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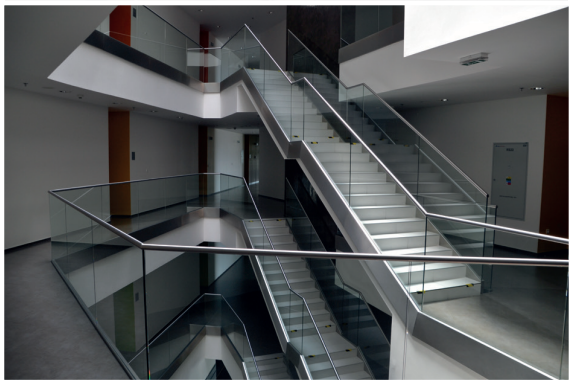

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EDITORIAL

Dear Readers,

The journal "Zdravotníctvo a sociálna práca" (*Health and Social Work*) was renamed in 2021 to International Journal of Health, New Technologies and Social Work *Including* Public Health New Technologies, Nursing, Laboratory Medicine, Social Work and Education

Our long-term effort is to gradually acquire for the journal European significance and be included in international databases. Starting with issue No. 4 in 2016, the journal accepted the Harvard style of referencing, and changed guidelines for the authors. The aim of the changes was to move closer to the standard in international journals published in English in the area of health and helping professions. The editors are aspiring for registration in other relevant international databases. Since last 2020 the journal has published all articles in English only.

The journal "Zdravotníctvo a sociálna práca" (*Health and Social Work*) was established in 2006 at Faculty of Health and Social Work blessed to P.P. Gojdič in Prešov and St. Elizabeth University College of Health and Social Work in Bratislava. In 2020, the journal celebrated its 15th year of publication.

Previously professional journal, within 5 years developed into an international, peer-reviewed scholarly journal, published quarterly (4 issues per year). The journal were published by the St. Elizabeth University of Health and Social Work in Bratislava. The journal became international in 2009. The journal was published and distributed in the Slovak Republic and also in the Czech republic.

Since 2011, the journal is published both in print and as electronic issues, available from: www.zdravotnictvoasocialnapraca.sk. Starting by issue No. 3 in 2014, the scope of the journal has broaden and the journal is covering health sciences, such as Public Health, Nursing, Laboratory Medicine, but also helping professions such as Social Work or Pedagogy. Collaboration with Faculty of Health and Social Work of Trnava University in Trnava was initiated.

The journal is indexed in the following databases: Central and Eastern European Online Library – CEEOL (since 2018), Bibliographia Medica Slovaca (BMS), and Slovak reference database CiBaMed.

The part of journal is Supplementum, to publish abstracts from international conferences organized by the St. Elizabeth University of Health and Social Work in Bratislava. In 2020, the conference was planned, similarly to last year, in Ustroń, Poland. Due to the unfavorable epidemiological situation, the conference was postponed by the organizers to October 2021.

Prof. Miron Šramka, MD, DSc.
redactor-in-chief

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The legal nature of the professional error and its impact on the form of liability of health care professionals in the Republic of Serbia

Pravna priroda stručne greške i njen uticaj na oblik odgovornosti zdravstvenih radnika Republike Srbije

Boro Krstic,[1] Dragan Zečević [2]

[1] Singidunum University, Faculty of Health and Business Studies, Serbia
[2] International Center for Cardiovascular Disease "MC Medicor" Izola, Slovenia

Contact address: Boro Krstić, Assistant Professor, Singidunum University, Faculty of Health and Business Studies, Železnička 5, 14000 Valjevo, Serbia, e-mail: boro.krstic@singidunum.ac.rs

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ABSTRACT **Introduction:** Liability due to professional error of health care professionals has for many years been viewed as liability due to doctor's professional error, however, in recent times the Serbian legislator has accepted the term "professional error", so it is more appropriate to consider the liability of all health care professionals due to professional error, not just doctors

Goal: The authors try to point out the discrepancy between the meaning and consequences of professional error prescribed by the Law on Health Care of Serbia and the consequences that occur in practice, in the sense that the Law refers exclusively to disciplinary and material liability of health care professionals due to professional error, not misdemeanor and criminal liability.

Methods: Using the method of analysis, the authors pay special attention to the positive legal regulations. A comparative method was used in a particular section of the paper as well. In order to confirm certain facts during the research, the authors also applied the method of interviews with health care professionals.

Results: The concluding observations justify that criminal liability, as well as misdemeanour, have no foothold in professional error defined by the Law on Health Care of the Republic of Serbia, but in the general rules on liability.

Conclusion: It is necessary to establish closer ties between scientists in the field of medicine and law, in order to point out the need to specify the provisions of the Law on Health Care of the Republic of Serbia, regarding the consequences for the health and life of patients in case of professional error.

Key words: professional error, health care professionals, liability, damage

SAŽETAK **Uvod:** Odgovornost usled profesionalnih propusta zdravstvenih radnika dugi niz godina posmatrana je kao odgovornost usled lekarske stručne greške, međutim, u novije vrijeme srpski zakonodavac prihvatio je termin „stručna greška", pa je adekvatnije razmatrati odgovornost svih zdravstvenih radnika usled stručne greške, a ne samo lekara.

Cilj: Autori nastoje da ukažu na razmimoilaženje značenja i posledica stručne greške koju propisuje Zakon o zdravstvenoj zaštiti Srbije i posledica koje nastaju u praksi, u smislu da Zakon isključivo upućuje na disciplinsku i materijalnu odgovornost zdravstvenih radnika usled stručne greške, a ne prekršajnu i krivičnu odgovornost.
Metode: Do ključnih rezultata u ovom radu autori dolaze koristeći se metodom analize pozizitivno-pravnih propisa, međutim, u određenom delu rada primenjen je metod komparacije. Kako bi potvrdili određene činjenice, autori su tokom istraživanja primjenjivali i metod intervjua sa zdravstvenim radnicima.
Rezultati: Na osnovu prikupljenih podatka došlo se do činjenica koje ukazuju da krivična odgovornost, kao i prekršajna, nemaju uporište u stručnoj greški koju definiše Zakon o zdravstvenoj zaštiti Srbije, nego u opštim pravilima o odgovornosti.
Zaključak: Neophodno je ostvariti tijesniju veze između naučnih radnika u oblasti medicine i prava, kako bi ukazali na potrebu preciziranja odredbi Zakona o zdravstvenoj zaštiti Srbije, u pogledu posledica koje nastaju po zdravlje i život pacijenta u slučaju stručne greške zdravstvenog radnika.

Ključne reči: stručna greška, zdravstveni radnici, odgovornost, šteta

INTRODUCTION

The commitment of health care professionals is closely related to the rights of patients, who in modern times occupy a very important place in health care. Patients' rights were first covered by health care regulations, and later these rights would be regulated by the Patient Rights Act. The characteristic of health care professionals' liability stems from the generally accepted fact that the liability of health care professionals is based on several aspects of accountability: civil, criminal, disciplinary, misdemeanour. The persistence of health care professionals' responsibilities has evolved for many years, throughout history, that is, legal and medical theory, the most talked about and written about is the liability of doctors based on medical professional error. Also, when it comes to the liability of health care professionals, there are certain details that are most noticeable within the disciplinary liability of health care professionals. In the first place, disciplinary liability depends on the type of medical profession, i.e. doctors, dentists, pharmacists, biochemists, nurses, or health technicians, because the Law on Chambers for Health Workers of 28.11.2005., left the possibility for each of the above-mentioned health activities to form its own chamber. So today there is: the Medical Chamber of Serbia, the Dental Chamber of Serbia, the Pharmaceutical Chamber of Serbia, the Chamber of Biotechnicians of Serbia and the Chamber of Nurses and Health Technicians of Serbia. Doctors and dentists in private practice have established their own private chambers. Each of these chambers, through its general acts, has the freedom to regulate disciplinary liability according to the specificity of the profession. Although throughout history, as already stated, the most written about is the "liability of doctors" resulting from a medical professional error, this paper will use the term "health care professional", which is common for all persons performing health activities in the status of an employee in a particular health care institution. Bearing in mind that the paper is interdisciplinary, i.e. it encompasses the medical and legal field of science, it was necessary to include in this research activity, in addition to lawyers, a person who, in addition to scientific research of medical knowledge, performs professional health activities (physician).

The subject of research in the paper is an analysis of the legal nature of professional error

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expressed through the views of medical and legal theorists, especially regarding the definition given by the Law on Health Protection, Official Gazette of the Republic of Serbia, no. 25/2019.

RESEARCH OBJECTIVES

The aim of the research is to determine the appropriate form of liability of health care professionals observed through the prism of professional error made by health care professionals in their work.

The assumption is that professional error has a much broader application in relation to its essential meaning, which is given by the Law on Health Care, at least from the point of view of the linguistic interpretation. In order to reach a correct conclusion about the possibility of applying a professional error in terms of the Law on Health Care, the paper will analyse the forms of liability that can be invoked by health care professionals, as well as the legal nature of professional error.

METHODS

The methodological approach in the paper is simple, and it is largely based on the standard method when positive legal regulations are processed. Namely, the authors use the method of content analysis or more precisely qualitative content analysis, because the focus is not only on recording the presence of certain content, but the content in the paper is broken down into its basic meanings expressed through thoughts and ideas. Also, when writing the paper, the interview method was used, because it is a very important factor in establishing certain facts that are important for making the right conclusion. In this work, the interview was used to collect data related to professional errors that may arise when making and issuing pharmaceutical products. The interview was conducted with a pharmacist - master of pharmaceuticals, i.e. responsible person in the pharmacy. In addition to the specified methods, the method of comparison was used in the paper.

LEGAL NATURE OF PROFESSIONAL ERROR

The notation of a professional error

The professional error was first mentioned in the 19th century, and one of the first definitions at the time was made by German scientist Rudolf Virchow. According to him, a doctor's professional error is a violation of generally accepted treatment rules, due to the absence of the necessary attention and caution. Virchow argued that generally accepted rules are principles that are not subject to any theoretical dilemmas and are the basis of any medical treatment. (Radišić 2008, p.180). Despite the large number of challenges to this definition, especially by German doctors, there is no single and undisputed definition in medical or legal literature, even though the term is in daily use. Fragments of health care professionals' responsibilities date back to the Roman right, when a medical error was a condition for a doctor's liability due to the death of his patient, because the incompetence of the doctor in the treatment was equated with guilt (imperitia culpae adnumeratur). From that period until today, the liability of doctors due to professional error has taken shape, so now we can talk about the liability of other health care professionals and health care institutions for the damage suffered by the patient due to certain medical treatment (Počuča, Šarkić, Mrvić-Petrović 2013, pp. 207).

By its nature, a professional error occurs due to the behaviour of health care professionals in performing health care activities contrary to the existing medical standard. Sometimes a health care professional has to decide "in a moment" about the choice of treatment or care method, i.e. the application of a certain means. The medical standard is expressed in certain rules that must

be followed by every health care professional, such as hygiene requirements when giving an injection. A medical standard is not valid if it is only in the examination phase, but the standard that is in official use at the time of undertaking a certain medical procedure is valid. In order for a certain medical method in treatment to have the property of a medical standard, it is necessary for it to be generally recognized by a number of university i.e. medical teachings, and it will retain such a property until the majority of medical science declares it suspicious. It is a basic standard (Radišić 2008, p. 180). If a health care professional is in doubt when undertaking an intervention, he/she is obliged to adhere to the principles of a safer path. The characteristic of a professional error is that it does not entail the liability of health care professionals if there is no harmful consequence for the patient.

Positive legal regulation of professional error

According to the definition given in Article 186 of the Law on Health Care of the Republic of Serbia (LHC), professional error is negligent performance of health activities in the form of neglect of professional duties in providing health care, negligence or omission, or non-compliance with established rules of profession and professional skills in providing health care protection, which leads to injury, damage, deterioration of health or loss of parts of the patient's body. This definition is derived from the Law on Obligations of Serbia (LO), which in the part on "causing damage" provides for rules that can be applied to health care professionals in case of professional error.

Liability in the case of professional error stems from the fact that the patient has been harmed, and bearing in mind that it is the health of the person and the activity that is of public interest, this can be claimed by health care professionals on two grounds of liability, namely: liability due to guilt (subjective liability) and liability for the created risk (objective liability).

In liability due to guilt, it is necessary that the patient suffered damage sustained by the health care professions, and that between the health care professional's actions and the damage to the patient there is a causal connection, i.e. the patient needs to prove that the health care professional's actions are the cause of the damage he/she sustained, or that the damage sustained by the patient is due to the actions of the health care professional. Thus, a relationship is established between health care professionals and patients, which implies the obligation of health care professionals to perform medical treatment according to the valid rules of the profession (lege artis). If the health care professional does not act according to the given standards, the question of liability arises, which depends on the adequacy of the causal link and the goal of the violated norm. Natural and logical causality are a factual issue, and a court expert in the medical profession will be hired for their proper determination in court proceedings. Adequate causality, on the other hand, is a legal issue assessed by the court. The question of determining the causal link is reduced to a hypothetical question, i.e. what would be the outcome of the treatment if the doctor acted as he should (Radišić 2008, p.180). Thus, according to the concept of subjective liability, the liability of doctors and other medical staff is based on their presumed professional guilt which is assessed according to the abstract, depersonalized criterion of doctor’s prudence and attention (Simić 2018, p.172).

Unlike the liability of health care professionals on the basis of guilt, in liability for the created risk, i.e. objective liability, the health care professional answers regardless of guilt. i.e. a person is called for liability only in cases prescribed by law, for specific matters. Thus, according to the rules on liability for dangerous goods, not all things are considered dangerous, but only those things that are in excessive danger of damage (Radišić 2019,

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p. 256). Unlike some countries in our legal system, the notion of a dangerous thing is given by the court in each specific case. Nowadays, the treatment of patients largely depends on the supply of health care institutions with sophisticated medical equipment, especially having in mind the specificity of a certain disease. The use of many medical devices and equipment is not completely reliable, nor is it safe. There are experiences that indicate that even the application of the best technical and technological achievements cannot always ensure exclusively positive results, so the damage to patients is almost inevitable, and they also occur in different circumstances. It usually happens that the patient suffers damage in connection with the use of a certain medical device. Therefore, the training and conscientiousness of health care professionals who handle medical equipment play a very important role (Cvetković, Nikolić 2014, pp. 351). Reckless work or omission of certain actions by the persons who manage medical equipment may increase the risk of deteriorating health, and not the expected improvement. Therefore, employees of such jobs in health care institutions are expected to work with increased attention (a good expert attention) so that there are no adverse consequences for the patient's health. This situation is especially pronounced in the work of pharmacists who use substances in the main galenic laboratories to prepare the products used in the treatment of patients. In addition to things, the activity (medical), in itself, can be categorized as dangerous, if doctors, pharmacists, nurses and other health care professionals do not apply proven medical methods in their work and if they do not behave conscientiously at all times, from the moment of diagnosis to the patient until healing. Medical activity is an activity of public importance and it concerns basic human values such as life, health, physical and mental integrity, human dignity, so that the damage caused by performing that activity becomes important. According to the Law on Obligations, the difference between a dangerous thing and a dangerous activity is reflected in the fact that the owner of the dangerous thing is responsible, i.e. the health care institution (as the owner of the thing), while in the case of dangerous activities, the person who deals with it is responsible (doctor, dentist, pharmacist, nurse, medical technician).

In relation to the previous Law on Health Care, where it was clearly defined that professional error can only be determined in disciplinary proceedings, and in the process of regular and extraordinary quality checks of professional work of health care professionals, the new Law on Health Care in addition to disciplinary procedure and procedures for quality control of professional work prescribed that professional error can be determined in other procedures. Thus, the Regulation on providing assistance to members of the Chamber of Nurses and Health Technicians of Serbia stipulates that due to a professional error, criminal proceedings can be initiated for the criminal offence of unintentional act of medical assistance, despite the fact that Article 2 of the said Regulation states that a professional error can be determined in a disciplinary procedure and a procedure of regular and extraordinary quality control of the professional work of health care professionals. The specified Regulation contains another inconsistency with the Law on Health Care, concerning the consequences caused by professional error of health care professionals. Namely, while the Law on Health Care, which prescribes injuries, impairments, deterioration of health or loss of body parts as the consequences of professional error of health care workers, the Regulation stipulates the death of the patient. Prescribing the specified consequences in the general acts of the Chamber of Nurses and Health Technicians of Serbia opens a different dimension of the issue concerning the compliance of bylaws with the law.

Some legal theorists raise the question of the liability of health care professionals in situations where the patient cannot prove the full adequacy

of a causal relationship. Thus, there is a doubt as to whether, with a lower degree of proof of a causal link, one can speak of the liability of health care workers, as is the case in Western European legislation. This attitude is justified by the need for preventive action on health care professionals. If, due to the insufficiently certain causal link between the professional error and the damage, the health care professionals are released from liability, this cannot encourage them to maximum attention and caution, but it can weaken their attention. This attitude expresses the view that there should be a preventive effect on the cause, and not only focus on elimination of its harmful consequences (Radisić 2010, pp. 48). A similar view has been accepted in Croatian legal theory, even though health care professionals object to a doctor's criminal liability for professional error, under which the criminal liability of a physician (health care professional) is a legitimate mechanism for ensuring the quality of health services, (Zečević, Škavić 2012, p.215). In the medical and health activities, physicians have the highest range of responsibilities, because a good portion of health care professionals perform certain tasks in accordance with the requirements of doctors, and such is the case, for example in the field of surgery where a whole team works in accordance with the instructions of a doctor. The rule here is that the wider the scope of liabilities, the wider the scope of liability. However, this does not mean that there are no limitations when it comes to the liability of doctors, because that liability also has its limits, which are set in human nature (ultra posse nemo tenetur), and the doctor does not seem responsible for the impossible (Bošković 2007, p.176).

FORMS OF LIABILITY OF HEALTH CARE PROFESSIONALS

Liability for professional error is determined in disciplinary proceedings before the competent authority of the chamber, in the procedure of regular and unannounced quality checks of professional work, i.e. in other procedures established by law (LHC Article 186). However, in medical and legal practice, health care professionals, regardless of profession, can be subjected to four forms of liability because of the professional error they made in performing professional activities, which is: disciplinary liability, material liability, misdemeanour liability and criminal liability.

DISCIPLINARY LIABILITY

Disciplinary liability of health care professionals is carried out before the professional chambers. Invoking disciplinary liability is possible due to a violation of professional duty, and the injury exists if a health care professional acts contrary to the rules of the profession, does not perform material obligations to the chamber and infringes on the code of medical ethics, jeopardizes the process of work by unprofessional behaviour, performs health activities incompetently, or if he/she makes a professional error, if, in performing health activities, he/she misuses health insurance funds, and as well as when it does not execute the decisions of the body of the chamber to which he/she belongs (LHC). Thus, it is obvious that there is a very wide range of reasons why a health care professional can be held accountable. What is common to all health care professionals is that disciplinary proceedings are carried out by the Courts of Honour. The Courts of Honour are formed as a Court of Honouof the first degree, which is founded in the chamber's branches and the Court of Honour of the second degree – which is formed at the level of a particular chamber. The Court of Honour in the first instance determines the violation of professional duty in the procedure for determining disciplinary liability. Objections against the Court's first-degree decision are resolved by the Court of Honour in the second instance.

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According to the Law on Chambers of Health Workers of the Republic of Serbia (LCHM), for violations of professional duty or reputation of a member of the chamber, the Court of Honour may impose one of the following disciplinary measures: a public reprimand; fine of up to 20% of the average monthly salary per employee in the Republic, in the month preceding the month in which the penalty is imposed, according to the data of the republic authority in charge of statistics; a temporary ban on independent work in performing certain health activities; temporary ban on independent work in performing health activities. Issues related to the violation of the code of ethics and morals at the level of a certain professional chamber are also resolved in the disciplinary procedure.

MATERIAL LIABILITY

If a professional error made by a health care professional when performing the tasks for which he/she is hired has detrimental consequences for the patient's health, the health care professional will be liable for the damage. Material, i.e. civil liability is determined by the court in civil proceedings, and liability due to professional error is determined according to the rules of the law of obligations - whoever causes damage to another is obliged to compensate it, unless he proves that the damage occurred without his fault (LO). The patient's right to claim fair compensation for excessive damage caused by the intervention of a doctor or other health care professionals has its own international character, which is regulated by the Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the application of biology and medicine: the Convention on Human Rights and Biomedicine.

The court acting in the civil procedure in determining the degree of attention with which the health care professional undertook a certain medical procedure, takes the so-called objective measure, and is determined in two ways, according to persons from the same professional circle and according to the specific circumstances in which the intervention takes place. In determining liability, i.e. the degree of attention, the court assumes that greater danger and greater risk require greater attention, while the urgency and necessity of the intervention justify a lower degree of attention. A health care professional cannot rely on practice when justifying a lower level of attention, if it is a disorderly and sloppy procedure. Most often, forensic experts in the medical profession are used as evidence in court proceedings, giving their professional explanations and interpretations. This type of procedure is very expensive, which represents an additional financial burden for patients, because very often expert examinations are repeated. In order for the patient to receive a certain compensation due to wrong treatment, he/she needs to prove that such treatment is the cause of his/her primary damage, i.e. that the damage would not have occurred without the mistake of the health care professional, which is very burdensome for the patient. On the other hand, in litigation, it is enough for a health care professional to prove that he applied the rules of the health profession with the attention of a good expert when providing health services, so that he/she can be released from liability. If the patient manages to prove the causal link between the action of the health care worker and the damage he/she suffered as a result of a certain medical procedure, i.e. treatment, he/she has the right to be compensated for that damage. In the case of liability of health care professionals, in addition to the actual damage suffered by the patient due to a professional error of a doctor or other health care professionals, special attention is paid to non-material damage as one of the forms of damage. Any damage, including non-pecuniary damage, constitutes an unpleasant event, but this unpleasant event is attempted to be mitigated through compensation awarded by the court in a particular proceeding (Šabić, 2016, pp.355).

MISDEMEANOUR LIABILITY

The misdemeanour is defined by the Law on Misdemeanours of the Republic of Serbia (LM) as an illegal misdemeanour, which is determined as a misdemeanour by the regulation of the competent authority. A health care professional is liable for a misdemeanour if he/she was sane at the time of the misdemeanour, and committed the misdemeanour with intent or negligence. Health care professionals can commit a misdemeanour by performing or not performing a certain action, or by failing to take a certain action. Misdemeanour sanctions are fines (imprisonment, fines and work in the public interest), penalty points, reprimands, protective measures and educational measures (LM). Imprisonment can be prescribed only by law, while fines and work in the public interest can be prescribed by law or decree, or by a decision of the Assembly of the Autonomous Province, Municipal Assembly, City Assembly or Belgrade City Assembly (LM). Misdemeanours of health care professionals in Serbia are prescribed by the Law on Health Protection, the Law on Patients' Rights, the Law on Health Insurance, the Law on Chambers of Health Workers, and they envisage only a fine as a sanction. There is no violation if the health care professional performed a certain action in case of necessary defence, extreme necessity and force majeure, and the health care professional can be released from liability for the violation if he/she proves that the violation was committed due to real or legal error. The procedure in the first instance is conducted by the misdemeanour court and imposes misdemeanour sanctions, and upon appeal against the decision of the misdemeanour court, it is decided by the second instance misdemeanour court (LM).

CRIMINAL LIABILITY

The relationship between criminal law and medical law is particularly prevalent in crimes against human health. The connection between criminal and medical law is very close, and the fact that forensic medicine is an auxiliary science of criminal law is taken as evidence, and also, a certain number of criminal acts from this group could not be applied without knowledge in the field of medicine. Thus, we come to the conclusion that in relation to the connection between criminal law and medical law, there is an even closer connection between medical law and medicine. The Criminal Code of the Republic of Serbia (CC) singled out criminal offenses against human health as a separate entity. The incriminations within these criminal offenses are divided according to the subject of protection, the object of protection and according to the manner and means by which the attack on human health is carried out. This area consists of 15 criminal offenses, divided into several groups, which relate to: incriminations that protect human health from various failures of health care professionals, incriminations that protect human health from infectious diseases, incriminations that protect health from the production and availability of narcotics as means of treatment and incriminations relating to food. For this matter, only incriminations that protect people's health from various omissions of health care professionals are important, which include criminal acts: negligent provision of medical care (Article 251), illegal performance of medical experiments and drug testing (Article 252), failure to provide medical assistance (Article 253), quackery and charlatanism (Article 254) and negligent conduct in the preparation and dispensing of medicines (Article 255). The criminal offenses that are directly related to the omissions of health care professionals and professional error are: negligent provision of medical assistance, failure to provide medical assistance and negligent conduct in the preparation and dispensing of medicines. Unintentional act of medical care is a criminal offense that has three forms of action undertaken by health care professionals, namely: when a health care professional intentionally or negligently uses an obviously unsuitable means or

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an obviously unsuitable way of treating a patient; does not apply appropriate hygiene measures; as well as when he/she acts recklessly at all. If it is precisely analysed, it is noticed that there are two forms of this criminal act. The first form of this offence exists when the patient's health deteriorates due to an action that can only be performed by a doctor or dentist, and the injured party can be a sick person or a healthy person, for example, a person receiving a vaccine or a person who has undergone a certain aesthetic procedure. Another form of this criminal offense is negligent conduct in providing medical care or providing other health care activities, so that the offenders are most often nurses, i.e. medical technicians and midwives (actions related to giving injections, infusions, laboratory examinations, giving medicines and other).

In the criminal offense of failure to provide medical assistance, it is necessary that the health care professional-doctor refused to provide medical assistance to a person who is in immediate danger of life and who really needs medical assistance. This act can be performed by a doctor only with intent. A more severe form of the offense exists if a patient dies without medical assistance.

Unintentional act during the preparation and dispensing of a medicine is a criminal offense committed by a pharmacist. The basis for criminal prosecution exists if the pharmacist dispenses another medicine instead of the prescribed or required medicine and replacement is not allowed, if he/she does not make the medicine in the prescribed amount or quantity, as well as when the health care professional obviously acts negligently when dispensing the medicine. According to the Criminal Code, an act exists if the stated behaviour of the pharmacist has worsened the health condition of a person or patient. For this crime, the legislator did not prescribe a more serious form, i.e. the death of the patient. This brings confusion to a certain extent, because due to the prescribed actions, it is very certain that the patient can die, estimating that the substances from which the drugs are composed can have a very negative effect, especially in certain chronic patients. It is very certain that in patients suffering from hypertension, the drug that serves to raise the pressure will additionally lead to an increase in it, which can directly cause a stroke, myocardial infarction, and indirectly the death of the patient.

RESULTS

The professional error, as can be seen from the text itself, dates back to the Roman period, with legal and medical theorists starting to analyse it more seriously two centuries ago. As such, professional error has its own theoretical and normative points of view, and it is these discrepancies in determining its meaning that indicate the specificity of professional error in relation to the procedure to be applied, if it occurs. Namely, in recent times, most authors point out that professional error is the basis for initiating four types of liability of health care professionals, before different bodies, namely: disciplinary, material, misdemeanour and criminal liability. The liability of health care professionals due to professional error, primarily arises from the Law on Obligations in the part related to causing damage, as well as from the Law on Health Protection of the Republic of Serbia, which gave a detailed definition of professional error, based on the Law on Obligations. The Law on Obligations, in itself, refers to the material liability of health care professionals. Interpreting the provision of 186, paragraph 2 of the Law on Health Care, it is evident that the liability of health care professionals is a priori determined in disciplinary proceedings, and in the procedure of determining the quality of professional work. Also, the mentioned legal provision indicates other procedures, however, apart from bylaws, no other legal regulation refers to professional error as a basis for the liability of health care professionals.

Therefore, apart from disciplinary liability and indirectly material liability, other types of liability cannot explicitly base their legal basis on the Law on Health Care of the Republic of Serbia. The claim that professional error is the basis of all four forms of liability of health care professionals, which is talked about a lot in legal and medical theory, as well as practice, has no basis in law, because, on the one hand, the legislator did not explicitly prescribe it, and on the other that there are certain inconsistencies between the Criminal Code and the Law on Health Care. Namely, the linguistic interpretation of Article 186, paragraph 1 of the Law on Health Care recognizes that **a professional error can occur only through negligence, i.e. negligence of the health care professional, and that the stated provision does not result in the evil intention of the health care professional to harm the patient**. To put it simply, the mentioned legal provision does not unequivocally indicate the intentional act of health care professionals that leads to the deterioration of the patient's health, but the professional error is defined in the light of the carelessness of the health care professional. On the other hand, in the Criminal Code, in the criminal offenses of Unintentional Act of Medical Assistance and Failure to Indicate Medical Assistance, the intent of health care professionals is the basic parameter of their liability. In addition, Article 186, paragraph 1 of the Law on Health Care as a consequence does not provide for the death of a patient due to a professional error of a health care professional, while the Criminal Code provides for the death of a patient in the criminal offense of failure to provide medical assistance. However, certain criminal legislations (The Republic of Srpska) also provide for the death of a patient in the criminal offense of unintentional act of medical assistance. Certain doubts also exist in the criminal offense of unintentional acting in the preparation and dispensing of medicines, the wrongdoer of which is a pharmacist. Namely, these doubts stem from the fact that the legislator did not foresee the death of the patient in this offense, and it is generally known that due to the negligence of the pharmacist (dispensing the opposite drug), and in case of severe condition or chronic diseases in the patient, the patient may die.

Therefore, when the question is criminal liability for acts by which the health care professional causes harm to the patient during treatment, there are contradictions, which leads to the conclusion that, according to the current legal definition, they did not occur due to professional error of the health care professional, but **the action is qualitatively different and does not correspond to the description of the actions of health care professionals contained in Article 186 of the Law on Health Care**. The mentioned qualitative difference of actions of health care professionals contained in the Law on Health Care, which defines professional error, i.e. in the Criminal Code, is the main reason why the Law on Health Care does not state the death of a patient as a result of failure of health care professionals.

In addition to criminal, the existence of misdemeanour liability of health care professionals due to professional error is very questionable, because the regulations provide for misdemeanour liability of health care professionals, for omissions that have a completely different character, or omissions that are not based on the health care professional-patient relationship.

CONCLUSION

Accordingly, we conclude that the professional error is completely adequate to initiate proceedings to determine the material and disciplinary liability of health care professionals. Exposed uncertainties, or rather ambiguities about the scope of professional error in terms of calling health care professionals to a certain form of liability, stems from insufficient cooperation between the medical and legal professions. More precisely, having in mind that the most

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pronounced dilemma regarding the criminal liability of health care professionals is due to professional error, it was concluded that the connection between criminal law and medical law, i.e. medical law and medicine is insufficient and that certain steps should be taken to found the right measure for better regulation of regulations in the field of health, in the domain of liability of health care professionals in case of professional error.

Indirect liability of health workers based on the relationship between the health care provider, as an employer, and the health worker, as an employee, was not the subject of analysis in this paper, but will be the subject of further research related to the responsibility of health workers.

Conflict of Interest

None

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Examining the three types of medical care centres in relation to transaction cost theory

Untersuchung der drei Arten von medizinischen Pflegezentren im Zusammenhang mit der Transaktionskosten-Theorie

Markus Steinecker,[1,2] Monika Czirfuszová [1]

[1] St. Elisabeth University of Health and Social Work, Bratislava, Slovak Republic
[2] MCC Dr Renger/Dr Becker Heidenheim, Germany

Contact address: Markus Steinecker, M.Sc., MVZ Dr. Renger / Dr. Becker, Schmelzofenvorstadt 33, 89520 Heidenheim, Germany, e-mail: markus_steinecker@web.de

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ABSTRACT **Introduction:** All in all, it can be said that the structural change with regard to the medical care centres in Germany has been successful. To begin with, as commented on by many authors, there are parallels in the structure of medical care centres to the former *Polikliniks* of the German Democratic Republic (multi-disciplinary outpatient clinics); however, other aspects are also combined in the medical care centre, not only medical care from a single source or under one roof but also significant synergy effects in terms of personnel and equipment; furthermore, flexible working models can be realised here, which is beneficial both for the funding aspect and for the part-time employment of female physicians, who significantly rely on this option because of their potential role as a mother and who ultimately represent the majority of younger doctors in Germany.
Objectives: The objective is to show that there are fundamental connections between the construct of the medical care centre and transaction cost theory. On this basis, a practical application can be developed for medical care centres with transaction theory considerations.
Methodology: The research method involves taking a deductive approach; the information gained thus advances our knowledge.
Results: The concentration of workflows in a medical care centre greatly reduces the transaction costs, which results in a preference for this organisational form.
Conclusions: The theory of transaction costs can be applied to the situation of the three types of medical care centres and can result in optimum decision-making in clinical practice.

Key words: Synergy effects, medical care centre, transaction cost theory, decision-making in clinical practice, advancement of knowledge growth, organisational form

ABSTRAKT **Einleitung:** Alles in allem kann man wohl sagen, dass der Strukturwandel im Blick auf die Medizinischen Versorgungszentren in Deutschland gelungen ist. Zunächst von vielen Autoren aufgegriffen die Parallelen in der Struktur zu den ehemaligen Polikliniken der Deutschen Demokratischen Republik; jedoch vereinen sich im Medizinischen

Versorgungszentrum eben auch andere Aspekte, nicht nur die Medizin aus einer Hand oder unter einem Dach sondern deutliche Synergieeffekte was Material Personal und Geräte betrifft; zudem können flexible Arbeitsmodelle hier realisiert werden und der Finanzierungsaspekt profitiert ebenso wie die Teilzeitanstellung von Ärztinnen, die aufgrund einer möglich Mutterrolle auf diese Möglichkeiten deutlich angewiesen sind und eben auch die Mehrheit unter den jüngeren Ärzten in Deutschland bilden.

Ziele: Es wird angestrebt darzulegen, dass fundamentale Zusammenhänge zwischen dem Konstrukt des Medizinischen Versorgungszentrum und der Transaktionskostentheorie bestehen. Aus dieser Tatsache heraus kann eine praktische Anwendung für die Medizinischen Versorgungszentren mit transaktionstheoretischen Überlegungen entstehen.

Methodik: Als Forschungsmethode wird ein deduktiver Ansatz verfolgt, es wird also aus dem Gewinn an Informationen ein Wissenszuwachs zur Entfaltung gebracht.

Ergebnisse: Durch die Konzentration der Arbeitsabläufe in einem Medizinischen Versorgungszentrum werden auch die Transaktionskosten deutlich reduziert, was eine Bevorzugung dieser Organisationsform zur Folge hat.

Schlussbetrachtung: Die Theorie der Transaktionskosten ist anwendbar auf die Situation der drei MVZ-Typen und kann zu optimalen Praxisentscheidungen führen.

Schlüsselwörter: Synergieeffekte, Medizinisches Versorgungszentrum, Transaktions-kostentheorie, Praxisentscheidungen, Wissenszuwachs, Organisationsform

INTRODUCTION

The concept of the medical care centre (MCC) in Germany is not entirely new. However, the business aspect that politics brought into play is quite unique in this form. Considerable synergy effects deserve particular mention in this regard, as yet unequalled in the medical care sector. A structural change has occurred in German healthcare. While the objectives were undoubtedly not achieved instantly in all cases, the legislature did respond with the Panel Doctors' Rights Amendment Act (VÄndG from 2007), the Healthcare Structure Act (VStG from 2012) and the Healthcare Promotion Act (VSG from 2016). Over 2,800 MCCs (as at 2018; Mihm FAZ dated 22/11/2018) have been established in Germany, a fact that indicates how things are set to develop. These new laws reveal where optimisation is needed in the MCCs (Distler 2010; Renger 2009; Renger 2014; Renger 2015). New fields of knowledge and study developed at universities, or existing fields of study were expanded, namely medical economics, health care management and new areas for public health (health science). It is in precisely this territory of the new sciences and practical questions that this paper is situated, with special attention given to the transaction costs theory (Renger, Czirfusz 2017a; Renger, Czirfusz 2017b). Recent investigations into this topic have revealed that there are above all three different types of MCC (Renger 2012c; Renger 2012d): The usual MCC/business partnership (uMCC/P), the usual MCC/corporation (uMCC/C) and the company MCC (cMCC) (Renger 2012a; Renger 2012b).

But how is all of this relevant to institutional economics? Institutional economics covers a range of economic research traditions that deal with the role of social institutions in production, distribution and consumption and the social relationships thus resulting (Hodgson 2001). Because of this very broad research interest, institutional economics has close connections with many other disciplines. These include economic sociology and economic history, but also

psychology, politic science, anthropology, business administration, biology and physics and, more recently, cognitive science and neuroscience. As institutional economics represents highly diverse perspectives, it is not possible to identify a precise definition of institutional economics. For this reason, the rest of this text relates only to a small but nevertheless important part, presenting the theories of the German Historical School(s), and ***original institutional economics*** (OIE) (also referred to American institutionalism, or evolutionary-institutional economics). Therefore, when reference is made below to institutional economics, institutional economists or institutionalism, these terms refer to these theories and not, for example, to new institutional economics (NIE), which we consider to be part of neoclassicism because of its strong emphasis on the individual (Dimmelmeier *et. al* 2017).

OBJECTIVES OF INCORPORATING TRANSACTION COST THEORY

OBJECTIVES OF TRANSACTION COST THEORY

In his article published in 1937, 'The Nature of the Firm', the economist Ronald Coase addresses the issue of why the theory of perfect markets fails to explain particular business forms. Coase considers the reason for this to be that the theoretical model of the perfect market neglects to consider the costs that firms must bear. Coase believes that there are costs for every action in market economy contexts, however. It was only later that Williamson combined Coase's theoretical approach with the concept of transaction costs (Coase 1937, The Nature of the Firm). Transaction cost theory reveals the interactions between companies, the market and business partnerships. The starting points of the analysis are the transactions that occur and the question of why transactions are completed more efficiently (with lower transaction costs) in some organisational forms than in others. As transactions are subject to contractual agreements, transaction cost theory analyses the contract in particular as a specific organisational form. The theory ascribes both bounded rationality and opportunism to the contracting parties. Transaction cost theory reveals that it is practical to perform particular transactions in very specific organisational forms. In this respect, the theory provides useful approaches for companies in selecting suitable forms of organisation and cooperation.

Why do companies exist? The US economist and Nobel Prize winner Oliver E. Williamson attempts to answer this question with his transaction cost theory. In the field of economics, Williamson's transactions costs are often cited. But what exactly does this term refer to (Williamson 1998)?

TRANSACTION COSTS

Transaction costs are costs incurred in relation to an economic transaction. A transaction comes about not only at the particular price that is offered; instead, additional transaction costs are also incurred. While classic economic theory assumed that the exchange of goods is largely cost-free, Williamson also takes into account the transaction costs. The transaction costs include all costs incurred in initiating business transactions and all those relating to the transfer and enforcement of property rights. This includes, for example, information costs, negotiation costs, closing costs and transport costs. These intra- and inter-company transaction costs are often responsible for more than 50% of the total national product in modern economies (Williamson 1998).

WILLIAMSON`S TRANSACTION COST THEORY IN DETAIL

Oliver E. Williamson differentiates between various transaction costs. First, there are transaction costs that need to be re-negotiated on

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each occasion. Second, transaction costs are incurred that have already been negotiated in long-term contracts, with both contracting parties participating in mutual obligations. These include, for example, employment contracts between company and employee. In his transaction cost theory, Williamson also differentiates between ex-ante transaction costs, that is, costs incurred in advance of contractual negotiations, and ex-post transaction costs, which are incurred after the contract has been concluded (Williamson 1998). This includes, for example, costs for subsequent adjustments to the contract and control costs, such as costs for checking compliance with quality or price standards.

Williamson considers transactions to be efficient when market players decide on the organisational form with the lowest production and transaction costs. At the same time, as the frequency of identical or similar transactions increases, the average transaction costs decrease. This is because the fixed cost degression and the learning effects reduce the costs (Williamson 1998).

METHODOLOGY

BEHAVIOUR PATTERNS IN TRANSACTION COST THEORY

In transaction cost theory, the following courses of action are postulated: it is assumed that the contracting parties act with bounded rationality, as they cannot access or perceive all the information in full. Moreover, the market players are assumed to be opportunistic. This means that each market participant pursues their own interests and attempts to extract maximum utility from the market situation. Furthermore, the market participants are assumed to be risk-neutral in transaction cost theory. This means that the investor or entrepreneur does not differentiate between safe and unsafe alternatives (Mittermaier 2019, Williamson 1998).

TRANSACTION COSTS CAN DETERMINE OUTSOURCING

The transaction costs can play a major role when it comes to establishing or expanding a company. Founding a new company and expanding internationally is practical when the transaction costs on the market are greater than the internal transaction costs. If a company is therefore able to produce or offer certain products and services more cheaply, business creation or expansion is cost-effective. Conversely, if the internal transaction costs are greater than the external ones, it makes sense to outsource the relevant production or business units to third-party providers (Mittermaier 2019).

TRANSACTION COSTS IN THE MEDICAL CARE CENTRE

RESULTS: TARGET-ORIENTED COMPETITION IN THE AREA OF MEDICAL CARE CENTRES

In early 2011, the number of MCCs in Germany totalled 1,700. From quarter to quarter, there was a very swift and continuous increase, although MCCs continue to represent a low percentage of total healthcare. MCCs are more often found in urban locations, but – in addition to the supplementary care provision already instituted for the surrounding areas – there is a not inconsiderable relevance in terms of providing healthcare for rural areas, too. According to current figures, 675 MCCs are operated in Germany with the involvement of a hospital; 776 institutions belong to SHI-accredited physicians; and in 366 cases there are other owners, above all from the area of remedy and adjuvant providers (multiple funding bodies are possible). The legal forms are almost exclusively companies with limited liability or partnerships organised under the German Civil Code (GbRs), with only four institutions (or 0.24% of all MCCs) run as an *Aktiengesellschaft* (publicly tradable limited liability company) in the first quarter of 2011.

The potential for quality improvements arising from care coordination measures as well as job sharing, procurement optimisation, fixed cost degression, joint use of premises, equipment and personnel, reduced transaction costs or improved possibilities for risk diversification and capital procurement can continue to have a positive impact in relation to MCCs as long as they are not offset by monopolistic tendencies on the service-provider side. However, these positive effects fully develop only above a particular size (Sachverständigenrat 2018).

BEHAVIOURAL ASSUMPTIONS

The transaction cost approach, together with the property rights approach and the principal agent theory, forms one of the main lines of research in new institutional economics. Its most well-known representative is Oliver E. Williamson. The fundamental unit of analysis in transaction cost theory is the transaction. The behavioural assumptions postulated for the economic actors, bounded rationality and opportunism, are responsible for economic friction at the transaction interfaces. This can be operationalised by the efficiency criterion of the transaction cost approach, the transaction costs. The aim of transaction cost theory is to assess the efficiency of various institutional arrangements in the framework of which transactions are concluded. The optimum organisational form in each particular case can be determined by comparing the incurred transaction costs. The level of the transaction costs in each case is determined by the levels of the transaction dimensions specificity, uncertainty, frequency, transaction atmosphere and strategic significance. For the comparison of the institutional arrangements, it is not the absolute level of the transaction costs that is important but rather the relative advantageousness of one institutional solution over others. Unlike neoclassicism, transaction cost theory is able to explain the emergence of companies and partnerships on the basis of its analytical instruments and thus specify reasons for the efficient company boundary. In transaction cost theory, the specificity of a transaction is considered to be of paramount importance. If one ignores the other transaction dimensions, the theory leads to the following propositions: if specific investments are made in connection with a transaction, the transaction partners will endeavour to use appropriate institutional arrangements to secure their relationship. For investments with very high specificity, the transaction cost approach recommends vertical integration, that is, embedding the transaction in the hierarchy. On the other hand, transactions accompanied by non-specific investments justify performing the transaction via the market. In medium-specific transactions, hybrid organisational forms (partnerships) are appropriate as an efficient institutional arrangement.

Criticism of the transaction cost approach is particularly aimed at the operationalisability of the transaction costs. This criticism is countered with the argument that only a relative comparison of the transaction costs is performed, while the absolute level is not relevant (O.V. 2019, Transaktionskosten). It is clear that as the MCC increases in size, the transaction costs are reduced proportionally because of aspects such as fixed cost degression. The uMCC/P is least affected by this fact, the uMCC/C is definitely affected, and the cMCC can probably make best use of these advantages. The decisions made by senior physicians or even the managers in the respective type of MCC are dependent on the factors described in Graph 1.

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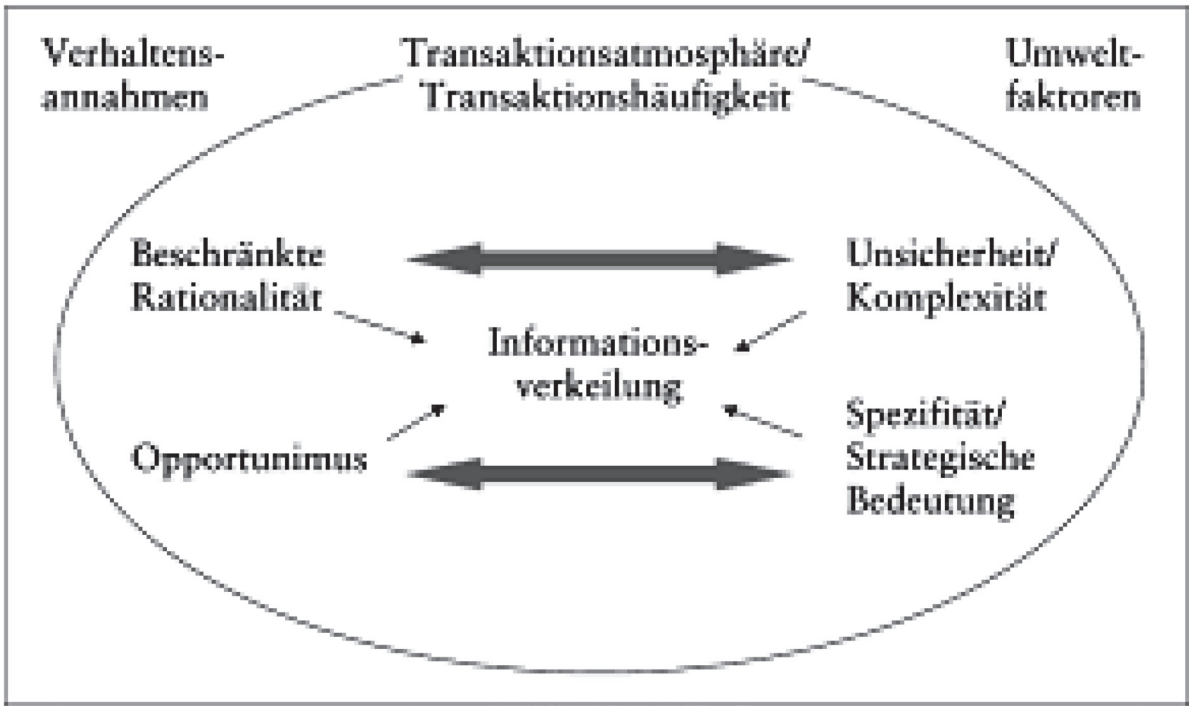

Graph 1. Transaction costs by frequency
(Source: O.V., 2019, Transaction costs from daswirtschaftslexikon.com)

The uncertainties or the complexity differ for a senior physician than for a businessperson with managerial responsibility within the MCC. This involves internal transaction costs. Externally, matters such as leasing or outsourcing come into consideration as a result of the transaction costs. In the event of outsourcing, the MCC type would diminish in size, and in the case of leasing, the stock of equipment would theoretically be reduced. It may, for example in the case of the uMCC/P type, be a welcome strategy to expand, that is, to enlarge in order to benefit from the reduced transaction costs resulting from the synergy effects.

CONCLUSIONS

In summary, it can be said that the new structure of MCCs allows a great deal of leeway in academic terms. There are opportunities to interlink with other disciplines such as business administration and economics in the wider sense and also with narrower subdisciplines like institutional economics, and in this subdiscipline, as this paper shows, with transaction cost theory. New aspects are emerging in the theoretical realm for MCCs to consider.

The question that always arises in connection with the theoretical interlinking of MCCs with certain disciplines is how applicable it is in practice. In other words, what the 'individual physician' wants to know is whether these findings will be of use in day-to-day practice, and if so, how? Just as the theoretical foundation of knowledge concerning MCCs develops step by step, practical questions will also be answered gradually, over a period of time. Considering transaction costs in connection with the various MCC types demonstrates how easy it is in principle to make optimum decisions in practice where the theoretical background is sound.

Conflict of Interest

The authors declare that there is no conflict of interest in connection with the published article.

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Health policies and health care in Slovakia and Tunisia

Zdravotná politika a zdravotná starostlivosť na Slovensku a Tunisku

Patrik Sivčo,[1] Rim Ghammam,[2] Martin Rusnák,[1] Juliana Melichová,[1] Marek Majdan [1]

[1] Department of Public Health, Faculty of Health Sciences and Social Work, Trnava Univesity in Trnava, Slovakia
[2] Deparmtnet of Epidemiology, University Hospital Farhat Hached, Sousse, Tunisia

Contact address: PhDr. Patrik Sivčo**,**
Katedra verejného zdravotníctva, Fakulta zdravotníctva a sociálnej práce, Trnavská Univerzita v Trnave, Univerzitné námestie 1, 918 43 Trnava;
e-mail: patrik.sivco@tvu.sk

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ABSTRACT **Introduction:** Organisational and structural differences in health care systems across the countries have an impact on the effectiveness of governments in addressing the most needed health problems of its citizens. So have health policy planning, implementation, and health promotion too.
Aim: The article described the differences and similarities in health policies in Slovakia and Tunisia and the efforts made to develop the population's health and restrain the risks.
Core of Work: The differences in structural systems of medicine, environmental conditions, and actual challenges in health in these two countries are unique. However, we found a few common problems, in public attention, to be similar. Because there exist multiple ways in which the health policies can be adjusted so they can reflect the population needs, we examined several areas - health insurance systems, drug policy, immunisation schedules, and patient safety.
Conclusion: The epidemiologic transition in Tunisia has made an impact on population health while the revolution in 2011 interposed other changes, so health policy needed to react accordingly. Comparison with a country as Slovakia presented different approaches to the healthcare system and introduced many similarities in health policies.

Keywords: Health policy, public health, low-resource setting

ABSTRAKT **Úvod:** Organizačné a štrukturálne rozdiely v systémoch zdravotnej starostlivosti v jednotlivých krajinách majú vplyv na efektivitu vlád pri riešení najzávažnejších zdravotných problémov populácie. Podobný vplyv má aj plánovanie, implementácia a podpora zdravia v danej krajine.
Cieľ: Článok pojednával o rozdieloch a podobnostiach v zdravotných politikách na Slovensku a v Tunisku a úsilí vynaloženom na rozvoj zdravia obyvateľstva a obmedzenie rizík.
Jadro: Rozdiely v štrukturálnych systémoch medicíny, podmienkach životného prostredia a skutočných výzvach v oblasti zdravia v týchto dvoch krajinách sú jedinečné. Aj napriek tomu sme zaznamenali niekoľko problémov, ktorým sa venuje zvýšená

pozornosť a to v oboch krajinách. Pretože existuje viacero spôsobov, ako je možné upraviť zdravotné politiky tak, aby odrážali potreby populácie, preskúmali sme niekoľko oblastí - systémy zdravotného poistenia, protidrogová politika, imunizačné plány a bezpečnosť pacientov.
Záver: Epidemiologická tranzícia v Tunisku mala vplyv na zdravie obyvateľstva, zatiaľ čo revolúcia v roku 2011 so sebou priniesla ďalšie zmeny, takže zdravotná politika musela zodpovedajúcim spôsobom reagovať. Porovnanie s krajinou ako na Slovensku predstavilo poukázalo na odlišné prístupy k systému zdravotnej starostlivosti i podobnosti v zdravotných politikách.

Kľúčové slová: Zdravotná politika, verejné zdravie, nastavenie nízkych zdrojov

INTRODUCTION

By the definition of the World Health Organization, the health policy is: "Decisions, plans, and actions that are undertaken to achieve specific health care goals within a society. An explicit health policy can achieve several things: it defines a vision for the future, which in turn helps to establish targets and points of reference for the short and medium-term. It outlines priorities and the expected roles of different groups, and it builds consensus and informs people" (WHO 2014). Main components of health policy, therefore, are the political, economic, social, and cultural determinants of health, the most critical determinants of health in any country; the lifestyle determinants, which have been the most visible types of public interventions; and the socialising and empowering determinants, which link the first and second components of national health policy: the individual interventions and the collective interventions. (Navarro 2007).

AIM OF THE ARTICLE

The article's purpose was to describe the health policies in Slovakia and Tunisia, similarities and the differences between both systems, induct specific strategies implemented towards health improvement in systematic point of view and discuss actual challenges, problems, and gaps that we as researchers can see. We employed secondary data analysis from data of Global Health Expenditure Database (GHED), Eurostat, Ministry of Health of Tunisia and Public Health Authority of Slovak Republic.

CORE OF WORK

The main difference between Slovakia and Tunisia is in the conceptual separation of medicine. In Slovakia, the medicine is divided into two categories, clinical medicine, and preventive medicine, which are partly under the competence of the different health sectors. The first category, clinical medicine, operates through the work of doctors and medical staff. The first line doctors working in the outpatient departments are available in each town and with adequate access to hospitals and other health care centres for the whole population. The more specific operations which require highly advanced devices are available in larger cities across the country in more developed hospitals and health care facilities. The second category, public health, or preventive medicine is under the competence of public health workers and public health organisations. Public health authorities are managed by the Chief Hygienist appointed by the Ministry of Health. In the organisation structure, the Public Health Authority is the highest functional unit under the supervision of the Ministry of Health. On a national level serve as operative units thirty-six Regional Public Health Authorities. The competences of these institutions are broad and concern public health as a whole, ranging from

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monitoring of the epidemiological situation, radiation protection, vaccination policy, assessing the impact of risk factors on health, health counselling and imposing sanctions if a violation of the regulatory framework is found. The scope of work in these two categories is different, reflecting on the differences in the education of medical and public health students, and methods of securing the health of citizens. Albeit the differences, the national health policy and the national programs, and projects, e.g. Slovakia's National Program of Health Promotion, rely on the cooperation of these sectors. Both parts of medicine are under cover of the Ministry of health, operating as a supervisor.

The medicine in Tunisia is organised in a singular form which is also seen almost in all European countries. The highest institutional organisation of health is also the Ministry of Health. The public health care system is covered by three levels of infrastructure, and there is at least one first-line hospital in each town (with working hours based on size and needs of the population) operating as a primary health centre. The Regional and District hospitals and Intermediate Health Centres function as the second-line hospitals within each governorate in Tunisia. These are more specialised facilities with emergencies, Departments of Obstetrics and Gynecology, and various specialists carrying out screening, immunisation, and health promotion. The third line represents university hospitals, which also serve as teaching institutes. Some authors divide health care into four categories (as the second category would be rural maternity hospitals and district hospitals) (Achour 2011). The provision of care is ensured by a system composed of public and para-public structures and private structures. The parapublic structures are essential for workers in the formal sector and concern military hospitals, CNSS polyclinics, and Hospital of the Forces of Internal Security.

HEALTH SYSTEM RESOURCES AND HEALTH EXPENDITURE

Recent findings confirmed the existence of a relationship between variability of life expectancy at birth and health expenditures across the countries. This variance grows in importance and is more significant between the developed and developing or less developed countries (Jaba, Balan, Robu 2014). The life expectancy at birth used to be significantly longer in Slovakia compared to Tunisia - in men and women, but nowadays the difference is ceasing to exist, mainly in life expectancy among men (INS 2016; Eurostat 2016). Tunisia has made significant progress toward increasing life expectancy in the past few decades. Between 1966 and 2004, the Tunisian population's life expectancy at birth increased by 21.8 years (Gottret, Schieber, Waters 2008). According to the Global Health Expenditure Database, in Tunisia, the health expenditure in 2016 accounted for 6.95% of a gross domestic product, while in Slovakia the health expenditures represented 7.13% of a gross domestic product. As Figure 1 shows, the broader gap between health expenditures in the past is now gone with overlapping curves of health expenditure progress in more recent years (Figure 1).

Albeit very similar health expenditures according to the gross domestic product, a subdivision of the health expenditures into the public and private health sector showed significant differences between these countries. The median proportion of health expenditures in the public sector, according to the current health expenditure in 2010-2016, was 56.8% in Tunisia and 73.5% in Slovakia. Similarly, the median proportion of health expenditures in the private sector, according to the current health expenditure in 2010-2016, was 42.9% in Tunisia and 26.5% in Slovakia. Tunisian health expenditures in the public and private sectors, in the pre-revolution and post-revolution Tunisian era, proportionally remained between the public and private health expenditures of Slovakia (Figure 2).

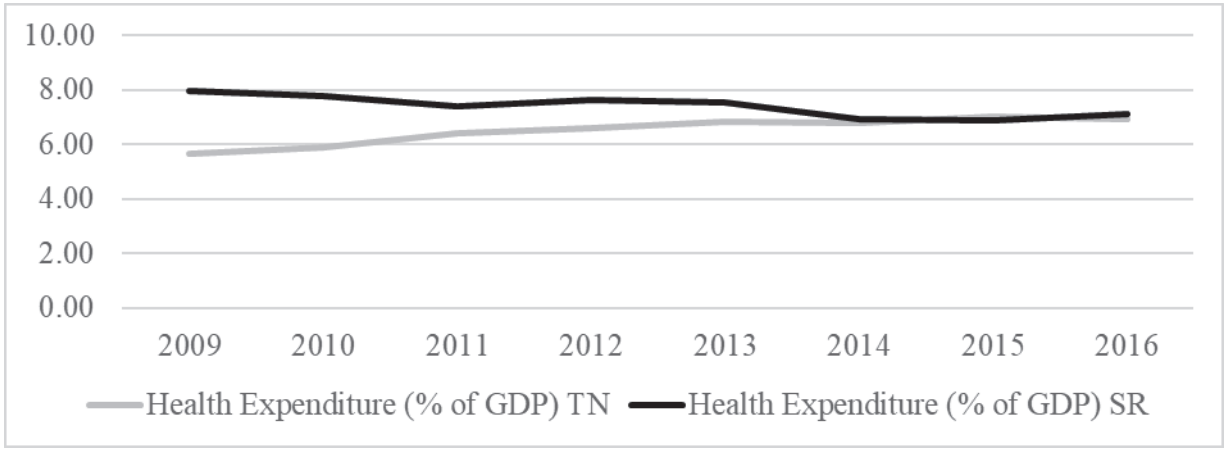

Figure 1 Current Health Expenditure as % Gross Domestic Product in 2010-2016 (GHED 2017)

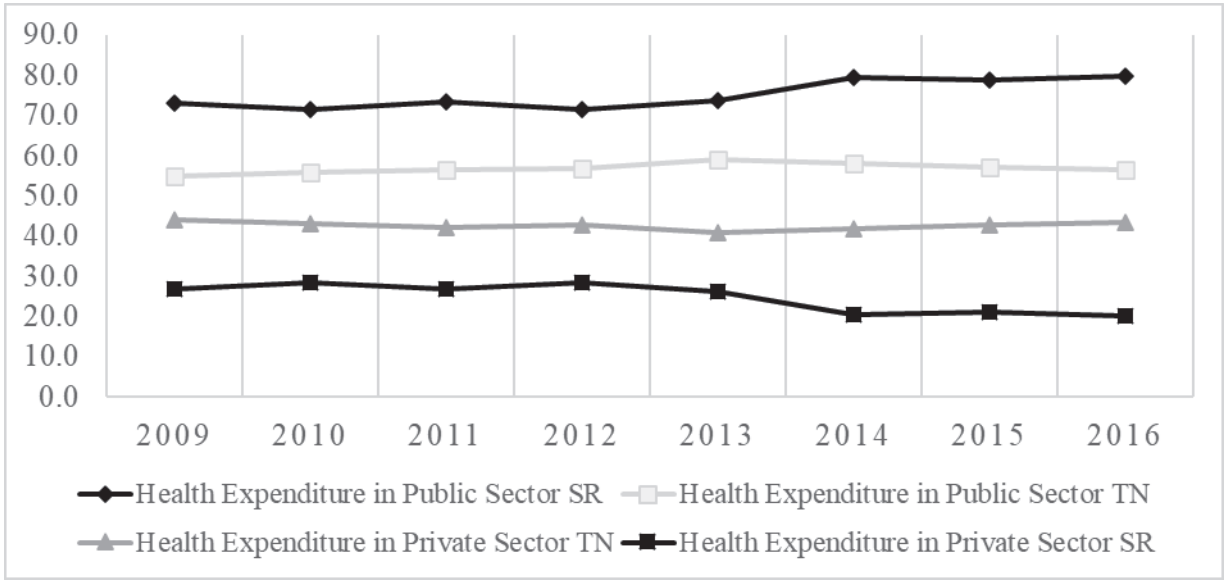

Figure 2 Health Expenditures in the Public and Private sector as % of Current Health Expenditure (GHED, 2017)

In both countries exists a mixed model of a Bismarckian system of compulsory health insurance and a Beveridgian system targeting the poor and low-income population. Tunisian health insurance is covered by two health insurance companies – a public company representing the state sector and one private company. Both are supervised by the government organisation CNAM (french abbreviation for Caisse Nationale d'Assurance Maladie – National Fund for Health Insurance). The welfare scheme is mandatory for the entire population, contributing by 6.75% of taxpayer's salaries in 2010 (4% for the employer and 2.75% for employee). Mandatory health insurance in Slovakia is secured by three health insurance companies – one as a state and the other as private companies. These organisations are obliged to meet specific solvency criteria as they are under hard budget constraints and are fully responsible for financial shortfalls. Citizens are free to choose in which one they will be insured. Their funding is based on the principle of taxes

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from the salaries of insured people, but there exists a conflict of interest (the state as the owner of one of the health insurance company regulates them by law). Each employed citizen must pay so-called "healthcare contributions", representing 14% of his monthly income - 4% is paid by the employee, and 10% is paid extra by the employer. Self-employed people must pay 14% of their income themselves (Kapalla, Kapallová, Turecký 2010). Health expenditures on compulsory health insurance and out of pocket payments differed significantly in-between Tunisia and Slovakia during 2009-2016 (Figure 3). An excessive contribution of Tunisian households accounting for nearly 40% of health expenditure in the past decade coming directly from household pockets was the topic of many discussions in the past and recently (Abdelaziz *et al.* 2018). World Health Organization suggested that the high out of pocket payments are indicative of "catastrophic and impoverishing household spending" implying the necessity of precautions (WHO 2018). Also, compulsory insurance has a much larger scale of contribution to health expenditure in Slovakia than in Tunisia. To achieve higher accessibility and solidarity in health care on principles of universal health insurance, the investments from the Tunisian government must increase in the future.

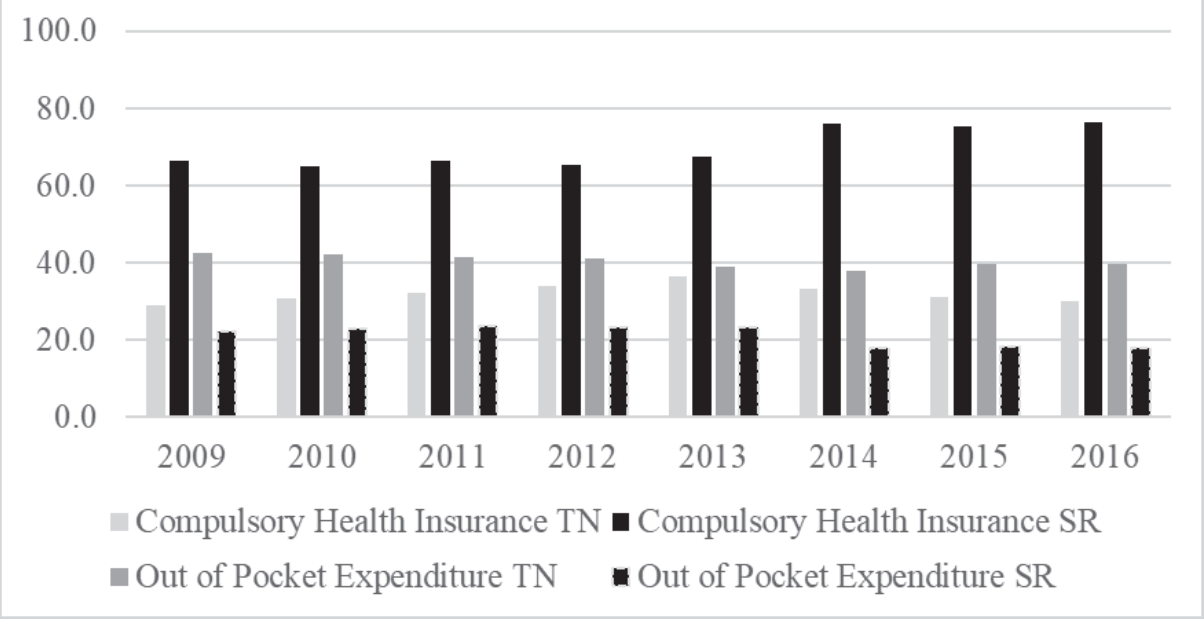

Figure 3 Compulsory Health Insurance and Out of Pocket Expenditure as % of Health Expenditure (GHED, 2017)

DRUGS POLICY

In Tunisia is this sector regulated and supervised by the Ministry of Health and accordingly by other public health institutions. The distribution is ensured by the Central Pharmacy of Tunisia and by a network of private wholesale distributors, covering all regions of the country. The Central Pharmacy in Tunisia is the only institution legally obliged to import medicines and vaccines; therefore, to serve as a national purchasing centre supplementing the country's needs. This monopoly system is ensuring costs, uniformity, and price control, the regularity of the country's supply, and support for health programs.

Similarly, the role of the state in drug control in Slovakia is to purchase, control, and monitor medical products and medical devices. Slovakia has implemented a reference pricing system for

medicines, and a maximum price is set for a standard daily dose in each reference group of medicines (Kawalec *et al.* 2017). A degressive margin system is in place, which sets margins separately for distributors and pharmacies based on the 10% of ex-factory price (Psenkova *et al.,* 2017). The control function is provided through the State Institute for Drug Control and altogether with the European Medicine Agency is responsible for the authorisation of drugs before market admission. The distribution is ensured via a dense network of private pharmacies all over the country. When violating the set of pharmacy and drug safety standards is detected, the state serves as an object responsible for withdrawal or suspending medicinal products from the market, preventing medical devices from entering the market, and implying financial sanctions.

VACCINATION

Immunisation policy in both countries is similar, i.e. vaccination schedule is divided into obligatory and recommended vaccination. Tunisian immunisation's policy has set four compulsory combinatory vaccines against nine diseases. Before admission of children to each level of school (i.e. primary school, secondary school, university), revision of the child's medical file must be done to assure the completeness of the required vaccinations. The same process is used when children are moving from one school to another (WHO 2010). The immunisation coverage of these diseases in children under one year reported by the national government is above 95%; however, some authors who investigated the quality of reported data indicate conflicting coverage rates (Chahed *et al.* 2013).

In Slovakia, all citizens, if not contraindicated, are mandatorily vaccinated against ten diseases (Table 1). For a long time served as a sanction for parents, who refuse to vaccinate their children, financial fines. Nowadays is the government considering the transition to prohibiting the admission of children of these parents to kindergartens and removing the fines. The immunisation coverage is mostly above 95% but in recent years there have been some dropouts slightly under this level in a few regions (mainly MMR vaccine). Reasons may vary - anti-vaccination campaigns, level of parent's education, vaccine's adverse effects and dubious information sources (Cintulova *et al.* 2020).

PATIENT SAFETY

With the support of WHO, Tunisia, and some other countries of the Eastern Mediterranean Region have adopted the Patient Safety Friendly Hospital Initiative (PSFHI) to improve patient's safety. The objective of the PSFHI is to enhance patient safety by developing harmonised standards for hospitals and by encouraging the participation of hospital managers, clinicians, and patients to collaborate in this effort (Siddiqi *et al.* 2012). Based on the results of this action, the patient safety manual assessment was published, the first edition in 2011, and the second edition in 2016, with standards covering multiple domains, e.g. World Health Organization's safe surgery checklist. The system of certification and accreditation was introduced not long ago in Tunisia. Therefore only a few hospitals have implemented this concept. Guidelines usage in healthcare is more common and function as a useful tool for patient safety and quality improvement. Together with the hospital's safety commission's activities tailored to the management of healthcare quality, the health policy on patient safety has made essential changes in the past few decades - Tunisian healthcare is one of the most developed in North Africa nowadays. However, recent studies reported problems in patient safety, identified by healthcare workers as a lack of the medical staff, the overload of work, and communication barriers. (Cheikh *et al.,* 2015; Mallouli *et al.,* 2017).

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Table 1 Compulsory vaccination in Slovakia and Tunisia in 2019 (Ministry of Health of Tunisia, 2019; Public Health Authority of Slovak Republic, 2019)

Disease	Tunisia	Slovakia	Disease	Tunisia	Slovakia
Hepatitis B	x	x	Poliomyelitis	x	x
Tuberculosis	x	-	Haemophilus influenza B	x	x
Diphtheria	x	x	Measles	x	x
Tetanus	x	x	**Mumps**	-	x
Pertussis	x	x	Rubella	x	x
Invasive pneumococcal infections				-	x

Slovakia government has made great efforts in the past few years in conducting uniform healthcare guidelines for all health care facilities. The government's responsibility for patient safety is carried out by the Health Care Surveillance Authority supervised by the Ministry of Health. In hospitals, the Departments of Hospital Hygiene and Epidemiology was established to ensure the quality of healthcare via public health workers. Also, in Slovakia exists multiple non-government organisations helping patients to solve their complaints and problems and defend their rights. Most of these patient's organisations, as well as organisations of people with special health care needs, directly approach the responsible Ministry with their problems. In both countries, this topic is highly valued and discussed, rooted in the legislation reflecting the Declaration of Patient's rights.

ACTUAL PROBLEMS AND CHALLENGES

Tunisian population health indicators are among the best in Africa and the MENA region and better than those of countries with equivalent income levels. Albeit these achievements, the study conducted in 2015 by the Tunisian National Institute of Statistics showed a high proportion of dissatisfaction with provided services among citizens, regarding mainly substantial regional differences. These feelings come from drugs shortage, long waiting times, and difficulties with the availability of the medical staff (National Institute of Statistics, 2015). The prerevolutionary era of the autocratic government of Ben Ali, nowadays called a dark era, was characteristic by the withdrawal of social support for opponents as a repressive manner used by the regime. The health policy, however, was oriented toward enhancing the efficiency of the health sector. Obtaining financial resources was based on the form of official financial assistance and in legitimising his regime and the related stronghold on Tunisia's society and economy through enhanced relations with international partners, instead of fair, sound and, free democratic elections (Ayadi, Sessa 2016).

One of the critical revolutionary drives was establishing the right to health on the principles of solidarity, access, and equity. After the Tunisian revolution in 2011, the discussion on democracy and adapting the national health system has begun. Despite a large amount of macro-financial assistance from the European Union, accounting for EUR 300 million in 2013 and EUR 500 million in 2016 (European Commission, 2017), the inconsistency between the actual volume of health care expenditure and the perceived dissatisfaction suggested either poor management in the health care system or lack of transparency. Altogether, it has created events of media coverage in cases of corruption in the health care system, which were

wasting valuable resources in the vulnerable post-revolution times (Abdelaziz *et al.,* 2018). Because of the redundancy of people working in the public sector (600 000 working people vs estimated 300 000 needed), the government in 2016 has stopped recruiting new employees, i.e. medical staff, and teachers. The decision to save money, otherwise used as salaries for new employees, has determined the massive increase in employment in the private sector (e.g. we can see that in the distribution of public and private employment of population across the country with substantial regional differences and west-east gradient). A general cut of recruiting in all public sectors cannot efficiently cover the needs of each area of work, as some areas may require continual recruitment and education of new employees, based on the difficulty of the profession and the retirement proportion of the working population. This act was set up for six years, i.e. till 2022, and resulted in strikes of teachers in previous years and the decrease in the motivation of young teachers, nurses, and doctors. Due to the ineffective distribution of tasks, lack of material and human resources, an overload of work in some professions - nurses and clinicians, persists. (Hamida, Trabelsi, Boulila, 2018). Even though the recruitment of new doctors has not stopped, considering higher salaries, many of them prefer to work in the private sector or migrate - mainly to France and Germany, offering high salaries and more balanced human resources (OECD, 2019).

The lack of medical staff and clinicians, resulting in a continuous overload of work in both professions, and migration of graduate students abroad looking for higher paid jobs, pose a problem in Slovakia too. Ineffective distribution of patients, who in many cases seek specialised doctors instead of first-line doctors, has consequently caused long waiting periods for patients' examinations. The potential delay of the examinations of more severe cases can result in worsening the health status of patients, meaning not only unnecessary suffering but also higher economic costs in health care (Janoška, 2009). Increasing the proportion of patient's examinations in the first line health centres same as fight against corruption are long term challenges in both countries.

Health care and health policies in both countries challenge areas typical for the whole world - antibiotic resistance of microorganisms, cardiovascular diseases, diabetes, chronic obstructive pulmonary disease, cancer, injuries, and health inequalities are all actual topics. Nevertheless, the epidemiological transition from infectious diseases to non – communicable diseases in Tunisia happened more recently than in Slovakia. The regional economic differences resulted in the inappropriate distribution of clinicians, medical staff, and therefore in the quality of surveillance. The lack of Tunisian national epidemiological data in essential areas - maternal and child health or completeness of the death registry, disabled fundamental analyses for tackling the problems effectively and acting in an evidence-based manner. A good example of an effort to improve the health of Tunisians was the intervention project Together in Health realized between 2009-2014 in Sousse. For the prevention of cardiovascular diseases, multiple levels of the environment were integrated (schools, workplaces, communities, and health centres) to create a successful impact on society (Zammit *et al.,* 2016). The feasibility of projects like this and achieved results are important inspiration and motivation to continue the work of improvement and adjusting the health policy to create appropriate conditions in the environment. In Slovakia due to efforts of government in past decades, the national statistical database is in good shape, which further serves as a quality source of essential data.

CONCLUSIONS

In the third era of public health comes new challenges that governments must tackle to

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achieve the best health for citizens as the highest goal. Despite the differences in the organisational or structural hierarchy in health systems and policies among countries, evidence-based medicine is an essential core for all decision-makers. The Tunisian revolutionary idea was to get a sympathetic health care system and the right to health for all, and some of the essential changes were done. Although described health care systems and policies between Tunisia and Slovakia differ, mainly in proportions of health expenditure on various segments, they have in common aspects that call for improvement. Maintaining the lowest possible mortality and morbidity rates from infectious diseases while increasing the immunisation coverage above 95% is a problematic government's responsibility. Successful efforts in non-communicable diseases prevention requiring multisectoral cooperation are neither, moreover when the country needs to address high rates of prevalence in both categories at the same time. Even then, the health inequalities emerge, and specifically tailored policies and interventions must be made while maintaining the good division of resources. Altogether with newly emerged government, new areas of interest took place, and the temptation to address "hot topics“ temporarily led to a decrease of interest in other important subjects.

The importance of this article lies in the discussion of these problems through a comparison of countries that are, at first glance, quite different. It considers not only the quantitative indicators themselves but also the historical development and cultural impact. These influence the creation and direction of health policy and the health of the population to a significant extent. In the present, not many studies deal with comparisons in this way, and a comparison of the Slovak Republic and Tunisia make it more unique. Problems as over employment versus actual overload of work, corruption in health care, or migration of healthcare staff, exist in many developed countries as well, but in these short years after the revolution in Tunisia are of critical importance. Addressing the population’s health with all necessary components conceptually requires effective health policy with international cooperation between governments, sharing valuable information and achievements, and developing strong partnerships to the future.

Conflict of interest

Authors declare no conflict of interest.

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Tolosa-Hunt syndrome – a case report

Tolosa – Hunt syndróm – kazuistika

Kristína Horkovičová, Denisa Jurenová, Darina Lysková, Paulína Plesníková

Department of Ophthalmology, Faculty of Medicine, Comenius University
and University Hospital Ružinov, Bratislava, Slovakia

Correspondence to: Horkovičová Kristína, MD., PhD., MPH
Dept. Ophthalmology, Medical School, Comenius University, Bratislava
Pažítkova 4, 821 03 Bratislava, Slovak Republic.
tel: +421-248234923; e-mail: k.horkovicova@gmail.com

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ABSTRACT **Aim:** Tolosa-Hunt syndrome is not common and must be considered in a differential diagnosis after other diagnoses have been excluded. It is usually idiopathic and is believed to be caused by a non-specific inflammation in the cavernous sinus or orbital cleft. A potential trigger may be a traumatic injury to an area, a tumour, or an aneurysm.
Case report: The 69-year-old patient came in for right eye pain. He was then re-examined for escalating pain with subsequent diplopia and ptosis at the Department of Ophthalmology, Faculty of Medicine, Comenius University and University Hospital Bratislava admitted to the Department of Neurology, Slovak Medical University and University Hospital Bratislava, where a partial lesion n. oculomotorius right was diagnosed. After magnetic resonance imaging and examinations, the disease was classified as Tolosa-Hunt syndrome. A high dose of prednisone 100 mg daily was administered orally, after which the condition of the patient improved significantly.
Conclusion: Tolosa-Hunt syndrome is not common. It is necessary first to make a differential diagnosis and only after excluding other diagnoses we can talk about Tolosa-Hunt syndrome. Therefore, close interdisciplinary cooperation is needed to detect and diagnose the syndrome. Since we do not encounter this on a daily basis, it is necessary to point out the given syndrome, which we often do not even have to think about and cannot diagnose the syndrome.

Keywords: corticoids; diplopia; Tolosa Hunt syndrome

ABSTRAKT **Cieľ:** Tolosa-Hunt syndróm nie je častý a musí sa brať do úvahy pri diferenciálnej diagnostike po vylúčení iných diagnóz. Je zvyčajne idiopatický a predpokladá sa, že je spôsobený nešpecifickým zápalom v kavernóznom sínuse alebo rázštepe. Potenciálnym spúšťačom môže byť traumatické poranenie oblasti, nádor alebo aneuryzma.
Kazuistika: 69-ročná pacientka prišla pre bolesť pravého oka. Potom bola opätovne vyšetrená pre stupňujúce sa bolesti s následnou diplopiou a ptózou na Klinike Oftalmológie Lekárskej fakulty Univerzity Komenského a Univerzitnej nemocnice Bratislava prijatá na Neurologickú kliniku Slovenskej zdravotníckej univerzity a Univerzitnú nemocnicu Bratislava, kde bola zistená čiastočná lézia n. oculomotorius vpravo. Po magnetickej rezonancii a vyšetreniach bolo ochorenie klasifikované ako Tolosa-Hunt syndróm.

Perorálne sa podávala vysoká dávka Prednizónu 100 mg denne, potom sa stav pacientky výrazne zlepšil.
Záver: Tolosa-Huntov syndróm nie je častý. Je potrebné prv zrelizovať diferenciálnu diagnostiku a až po vylúčení iných diagnóz môžeme hovoriť o Tolosa-Hunt syndróme. Preto je na detekciu a diagnostiku syndrómu potrebná úzka interdisciplinárna spolupráca. Keďže sa s tým nestretávame dennodenne, je potrebné poukázať aj na daný syndróm, na ktorý často ani nemusíme myslieť a nedokážeme diagnostikovať syndróm.

Kľúčové slová: kortikoidy, diplopia, Tolosa – Hunt syndróm

INTRODUCTION

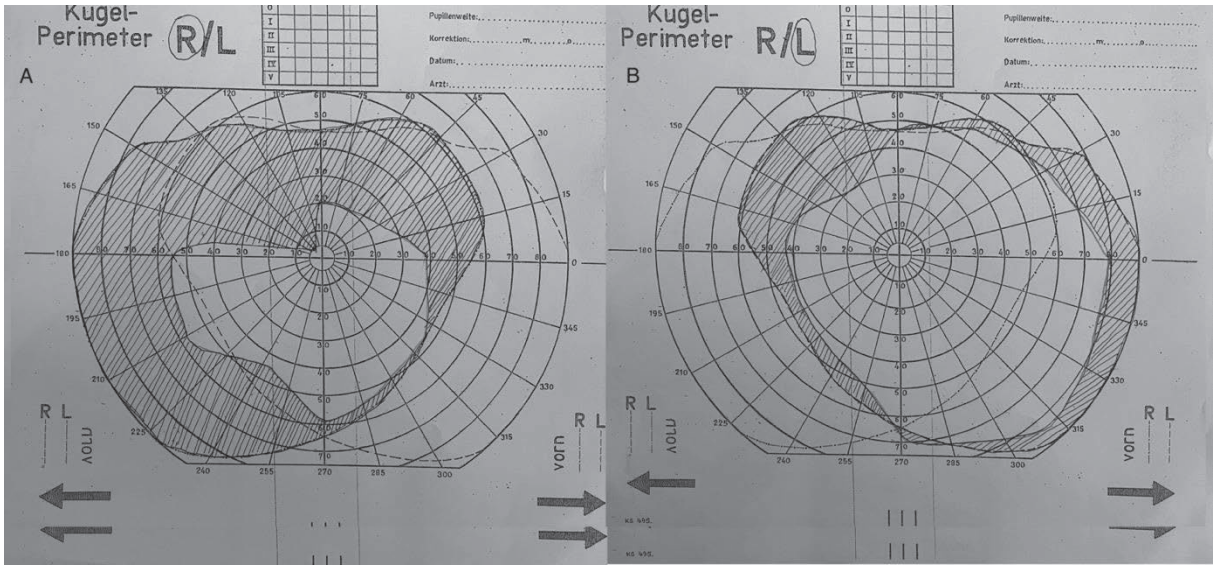
Tolosa-Hunt Syndrome (THS) is described as a severe and unilateral periorbital headache associated with painful and limited eye movements. Synonyms for THS include painful ophthalmoplegia, recurrent ophthalmoplegia, or ophthalmoplegia syndrome. THS is usually idiopathic and is thought to be caused by non-specific inflammation in the cavernous sinus region and/or in the orbital fissure region. Traumatic injury, tumour or aneurysm may also be the cause. The incidence of THS is approximately one case per million per year (Iaconetta *et al.* 2005). A characteristic feature of this syndrome is pain, which can be described as sharp, point, intense. The pain is usually located in the periorbital area, but can often be retroorbital, with spread to the anterior area. THS tends to relapse and may remit, with seizures recurring every few months or years. Other related symptoms include involvement of all three ocular motor nerves, which include n. oculomotorius, n. trochleris, n. abducens. Ophthalmoplegia develops in various combinations of these nerves. Branches n. trigeminus are also affected. It is most often involved in the development of ophthalmoplegia n. oculomotorius 80%, followed by n. abducens, about 70%, n. ophtalmicus, as the first branch n. trigeminus, about 30% and n. trochlearis approximately 29% (Iaconetta *et al.* 2005). Sympathetic damage in the form of Horner's syndrome or parasympathetic damage leading to pathological reactions of the pupils may also occur (Çakirer 2003; de Arcaya *et al.* 1999). Inflammation can sometimes affect n. opticus, which leads to its damage and then ophthalmoscopically detects a pale target of the optic nerve or oedema of the target of the optic nerve. Loss of central visual acuity can also be permanent in a given eye (Hunt *et al.* 1961; Lawton Smith, Taxdal 1966; Tessitore, Tessitore 2000; Sondheimer, Knapp 1973; Förderreuther, Straube 1999). THS is diagnosed through the clinical condition, magnetic resonance imaging, and response to corticosteroids. Laboratory tests and cerebrospinal fluid tests are supportive tests, but they help rule out other causes of ophthalmoplegia. Corticosteroids are the treatment of choice. In clinical practice, these patients are usually treated with an intravenous bolus of methylprednisolone administered at a dose of 500-1,000 mg/day for 3-5 days or by oral administration of prednisone at a dose of 1 mg/kg per day. The duration of treatment ranges from a few weeks to a few months and should be adapted to the clinical response of each patient individually. Recurrence is less likely in patients receiving high doses of corticosteroids (500-1000 mg/day for several days, followed by daily doses of 1 mg/kg for several weeks) (Colnaghi *et al.* 2006; Colnaghi *et al.* 2008).

CASE REPORT

Sixty-nine-year-old patient, treated for arterial hypertension, initially examined at the Department of Ophthalmology, Faculty of

Medicine, Comenius University, and the University Hospital Bratislava, for cutting and splitting both eyes. The condition did not improve even after the introduction of local therapy. The central visual acuity of the right eye was 20/80 cc. +3.25 Dsph +0.5 cyl ax 160 ° = 20/30, left eye 20/80 cc. + 2.75 Dsph +0.5 D cyl ax 20 ° = 20/20. The realized Goldmann perimeter showed a loss in the field of view of the right eye from above for ptosis. The left eye was without a loss in the field of view (Figure 1).

Figure 1. Goldman perimetry, figure A perimetry of right eye, figure B perimetry of left eye.



The intraocular pressure of the right eye was 30 Torr and the left eye 20 Torr. Examination with Hertl's exophthalmometer was 24/22 at 112 mm. Examination of optical coherence tomography of the macula (Figure 2) and the optic nerve head was without any pathology (Figure 3).

Gradually, severe pain was added behind the right eye and in the frontal area to the right. The pain escalated after about nine days, and the next day there was a decrease in the upper lashes of the right eye along with diplopia. The condition did not improve, repeatedly examined in the outpatient clinic of the Department of Ophthalmology, Faculty of Medicine, Comenius University and the University of Bratislava. For ptosis and diplopia, a neurological examination was performed where the patient was subsequently hospitalized. Objectively upon admission to the Department of Neurology, a partial lesion of n. oculomotorius l. dx., anisocoria, ptosis, oculomotor disorder on the right when viewed medially. She underwent urgent computed tomography of the brain, which was without a pathological finding. The patient underwent magnetic resonance imaging of the brain along with angiography. The conclusion of the examination was, without expansions and vascular malformations in the intracranium and both orbits. We performed a lumbar puncture. The basic cerebrospinal fluid finding was within the norm. The condition was concluded as Tolosa-Hunt syndrome. The patient was given high doses of oral corticosteroids (Prednisone 100 mg daily). Within 48 hours, the pain completely subsided, the oculomotor disorder improved, the ptosis of the upper lashes on the right, and the anisocoria subsided. The patient had painful ophthalmoparesis syndrome with a lesion of n. oculomotorius on the right, a normal finding on magnetic resonance imaging and with a significant

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therapeutic effect of corticoids. The patient is then regularly monitored at the Department of Ophthalmology once a year and at neurology.Regularly repeated magnetic resonance was without changes. The patient's condition has not been repeated since the hospitalization and treatment.

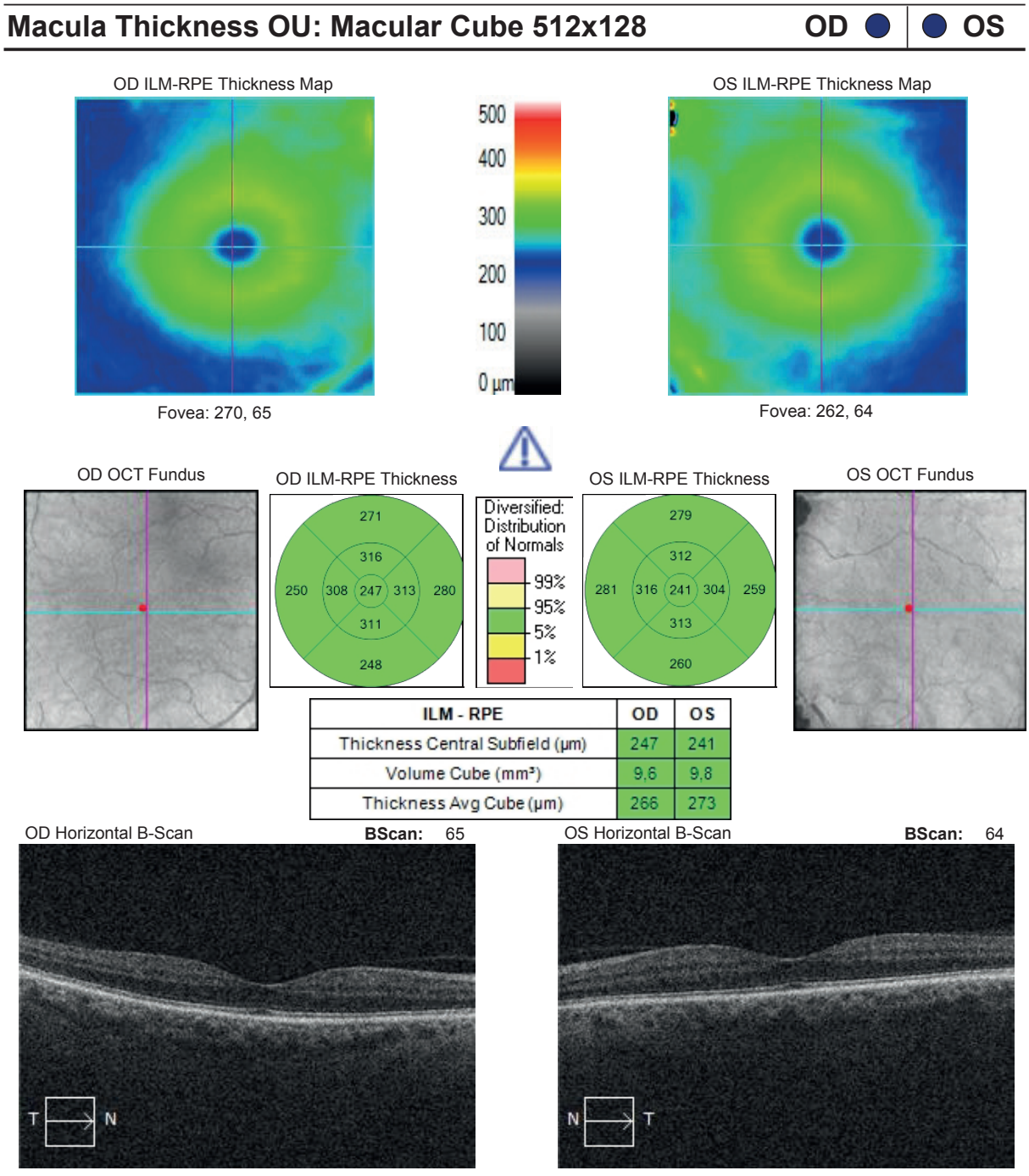

Figure 2. Optical coherence tomography of the macula of both eyes (Source: own research).

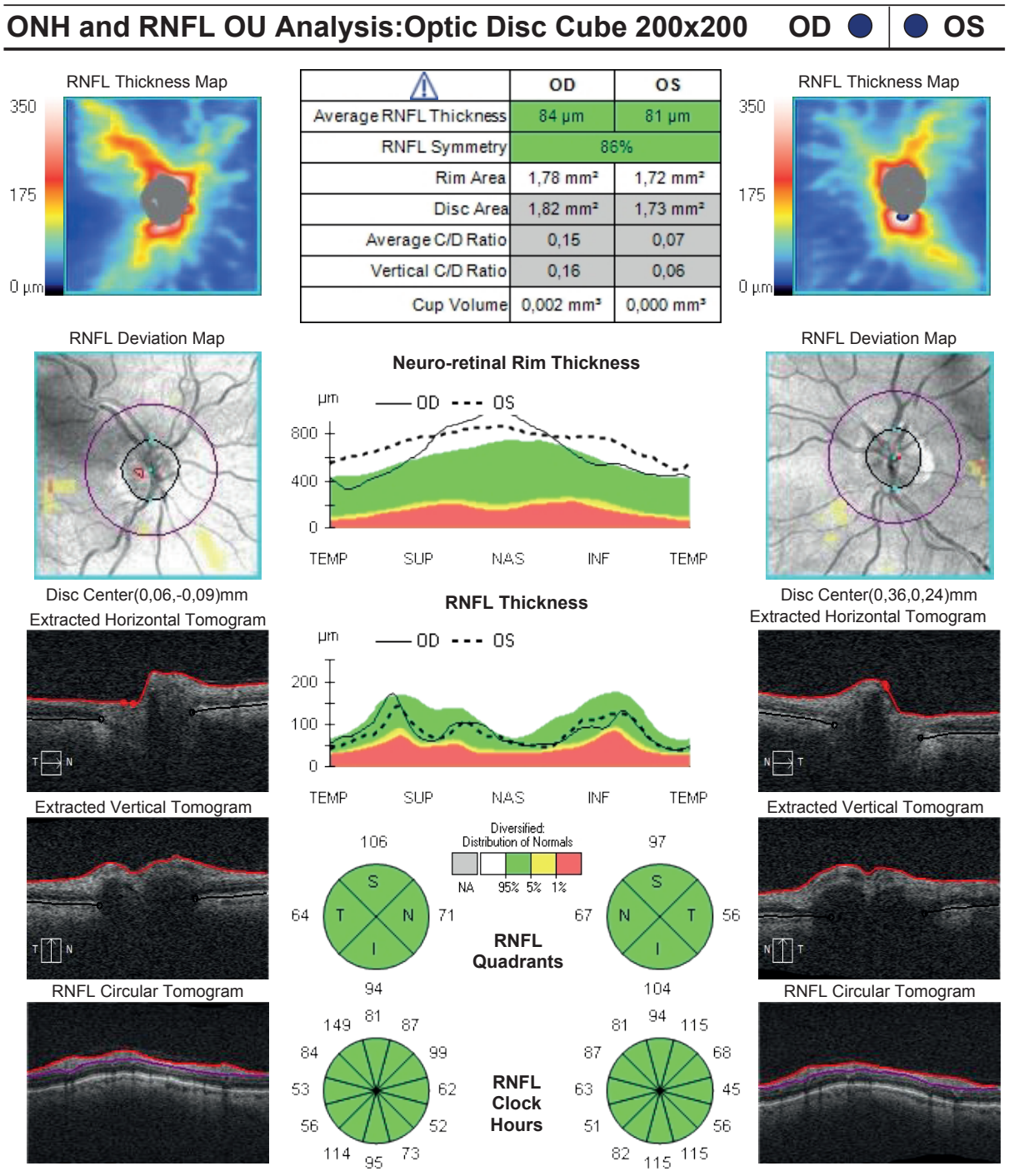

Figure 3. Optical coherence tomography of the optic nerve head of both eyes.

DISCUSSION

Tolosa-Hunt syndrome must be diagnosed by exclusion, which requires precise differential diagnosis. Patients should undergo a thorough examination, including complete blood counts, serological and immunological tests, lumbar puncture, and magnetic resonance imaging. Differential diagnosis should include other units associated with painful ophthalmoplegia (Curone

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et al. 2009; Demirkaya *et al.* 2010; Mullen *et al.* 2020). THS is characterized by symptomatic improvement with corticosteroids. Improvement in symptoms, mostly pain relief, is usually seen from 24 to 72 hours after starting treatment, with most patients reporting improvement within one week. Paralysis of the cranial nerves gradually improves, but the overall recovery can take from two to eight weeks (Lawton Smith, Taxdal 1966; Wiener, Cron 2020). Relapses usually occur in about 40% to 50% of patients and may be ipsilateral, contralateral, or bilateral. Recurrences are more common in younger patients than in elderly patients. Each relapse should be re-examined, as Tolosa Hunt syndrome is a diagnosis based on the exclusion of other diagnoses (Hunt *et al.,* 1961; Tessitore, Tessitore 2000; Sondheimer, Knapp 1973; Förderreuther, Straube 1999). Various causes of painful ophthalmoplegia include traumatic injury, vascular diseases such as intracavernous carotid artery aneurysm, posterior cerebral artery aneurysm, carotid-cavernous fistula, carotid-cavernous thrombosis, basilar artery aneurysm, dissection. Other diseases include primary or secondary nation cranial or intracranial, metastases, viral or bacterial causes, sarcoidosis, orbital pseudotumor, or a mixed cause such as diabetic ophthalmoplegia or arteritic anterior ischemic neuropathy (Kline, Hoyt 2001).

CONCLUSION

Tolosa-Hunt syndrome is not common and must be considered in a differential diagnosis after other diagnoses have been excluded. It is usually idiopathic and is believed to be caused by a non-specific inflammation in the cavernous sinus or orbital cleft. Therefore, close interdiciplinear collaboration is needed to detect and diagnose the syndrome. As we do not encounter it on a daily basis, it is also necessary to point out the given syndrome, which we often do not even have to think about and we cannot diagnose the syndrome.

Conflicts of Interest:

The authors declare no conflict of interest.

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Quality of Life of Children in Children's Homes in the Czech Republic

Kvalita života dětí v dětských domovech v České republice

Aneta Witzanyová,[1] Miloš Velemínský [1]

[1]University of South Bohemia in České Budějovice, Faculty of Health and Social Sciences, České Budějovice, Czech Republic

Contact author: Mgr. Aneta Witzanyová
– Nemanická 85, Hrdějovice, 373 61, Czech Republic
e-mail: witzaa00@zsf.jcu.cz

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ABSTRACT **Introduction:** Staying in a children's home has a major impact on the quality of life of children. It has a profound effect on experiencing and psychosocial needs of children, placed in children's homes for a variety of reasons.
Aim: The survey and the paper aim to present the subjective evaluation of their quality of life by children placed in children's homes.
Material and methods: The survey was conducted using qualitative data analysis, and specifically, using the grounded theory technique. A sample of opinions was gathered from a total of 577 children from all regions of the Czech Republic. The survey data were obtained by questioning, and specifically, using the structured interview technique. The interviewee's answers were recorded and further evaluated using a three-level coding system. As the main result, specific and generic grounded claims were formulated.
Results and discussion: The main contribution of the survey was in the conclusion that despite the fact that children in children's homes are inconvenienced by certain circumstances and are also affected by past experiences, their stay in a children's home is not overwhelmingly stressful for them, and most of the children are at least relatively satisfied, although there is still room for improvement, which constitutes a challenge especially for children's home workers.
Conclusion: The analysis and interpretation of the obtained data revealed that the stay in a children's home is not overwhelmingly stressful for children, barring exceptions, and that most of them are at least relatively satisfied with their subjective quality of life.

Keywords: Quality of life; children's home; psychosocial experiencing, life goals

ABSTRAKT **Úvod:** Pobyt v dětském domově má zásadní vliv na kvalitu života dětí. Prožívání a psychosociální potřeby dětí, které jsou umístěny v nich z různých důvodů umístěny, jsou pobytem v nich značně ovlivněny.
Cíl: Cílem výzkumu a článku je uvést, jak děti v dětském domově subjektivně hodnotí svou kvalitu života.
Materiál a metodika: Výzkum byl proveden kvalitativní analýzou dat, konkrétně technikou zakotvené teorie. Byly zjišťovány názory celkem 577 dětí ze všech krajů České republiky. Data pro výzkum byla získána metodou dotazování, konkrétně strukturovaným rozhovorem. Odpovědi informantů a informantek byly zaznamenány a dále vyhodnoceny

pomocí třístupňového kódování. Jako hlavní výsledek bylo stanovena dílčí a hlavní zakotvená tvrzení.
Výsledky a diskuze: Hlavní přínos výzkumu spočívá ve zjištění, že přesto, že dětem v dětském domově některé věci vadí a ovlivňují je i minulé zkušenosti, pobyt v dětském domově pro ně není až na výjimky zcela stresující a většina z nich je alespoň relativně spokojená, byť je stále dostatek prostoru pro zlepšení, což je výzvou především pro pracovníky dětských domovů.
Závěr: Analýzou a interpretací získaných dat bylo zjištěno, pro děti pobyt v dětském domově není až na výjimky zcela stresující a většina z nich je alespoň relativně spokojená se svou subjektivní kvalitou života.

Klíčová slova: Kvalita života; dětský domov; psychosociální prožívání, životní cíle

INTRODUCTION

Children's home is an establishment that takes care of children and adolescents aged 3 to 18 or 19 who have been subject to a court order placing them in an institutional educational establishment, but who do not suffer from any serious behavioural disorders or disabilities which would otherwise require the use of services of other educational, medical or social facilities. The number of children placed in children's homes has fortunately been declining in recent years which is according to my opinion very positive.

Aspects of life in Children´s Homes

Quality of life is a markedly subjective concept and its perception differs widely from one person to another. How the concept is perceived is also affected by various other aspects, economic, sociological, psychological or ecological, etc. (Mareš *et al.* 2006; Payne 2005). As a result, today, quality of life is defined—to the exclusion of entirely objective aspects—mainly by the perception of the very individual evaluating the quality of their life (Payne 2005). Staying in a children's home is a strong factor in how children view their quality of life in the future, although an account must also be taken of how children perceive the quality of their lives while in the children's home. It is taken for granted that in order for a child or an adolescent to view their lives as being of good quality and for them to feel satisfied, they need to enjoy sound relationships with their parents or at least other adults (Branje 2018). Social and personal insecurity in these relationships, on the other hand, is a factor affecting the emergence and persistence of psychopathologies during adolescence (Meeus 2016). The general assumption is that a stay in a children's home constitutes a major interference with the child's experiencing, reducing the children's sense of the quality of life. Placement in a children's home is typically the result of a poor family background. The sense of satisfaction with the quality of life in children is then hindered by the children missing such things as hugs, the sense of belonging to a family, but also the presence of the parents or a permanent carer, which further affects their psychosocial experiencing (Běhounková 2012).

The educator plays a very important role in a children's home as they take care of the children, supervise their upbringing and also, in their own way, replace the missing family background, but, according to Škovier (2017), should not try to assume the position of the parents. However, the profession of an educator in a children's home still involves some aspects of personal responsibility for the children and, as part of indirect educational activity, also an array of other tasks, such as arranging doctor's appointments, organising leisure activities, holding various events or

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procuring clothes, and as part of pedagogical activity, especially preparing children for school (Stránská 2006).

Several specific psychosocial needs have been derived for children who are raised outside their own family environment, which are necessary for the healthy development of a child (Kukla *et al.* 2016). They include the need for stimulation and a sufficient supply of high-quality stimuli—the need for a meaningful world"—as well as the need for safety and security, which are primarily provided by the children's home workers. This is in sharp contrast with the frequent ethical dilemma of the relationship between a worker and a child becoming too close (Škoviera 2007). Another specific need of these children is the need for personal identity, which is often hampered by low self-esteem and lack of self-respect, often resulting in impaired socialisation (Langmeier, Matějček 2011; Kukla *et al.* 2016). Equally important is the need for an open future, which inspires in the children hope for change and the opportunity to dream and plan. Above all, the children express the need to belong somewhere, to have someone really close, to be protected, to be supported, to have someone to confide in and the need to find genuine understanding (Kubíčková 2011). Staying in a children's home has a profound effect on the experiencing and psychosocial needs of children who are placed in them for a variety of reasons. Fortunately the number of children placed in children's homes has fortunately been declining in recent years (Vavřečková, Tichá, Ondrúšová 2018).

AIM

The aim of the paper is to describe how children in children's homes subjectively evaluate their quality of life. The conclusions expressed in this paper are supported by knowledge obtained as to how the children experience their stay in children's homes, the feelings they have, what brings them satisfaction and what inconveniences them. I believe the society should be more profoundly informed of the different ways, in which the children experience their stay and, in some cases, also the various patterns of behaviour displayed by children placed in children's homes. This paper should be of assistance in these respects.

MATERIAL AND METHODS

The survey was conducted using qualitative data analysis, and specifically the grounded theory technique. A sample of opinions was gathered from a total of 577 children from all regions of the Czech Republic. The children included in the research were selected based on their willingness to participate in the research following Veronika Kašáková's lectures as part of the "New Start" programme, sponsored by the Veronika Kašáková Endowment Fund. Also, the survey was conducted as part of the elaboration of a diploma thesis (Witzanyová 2020). The survey data were obtained by questioning, and specifically, using the structured interview technique. The respondents' answers were recorded in writing and further evaluated using a three-level coding system. The three levels were open coding and categorisation of data; axial coding, linked with the development of a paradigmatic model; and finally selective coding with the determination of the central category. Grounded claims were then formulated as the main result. The survey was conducted using the Atlas.ti 8 software package, in which the graphic outputs of the survey were also created.

RESULTS AND DISCUSSION:

The research looked into the subjective quality of life of children in children's homes, where interviews were conducted to establish how the children themselves viewed their stay in the children's home, what they found uncomfortable, and whether they there was a person among the educators who they could confide in and trust. Most of the children also provided their educators

with advice as to what they should do and how they should behave to make them feel better in the children's home. The children also commented on whether there was anyone in the children's home who had hurt them and what they thought their future satisfied life looked like. Finally, interviews also revolved around their desire or reluctance to leave the children's home and their plans for a change in their future family lives.

One positive result of the research is the fact that most children indicated they could trust the educators with their secrets. As the reasons, they indicated confidence, relief or uniqueness of the person concerned. Most children have full trust in their educators, indicating emotional proximity to particular people, help and support or the personality traits of the educators as the reasons behind the trust. Kubíčková (2011) also mentions the need to trust and develop a close relationship with another person. However, past experiences proved to be a problem, causing some children to trust no one preventing them from forming an emotional relationship with another person. Šraibová (2020) notes it is specifically disappointment in childhood that provokes in many individuals the inability to form a confidential relationship later on in their lives. Oláh (2016) maintains that owing to their family experience, these children, also later on also as adults, are more likely to fail to establish personal relationships and ties, which usually coincides with their inability to receive and give love.

The quality of life in family environment is different and depends not only on the social status, but also on the education and family priorities that are transferred from one generation to another (Budayová, Ludvigh Cintulová, Chanas 2018).

The poor quality of life in the original families proved to be a big problem, owing to which some children may respond overly sensitively to the behaviour of educators. Many children would therefore like to improve their stay in the children's home through the advice they provided to educators. The advice included, but was not limited to, more open communication or congruence, fewer bans and a desire for the educators not to think of the children's home only as a place of work. Kubíčková (2011) highlights the risk of a burnout syndrome, the symptoms of which may consist, for example, in reluctance to communicate with the children.

As for what bothers children in children's homes the most and reduces the quality of their lives, the children often mentioned bans, the lights-out time being too early and a feeling of a lack of love, understanding and tolerance. Children in children's homes often tend to display specific experiencing due to the traumas they have experienced in the past (Běhounková 2011; Filippielli *et al.* 2017; Kukla *et al.* 2016) as well as Langmeier and Matějček (2011). Dissatisfaction with the daily routine measures emphasises the need for striking a balance between the need for structure and daily routine on the one hand, and excessive stereotyping, on the other (Matoušek 1999).

The research did not corroborate the claim in Matějček (1994) that children in children's homes do not have a lot of plans and wishes. The children's goal for further quality life is primarily to complete their secondary education, start a family and raise children, although the two goals are not always mutually interconnected. From the perspective of jobs, the children mainly want to work in services that require a certificate of apprenticeship, but the children's professional goals differ depending on the required level of education and talent and the need for special training. Klusáček (2014) and Ciglerová (2013) confirm these results with their research. Among the children's other goals, there is, above all, the desire to lead a normal life, to be happy or to fulfil their dreams and to actualise their potential. Most children expect the children's home to give them a solid head-start to their adult lives. Minuchin (2013) anticipates problems in the area of life goals and relationships with the future family, but

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according to our research, this does not always have to be the case.

According to the results of the research, the children in children's homes generally do not sustain harm from anyone, which is a very positive result. There has also been no self-harm, which Wacker (2017) states as one of the ways children may cope with the traumas they have experienced. Some children are very happy to leave the children's home. The respondents often cited as reasons the desire for freedom and liberty, family, the actualisation of their own potential, and the desire for their own life. According to Vodáčková *et al.* (2012), the reason why some children look forward to leaving (2012) may concern complicated relationships with their peers. However, about half of the children are very worried about leaving, as they are worried by the prospect of leading an independent life without the support of their surroundings, and also because many children develop an emotional attachment to the children's home. Pěnkava (2011) and Žďárská (2018) indicate financial difficulties after leaving the children's home and problems related to the golden cage effect. Some children see both positives and negatives in leaving the children's home and they do not know whether they should look forward to it or be worried. According to Folda *et al*. (2009) this is, however, entirely normal and understandable.

A paradigmatic model was created as part of the research, which makes it possible to create various mutual relations between the data and to create mutual links between them, as shown in Figure 1.

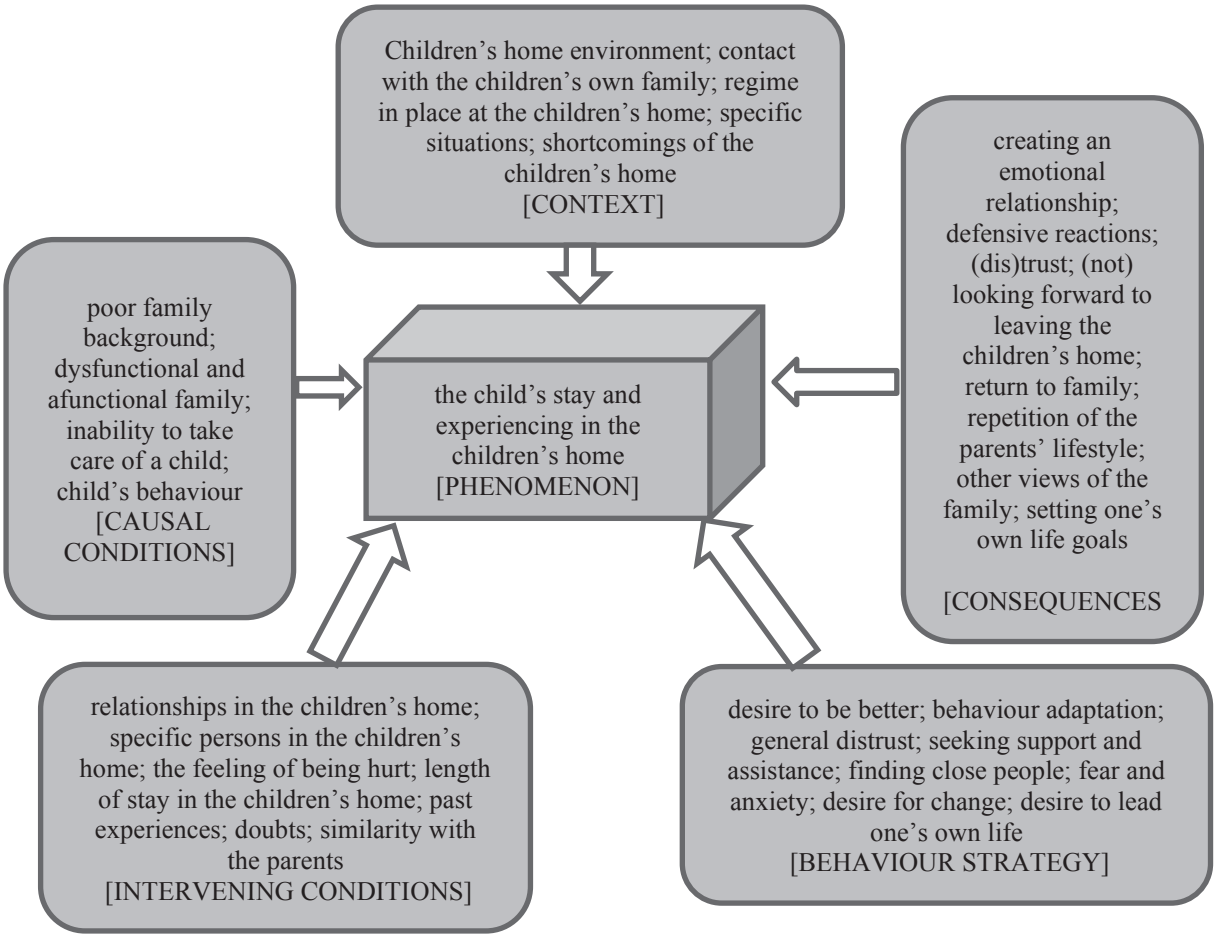

Figure 1: Paradigmatic model (Source: Own research)

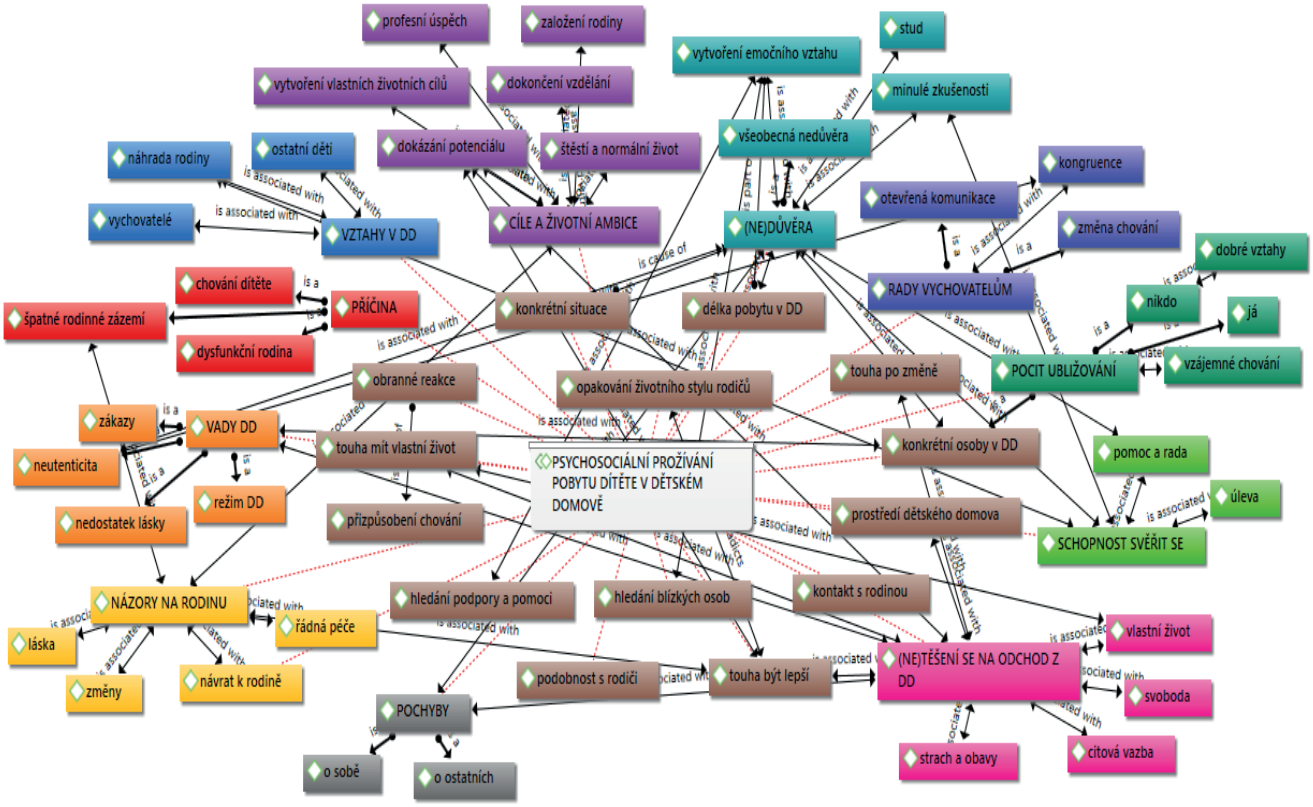

Figure 2: A child's psychosocial experiencing of their stay in a children's home (Source: Own research)

The research identified a central category to which many specifics apply, which, in total, form the basis of the children's quality of life in children's homes, see Figure 2 and Tab 1. In order for the children in children's homes to lead high-quality lives, attention must be given to their psychosocial experiencing and their needs and possible differences must be respected.

The main outcome of the research is the grounded claim that is based on an array of specific grounded claims and findings brought about by the research: **Despite the fact that children in children's homes find certain things uncomfortable and are also affected by past experiences, staying in the children's home is not overwhelmingly stressful for them, barring exceptions, and most of them are at least relatively satisfied, although there is still enough room for improvement, which is a challenge for the children's home workers.**

CONCLUSION

The analysis and interpretation of the obtained data revealed that despite the fact that children express some degree of dissatisfaction with the daily routine and bans put in place in children's homes and despite the fact that they are affected by their past experiences, staying in the children's home is not overwhelmingly stressful for them and most of them are at least relatively satisfied. The research has further shown that children enjoy generally good relationships with the educators, which are based on mutual trust, in spite of occasional disagreements. Most children evaluate their subjective quality of life in the children's home positively. Anyway, it is still possible, and even necessary, to further improve the conditions in children's homes, which presents a challenge especially for the children's home workers.

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Tab 1: A child's psychosocial experiencing of their stay in a children's home

PSYCHOSOCIAL EXPERIENCING OF THE STAY IN THE CHILDREN'S HOME BY A CHILD				
specific situation	length of stay in a children's home	longing for a change	specific people in the children's home	children's home environment
contact with the family	seeking close people	seeking support and assistance	behaviour adaptation	longing for one's own life
defensive reactions	adopting the parents' lifestyle	longing for being better	similarity with parents	
GOALS AND LIFE AMBITIONS				
professional success	establishing a family	setting one's own life goals	completing education	proving one's potential
happiness and normal life				
(LACK OF) TRUST				
establishing emotional ties	shame	past experiences	general distrust	
ADVICE TO EDUCATORS				
open communication	congruence	change of behaviour		
SENSE OF HARM				
nobody	I	sound relationships	mutual behaviour	
ABILITY TO CONFIDE IN ANOTHER PERSON				
relief	help and advice			
(NOT) LOOKING FORWARD TO LEAVING THE CHILDREN'S HOME				
one's own life	freedom	emotional ties	fear and anxiety	
DOUBTS				
about oneself	about others			
VIEWS OF THE FAMILY				
love	changes	return to the family	proper care	
SHORTCOMINGS OF THE CHILDREN'S HOME				
children's home regime	lack of love	bans	unauthenticity	
CAUSE				
poor family background	child's behaviour	dysfunctional family		
RELATIONSHIPS IN THE CHIDREN´S HOME				
family substitute	other children	educators		

Source: Own research

Conflict of interests

The authors are not aware of any conflict of interests preventing the publication of the results obtained in accordance with the requirements of international publication standards.

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Errata: 2021, Issue 1

For all articles in this issue, Submitted, Accepted and Published online dates were ommaccidentally omitted, which should ber read as follows:

COVID-19 and the nervous and sensory system

COVID-19 a nervový a zmyslový systém

Miron Šramka, Ján Mašán, Eugen Ružický, Kamil Koleják **page 1**

Submitted 2020-12-09 Accepted 2021-02-01 Published online 2021-04-04

COVID-19 and EYE

COVID-19 a oko

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The role of environment during the COVID 19 pandemic

Úloha environmentu počas pandémie COVID-19

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Computer use during the COVID-19 pandemic

Používanie počítača počas pandémie COVID-19

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Motives and barriers (kinesiophobia) for physical activity people training at the gym

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Why do nurses migrate?

Zašto sestre migriraju?

Vesna Stevanov, Stanislav Sabo, Ljiljana Tomić, Alexandra Mesarović, Mária Kilíková, Ana Sabo, Zdenko Tomić **page 43**

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