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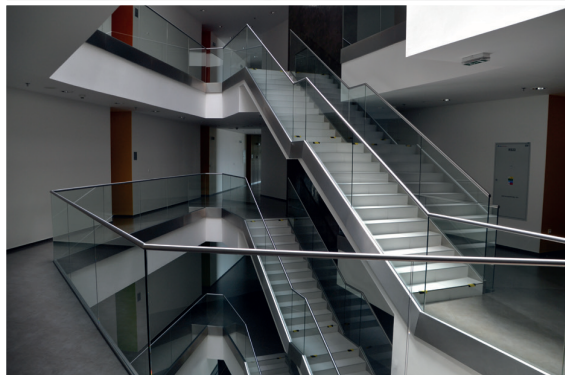
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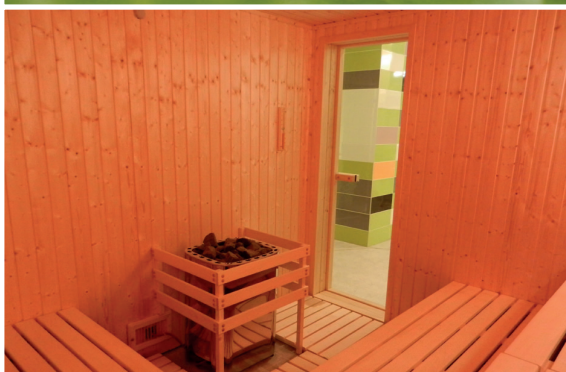
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EDITORIAL

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.

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 2021, the journal celebrated its 16th 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 2021, the conference took place in October in Ustroń, Poland.

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

Strategies for teaching methods in health care disciplines Stratégia výberu vyučovacích metód v zdravotníckych odboroch

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ABSTRACT Introduction: The education of the professionally oriented professions is continuously evolving and responding to the demands of clinical practice. The aim of this paper is to present the methods currently used to provide training in undergraduate and postgraduate education in the health professions.

Core of Work: The text describes the theoretical background and current use of teaching methods such as: lecture, concept mapping, online courses, games, role-playing, case studies, simulations and flipped teaching methods. It also describes self-study as part of the teaching process. It also takes into account new trends in student assessment. It also touches upon the issue of specific digital competences of students in the educational process.

Conclusion: Teaching strategies in the health professions currently focus on digital skills, critical thinking, creativity and initiative, collaboration, communication and social skills. These opportunities are included in the development of simulation and virtual learning methods.

Keywords: curriculum, evaluation of students, health professions, methods in education

ABSTRAKT Úvod: Vzdelávanie profesijne orientovaných povolání sa kontinuálne vyvíja a reaguje na požiadavky klinickej praxe. Cieľom príspevku je priblížiť aktuálne využívané metódy na zabezpečenie prípravy v rámci pregraduálneho i postgraduálneho vzdelávania v zdravotníckych odboroch.

Jadro práce: V texte sú vymedzené teoretické východiská a súčasné využitie výučbových metód ako sú: prednáška, pojmové mapovanie, on line kurzy, hry, hranie rolí, prípadové štúdie, simulácie a obrátenej vyučovacej metódy. Popisuje aj samoštúdium ako súčasť výučbového procesu. Berie do úvahy aj nové trendy v hodnotení študentov. Dotýka sa aj otázky špecifických digitálnych kompetencií študentov vo vzdelávacom procese.

Záver: Stratégie výučbových metód v zdravotníckych odboroch sú v súčasnosti zamerané na digitálne zručnosti, kritické myslenie, tvorivosť a iniciatívu, spoluprácu, komunikácia a sociálne zručnosti. Tieto možnosti sú zahrnuté v rozvoji simulačných a virtuálnych metód vzdelávania.

Kľúčové slová: kurikulum, hodnotenie študentov, zdravotnícke odbory, vyučovacie metódy

INTRODUCTION

Professional competence for the practice of health professions is a comprehensive training in both undergraduate and postgraduate education. Education in professionally oriented disciplines represents a specific approach, as the transformation of theoretical knowledge from simulation conditions into clinical practice is necessary. In the theory and practice of the teaching process, the choice of methods is important, because the choice of methods determines the orientation of the teaching process, the actions of the teacher and the student and, consequently, the success in achieving the goals of education. According to the source of knowledge, verbal, demonstrative and practical methods in teaching can be identified. Verbal is most often followed by lecture, explanation and description. Illustrative methods include demonstration, observation and excursion. And since the source of knowledge is not only passive perception but also active activity, we also use practical methods in teaching in health disciplines. Practical methods can be further divided into methods of problem solving (laboratory, project graphic work) and methods of practical work in laboratory conditions (practice rooms, simulation centers) (Turek, 2014).

OBJECTIVES

The aim of this paper is to present the current methods of training used in undergraduate and postgraduate healthcare education. It will also highlight the need for digital support in the education of health professionals.

Lecture

is an effective way to impart knowledge to students quickly. It has advantages especially in its ability to provide information to a large number of students, offering availability of

materials in a quick and cost-effective manner. A lecture is a way to introduce new material, continue the discussion on a topic, and summarize the content of the topic. As technology develops, the lecture can be combined with a variety of other techniques, such as power point presentations, to make the lecture both engaging and interesting (Xu, 2016).

Concept mapping

is a technique for visualizing the representation of the interrelationships of ideas and concepts. It helps students find logical relationships between two or more terms. The essence of the method lies in the fact that while learning from a text, an interpretation, the student tries not to learn the presented concepts only mechanically, but above all to learn the interrelationships (Štefková G, Zamboriová M, 2021). This process is made visible by the fact that the student's learning is accompanied by the creation of sketches, diagrams presenting the relationships between concepts, which are called concept maps. The goal of this strategy is for the student to learn by actively connecting new concepts to existing concepts (Harpaz I, Balik C, Ehrenfeld M, 2004). Concept mapping helps to fill in missing knowledge, clarify existing knowledge, and improve critical thinking. From the perspective of health professional education, concept mapping is a great strategy for teaching clinical care planning. Concept mapping of clinical problems allows students to see the interrelationships in clinical data and understand the overall clinical condition of the patient (Maryam A, Mohammadreza D, Abdolhussein S, 2021).

On line course or also e-learning

is a process of formal and non-formal learning and training activities, processes, communities and events delivered using electronic media such as the internet, intranet, CD-ROM, videotapes, television, telephones, personal computers and so

on. It represents an integrated educational programme that is fully accessible anytime and anywhere via computer and internet connection. Online education provides increased flexibility, access, and cost-effectiveness in education because attending classes in an educational institution setting is often difficult for health care professionals due to their work hours. Online courses are an effective continuing education strategy for healthcare professionals in a clinical setting. The teacher can prepare a variety of learning materials such as literature, videos, websites, and discussion forums. Completion is followed by an online test needed to assess understanding.

Games

are not only fun but also an effective teaching strategy. Using games as a teaching strategy promotes student engagement and increases both motivation and student interest. Games can make learning more enjoyable. Nursing literature points to many reasons to use games as an instructional strategy, including promoting active learning, encouraging critical thinking, the value of fun and excitement in learning, and replicating real-world situations. Using games can effectively teach content that may be considered dry or boring within an enjoyable atmosphere. Games can be combined with lectures to provide a well-organised learning environment.

Role – playing

is a particularly useful strategy for practicing clinical and communication skills. Role-playing can also be very effective for experiencing cultural principles and awareness because it allows students to emotionally engage in cross-cultural learning and reflect on cultural differences (Rønning SB, Bjørkly S, 2019). At the beginning of a role-play activity, the goal of the activity should be stated. Also, teachers need to interact with students in the situation or context of the interaction that will occur. Finally,

it is essential that the teacher and students discuss the situation and the different perspectives of each character. Debriefing also provides time for feedback for students.

Case studies

present realistic, complex, and contextually rich situations, often involving a dilemma, conflict, or problem that one or more characters in the case must negotiate. The forms of describing a situation can vary: written, videotaped, filmed, photographed, and others. Hayward and Cairns (1998) state that the use of cases allows students to integrate and apply clinical and basic science knowledge and skills such as clinical reasoning, critical thinking, problem solving, and interpersonal skills to hypothetical or real-life scenarios. The case study is a useful strategy in health professional education. It can be used in both face-to-face and online courses. It is also appropriate for teaching clinical illness, cultural competency, communication skills, and other topics. A summary or proposal from the instructor is required after the study.

Simulation

is a technique for imitating selected situations and processes that is analogous to the situation or process. It is used with the specific aim of training or retraining (Hanáček J, Mokřý J, 2018). Simulations with a low level of fidelity are the least close to reality and do not create an interactive relationship. They allow learners to know a particular clinical situation more intimately by solving a case study, role-playing, or practicing basic skills on static models, simulators, and mannequins. Examples are simulator for training of urine coiling, enemas, injection application, etc. The next level are simulations with a medium level of fidelity. In this case, more realistic, technically advanced models controlled by computer software are used.

An example would be a chest simulator allowing auscultation of cardiac echoes and respiratory phenomena. High fidelity simulations, which are closest to reality, represent the highest level. They allow real interaction with the patient simulator over time. Students gain experience from direct interaction with a computer-controlled simulator (with specific responses to the educator's actions), a standardized patient (volunteers or paid actors portraying and acting out a realistic patient exactly according to a script), or a virtual reality. After using the simulations, students are confident in caring for similar patients in the clinical area, students are satisfied with a safe instructional method (Al Khasawneh E, Arulappan J, Natarajan JR *et al.*, 2021).

Reverse teaching method

is a model of teaching that combines, in an appropriate way, students' independent work (or their working together without the teacher) and joint meetings with the teacher. Teaching is designed so that students do the easier things without the teacher (asynchronous) and work together with the teacher on the more challenging things (synchronous). Reverse teaching method is effectively implemented in a hybrid learning environment (e.g. selected parts of the content are continuously published in the form of videos, self-study and student-teacher interaction is carried out e.g. with the support of a social reader (Perusall). Collaborative meetings take place on-line or on-site.

Self-study

is also part of the educational process. In the context of digital transformation, self-study means students' learning activities beyond the lectured content and the provided basic learning materials, the development of assignments (projects, term papers,...) by using various (not only recommended) digital tools and open resources in print and electronic form.

Trends are now also changing the way we look at **student evaluation**. Student evaluation is carried out continuously during the teaching process and overall in the context of credit or examination. Evaluation is tied to meeting predetermined criteria (in the form of A-E grades). **Formative evaluation** is currently entering the process. This is an evaluation that takes place as part of the teaching process and focuses on the progress of individual students. It may be provided by the teacher, peers or it may be self-evaluation. The aim is not to classify or score, but to adapt the learning process (on the teacher's side or on the student's side) in order to achieve the set goals in the cognitive domain but also in the development of the student's skills. An example would be the continuous use of online forms with questions aimed at understanding a given topic (Sánchez *et al.*, 2020). For health-oriented professions, **authentic summative evaluation** is at the forefront, which focuses on the performance that the student will realistically give after completing his studies in the field. It is advisable to involve practitioners in such evaluation.

In the educational process, the issue of developing **specific digital competences** of students in relation to their field of study is coming to the fore. Being digitally competent means being able to use digital technologies appropriately, safely, creatively and productively for a variety of purposes, such as work, job search, learning, online shopping, health information, engagement and participation in society, etc. In the near future, specific digital skills and competences related to the field of study will also be part of the graduate profile, e.g. according to the European Digital Competences Framework (DigComp 2.1 - JRC document), there are 21 competences, which are divided into 5 areas: Information and Data (Media) Literacy; Digital Communication and Collaboration; Digital Content Creation; Responsible Use of

Digital Technologies; Problem Solving through Digital Technologies. Developing these competences should be a natural part of the curriculum.

CONCLUSION

The above methods of education are aimed at meeting an educational standard, which consists of two parts: a content standard and a performance standard. In the health professions, the standard represents the mastery of the minimum content of education and the performance standard reflects the level of appropriation of the interventions. The different levels of outcomes focus on competences - that is, a combination of knowledge, skills and abilities. The individual levels track the development of cognitive skills, the ability to understand and construct concepts, apply, analyse, evaluate and the ability to create. The above educational methods are a means of mastering the basic requirements for the health profession.

The transformation of university education is becoming mandatory in medical and paramedical sciences. This transformation is due to the progressive development of health care and medicine informatics, an increase of new knowledge, and advanced diagnostic and therapeutic procedures and well (Sovářiová Soósová M, Zamboriová M, 2016). It is important to apply personalization in education, which means that the content and pace of education are to some extent adapted to the capabilities, abilities and interests of the student. In addition to digital skills, skills and competences for the 21st century include critical thinking, problem solving, creativity and initiative, collaboration, communication, leadership, initiative, productivity and social skills. We see these opportunities in the development of simulation and virtual learning methods.

Conflict of Interest

The author declare there is no conflicts of interest in the connection with the published article.

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Gastric cancer- cancer stem cells (CSCs) theory Karcinóm žalúdka - teória nádorových kmeňových buniek (CSC)

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ABSTRACT

Introduction: Clarification of the nature of biological behavior of gastric cancer is a turning point of this treatment. Small light in explanation of the above problem is cancer stem cells (CSCs) theory.

Core of work: With the help of CSC theory, it is possible to clarify not only the origin and development of primary tumors, but also the recurrence of the disease and the mechanism of metastasis. A better and more detailed understanding of the principle of action of CSCs, their ability to dormancy and metastasize tumors will provide new therapeutic approaches that are effective in eradicating tumors and significantly reducing mortality in cancer patients.

Conclusion: Scientific studies confirm the theory of CSC in tumorigenesis and progression of cancer as well as tumor relapse and metastasis. In fact, the treatment methods used, such as chemotherapy and radiotherapy, increase CSC proliferation and resistance.

Keywords: Gastric cancer, cancer stem cells (CSCs), metastasis

ABSTRAKT

Úvod: Objasnenie podstaty biologického správania karcinómu žalúdka je prelomovým bodom liečby. Malým svetlom na vysvetlenie vyššie uvedeného problému je teória nádorových kmeňových buniek (CSC).

Jadro práce: Pomocou teórie CSC je možné objasniť nielen vznik a vývoj primárnych nádorov, ale aj recidívu ochorenia a mechanizmus tvorby metastáz. Lepšie a detailnejšie pochopenie princípu účinkovania CSC, ich schopnosti dormancie a metastázovania poskytne nové terapeutické postupy účinné pri eradikácii nádorov a výraznom znížení úmrtnosti pacientov s nádorovým ochorením.

Záver: Vedecké štúdie potvrdzujú teóriu CSC pri vzniku a progresii nádoru ako aj pri relapse a metastázovaní nádoru. V súčasnosti používané liečebné metódy, ako chemoterapia a radioterapia zvyšujú proliferáciu a rezistenciu CSC.

Kľúčové slová: Karcinóm žalúdka, nádorové kmeňové bunky (CSC), metastázy

INTRODUCTION

Minimal residual disease—definition

Minimal residual disease is defined by the presence of tumor cells that remain after cancer treatment and that cannot be diagnosed by conventional clinical and imaging tests. These cells may persist at the primary site or as disseminated tumor cells in proliferative and / or dormant phases (Aguirre-Ghiso JA. 2007).

Systemic micrometastatic diseases caused by early dissemination of cancer cells from the primary tumor are considered to be a source of minimal residual disease. These cells have the ability to dormant (Yoshida M, Ohtsu A, Boku N, *et.al.* 2004).

In patients with gastric cancer, there is minimal residual disease consisting of micrometastases and isolated tumor cells (ITC). Micrometastases represent clusters of tumor cells 0.2 and 2.0 mm in size, while ITCs are defined as single tumor cells or small clusters of tumor cells less than 0.2 mm in size (7 classification of tumor nodules and metastases) (Sobin LH, Gospodarowicz MK, Wittekind C, 2010).

Cancer stem cells (CSCs) are the cornerstone of micrometastases and define their properties and behavior. The clinical implications and prognostic significance of micrometastases are still under discussion.

CORE OF WORK

Definition of cancer stem cells (CSCs)

As defined by the American Association for Cancer Research Workshop on Cancer Stem Cells, a cancer stem cell (CSC) is a cell within a tumor that possesses the capacity to self-renew and to give rise to the heterogeneous lineages of cancer cells that comprise the tumor. Because they have an intrinsic ability to propagate tumor cells, CSCs are also referred to as “tumor-

initiating cells” or “tumorigenic cells” (Clarke MF, Dick JE, Dirks PB, *et al.* 2006). The ability of stem cells to self-renew and give rise to multiple cell lineages is termed as “stemness” (Wong DJ, Segal E, Chang HY, 2008).

Origin of the gastric cancer stem cells (CSCs)

The origin of gastric cancer stem cells (CSCs) is described as follows:

1. CSCs are derived from progenitor and normal stem cells (Jordan CT, Guzman ML, Noble M, 2006).
2. Dedifferentiated gastric cells, via nuclear factor-kappa-B (NF-κB) modulation of Wnt signaling (Jordan CT, Guzman ML, Noble M, 2006).
3. Bone marrow-derived progenitor cells progressing through metaplasia and dysplasia to cancer (Houghton J, Stoicov C, Nomura S, *et al.* 2004).

Helicobacter pylori infection triggers inflammation and changes the local gastric microenvironment. This change might affect the differentiation of gastric stem cells and could induce gastric cancer. *Helicobacter pylori* colonizes and manipulates both progenitor and leucine- rich repeat containing G protein-coupled receptor-5 (Lgr5+) stem cells, which then change gland turnover and cause hyperplasia (Sigal M, Rothenberg ME, Logan CY, *et al.* 2015).

The cancer stem cells phenomenon and the clinical course of the disease

Gastric cancer is usually diagnosed at later stages. This may be because patients often do not exhibit symptoms until their disease has progressed, or their symptoms have been vague and attributed initially to cause other than cancer.

Dormant CSCs (micrometastases) cannot be detected by current imaging examination methods and are overlooked.

When the primary tumor is treated, whether with preoperative chemotherapy and/or chemoradiation followed by surgery, we observe several phenomena. The primary tumor is often resistant to therapy. We know from our experience that the more resistant the primary tumor is, the more metastatic potential it has. In other words, this aggressive biology, which is probably related to the number of CSCs (and evolved species of CSCs) present in the primary tumor or volume of the tumor, dictates metastatic potential. In addition, although it may appear that local treatment has been successful, highly resistant metastatic disease often becomes apparent very quickly.

We distinguish three patterns of response and resistance observed in patients with advanced and metastatic gastric cancer following first-line therapy (docetaxel, cisplatin, and 5-FU).

A first pattern involves patients with gastric cancer, where there is almost a 50% chance they will experience some reduction in tumor volume and improvement in their symptoms for a short time, but, after a few months, the cancer starts to grow. Second-line therapy produces less reduction in tumor volume and for a shorter duration response. Between these patients, it can be seen that the CSCs population is enriched by cancer treatments, making the tumor more resistant.

A second pattern involves patients whose tumors exhibit primary resistance. These patients never experience tumor shrinkage even with the initial treatment option.

A third resistance pattern is one in which the patient has a mixed treatment response. Metastatic lesions in the liver, for example, will become smaller, while those in abdominal lymph nodes increase in size. This phenomenon is inpatient tumor heterogeneity. Not only can tumors in different organs exhibit different

molecular characteristics, but multiple metastases in the same organ can have different somatic profiles.

Treatment of the cancer stem cells

Multiple research findings indicate that conventional therapies, which target the rapidly dividing cells in tumors, have limited efficacy or even adverse effects on CSCs (Bao B, Ahmad A, Azmi AS, *et al.* 2013) and lead to treatment failure, chemoresistance, and recurrence.

Consequently, two types of cancer therapies targeting CSCs have been investigated: first, to induce and/or maintain dormancy of tumor cells, and second, to induce cell death in residual dormant cancer cells by targeting their markers. Consequently, gastric cancer therapies targeting CSCs have been investigated (Marek V, Durdík S. 2017).

CONCLUSION

Advanced gastric cancer is one of the most difficult challenges in clinical practice. Research has shown that CSCs can initiate tumor development and play a significant role in tumor relapse and metastasis. Indeed, evidence is accumulating that treatments, such as chemotherapy and radiation, can increase the proliferation of CSCs. Investigations are underway into the molecular signaling pathways involved in tumor cell repopulation. The small subpopulation of CSCs in gastric cancer may be a rational treatment target.

Conflict of interest:

None

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Pressure intraperitoneal aerosol chemotherapy - will it change the fate of patients with peritoneal metastases?

Tlaková intraperitoneálna aerosólová chemoterapia- zmení osud
pacientov s peritoneálnymi metastázami?

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ABSTRACT **Introduction:** Pressurized intraperitoneal aerosol chemotherapy (PIPAC) is a novel drug delivery system able to induce regression of peritoneal metastasis (PM) in the salvage situation.

Is PIPAC really that effective in eliminating peritoneal metastases?

Core of work: Peritoneal metastases occur in patients with various primary cancers and are associated with a poor prognosis. The basis of treatment is systemic chemotherapy; however, the morbidity is significant and the survival benefits are modest. Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy are potentially curative treatments available to a minority of patients; however, most will develop recurrent disease. Recently, a new palliative treatment for peritoneal metastases, pressure intraperitoneal aerosol chemotherapy, has been introduced. Pressure intraperitoneal aerosol chemotherapy uses aerosol chemotherapy in carbon dioxide gas. It is installed in the abdomen under pressure through laparoscopic ports. No cytoreduction is performed. Intraperitoneal aerosol chemotherapy under pressure may be repeated at 6-week intervals. The review article provides an overview of the literature data and conclusions of renowned studies analyzing PIPAC

Conclusion: PIPAC remains experimental treatment. Detailed prospective studies and close collaboration between scientists and oncologists are needed in the future to prove its effectiveness.

Keywords: Pressurized intraperitoneal aerosol chemotherapy (PIPAC), cytoreductive surgery (CRS), hyperthermic intraperitoneal chemotherapy (HIPEC)

ABSTRAKT **Úvod:** Tlaková intraperitoneálna aerosólová chemoterapia (PIPAC) je nový systém podávania liekov schopný vyvolať regresiu peritoneálnych metastáz (PM).

Je PIPAC skutočne taký účinný pri odstraňovaní peritoneálnych metastáz?

Jadro práce: Peritoneálne metastázy sa vyskytujú u pacientov s rôznymi primárnymi nádormi a sú spojené so zlou prognózou. Základom liečby je systémová chemoterapia;

chorobnosť je však významná a prínosy prežitia sú neuspokojivé. Cytoreduktívna chirurgia a hypertermická intraperitoneálna chemoterapia sú potenciálne kuratívne liečebné metódy dostupné pre menšie percento pacientov; u väčšiny sa však vyvinie recidíva ochorenia. Nedávno bola zavedená nová paliatívna liečba peritoneálnych metastáz- tlaková intraperitoneálna aerosólová chemoterapia. Tlaková intraperitoneálna aerosólová chemoterapia využíva aerosólovú chemoterapiu v plynnom oxide uhličitom. Instiluje sa do brucha pod tlakom cez laparoskopické porty. Jej súčasťou nie je cytoreduktívna chirurgia. Intraperitoneálna aerosólová chemoterapia pod tlakom sa môže opakovať v 6-týždňových intervaloch. Prehľadový článok poskytuje analýzu literárnych údajov a záverov renomovaných štúdií popisujúcich PIPAC.

Záver: PIPAC v súčasnosti zostáva experimentálnou liečbou. V budúcnosti sú potrebné podrobné prospektívne štúdie a úzka spolupráca medzi vedcami a onkológmi, aby sa dokázala jej účinnosť.

Kľúčové slová: Tlaková intraperitoneálna aerosólová chemoterapia (PIPAC), cytoreduktívna chirurgia (CRS), hypertermická intraperitoneálna chemoterapia (HIPEC)

INTRODUCTION

Peritoneal metastases currently represent the terminal stage of gastrointestinal and gynecological tumors, including gastric, ovarian, colorectal, hepatobiliary, pancreatic, uterine, urological, and other cancers (Lambert LA, 2015). Peritoneal metastasis therapy is predominantly palliative; in order to prolong life and maintain its quality. Most patients receive platinum-based combination systemic chemotherapy (Chan CH, Cusack JC, Ryan DP. 2015). Despite this recommended therapy, patients die within months of diagnosing peritoneal dissemination (Sadeghi B, Arvieux C et al. 2000).

Compared to the multimodality treatment of solid tumors, which has recently achieved considerable success, the development in the treatment of peritoneal metastases is stagnating.

CORE OF WORK

Almost 70 years ago, intraperitoneal chemotherapy was discovered as an alternative, therapeutic option in peritoneal metastases (Economou SG, Mrazek R. 1958). Preclinical studies promised favorable results. Subsequently,

it was included in clinical practice. At present, its modification - hyperthermic intraperitoneal chemotherapy (HIPEC) together with cytoreductive surgery (CRS) represent a standard treatment for peritoneal metastases. However, the level of evidence for the effectiveness of CRS and HIPEC is still relatively low and the rate of complications remains significant, so not all oncologists accept this treatment (Sugarbaker PH, Ryan DP, 2012).

Pressure intraperitoneal aerosol chemotherapy (PIPAC) was introduced as a new treatment method for patients with peritoneal metastases in November 2011. Reports on its feasibility, tolerance and efficacy have attracted attention among cancer centers around the world.

PIPAC technique

After pneumoperitoneum insufflation (12 mmHg CO₂) with a Veres needle, two trocars (5 and 12 mm) are inserted into the abdominal wall. The extent of peritoneal carcinomatosis (PCI score) is determined by the size and distribution of the disease (Harmon RL, Sugarbaker PH, 2005). Peritoneal biopsies are taken from all four abdominal quadrants for histological

examination. A 9 mm aerosolizer connected to an intravenous high pressure injector is inserted into the abdomen through the access port.

In patients with ovarian cancer (Tempfer CB, Winnekendonk G, Solass W, *et al.* 2015), stomach (Nadiradze G, Giger-Pabst U, *et al.* 2016), hepatobiliary tract and pancreas (Demtröder C, Solass W, Winnekendonk G, *et al.* 2016), a pressurized aerosol containing doxorubicin at a dose of 1.5 mg / m² body surface area in 50 ml of 0.9% NaCl solution is recommended, followed by cisplatin. at a dose of 7.5 mg / m² of body surface in 150 ml of 0.9% NaCl solution applied using an aerosolizer and injector. In patients with colorectal and appendix cancer, oxaliplatin is given at a dose of 92 mg / m² instead of cisplatin and doxorubicin (Demtröder C, Solass W, Zieren J, *et al.* 2016). The flow rate is 30 ml / min and the maximum upstream pressure is 200 psi (13.8 bar). Therapeutic capnoperitoneum lasts 30 minutes at 37 ° C. Subsequently, the chemotherapy aerosol is exhausted through a closed line with two consecutive microparticle filters into the hospital's air waste system.

Trocars removed and laparoscopy completed. Abdominal drainage is not indicated. The increased intraperitoneal pressure caused by capnoperitoneum will ensure better penetration of the chemotherapeutic agents into the affected tissue.

The procedure itself is minimally invasive and can be combined with systemic treatment. It can be repeated at 6-8 week intervals.

In addition, laparoscopy provides the possibility of long-term monitoring of treatment effectiveness by repeated collection of biopsy samples from the abdominal cavity. The histological examination also includes the determination of resistance to chemotherapy.

PIPAC is currently included among palliative, experimental treatment methods. In no way does it replace systemic treatment, CRS or HIPEC.

In the future, it can be considered in a neoadjuvant form, where its repeated application

can convert an inoperable finding into an operable one. (Chia DKA, So JBY. 2020).

Since its introduction into clinical practice, PIPAC has been increasingly used by oncosurgeons.

Based on the first results of clinical studies, we can formulate the following conclusions:

- PIPAC is safe for the patient, the operating team and the environment
- Data from retrospective studies to date describe promising efficacy. In patients with gastric cancer and peritoneal metastases, a mean survival of 19 months was reported after PIPAC administration compared to a 4-month control group (Thomassen I, van Gestel YR, van Ramshorts et al. 2014).

Whether PIPAC becomes part of the treatment of peritoneal metastases must be decided by prospective studies carried out in a clearly defined group of patients, which require considerable financial resources. It is not right to blindly take over the dosage of a chemotherapeutic currently used for systemic treatment and use it in PIPAC. Preclinical and clinical studies are needed to determine the dose and to define the degree of drug toxicity. An example is oxaliplatin, a basal drug in the systemic treatment of colorectal cancer. Its intraperitoneal application in peritoneal metastases of colorectal cancer has brought disappointment in the form of:

- low efficacy, which is explained by a different molecular subtype of peritoneal metastases and subsequent chemoresistance
- toxic damage to the abdominal organs with subsequent formation of fibrosis.

It is necessary to develop specific drugs intended for intraperitoneal use, e.g. nanoparticles or hydrogels (Ceelen W. 2021). The identification of a specific systemic drug suitable for combination with PIPAC would be of great benefit. The ongoing study NCT03172416

testing the combination of intraperitoneally administered oxaliplatin and a systemically administered checkpoint inhibitor (nivolumab) in patients with peritoneal gastric cancer metastases provides a new perspective on the treatment of this disease.

CONCLUSION

In conclusion, it can be stated that PIPAC is currently an experimental treatment, prospective studies and close cooperation of scientists and clinical oncologists are needed for its inclusion in the treatment algorithm.

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History of breastfeeding in Slovakia until Corona crisis

História dojčenia na Slovensku po koronakrízu

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ABSTRACT **Introduction:** Mass spread of artificial nutrition in the seventies in Slovakia led to increased morbidity and mortality of infants. In the next millennium thanks to the breastfeeding support program the negative trend in nutrition was reversed and the human milk feeding was popularized.

Research objectives: Article brings overview of studies dedicated to development of breastfeeding in Slovakia including the social and health policy background. Method of work was analysis of databases Pub Med, Cochrane Database of Systematic Reviews, Bibliographia Medica Slovaca, BioMed Central, Bibliographia medica Českoslovaca, Scopus. Due to lack of available relevant studies on this topic almost all of them were selected.

Core of work: Breastfeeding rates have increased in comparison with earlier data. Slovakia collects only “fully breastfeeding” data. Partial breastfeeding data is known only from studies. Breastfeeding in Slovakia is affected by many laws and regulations. In present time Baby Friendly Hospitals recertification is in progress.

Conclusion: This article demonstrated that length of exclusive and partial breastfeeding in Slovakia is increasing since 70s.

Keywords: breastfeeding difficulties, breastfeeding initiation, breastfeeding duration, breastfeeding support

ABSTRAKT **Úvod:** Masové rozšírenie umelej výživy v sedemdesiatych rokoch na Slovensku viedlo k zvýšeniu chorobnosti a úmrtnosti dojčiat. V ďalšom tisícročí sa vďaka programu na podporu dojčenia podarilo zvrátiť negatívny trend vo výžive a popularizovať kŕmenie materským mliekom.

Ciele výskumu: Článok prináša prehľad štúdií venovaných vývoju dojčenia na Slovensku vrátane pozadia sociálnej a zdravotnej politiky.

Metódou práce bola analýza databáz Pub Med, Cochrane Database of Systematic Reviews, Bibliographia Medica Slovaca, BioMed Central, Bibliographia medica Českoslovaca, Scopus. Pre nedostatok dostupných relevantných štúdií na túto tému boli vybrané takmer všetky.

Jadro práce: Miera dojčenia sa v porovnaní s predchádzajúcimi údajmi zvýšila. Slovensko zbiera iba údaje o „plnom dojčení“. Čiastočné údaje o dojčení sú známe len zo štúdií. Dojčenie na Slovensku ovplyvňuje množstvo zákonov a nariadení. V súčasnosti prebieha recertifikácia Baby Friendly Hospitals.

Záver: Tento článok ukázal, že dĺžka výlučného a čiastočného dojčenia na Slovensku sa od 70. rokov predlžuje.

Kľúčové slová: ťažkosti s dojčením, začatie dojčenia, dĺžka dojčenia, podpora dojčenia

INTRODUCTION

Mass spread of artificial nutrition in the seventies in Slovakia led to increased morbidity and mortality of infants. In the next millennium thanks to the breastfeeding support program the negative trend in nutrition was reversed and the human milk feeding was popularized.

OBJECTIVES

Article brings overview of studies dedicated to development of breastfeeding in Slovakia including the social and health policy background. It's based on database analyses of Pub Med, Cochrane Database of Systematic Reviews, Bibliographia Medica Slovaca, BioMed Central, Bibliographia medica Českoslovaca, Scopus and important studies about breastfeeding in Slovakia. Due to lack of available studies on this topic almost all of them were selected. Study aim was completing data about breastfeeding in Slovakia in past 60 years.

CORE OF WORK

Slovak mothers in the past had a deep relationship with their children and breastfed them up to first year (Haľamová 1993). Slovakia as a part of Czecho-Slovakia (1918 – 1992) in social-pediatric chapter of the first czecho-slovak pediatrics book from year 1928 had stated, that counseling breastfeeding services for infants established during 1. World War lost importance, because nearly all children are breastfed (Švejcar 1980). This long lasting tradition began quickly

changing after the 2. World War – from year to year the number of mothers able to breastfeed for extended period of time has decreased. A significant decline was registered mainly in the 70s when 30% - 50% of newborns discharged from maternity unit were on formula, only 15% of babies in 3th month were breastfed and in 6th month breastfeeding was exceptionally rare (Table 1, Table 2).

The reason behind this decline was mostly increased employment of women, change of life style related to quick transition from agricultural to industrial society in Slovakia – women worked away of home, in factories, in offices. Among other causes we include state not supporting the motherhood and increased popularity of artificial feeding (Haľamová 1993). Feeding children with formula began approximately in 1930 (Švejcar 1980). Unified system of artificial feeding in Czecho-Slovakia was introduced in 1952, this system from the beginning led to a decreasing number of dystrophic children and significant decrease in infant's morbidity and mortality. In next years in Czecho-Slovakia artificial nutrition clearly prevailed over natural one, similar situation was also in other industrial European countries (Jodl 1985). Negative consequences of the early transition to artificial feeding began to show in the 70s – increased newborn mortality (on 18‰ in 1978) mostly because of infections, in the first 6 months increased infant morbidity with predominance of allergic diseases, anemia and infections, in 7-12 months increased obesity in high percent of children (Haľamová 1993).

Table 1. *Exclusive/full Breastfeeding Rates in Slovakia in past 60 Years*

Source/ Level/ Type of breastfeeding	N	Year	Infants who are exclusively/fully breastfed in the Slovak Republic (%)					
			Month (completed)					
			1	2	3	4	5	6
Šaláta, 1983/ Part of the Prešov Region/ exclusive	281	1956	98.9	90.7	85.0	72.2	59.7	49.1
Šaláta, 1983/ Part of the Prešov Region/ exclusive	260	1962	98.8	89.6	84.6	67.3	51.9	31.9
Šaláta, 1983/ Part of the Prešov Region/ exclusive	335	1968	94.7	81.6	58.3	35.1	17.2	6.2
Šaláta, 1983/ Part of the Prešov Region/ exclusive	413	1974	92.8	73.3	43.8	19.1	8.9	6.5
Šaláta, 1983/ Part of the Prešov Region/ exclusive	450	1979	98.4	77.6	48.0	18.4	10.4	5.6
Haľamová et al., 1990/ National/exclusive	1 495	1985	64.1	42.9	29.3	20.6	16.1	13.2
ÚZIŠ, 1998/ National/full	58 062	1997	6 weeks 72.1		52.5	-	-	32.3
ÚZIŠ, 2001/ National/full	53 780	2000	79.0	66.2	55.1	44.4	36.1	30.2
NHIC, 2006/ National/full	49 855	2005	81.5	71.7	62.6	53.9	45.9	40.4
NHIC, 2011/ National/full	52 862	2010	89.7	81.4	73.0	64.4	55.7	49.3
NHIC, 2016/ National/full	49 199	2015	85.4	78.4	72.3	66.1	59.4	53.5

Despite more precautions had been taken after 1980 to support breastfeeding and its wide promotion, decisive turn still wasn't achieved (Haľamová *et al.* 1990). This was also documented in a study from 1982 in which nutrition of 226 infants 1 - 6 months old, hospitalized on 1. Infants department of II. Children Clinic in Children Teaching Hospital in Bratislava was retrospectively evaluated. They discovered that more than 80% of these infants weren't breastfed (Horečný 1984). After WHO appeal from 1979 the Ministry of Health published a methodic instruction „The Program on support improvement of children nutrition with emphasis on breastfeeding“. Since 1980 it became part of the work for all healthcare workers in pediatrics (Haľamová 1993). This Lactation program from 1978 – 1989 was followed by UNICEF's Baby Friendly Hospital Initiative. Benefits of newborn's treatment in

rooming-in system were already demonstrated in study from 1982-1983 in Nové Zámky Hospital in the Nitra Region. It was statistically found out that these newborns had been more frequently breastfed in first 3 months, had overall longer lasting breastfeeding and had decreased morbidity (Hrabinská 1985).

Important semi national study in 80s was a study called „The level of mother health knowledge about breastfeeding“ on sample 1045 mothers and their children from 16 regions (from total 38) of Slovakia in 1980 and on sample 1495 mothers and their children from 22 regions of Slovakia in 1985. From factors influencing breastfeeding, the most significant ones were from a mother's subjective part – willingness to breastfeed, expecting difficulties with breastfeeding; further factors were – physician's instruction about preparation on breastfeeding, knowledge about trouble overcoming and correct

treatment of breasts, mother's age (younger mothers breastfed longer) and to a smaller extent mother's education level. In 1980 was longer lasting breastfeeding connected mostly with mother's secondary and primary education, in

1985 the number of longer breastfeeding mothers with university education has increased, while for mothers with primary education the number has decreased a bit (Haľamová, 1993; Haľamová *et al.* 1990).

Table 2. *Partial Breastfeeding Rates in Slovakia in past 60 Years*

Source/ Level	N	Year	Infants who are partially breastfed in the Slovak Republic (%)						
			Month (completed)						
			1	2	3	4	5	6	12
Šaláta, 1983/ Part of the Prešov Region	281	1956	99.3	94.6	91.1	84.6	80.4	78.2	34.1
Šaláta, 1983/ Part of the Prešov Region	260	1962	99.7	94.6	88.8	80.1	73.8	68.8	35.0
Šaláta, 1983/ Part of the Prešov Region	335	1968	98.2	92.3	76.3	57.2	46.2	34.3	8.1
Šaláta, 1983/ Part of the Prešov Region	413	1974	95.6	85.4	71.4	52.5	36.8	29.5	7.5
Cvengroš et al., 1978/Part of the Žilina Region	1970	1974	6 weeks 60		25	-	-	10	-
Šaláta, 1983/ Part of the Prešov Region	450	1979	99.1	92.4	70.0	49.6	36.6	24.4	2.6
Dluholucký, 1999/ The regions of Žilina & Banská Bystrica	-	1979	40	26.4	-	-	-	13.7	-
Horanská, 1982/Part of the Trnava Reg.	128	1979	25.8	19.5	18.7	-	-	-	-
Haľamová et al., 1990/ National	1 045	1980	84.2	62.0	42.8	26.7	21.7	15.5	-
Haľamová et al., 1990/ National	1 495	1985	87.1	68.3	48.8	33.7	24.3	19.3	-
Dluholucký, 1999/ Seminal	12 539	1997	-	-	54	-	-	25	-
Dluholucký et al., 2009/ The Banská Bystrica Region	537	1999	86.8	74.0	59.9	50.4	45.5	39.1	-
Velková, 2020/The Košice region	317	2011	91.2	78.9	69.4	61.2	54.6	51.4	36.3

Significant improvement in human milk feeding was reached in 90s. Slovak Republic joined The Innocenti Declaration in 1993 and started to implement global program WHO/UNICEF Baby Friendly Hospital Initiative. In 1996 first 6 Slovak hospitals received BFH plaque (Haľamová *et al.* 2001). At ethnic and geographic differences in breastfeeding aimed Dluholucký (1999) in his study with sample of 12 539 children born in 1997. He found a trend of long partial breastfeeding in ethnic Roma mothers in part of the Košice Region - in 6 completed months breastfed 45% of ethnic Roma mothers (whole Slovakia – 25%), after 6 months 32% ethnic Roma mothers (whole Slovakia – 17%) . In the rest of Slovak regions he found out that ethnic Roma mothers prioritize formula feeding more. State of breastfeeding in Slovakia at the beginning of millennium researched Dluholucký *et al.* (2009) in 1999 – 2003 retrospectively with 537 children in 4th year of life. They found, that breastfeeding care and education before the birth were provided only in 40% of pregnant women and were realized mainly by doctors and nurses. Immediate newborn breast contact after birth was only in 21% cases and later than 3 hours, in more than 50% cases. In 40% of mothers there were some difficulties with starting of the lactation after birth. 87% of newborn was delivered from the maternity unit on full breastfeeding, 6% on formula feeding. The positive effect of prenatal breastfeeding education ($P < 0.042$), early postpartum nipple contact ($P < 0.015$), and rooming-in stay ($P < 0.026$) to start of breastfeeding were confirmed. Despite the breastfeeding rate after discharge from maternity unit of women with basic education was significantly higher ($P < 0.001$), the university graduated mothers nursed their infants significantly longer ($P < 0.0043$). The beneficial

effect of longer breastfeeding to frequency of acute respiratory and gastrointestinal disorders during the first year of age was significant ($P < 0.01$, $P < 0.05$, resp.).

After 2004 Velková aimed more closely at breastfeeding in Slovakia. She conducted several studies within the Košice Region. Breastfeeding duration in the Košice Region is in the long run comparable with the national average (Table 3).

In 2006 she conducted cross-sectional descriptive study in 11 districts of the Košice Region on sample 279 pairs mother – child. She found that the median duration of exclusive breastfeeding was 4 months, exclusive breastfeeding rate at 6 months was 34.4%. Total duration of breastfeeding was positively associated to education of the mother's partner: university (7.1 months, $P = 0.0018$) and secondary level with leaving examination (6.3 months, $P = 0.014$) compared to secondary level without LE (4.7 months); and negatively associated to problems with breastfeeding on maternity ward (5.2 months compared to 6.5 months, $P = 0.022$) and missing help with breastfeeding in primipara on maternity ward (4 months compared to 6.3 months, $P = 0.023$) (Velková *et al.* 2010). In 2009 – 2011 she conducted progressive longitudinal study „Factors influencing breastfeeding children in the Košice Region, Slovakia“ on sample 317 pairs mother – child. She found that factors influencing on breastfeeding were: marry mother, mother's place of living, birth in BFH Hospital, put child on breast within 30 minutes after birth, exclusive breastfeed child during discharging from neonatal unit, nonsmoker mother, problems with breastfeeding on maternity ward, bottle supplementation on neonatal unit, no breastfeeding in the night time, start of bottle supplementary feeding after discharge from hospital (Table 4, Table 5, Table 6, Table 7).

Table 3. *Infants who are fully Breastfed in Slovakia and in the Košice Region*

Territory/Year	% infants who are fully breastfed out of the total number of live births						
	At discharge	Month (completed)					
		1	2	3	4	5	6
The Slovak Republic 1998 (ÚZIS, 1999)	91.7	75.1	61.5	50.0	40.2	32.5	27.0
The Košice Region 1998 (ÚZIS, 1999)	93.3	77.3	63.0	50.2	40.2	32.5	26.7
The Slovak Republic 2001 (ÚZIS, 2002)	93.2	83.7	69.8	58.7	48.2	39.5	32.3
The Košice Region 2001 (NHIC, 2002)	93.5	82.3	69.9	58.0	47.5	38.2	31.0
The Slovak Republic 2006 (NHIC, 2007)	92.7	84.3	74.7	65.9	57.6	49.1	42.6
The Košice Region 2006 (NHIC, 2007)	92.7	83.7	73.7	64.8	54.2	46.9	38.9
The Slovak Republic 2009 (NHIC, 2010)	-	88.8	78.5	70.3	61.9	52.8	45.4
The Košice Region 2009 (NHIC, 2010)	-	87.7	78.9	68.7	60.0	51.5	44.1
The Slovak Republic 2014 (NHIC, 2015)	-	86.5	80.1	73.9	67.2	60.2	53.4
The Košice Region 2014 (NHIC, 2015)	-	88.0	80.9	73.7	66.4	58.9	52.9
The Slovak Republic 2019 (NHIC, 2021)	-	84.8	79.1	73.3	67.8	62.2	57.2
The Košice Region 2019 (NHIC, 2021)	-	84.0	77.8	71.9	65.4	59.3	54.6

Breastfeeding initiation rate was 99.1%, in age 18 completed months still 22.7% of children were partially breastfed, in 24 completed months 13.2%. Positive factor was also mother's and father's higher education level except mothers with basic education, i.e. ethnic Roma mothers (Figure 1; Velková, 2020).

Problem in ethnic Roma mothers is low age and low education level. Bartošovič and Hegyi (2010) claim that in sample of 854 ethnic Roma women, who gave birth in 2000 – 2003 in Clinic in Košice high number were juvenile women (7% under 18 years), mostly single (65%), without

education and 96% unemployed. In this group frequently occurred hypotrophy of fetus and premature childbirth (53%), 41.8% mothers abandoned child and willingly left Clinic, 82% women in pregnancy never visited antenatal clinic or only few times. Romani people fertility is perhaps 2.5 times higher than non-Romani people. Ethnic Roma people are characterized by not only higher fertility but also higher mortality. Roma population's life style can be labeled as unhealthy – wrong nutrition habits, alcohol consumption, frequent smoking in young age, higher weight and lower physical activity.

Table 4. *A Summary of Factors positively influencing exclusive Breastfeeding (N = 317)*
(Velková, 2020)

EXCLUSIVE BREASTFEEDING – POSITIVE FACTORS					
Factor	n	Mean (months)	SD	Lower - Upper 95% CL of mean	P
Married mother	213	3.06	2.40	2.73 – 3.38	= 0.0008
Maternal university education	85	3.85	2.40	3.33 – 4.36	from < 0.0001
Paternal secondary education with leaving examination	126	3.08	2.31	2.67 – 3.49	from = 0.002
Paternal university education	70	3.53	2.52	2.93 – 4.13	from = 0.0001
Delivery in a BFH	182	3.23	2.4	2.88 – 3.59	< 0.0001
Breastfeeding initiation within 30 minutes postpartum	96	3.32	2.33	2.84 – 3.79	= 0.004
Breastfeeding on demand in the hospital	184	3.00	2.37	2.66 – 3.35	= 0.038
No breastfeeding problems in the hospital	173	3.03	2.22	2.69 – 3.36	= 0.031
Exclusive breastfeeding at discharge	257	3.05	2.30	2.76 – 3.33	< 0.0001
Mother not a smoker	209	3.02	2.40	2.69 – 3.35	= 0.005

Table 5. *A Summary of Factors positively influencing partial Breastfeeding (N = 317)* (Velková, 2020)

PARTIAL BREASTFEEDING – POSITIVE FACTORS					
Factor	n	Mean (months)	SD	Lower - Upper 95% CL of mean	P
Maternal university education	85	12.21	8.28	10.42 – 14.00	from = 0.0005
Maternal primary education	58	11.07	9.20	8.65 – 13.49	= 0.016
Paternal university education	70	12.02	8.63	9.96 – 14.08	= 0.003
Breastfeeding initiation within 30 minutes postpartum	96	11.69	9.06	9.86 – 13.53	= 0.001
No breastfeeding problems in the hospital	177	10.29	8.56	9.02 – 11.56	= 0.038
Exclusive breastfeeding at discharge	260	10.45	8.67	9.39 – 11.51	< 0.0001

Table 6. *A Summary of Factors negatively influencing exclusive Breastfeeding (N = 317) (Velková, 2020)*

EXCLUSIVE BREASTFEEDING – NEGATIVE FACTORS					
Factor	<i>n</i>	Mean (months)	<i>SD</i>	Lower - Upper 95% <i>CL</i> of mean	<i>P</i>
Maternal secondary education without leaving examination	44	1.79	1.83	1.23 – 2.34	< 0.0001
Maternal secondary education with leaving examination	129	2.67	2.33	2.27 – 3.08	= 0.001
Maternal primary education	55	2.09	1.88	1.58 – 2.60	< 0.0001
Paternal primary education	49	1.72	1.67	1.24 -2.20	from < 0.0001
Paternal secondary education without leaving examination	62	2.08	2.11	1.54 – 2.61	from = 0.0013
Delivery in a non-BFH	131	2.11	2.02	1.76 – 2.46	< 0.0001
Breastfeeding initiation later than 30 minutes postpartum	217	2.52	2.27	2.21 – 2.82	= 0.004
Breastfeeding on schedule in the hospital	127	2.45	2.22	2.05 – 2.84	= 0.038
Breastfeeding problems in the hospital	138	2.45	2.41	2.05 – 2.86	= 0.031
Supplementation by bottle in the hospital	111	2.07	2.12	1.67 – 2.47	= 0.0008
Maternal smoking prior to pregnancy, during pregnancy or while in hospital	104	2.25	2.06	1.85 – 2.65	= 0.005

Table 7. *A Summary of Factors negatively influencing partial Breastfeeding (N = 317)*
(Velková, 2020)

PARTIAL BREASTFEEDING – NEGATIVE FACTORS					
Factor	<i>n</i>	Mean (months)	<i>SD</i>	Lower - Upper 95% <i>CL</i> of mean	<i>P</i>
Maternal secondary education without leaving examination	45	6.19	7.78	3.85 – 8.53	from = 0.0005
Maternal secondary education with leaving examination	129	7.94	7.94	6.55 – 9.32	= 0.0014
Paternal secondary education without leaving examination	63	6.94	8.14	4.89 – 8.99	= 0.003
Delivery in non-BFH	135	7.08	7.45	5.81 – 8.35	< 0.0001
Breastfeeding initiation later than 30 minutes postpartum	221	8.42	8.08	7.34 – 9.49	= 0.0015
Breastfeeding problems in the hospital	140	8.29	8.35	6.90 – 9.69	= 0.038
Supplementation by bottle in the hospital	115	6.74	7.47	5.35 – 8.12	< 0.0001
Nighttime weaning	286	8.14	8.12	7.86 – 9.75	< 0.0001 <i>r</i> = 0.91
Starting bottle feeding after leaving the hospital	217	3.77	4.66	3.14 – 4.39	< 0.0001 <i>r</i> = 0.76

According to surveillance – Health status of the Slovakia population at its entry to the European Union, the ethnic Roma newborns have lower birth weight as well as head and breast perimeter. The Slovak ethnic Roma people have the highest inbreeding coefficient in Europe, which increases the probability of genetic malfunctions. The health status of children population in Slovak is generally not worse than in EU. However, it might seem worse due to the

values concerning the ethnic Roma minority (Ginter *et al.* 2005).

According to data from National Health Information Center the areas with the longest breastfeeding duration in Slovakia are the Regions of Prešov, Bratislava and Žilina; the Region with the shortest breastfeeding duration is Nitra.

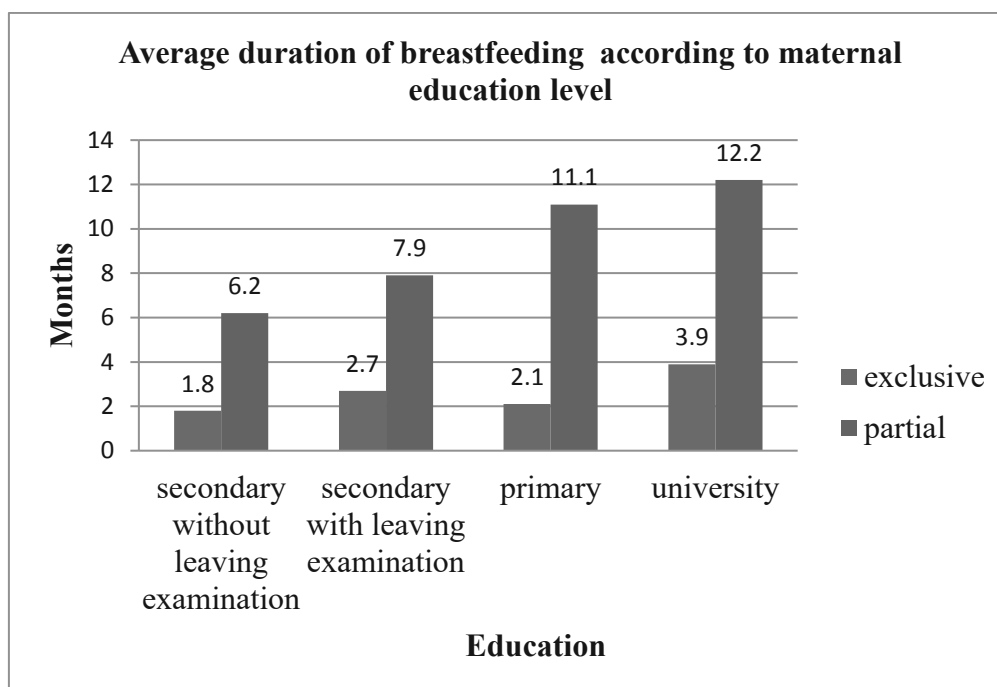


Figure 1. Comparison of the average duration of exclusive breastfeeding and partial breastfeeding according to maternal education level (Velková 2020)

CONCLUSIONS

Breastfeeding in Slovakia is affected by many laws and regulations. To the 3 most important documents of Ministry of Health of the Slovak Republic belong: Conception of health care in branch General care in children and young generation from year 2006, which says that part of preventive healthcare is also counseling in nutrition aimed at lactation program; Professional guidance of Ministry of Health of the Slovak Republic about support of infant nutrition by breastfeeding from year 2009, which contents from 10 articles: enforcement and support of breastfeeding, breastfeeding and human milk, breastfeeding recommendations from WHO / UNICEF, risks of premature cessation, contraindications of breastfeeding, permitting of breastfeeding, health facilities and competent health professionals, support of breastfeeding in out-patients' health care and declaration of support; Standard procedure for performing

prevention: Care about mother and newborn according to the Baby-friendly Hospital Initiative principles – support of relationship and lactation from year 2019. It was published like basis for hospital recertification, when Slovak board for UNICEF in 2016 claimed that validity of plaque BFH for hospitals has expired. At the present time in 2021 meanwhile no one hospital on Slovakia haven't plaque BFH. With the last period of new Corona virus pandemic came limitations of lactation counseling's and providing rooming-in system for Covid-19 positive mothers, which is going to have unfavorable consequence on breastfeeding prevalence in Slovakia.

Conflict of Interest:

None

Founding:

None

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The Quality of Life of Prisoners with Electronic Tags

Kvalita života vězňů s elektronickými náramky

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ABSTRACT Introduction: The objective of the thesis was to determine the advantages and disadvantages of house arrest with the use of an electronic tagging system for both. Evaluation the quality of life.

Aim: The advantages and disadvantages of electronic tags, their benefit for house arrest sentences and the effect on the quality of life of convicts were examined.

Methods: Ten informants from the Probation and Mediation Service The qualitative research strategy and questioning method using a semi-structured interview were used. Interviews were performed on the phone and comprise responses to 12 questions that the informants received by e-mail. The responses were processed using open coding, categorisation, grounded theory

Results: Based on the study, it can be deduced that the benefit of electronic tagging for the service of house arrest is its effectiveness and absolute control of the convict; the workers of the electronic tagging system department know precisely when and where. The greatest advantage of electronic tags when compared with random checks performed by PMS workers is the 24 hour monitoring of the convict. On the other hand, the disadvantage of electronic tags and less frequent personal contact.

Conclusions: The content of the study can complement the domestic practical literature

Keywords: electronic tag; advantages/disadvantages; convicted person; benefit

ABSTRAKT Úvod: Sledování výhody a nevýhod trestu domácího vězení s využitím elektronického kontrolního systému. Hodnocení kvality života

Cíle: Byly zjišťovány výhody a nevýhody elektronických náramků, jejich přínosů pro tresty domácího vězení a vlivu na kvalitu života odsouzených.

Metody: 10 informantů z Probační a mediační služby. Pro výzkum byla zvolena kvalitativní výzkumná strategie a metoda dotazování s technikou polostrukturovaného rozhovoru. Rozhovory probíhaly telefonicky a obsahovaly odpovědi na 12 otázek, které dostali informanti emailem. Odpovědi byly zpracovány otevřeným kódováním, kategorizací, zakotvenou teorií

Výsledky: Z výzkumu se dá vyvodit, že přínosem elektronických náramků pro výkon trestu domácího vězení je jejich efektivita a stoprocentní kontrola odsouzeného,

pracovníci oddělení elektronického monitorovacího systému přesně vědí, kdy a kde se odsouzený nachází. Výzkum ukázal, že největší výhodou elektronických náramků oproti namátkové kontrole prováděné pracovníky PMS je monitoring odsouzeného 24 hodin denně. Na druhou stranu nevýhodou elektronických náramků oproti namátkové kontrole prováděné pracovníky PMS je vyšší náročnost technických požadavků a méně častý osobní kontakt.

Závěr: Obsah studie může doplnit tuzemskou praktickou literaturu týkající se dané problematiky.

Klíčová slova: elektronický náramek; výhody, nevýhody; odsouzený; přínos

INTRODUCTION

The sentence of house arrest (HA), an alternative sentence, was introduced in the Czech Republic in 2010. The court may impose this sentence for a period of up to two years on offenders of all negligence-based criminal offences and premeditated criminal acts where the upper limit of the penalty does not exceed five years (Klátil 2021). The obligations of the convict include remaining in the specified housing or its part on work days, weekends and bank holidays with respect of the convict's working hours and time required to travel to their job, to take care of minors and to take care of essential personal and family matters, while affecting the convict's freedom after all their essential needs are addressed (Klátil 2021).

The electronic tagging system was introduced in the Czech Republic in 2018. Until then, the execution of the sentence was only randomly controlled by workers of the Probation and Mediation Service (PMS). The tags are to ensure the execution of the house arrest sentence introduced by the Penal Code in 2010, but which is only used minimally in practice. The monitoring will replace the existing practice of random control of convicts under house arrest performed by probation workers. It should convince judges that imposing this alternative sentence is meaningful and safe. The device should also monitor some accused persons who would otherwise end up in a detention cell.

This system enables 24/7 online monitoring of the convict. Electronic tags are plastic straps with an electronic circuit attached to the ankle of the convict that emits a continuous signal. The electronic monitoring set (EMS) consists of the BLUtag INT (2019) bracelet, the BLUbox base station and a communicator – a smart phone to connect with the operating office. The tag can be worn on the ankle or wrist; it is a box that weighs 170 g and is sufficiently resistant to water and dust under the IP68 protection standard. An alarm starts when it is removed. The tag contains RFID technologies paired with the designated, permanently plugged-in base station. In the case of a power failure, there is an internal battery; any manipulation of the battery starts an alarm. The station thus reliably recognises that the convict is at home and informs the operating station via wireless connection (Korec 2020).

When compared with a prison sentence without suspension, the house arrest sentence with electronic tags gives the convict an opportunity to continue in their civil life, living and working properly, thus paying taxes or paying damages to the victims of their criminal activity. The convict in house arrest also stays with their family, which helps maintain social relations and allows them to take care of children (Klátil 2021).

The aim of the thesis is to determine the advantages and disadvantages of house arrest with the use of electronic tags, both for the Probation and Mediation Service and for the quality of life of convicts. We examined the

advantages and disadvantages of using electronic tags when compared with random controls performed by PMS workers on convicts.

MATERIALS AND METHODS

The research group of ten informants included workers of the Probation and Mediation Service from eight districts in the South Bohemian region. The obtained information is only used for the purpose of research and their anonymity has been preserved. Neither the names of PMS workers, nor the place of their work are provided. The research took place in compliance with Act No. 110/2019 Coll., on personal data processing.

The qualitative research strategy by Hendl (2016) was used in the study. The study was intentional. The method of semi-structured interviews was selected.

In the first phase, the respondents were contacted by e-mail that included information on the study and the prepared questions. With regard to the epidemiological situation, the respondents replied to twelve prepared questions in a telephone interview. Their responses were recorded in recording sheets. A transcript of the individual answers of each telephone interview was made in Microsoft Word. Subsequently, 88 codes and 6 categories were obtained from the obtained data using the method of grounded theory and the open coding of the ATLAS.ti program.

The sheets contained information concerning the opinions of the respondents on the problems of house arrest with the use electronic tagging, and their opinions on the advantages and disadvantages of this type of sentence in terms of the state, as well as in terms of the convicts, including a reasoning on the functionality of the house arrest sentence.

Six categories were created from 88 codes.

RESULTS AND DISCUSSION

House arrest sentence (HA) with electronic

tag monitoring – PMS view.

Six categories were established based on the analysis of the semi-structured interviews; the individual categories are shown in Figure 1:

K1 – HA worker;

K2 – An HA worker view on the problems of monitoring house arrest sentence;

K3 Results of positive evaluations of electronic tag use;

K4 Results of negative evaluations of electronic tag use;

K5 The offender's attitude to electronic tag use;

K6 Overall HA worker opinion on the problems of a house arrest sentence.

Category 1: Tasks of the PMS worker within the house arrest sentence.

The category includes these codes: activity, experience. All PMS workers that participate in the interviews deal with the house arrest sentence in their activity. Some PMS workers deal with the preparatory and implementation proceedings within HA. In the preparatory proceedings, they perform the institute of preliminary examination, where they determine all the terms and conditions for imposing HA. For example, this concerns housing and social conditions, and also technical conditions after introducing electronic tagging. They monitor adherence to the stipulated terms and conditions in the implementation proceedings. Two PMS workers stated their specialisation at the EMS Department, and one worker stated he was the HA Regional Methodologist. Some PMS workers have had almost no experience, since electronic tagging was introduced, where an offender sentenced to HA would rather 'choose' a prison sentence. Other PMS workers stated that they have experienced an offender who violated the electronic tag rules and had their sentence changed to imprisonment. One PMS worker described a situation when '*a person has been imprisoned and did not have any negative emotions or worries about it*'.

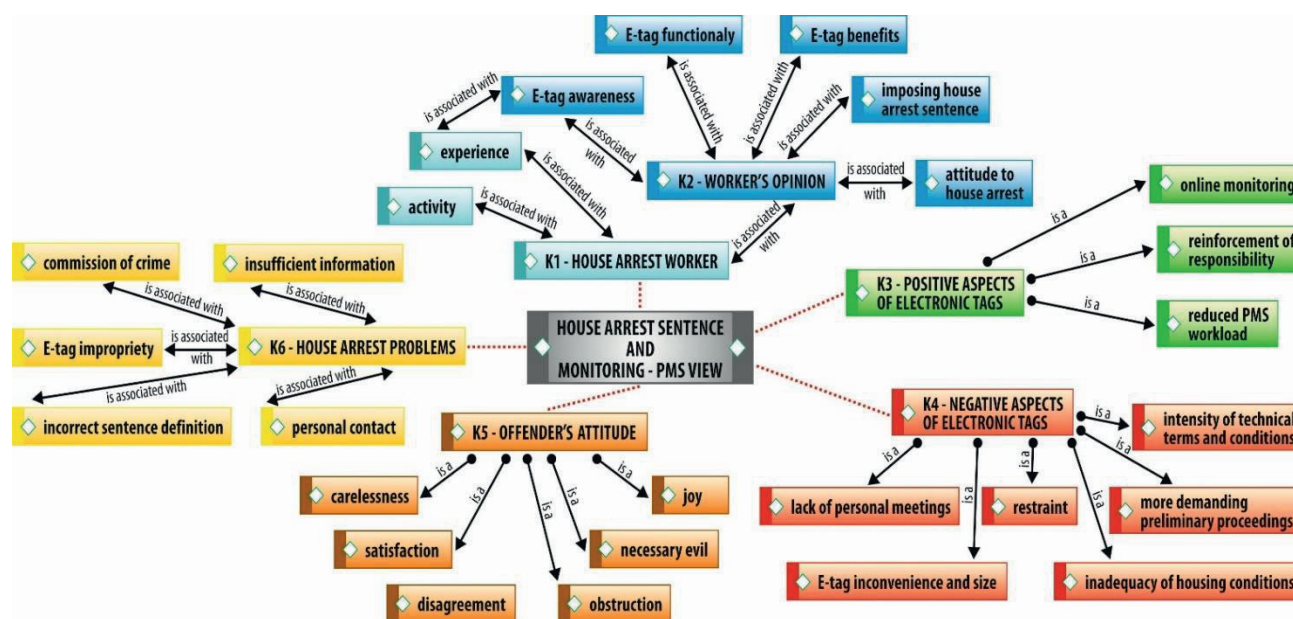


Figure 1. – House arrest sentence and Monitoring – PMS view (Source: Own research)

Category 2: This category contains PMS worker opinions on the benefit of monitoring house arrest via electronic tagging

The category includes the following codes: attitude to HA, opinion on the benefit of electronic tags, observation of the functionality of electronic tags, an opinion on imposing HA, awareness of the trend of electronic tags. Almost all PMS workers agreed that HA is a very good alternative punishment that works with the convicted person's own responsibility. Thanks to HA, the system is not encumbered with placing the convict in a correctional facility. The effectiveness of the sentence is an advantage of electronic tagging. One PMS worker stated: "Some prisoners, who would be locked in a prison without the tag, can be with their family, go to work and do other things thanks to the tag". Another worker stated: "It is great that when the terms and conditions are violated, we know where the convicted person is, and when, and we can verify whether the conditions were violated or not". PMS workers also find an advantage of

electronic tagging in making their work easier since it was introduced. They do not have to spend hours driving a car at night. All PMS workers except one agreed that the anticipated functionality of electronic tagging corresponds with the expected anticipation. Even though the tags have some operational deficiencies, they fully meet their task of monitoring convicted persons. The PMS workers do not completely agree in their opinion on imposing HA after electronic tagging was introduced. One PMS worker said: "There has been some increase. The courts have more trust in sentence monitoring, but we need to consider that it is a punishment for clients who are capable of cooperation and who meet the technical and housing conditions for serving HA". Not all PMS workers could provide a relevant reply in terms of awareness of the electronic tag trend. When compared with other countries, the monitoring within the Czech Republic is more detailed than in other countries thanks to the fact that the electronic tag has GPS (Global Positioning System).

Summary: The benefit of electronic tagging lies in its effectiveness in monitoring the serving of the house arrest sentence. The electronic tags save the financial resources of the state. PMS workers also find electronic tagging beneficial in a situation whereby it lets some convicted persons be with their families, go to work, and meet other obligations and do other activities thanks to the electronic tag; before electronic tagging, such people would be locked up in a prison. Another advantage of electronic tagging is that the exact whereabouts of the convicted person are known in real time. The fact that the PMS workers do not have to spend time driving a car at night is also an advantage.

Category 3: Positive evaluation of electronic tag use for house arrest sentences as viewed by PMS

The category contains the following codes: online monitoring, strengthening responsibility. All PMS workers agreed that the greatest advantage of electronic tagging is online monitoring of the convicted person, 24 hours a day. The client's responsibility is strengthened during HA. One PMS worker stated: *"Immediate registration of any violation at the moment the client violates the terms and conditions of house arrest is definitely an advantage. Also, the option of monitoring how the conditions were violated, i.e., where the client was instead of being at home, is also an advantage"*. Another advantage of electronic tagging is the fact that the work is not as demanding as in the case of random controls by the workers.

Category 4: Negative evaluation of electronic tag use for house arrest sentences as viewed by PMS?

The category contains the following codes: technical terms and conditions, lack of personal meetings, restraint, inconvenience of the tag, large equipment, more work in preliminary proceedings, unsuitability of housing conditions.

One of the disadvantages of electronic tagging is the higher technical demands and solving technical issues in operation. Other disadvantages include restraint of the convicted person, which is much higher than in the case of random controls performed by PMS workers. The necessity to wear a device on the leg, 24 hours a day, for several months, can be considered a disadvantage for the convicted person, which can be unpleasant. One PMS worker stated: *"It is not a small, good-looking piece of jewellery. It is quite a large device that the convicted person wears around the ankle"*. Other disadvantages of electronic tagging on the part of the convicted persons is the weight of the electronic tag, and also the fact that the tag must be recharged and maintained. As far as work in the preliminary proceedings is concerned, electronic tagging has brought more work for PMS workers. The preliminary proceedings includes determining that the housing conditions are suitable in terms of the GPS signal, placing the central office, and so on.

Category 5: Evaluation of the convicted person's attitude to electronic tag use

The category contains the following codes: thoughtlessness, satisfaction, obstacle, joy, necessary evil, disapproval. PMS workers stated that the attitudes of the convicted persons to electronic tags differ. Generally, electronic tagging is well-perceived. Information from one PMS worker: *"We are seeing an issue with following an order. They are undisciplined in charging the tag, and they take the punishment lightly, which leads to problems with the use of the tags"*. Many convicted persons express satisfaction. HA can represent hope for some clients that they might be sentenced, but they will not lose their job and family. Naturally, the tag is making some activities difficult, but overall, the offenders prefer the tag to prison. One PMS worker said: *"They take it as a necessary evil to*

avoid being imprisoned”. Offenders also disagree with being monitored non-stop.

Summary: When compared with random controls performed by PMS workers, electronic tagging requires more work in terms of technical conditions, energy consumption and operator signal strength. PMS workers stated a disadvantage of electronic tagging in less frequent personal contact, which is replaced by a device in this case. Another disadvantage from the view of PMS workers is in the higher restraint of the convicted person, whereby they are continuously monitored, unlike in the case of random controls. The size and weight of the device that the convicted person has to wear is a great disadvantage. PMS workers stated another disadvantage in relation to having more work in the preliminary proceedings as they also have to determine the housing conditions in terms of the strength of the GPS signal, placement of the central office and the base station.

Category 6: Experiences with HA and the practical use of electronic tags –

Overall PMS opinion on the problems of a house arrest sentence with practical use of electronic monitoring of the sentence. The category contains the following codes: commission of criminal activity, unsuitability of the electronic tag, insufficient information, improper sentence definition, personal contact. PMS workers stated different HA problems. One of them is committing criminal activity even after being sentence to house arrest. One PMS worker said: *“In petty crime, the tag is excessive and 24 hour daily monitoring is disproportionate”*. To ensure a proper course of HA, it is recommended to inform the convicted person of the punishment in great detail, explain the positive and negative aspects and consequences of the failure to follow the conditions of the sentence. One PMS worker also said: *“We need to emphasise that it is only an instrument and means of monitoring that*

might be excellent, but must not be purposeless, and also that it is not the only instrument. A correct definition of the sentence so that it meets its purpose is the foundation and the main thing”. It is also important that the convicted person knows who to contact in case of changes or issues. One PMS worker said: *“The device is only a mediator, a tool for control. But the punishment is not only about control, but also about motivation, help and resolution of the overall life situation”*. One of the main problems of serving a house arrest sentence in combination with EMS is personal contact, which according to PMS workers is important.

Summary: The greatest advantage of electronic tags when compared with random controls performed by PMS workers is the continuous online monitoring of the convicted person, 24 hours per day. Another advantage of electronic tagging also includes strengthening the convicted person’s responsibility, because they have to charge the tag regularly. Another advantage against random checks from the convicted person’s view is increased relief, as the constant stress of a probation officer showing up goes away. A great advantage of electronic tagging is immediate registration of a violation at the moment when the convicted person violates the conditions. That was not possible during random controls. Thanks to GPS localisation, it is possible to check where the convict was, when they were supposed to be at home, and against their claim. Another advantage of electronic tagging includes less work with monitoring and more time for the regular work of PMS workers.

Quality of life of people sentenced to house arrest with electronic tagging according to PMS

“Some prisoners, who would be locked in a prison without the tag, can be with their family, go to work and do other things thanks to the tag”. Another worker stated: *“It is great that when the terms and conditions are violated, we know*

where the convicted person is, and when, and we can verify whether the conditions were violated or not”.

Other disadvantages include restraint of the convicted person, which is much higher than in the case of random controls performed by PMS workers. The necessity to wear a device on the leg, 24 hours a day, for several months, can be considered a disadvantage for the convicted person, which can be unpleasant. One PMS worker stated: *“It is not a small, good-looking piece of jewellery. It is quite a large device that the convicted person wears around the ankle”.* Other disadvantages of electronic tagging on the part of the convicted persons is the weight of the electronic tag, and also the fact that the tag must be recharged and maintained.

HA can represent hope for some clients that they might be sentenced, but they will not lose their job and family.

Offenders also disagree with being monitored non-stop.

One of the problems of the house arrest sentence in combination with EMS is the lack of personal contact, which PMS workers consider to be important.

The study implies that the effectiveness of electronic tagging is a benefit to serving a house arrest sentence. All ten PMS workers stated that convicted persons are controlled more intensively thanks to electronic tagging. This assumption can be confirmed in compliance with Ščerba (2014), who states that using an electronic monitoring system provides better effectiveness of the house arrest sentence, multiple times more efficient than random checks by probation officers. Ščerba (2012) further states that the house arrest sentence is considered to be the strictest alternative to a prison sentence without suspension.

However, it is not possible to state that there has been a rapid increase in house arrest sentences since the introduction of electronic tagging, as the number of house arrest sentences

has not increased, but decreased, since 2019, when electronic tags were introduced in the Czech Republic (Graph 1).

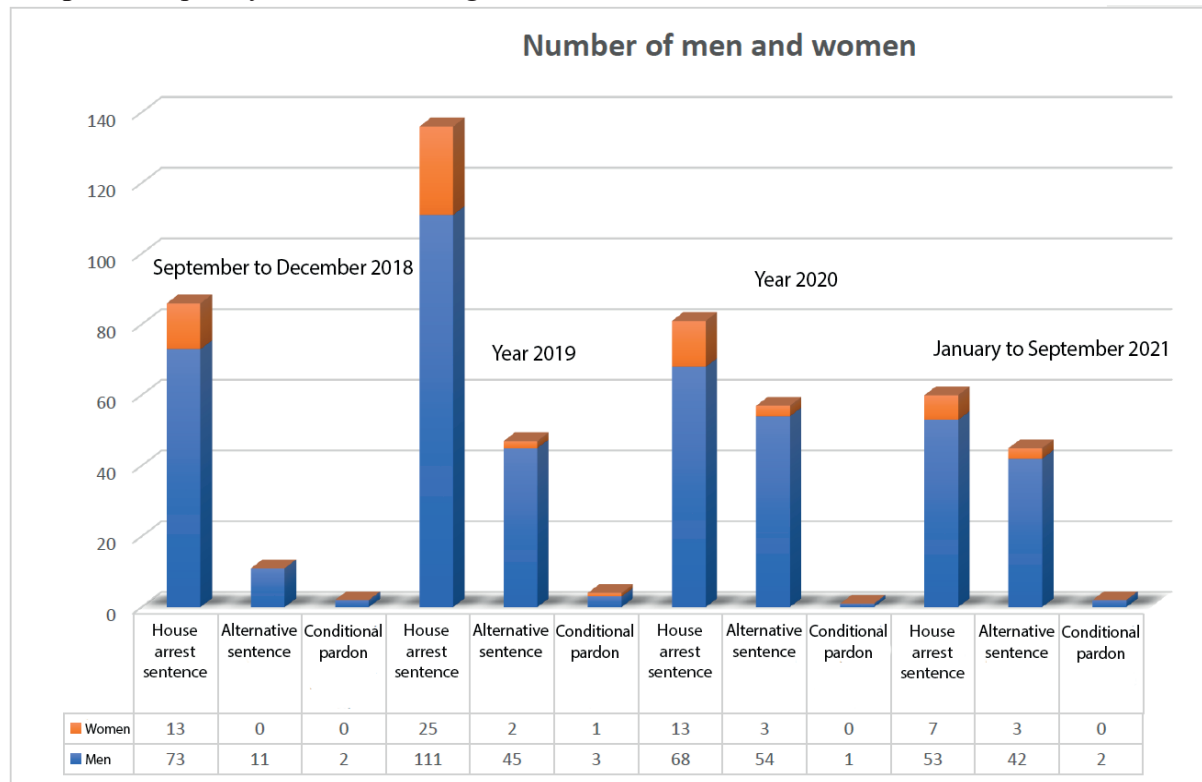
The relatively small number of electronic tags imposed by the court is caused by several factors. The convicted persons often lack a corresponding background. “The house arrest sentences may only be imposed on a person who leads an ‘orderly life’ except for committing a petty criminal offence. The person lives in one place, commonly civilised, within the reach of a mobile signal and in a permanent household. Many petty offenders live at dormitories or in shelters. They do not have unlimited access to electricity or a sufficient space for keeping the tag and its accessories functional at all times”. (Kocera 2020). The anticipated increase in the use of electronic tags has not happened. Only one year after they were introduced, the number of electronic tags fell behind the expectations of officers four times, as stated by Kocera (2020). Among other things, supplying monitors is also becoming a problem.

Within her study, Dytrychová (2019) states that PMS perceive the introduction of EMS as a promise of more frequent house arrest sentencing. As stated by Ščerba (2014) (Klátil and Vaško, 2021), the GPS technology started to be used in electronic monitoring, enabling monitoring the convicted persons in real time. The centre of the electronic monitoring system knows where the convicted person actually is.

Dytrychová (2019) also states that a random control is really random and, if the convicted person violates the sentence, it is quite likely that the PMS workers will not even learn about it, unless they are lucky. This confirms the aforesaid that the introduction of electronic tags with GPS localisation serves as evidence in case the convicted person violates the sentence.

The study also showed that another benefit of the electronic tag is the fact that it improves the working conditions for PMS workers, considering the current difficult personnel

Graph 1 Frequency of electronic tag use between 2018 and 2021



Sources: House arrest sentence at <https://naramky.justice.cz/trest-domaciho-vezeni-pred-ems/trest-domaciho-vezeni-rok-2021/>, • Replacing custody with supervision at <https://naramky.justice.cz/nahrazeni-vazby-dohledem-pred-ems/nahrazeni-vazby-dohledem-rok-2021/>, • conditional pardon under supervision at <https://naramky.justice.cz/podminene-propusteni-s-dohledem-pred-ems/podminene-propusteni-s-dohledem-rok-2021/>
Initially, PMS expected that up to 400 prisoners would get involved in the project (Paseková 2021): <https://naramky.justice.cz/souhrnnyprehled/>, <https://naramky.justice.cz/trest-domaciho-vezeni-pred-ems/>.

situation. Dytrychová (2019) concluded in her study that the introduction of electronic tagging will provide precise information to probation offices about the whereabouts of the convicted person, which should make their work easier.

The study outcomes determined that the greatest advantage of electronic tagging is online monitoring of the convicted person, 24 hours a day, when compared with random controls. Ščerba (2014) states in his publication that the presence of the convicted person in their home

can be monitored continuously thanks to electronic monitoring. However, the offenders do not find such permanent monitoring convenient. The convict would not feel under non-stop control when at work, and it would not affect their mental state as much. This topic could be further studied with the aim to determine the effect of the electronic tag on the mental state of the convict when working, whether they work as well with the electronic tag as without it.

Another advantage of the electronic tag that arose from the study is the strengthening of the convicted person's responsibility, because they have to charge the device regularly and are not permitted to leave their home without a charged tag. In 2009, Navrátilová stated that the control unit regularly informs the control centre when the convict stays in their flat or house. The author further states that when there is an interruption in connection, the control unit installed in the convicted person's dwelling immediately signals the fact and the control centre employee calls the convict. Unlike the aforesaid advantages, the study showed that higher technical conditions are a disadvantage of the electronic tag. The technical demands on the installation of an electronic monitoring system in the dwelling of the convict includes energy, operator signal strength, central office and the base station. Section 8 of Regulation No. 456/2009 Coll., states that monitoring of house arrest provided by PMS in combination with the operator of the electronic monitoring system does not exclude the option of random controls performed by a probation officer in the place of execution of the sentence. This option is useful when it is not possible to install the electronic monitoring system due to inconvenient housing conditions or for medical reasons.

PMS workers stated another disadvantage in the less frequent personal contact, which is limited due to the electronic tag. "The disadvantage when compared with random controls in the case of some clients requiring more cooperation with the head of the case at PMS is less frequent personal contact. However, it is substituted with visits of the convict to the PMS centre when needed". As stated above, in addition to online monitoring, the convicted persons attend the PMS centre to provide required documents and confirmations. Section 51 of the Penal Code states that the probation officer shall perform supervision over the offender in compliance with the created

probation plan. Šámal (2009, 2013) states that the probation officer shall assist the offender in their matters and guide them towards a proper life.

The study also showed that the size of the device is another disadvantage of electronic tags. In 2009, Navrátilová stated in her publication that the electronic tag is a device of the size of a wristwatch, which is attached to the ankle, and that it is a plastic strap with an electronic circuit. However, one PMS worker said that it is not a small, good-looking piece of jewellery. It is quite a large device that the convict wears around the ankle.

Considering the fact that the electronic tag is attached to the ankle, some jobs that require boots cannot be performed with the tag. The daily use of such a device that the convicted person has to wear 24 hours a day for several months is very unpleasant. Dytrychová (2019) claims that the negative aspect of the electronic tag is the fact that it required much more cooperation from the convict. The author also states that the convict must charge the device regularly every day and take care of it. In the future, it would be recommended to improve the technology or to choose a different supplier than the current SuperCom from Israel. The company won a public tender, the contract of which was concluded for 6 years.

The study also implied that electronic tagging saves the financial resources of the state. While a stay of one convicted person in prison costs the state CZK 1,200 per day, house arrest costs CZK 130 per day, while the convicted person pays CZK 50. This statement is based on Regulation No. 458/2009 Coll., which stipulates in Section 1 that the daily rate of the costs of house arrest and expenses related to the use of the electronic monitoring system is CZK 50 per calendar day, on which the convict executed the sentence at least partially. According to Vanhaelemeesch *et al.* (2014), electronic monitoring may, in addition to reducing the number of convicted persons in prison, contribute towards reducing the risks for

society and to positively enhance the position of offenders. Electronic tags are not only used for monitoring whether the convict is in their designated housing, but also whether they have thought about their conduct and will not commit criminal activity in the future. This reduces the risks for society.

In their article, Pauley *et al.* (2010) state that when the alternative imprisonment is enforced, it takes place in hours. Authors further state that when the convict comes home later than the terms and conditions state, they will spend the night in prison. In my opinion, the convicted persons are not aware of the fact that when they violate the conditions of house arrest, it will change into a prison sentence.

According to Štěrn *et al.* (2010), there is an effort to somewhat harmonise the regulations on house arrest and the electronic monitoring system within the EU. The authors also state that the experience from abroad shows that house arrest can only work in combination with an electronic monitoring system that represents an objective control mechanism.

The second statement concerns the evaluation of 14 adolescents who went through house arrest. Their evaluation is positive (Chamiel and Walsh, 2018). Some foreign experience is available at Justice.cz (2017)

CONCLUSION

In the end, the authors would like to point out that the study results are based on the experience of PMS workers in the South Bohemian region. However, it is not possible to generalise the conclusions for the whole Czech Republic. The study results will be provided to all PMS workers in the South Bohemian region for evaluation and comparison of opinions on electronic tagging in the execution of a house arrest sentence.

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Conflict of interests

The authors have no conflict of interests to declare.

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Conference information

St. Elizabeth University of Health and Social Work in Bratislava, Slovak republic

in collaboration with Slovak Chamber of Nurses and Midwives, Bratislava, Slovak republic
and with Slovak Chamber of Social Workers and Social Work Assistants, Bratislava, Slovak republic
and in collaboration with Medical University of Silesia in Katowice,
Faculty of Health Sciences in Katowice, Department of Physiotherapy

are organizing and inviting You to participate at
the 17th international scientific and professional conference

COLLABORATION OF HELPING PROFESSIONS: POLISH – CZECH – SLOVAKIAN STUDIES

which will be held on 21. – 22. október 2022 in Piešťany, Slovak republic.

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The aim of the conference is to broaden collaboration in healthcare, nursing,
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**Health Care, New Technologies, Nursing, Rehabilitation, Physiotherapy, Laboratory Medicine,
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Each conference presentation is limited to 10 minutes, the discussion to 5 minutes.

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International Journal of Health, New Technologies and Social Work
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A care



Indikácie

- ošetrovanie akútnych a chronických rán – dekubity, chronické vredy, vredy diabetickej nohy, vredy predkolenia, onkologické rany, chirurgické rany, infikované a nekrotické rany, ošetrovanie popálenín (aj po opalovaní)
- ošetrovanie odrenín, škrabančov a menších poranení

Fakty a výhody

- Protizápalové a antibakteriálne účinky
- Prírodné antibiotikum, antioxidant
- Zabezpečuje vlhké prostredie v rane
- Redukuje zápach
- Bez alergických reakcií a vedľajších účinkov

Revamil je hydrofilný produkt, ktorý obsahuje 100% sterilný lekársky med, ktorý je získavaný z kontrolovaného chovu včiel, neobsahuje stopy pesticídov. Je určený na ošetrovanie akútnych a chronických rán, infikovaných rán a popálenín. Rýchle hojenie je dosiahnuté v kombinácii vlhkého prostredia rany, antibakteriálnych vlastností a protizápalových účinkov prípravku Revamil.

Revamil sa z veľkej časti skladá z cukrov, malého množstva vody, organických zlúčenín a enzýmov. Enzým glukooxidáza sa do medu dostáva prostredníctvom včiel a spoločne s ďalšími faktormi zaisťuje antibakteriálny účinok Revamilu. Pri kontakte s ranou sa med rozriedi s vlhkosťou rany a aktivuje sa enzým glukooxidáza. Enzým glukooxidáza je zodpovedný za kontinuálnu tvorbu veľmi malého množstva peroxidu vodíka (0,003%). Táto koncentrácia peroxidu vodíka je dostatočne vysoká na to, aby usmrtila patogénne baktérie a naopak nepoškodila ranu vo fáze hojenia.

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