risk of an infectious disease.

The emergence, outbreak and further spread of infectious diseases through faecal-oral transmission also have demonstrable social and cultural aspects, which in most cases have a negative effect on the health of the affected population. These negative social factors include a low level of education, poverty, a pathological family, alcohol and drug consumption, separation from the majority, rejection, chronic stress and minority disinterest or discrimination. Members of society who are strongly influenced by these factors do not have the capacity to comply with hygienic habits, they do not know about the chain of infection and the risks when an infection can occur, and they do not even know basic preventive measures, the principles of caring for themselves and their environment, they do not know how to hygienically handle food and drinking water and do not distinguish the symptoms of infectious diseases. The result is higher morbidity in these population groups and, as a result of complicated access to health care, also mortality. In the 21st century we consider it unacceptable and inhumane to accept the higher mortality of certain groups of the population only on the basis of their lower economic and social level and we consider it important to give them a helping hand, to educate them about basic hygiene habits, the importance of taking care of their health, about the hygienic handling of food and drinking water. This is only possible by bringing together experts from the social field, from the field of public health, teaching staff and others. By educating children and families from socially disadvantaged communities, we will achieve better levels of health and a more positive society for all, with lower unemployment and better economic outcomes. However, we should not centralize education only for marginalized groups, but also for the majority.

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