

**9th International Academic Conference
„e-methodology”
19 April 2024**

Wroclaw Medical University
Bartla 5, 50-996 Wroclaw
& online via Microsoft Teams

**BOOK OF
ABSTRACTS**

ISBN: 978-83-968513-1-4
doi: 10.5281/zenodo.11178531

Publisher: IBI Andrzej Jarynowski, Wrocław/Głogów, Poland

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Edited by Luba Ślósarz & Andrzej Jarynowski

Wroclaw Medical University



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ACKNOWLEDGEMENTS

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INTRODUCTION

Dear Conference Participants and Readers,

We are delighted to welcome you to the 9th E-methodology. This pivotal conference gathers leading experts, academicians, and researchers from diverse geographic locations including 11 different countries and territories to share and explore cutting-edge developments and collaborative research in Internet research in medical, educational science, ONE and public health among others.

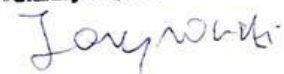
This year, we are poised to tackle significant challenges and advancements in managing emerging diseases, with special emphasis on technological innovations for seniors, medical staff education, surgical treatments, and the integration of Artificial Intelligence in healthcare practices (with a special session on using telemedicine in COPD patients). Our comprehensive Book of Abstracts presents a curated selection of detailed insights and significant research contributions from our distinguished participants. In the realm of forensic science, innovative approaches integrating Artificial Intelligence are spotlighted. Additional research presented includes detailed analyses of public health strategies aimed at managing and preventing emerging diseases. This includes studies on the surveillance of disease patterns, the effectiveness of early warning systems, and community-based interventions to halt the spread of infectious diseases. These abstracts offer insights into the multifaceted approach required to tackle global health challenges effectively. The conference also features abstracts that address the psychological and social aspects of healthcare, such as patient quality of life following medical interventions and the societal impacts of public health policies. These studies highlight the importance of a holistic approach to health that includes not only medical and technological advances but also considers the socio-economic determinants of health. The presentations and posters collectively underscore a multidisciplinary approach to challenges such as climate change, preparedness for disease X, aging of European society, ethics of LLMs and remote education, emphasizing the need for collaboration among researchers, practitioners, and policymakers. The research presented not only contributes to the scientific community but also offers practical solutions that could be implemented to improve health care systems globally.

The enclosed Book of Abstracts serves not only as a prelude to the extensive discussions that will ensue but also as a vital academic resource. It profiles key research from global and local Polish contributors, enriching your conference experience with a wide range of studies and findings. We encourage you to utilize this material to prepare for engaging discussions and networking opportunities that will be abundant during the event.

We are dedicated to fostering an enriching environment that encourages the sharing of knowledge and the formation of partnerships across disciplines and borders. Your active participation and insights are crucial to the success of our conference.

Andrzej Jarynowski

Epidemiolog
001/2019/2/233
Andrzej Jarynowski



On behalf of
Initiative Committee

PROGRAM OF THE CONFERENCE

SESSION 1	
Opening of the conference	9.00-9.20
<p>Paolo Di Sia, Prof. University of Padova, Italy</p> <p>Immersive technologies between technicization and human dimension: general aspects and applications</p>	9.20-9.40
<p>Shivangi Nigam, PhD Educational Consultant and Trainer, Netherlands</p> <p>Examining the Landscape of Online English Language Teaching: an Exploration of Challenges faced by the Teachers</p>	9.40-10.00
<p>Anna Cwojdzińska, PhD; Prof. UAM Joanna Szafran, Prof. Adam Mickiewicz University, Poland</p> <p>Can AI-generated Input Replace Subjects in the Initial Phases of Psychological and Educational Research?</p>	10.00-10.20
<p>Ildikó Szabó, PhD University of Pécs , Hungary</p> <p>Supporting inclusion in teaching and learning STEM subjects within the DISCO+ project</p>	10.20-10.40
<p>Andrzej Jarynowski, PhD Wroclaw Medical University, Poland</p> <p>Utilizing AI tools in Teaching ONE health (tutorial hands on)</p>	10.40-11.10
Coffee Break	11.10-11.40
SESSION 2	
Aleksander K. Smakosz, Msc	11.40-12.00

<p>Wroclaw Medical University, Poland</p> <p>In silico algorithms in the service of drug discovery</p>	
<p>Eleftherios Meletis, DVM</p> <p>University of Thessaly, Greece;</p> <p>Andrzej Jarynowski PhD</p> <p>Epidemic Intelligence Unit, Polish Hygienic Society, Poland</p> <p>Stanisław Maksymowicz PhD</p> <p>University of Warmia and Mazury in Olsztyn, Poland</p> <p>Vitaly Belik Prof</p> <p>Freie Universität Berlin, Germany</p> <p>Polychronis Kostoulas Prof</p> <p>University of Thessaly, Greece</p> <p>Early warning methods for epidemic wave prediction</p>	12.00-12.20
<p>Ksenija Benčina, PhD</p> <p>Lorna Dubac Nemet, senior English language lecturer, J. J. Strossmayer University of Osijek, Croatia</p> <p>Is feedback in the eye of the beholder? Chat GPT vs. Google Gemini in giving feedback on students' oral presentation scripts</p>	12.20-12.40
<p>Marlli Andrea Zambrano, MSc; Andrzej Jarynowski, PhD; Vitaly Belik, Prof.</p> <p>Freie Universität Berlin, Germany</p> <p>Tracking people using their phones in service of public health</p>	12.40-12.50
<p>Aleksandra Soltysiak, BA, Joanna Zminda BA,</p> <p>Wroclaw Medical University, Poland</p> <p>Andrzej Jarynowski, PhD; Vitaly Belik, Prof.</p> <p>Freie Universität Berlin, Germany</p> <p>Antibiotics in Polish Internet</p>	12.50-13.00

SPECIAL SESSION	
<p>Andrzej Jarynowski, PhD Aidmed Gdańsk, Poland</p> <p>Introduction to telemonitoring and e-health</p>	14.00-14.05
<p>Stanisław Maksymowicz, PhD University of Warmia and Mazury in Olsztyn, Poland</p> <p>PulmoRehab -pulmonary telerehabilitation</p>	14.05-14.20
<p>Adrianna Szalonka, MA; Beata Jankowska-Polańska, A, Prof. Military Polyclinic in Wrocław, Poland</p> <p>Implementation and testing of pilot telemedical model solutions in the area of 'Chronic Diseases' and 'Geriatrics'</p>	14.20-14.35
<p>Piotr Popowski, PhD Medical University of Gdańsk / Polish Society for Health Programs, Poland;</p> <p>Bartosz Pędzziński, PhD Medical University of Białystok, Poland</p> <p>Integrated Pulmonary Patient tele-care</p>	14.35-14.50
<p>Panel presenters</p> <p>Discussion on telemonitoring and e-health</p>	14.50-15.00
Coffee Break	15.00-15.30
SESSION 4	

<p style="text-align: center;">Suresh Isave, PhD</p> <p style="text-align: center;">Tilak College of Education, Pune, India</p> <p style="text-align: center;">A study of the use of AI by student-teachers</p>	15.30-15.45
<p style="text-align: center;">Mudassir Arafat, PhD,</p> <p style="text-align: center;">Turiba University, Latvia</p> <p style="text-align: center;">Using Kano Analysis to Develop Learning Management Software</p>	15.45-16.00
<p style="text-align: center;">Niranjana Soperna, PhD</p> <p style="text-align: center;">Rawal College Of Education, India</p> <p style="text-align: center;">The Impact of COVID-19: A Study of Academic Stress in High School Students of Vietnam Due to the Transition from Offline to Online Lessons.</p>	16.00-16.15
<p style="text-align: center;">Andrzej Buda, PhD;</p> <p style="text-align: center;">Interdisciplinary Research Institute, Glogow, Poland</p> <p style="text-align: center;">Is 'Global' Warming Concept Consisted With Thermodynamics according to ChatGPT?</p>	16.15-16.30
<p style="text-align: center;">Bhawna Syal, PhD,</p> <p style="text-align: center;">Rawal Institute of Management, India</p> <p style="text-align: center;">Pallavi Tandon, PhD,</p> <p style="text-align: center;">IIEM Indus Business School, India</p> <p style="text-align: center;">Implementing E-Methodology in the Classroom: Enhancing Learning in the Digital Age</p>	16.30-16.45
END OF CONFERENCE	16.45-16.50

POSTER SESSION

Iwona Klisowska, PhD Mariola Seń, PhD Barbara Grabowska, PhD; Iwona Twardak, MA

Wroclaw Medical University, Poland

Do seniors need technological innovation?

Iwona Twardak MA; Anna Rozensztrauch, Phd, Iwona Klisowska, PhD, Katarzyna Salik, MA; Jerzy Twardak, PhD; Gabriela Migza, BA

Wroclaw Medical University, Poland

The knowledge of medical staff on the impact of noise on neonatal intensive care units patients and its application in practice.

Michaela Dellenmark- Blom, Phd

Queen Silvia Children's Hospital, Sweden

Anna Rozensztrauch, PhD

Wroclaw Medical University, Poland

Congenital esophageal atresia – surgical treatment results in the context of quality of life

Angelika Dudek, M.Sc;

Warsaw Management University, Poland

Anna Dąbek M.Sc., Iwona Zborowska, M.Sc

Wrocław Medical University, Poland

Jakub Lichosik Łukasiewicz, M. Eng.

Research Network - Institute of Aviation, Poland

Integrating Artificial Intelligence in Forensic Science

Jakub Lichosik, M. Eng.,

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Iwona Zborowska M.Sc., Anna Dąbek, M.Sc.

Wrocław Medical University, Poland;

Angelika Dudek, M.Sc;

Warsaw Management University, Poland

The impact of widely used algorithms of large language models on information retrieval and the associated potential risks

Mariola Seń, PhD; Iwona Klisowska, PhD; Barbara Grabowska, PhD

Wrocław Medical University, Poland

Artificial Intelligence (AI) and Chat GPT in teaching at every level of education

Iga Użyńska, Maciej Szala, MA; Ewelina Cichoń, PhD

University of Lower Silesia DSW in Wrocław, Poland

Music therapy with use of virtual reality

Ewa Kołodziejczyk; Jolanta Grzebieluch, PhD

Wrocław Medical University, Poland

Social media as a personal branding tool for medical professionals

Wiktoria Deneka, BA; Marta Grelowska, MD; Martyna Hibner, BA.

Wrocław Medical University, Poland

Andrzej Jarynowski, PhD; Vitaly Belik, Prof.

Freie Universität Berlin, Germany

Information flow in public discourse based on the Oder river environmental disaster

Barbara Grabowska, PhD; Mariola Seń, PhD; Iwona Klisowska, PhD

Wrocław Medical University, Poland

Online Diet Center-basic information

Magdalena Kazimierska-Zajac, PhD; Luba Ślósarz, PhD

Wrocław Medical University, Poland

Mental health - expert advice vs. chat GPT

Alisa Sergeeva, DVM; Andrzej Jarynowski, PhD; Vitaly Belik, Prof

Freie Universität Berlin, Germany

Protein & ligand: target search

Martyna Mencil

Wroclaw Medical University, Poland

Andrzej Jarynowski, PhD; Vitaly Belik, Prof.

Freie Universität Berlin, Germany

Health students towards telemedicine

Miłosz Lipieta, DM, Dorota Kiedik, MA

Wroclaw Medical University, Poland

Impact of endometriosis on the quality of sexual life of women of reproductive age in Poland

ABSTRACTS

Do seniors need technological innovation?

Iwona Klisowska, Mariola Seń, Barbara Grabowska, Iwona Twardak

Wroclaw Medical University, Poland

Aim. The aim of the study was to answer the question of whether seniors are interested in technological innovations and whether technological innovations appearing on the market are attractive to seniors.

Concept. New technologies appearing on the market are aimed at a wide audience. Their purpose is to improve daily life, quality of life, safety and assistance. Seniors are a specific target group, varying in age, functional and cognitive ability and economic capacity. The problems of senior citizens are a challenge to create technological innovations to improve their quality of life.

Results and conclusions. In the daily life of older people, it is difficult not to notice various forms of support. These include health and safety, independence, communication, but also education and development. Not all older people will use new technologies, due to various reasons and barriers. However, in this age of rapidly advancing technology, it is important to remember that the current generation of young and working-age people will learn to use innovations and, as seniors, will already be using technology on a daily basis.

Keywords: Senior, Technological Innovation

The knowledge of medical staff on the impact of noise on neonatal intensive care units patients and its application in practice.

Iwona Twardak, Anna Rozensztrauch, Iwona Klisowska, Katarzyna Salik, Jerzy Twardak, Gabriela Migza

Wroclaw Medical University, Poland

Introduction: Noise is an undesirable environmental factor that should be controlled and limited as a standard in every Neonatal Intensive Care Unit. Its impact can have negative effects on both the mental and physical health of the body. Newborns, especially prematurely born children, who are characterized by high multi-organ immaturity, are particularly sensitive to the negative impact of noise. The negative impact of noise can be reduced by appropriate behavior of medical personnel based on a high level of knowledge about the impact of noise on newborns. Elimination of negative environmental factors provides conditions for the proper development of the child and is an integral part of holistic patient care.

Aim of the study: The aim of the study is to analyze the knowledge of medical staff on the impact of noise on newborns staying in the Neonatal Intensive Care Units and to evaluate its use in practice.

Materials and methods: 104 respondents working in neonatal wards participated in the study. The survey was conducted online using social media. The study was conducted using the diagnostic survey method with the use of a self-designed questionnaire. The first part of the questionnaire concerned the aspects of knowledge on the impact of noise on hospitalized newborns, the second: socio-demographic issues of medical staff.

Results: Training in noise exposure to the newborn is not common in the workplace. There are no recommendations regulating noise standards and control equipment. The surveyed people do not have in-depth knowledge about the acceptable noise levels in the newborn room. Only every third employee was able to indicate the correct answers in this regard. Older employees

with longer experience and residents of large cities scored higher on the level of knowledge than younger people. People with a higher level of knowledge and feeling satisfied with work and earnings show the greatest care in reducing the level of noise intensity in the ward.

Conclusions:

1. In neonatal pathology wards and ITN, noise standards and recommendations are more common than in physiology wards.
2. Employees caring for a newborn need training on the sources and impact of noise on the baby.
3. It is necessary to limit the noise generated by the staff, e.g. loud conversations, slamming furniture, placing objects on the incubator or moving equipment.
4. Job satisfaction translates into care in reducing the negative impact of noise on patients.

Keywords: neonatology, newborns, noise, neonatal intensive care unit

Congenital esophageal atresia – surgical treatment results in the context of quality of life

Michaela Dellenmark- Blom

Queen Silvia Children's Hospital, Sweden

Anna Rozensztrauch

Wroclaw Medical University, Poland

Aim: This study reports the reliability and validity of the Polish version of the Esophageal-Atresia- Quality- of -Life (EA-QOL) questionnaires, which were originally developed in Sweden and Germany.

Methods: A total of 50 families of children (23 aged 2 to 7, and 27 aged 8 to 17) with EA/TEF (esophageal atresia/tracheoesophageal fistula) participated in the study. The development and validation of the Polish version of EA-QOL involved forward-backward translation of the survey items following the guidelines for cross-cultural translation, cognitive debriefing and evaluation of psychometric properties, including assessment of internal and retest reliability, linguistic validity, content validity, known-group validity and convergent validity. Medical records of patients and standardized questionnaires were used to obtain clinical data. Significant level was $p < 0.05$.

Results: The Polish version of the EA-QOL questionnaires demonstrated strong linguistic and content validity, are slightly discriminative for esophageal and respiratory problems, but does not show convergent validity with the PedsQL 4.0 generic core scales. In terms of reliability, the internal consistency of the subscale and total scale of Polish versions as measured by Cronbach's alpha are good and retest reliability is excellent.

Conclusions: The Polish version of the EA-QOL questionnaire meets most psychometric criteria that confirm the EA-QOL questionnaires reliability and validity. This study enables application of the questionnaires into future research among children with EA in Poland and participation in international multicenter studies focusing on advancing knowledge of condition-specific QOL in this population. Still, future cross-cultural research using larger sample sizes, is needed to better address the relationship between condition-specific and generic QOL as well as the discriminative ability of the EA-QOL questionnaires.

Keywords: esophageal atresia, quality of life, repair, child

Can AI-generated Input Replace Subjects in the Initial Phases of Psychological and Educational Research?

Anna Cwojdzińska, Joanna Szafran

Adam Mickiewicz University, Poland

The talk is inspired by the question of how AI can assist psychologists and educators in their scientific efforts. Since AI can generate seemingly realistic human verbal responses, the question is whether we can use its output for surveys or experiments that allow large-scale data collection without direct human involvement. The data used in the presented study are a part of research material obtained in an exploratory study of the definition of kindness and its contexts and determinants, conducted with human subjects. The comparison material was the result of an AI simulation – sample answers were generated using a GPT tool. In this study, we aimed to compare the AI-generated responses with the results of qualitative analyses based on actual human responses. The results of the analysis and the limitations of using AI-generated material are discussed.

Keywords: AI, Preliminary Research, Simulation, Psychology, Educational Studies

Integrating Artificial Intelligence in Forensic Science

Angelika Dudek

Warsaw Management University, Poland

Anna Dąbek, Iwona Zborowska,

Wrocław Medical University, Poland

Jakub Lichosik Łukasiewicz,

Research Network - Institute of Aviation, Poland

Thesis. The thesis of this article is to explore the integration of artificial intelligence (AI) methodology in forensic science. An assessment of the potential implications of AI for improving investigative processes and outcomes will also be addressed.

Concept. The concept focuses on exploring the application of AI technologies in areas of science such as analysing evidence recognizing patterns and supporting decision-making systems. The article emphasizes the practical use of AI algorithms in investigations. on exploring how artificial intelligence technologies can be implemented in various aspects of forensic science.

Results and conclusions. An analysis of existing literature and case studies shows that integrating AI into forensic science can improve efficiency, accuracy, and objectivity in investigations. AI tools can automate tasks analyse datasets and identify patterns that might be challenging for humans to detect. However utilizing AI in forensic science poses challenges like algorithms, privacy issues with data handling, and the necessity for oversight. Furthermore, when employing intelligence for inquiries it's essential to prioritize transparency, and accountability and uphold integrity in decision-making processes.

Originality. This article adds to the discussion about integrating AI into science by offering a thorough examination of its potential advantages and obstacles faced along, with ethical concerns. By merging research findings and offering perspectives on emerging trends we can gain insights, into the impact of AI on advancing investigations in the years ahead. Additionally, the theoretical structure presented here establishes a foundation for research studies and practical implementations, within the field of forensic science.

Keywords: Artificial intelligence, Forensic science, Investigation, Efficiency, Ethics, Crime Scene

The impact of widely used algorithms of large language models on information retrieval and the associated potential risks.

Jakub Lichosik

Łukasiewicz Research Network - Institute of Aviation;

Iwona Zborowska, Anna Dąbek,

Wrocław Medical University, Poland;

Angelika Dudek

Warsaw Management University, Poland

Thesis. The topic this article is to perform an analysis concerning the subject of artificial intelligence integration and its application in modern knowledge acquisition. A full description of the field will include a discussion of the advantages and potential hazards associated with the widespread implementation of large language models.

Concept. The substantive part of the article will focus on gathering knowledge about tools with AI implemented. It will present common ways of utilizing them and approaches to information or products obtained in this manner. This knowledge will be juxtaposed with psychological research on human consciousness in the context of decision-making, creativity, and held beliefs.

Results and conclusions. The analysis of algorithmically enhanced tools indicates the dominance of the sector providing informational and creative support. These tools possess a measurably high level of reliability among the public, resulting in a reduced number of verification actions. A review of existing literature and research on human psychology show a very strong correlation between the influence of previous social authorities on decision-making behaviors and an uncritical approach to information obtained through AI. Studies have shown that access to these tools, without adequate controlling actions, exposes users to bias, manipulation, or susceptibility to marketing activities. Alternatively, with proper and rational use, humans are able to obtain extraordinarily precise and knowledge-based support in decision-making. Similar polarizations of results have been observed in the context of creativity, innovation, and inquisitiveness

Originality. The article addressed topics that relate to the psychological nature of humans in the context of new and expanded tools augmented with AI. The results of the exploratory study clearly indicate that programs supported by algorithms show potential in terms of both scientific and social development. Unfortunately, they also present many potential dangers for both, which, discussed in the foundation, provide the groundwork for more in-depth research.

Keywords: Artificial intelligence, Learning, Psychology, Manipulation

Artificial Intelligence (AI) and Chat GPT in teaching at every level of education

Mariola Seń, Iwona Klisowska, Barbara Grabowska

Wrocław Medical University, Poland

Admission. Artificial intelligence can make the teaching process easier, more efficient and more effective at all levels - whether of the student, the teacher, or the entire education system. With AI, the teacher is able to assess the progress of students in real time, identify difficulties in their learning, adapt teaching methods and materials to the individual needs of each learner, and gain time to improve their skills. In turn, learners acquire knowledge and skills faster and with less effort, and can do so at a time and place convenient to them. AI can also effectively support the education system [1]. Among other things, AI can be helpful in analyzing educational data, automating learning processes, reinforcing cognitive skills, planning and creating curricula, adapting content and teaching methods to individual learners' predispositions and goals.

The aim of the study was to identify the possibilities and advantages of using AI and Chat GPT by both teachers and students at all levels of education. The topic of using AI in education is being taken up more and more widely both among teachers, lecturers, at the level of ministries of education of individual countries, and in such structures as the European Union [2]. The immediate cause of interest in this topic was the launch in late 2022 of a new tool from Open AI called "ChatGPT" and Bing from Microsoft. ChatGPT and Bing are advanced artificial intelligence language models that have been trained on a very large variety of texts and can generate content on a wide range of topics. Importantly, these tools have the ability to interact with humans, so they can play an important role in interpersonal communication, assisting both individuals and businesses [3]. An analysis of AI-based technologies in education identifies its components: learning platforms, virtual facilitators (learning platforms and virtual facilitators), Intelligent Tutoring System (ITS), smart content, fraud & risk management systems, and others. A survey [4] conducted by Impact Research in the United States (2023) gathered opinions among teachers and students on the use of ChatGPT and IT in education. The survey found that teachers are more likely to use ChatGPT than students. In the two months since the introduction of the technology, 51% of teachers said they use ChatGPT, and 40% of them use it at least once a week. In contrast, only 22% of students said they use the technology once a week or more. The results of another study [5] conducted on a group of learners aged 16-61 (94% of whom were 16-32 years old), participating in classroom, online and hybrid education, earning a degree, bachelor's, master's, doctorate or professional degree, indicate that 43% of respondents have experience using AI tools such as ChatGPT. However, respondents are not sure when using AI can be considered an aid and when it can be considered a scam. In a survey conducted in Poland, the percentage of respondents - parents who express the opinion that they would like their children to participate in AI technology classes (robotics, logic or programming, etc.) is 53.1%. According to parents' opinions, the main obstacles to the development of digital competencies using AI for their children are primarily staff shortages in schools (46.7%) and inadequate core curriculum (43.8%) [6].

Conclusion. The application of artificial intelligence in planning and curriculum development brings benefits to both learners and those involved in planning, curriculum development and instruction. The results of numerous studies indicate that the main effect of implementing artificial intelligence for learners is to increase their motivation and engagement in the learning process [7] and influence their growing interest in learning [8]. In addition, interactive learning environments promote individuals' engagement with educational content [9], and the use of AI technology improves teaching competence by providing inspiration and promoting self-reflection [10]. AI introduces adaptive teaching strategies [11] by increasing teachers' insights into learning processes [12], taking into account learners' actions and emotions [13]. AI also provides teachers with professional development, as it can offer them models for evaluating teaching and suggestions for improving their teaching practices [14]. However, regardless of its usefulness, human control is still essential, and the use of an AI system should be ethical.

1. <https://www.moe.gov.sg/education-in-sg/educational-technology-journey/edtechmasterplan/artificial-intelligence-in-education>, 20.09.2023.

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Keywords: artificial intelligence (AI), ChatGPT, teacher, student, education

Music therapy with use of virtual reality

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Aim. The aim of the study was to compare the impact of music therapy with and without VR technology on stress reduction in the psychiatric patients and healthy controls

Methods. A total of 40 participants were randomly assigned to: 1) classical music therapy (11 patients, 10 healthy controls) and 2) music therapy with VR (10 patients, 9 healthy controls). Stress was measured by 10-point VAS (visual analogue scale) after music therapy.

Results. A two-factor ANCOVA with a bootstrapping method was conducted, which found a significant main effect of the type of session on stress level. Individuals who participated in relaxation sessions using both music and VR technology reported lower subjective stress intensity than those who participated in sessions using music alone. It was found that for individuals without a diagnosis, the type of session did not matter for stress intensity, whereas for those with a diagnosis, VR sessions significantly decreased stress intensity more than music-only sessions.

Conclusions. Music therapy with VR can be effective in reducing stress in people, especially in disturbed people.

Keywords: Music therapy, virtual reality, stress reduction

Is 'Global' Warming Concept Consisted with Thermodynamics according to ChatGPT?

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Contradictions between the concept of average temperature in global warming and the concept of temperature based on local particle kinetic energy arise due to the different scales, heterogeneity, presence of feedback mechanisms, and boundary conditions. According to the chatGPT's verdict, the concept of temperature based on calculations of local particles kinetic energy in the microcanonical ensemble is statistically more accurate.

Keywords: Computation and language, Artificial Intelligence, Machine Learning, Global

Warming

Using Kano Analysis to Develop Learning Management Software

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In the 21st century where educational organizations are harnessing their skill sets with the help of information and technology the Knowledge transfer from pedagogy to information and communication technology (ICT) plays a vital role (Reding, 2003). Therefore, in real-life situations, it's crucial to pay attention to what stakeholders of learning organizations need even before we create a product or service. We can make better decisions by understanding their needs and comparing them with what we can offer (Madzík.et.al, 2019). The Kano Model of Satisfaction (1984) is extensively employed by numerous educational and training institutions to assess the impact of individual service components on overall student satisfaction within broader service domains, particularly concerning academic advising or the intended digital learning outcomes (IDLO) of stakeholders in Higher Education Institutions (HEIs). (Mcdowall, 2016) In digital learning, ICT is an important medium. Therefore, designing an LMS to satisfy the needs of stakeholders of HEIs is one of the crucial factors. This study prominently incorporates the theory of attractive quality (Kano model) to analyze the needs of stakeholders for digital learning tools. Kano analysis can offer a better understanding of how stakeholders of HEIs evaluate a product and assist the development of new LMS by focusing on the most important attributes that need to be improved. (Hsu.et.al, 2019).

Keywords: Information and Communication Technology (ICT), Digital Learning Tools, Learning Management Systems (LMS), Stakeholders, Kano Model, Higher Education Institutions (HEIs), features.

Social media as a personal branding tool for medical professionals

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Social media has an educational role that is used by medical professionals to convey health-promoting knowledge. Eye-catching forms of communication and huge reach, combined with a credible medical professional, are the definition of effective health education. According to our own research, direct contact with a medical professional and the Internet are the two most frequently chosen sources of health knowledge. Some medical professionals, including. @mamagynecologist, @mama.i.stethoscope, @doktorekradzi, @emergency_queen, @michal_domaszewski, @ali_jacz and @installer combine these two sources into one by creating their social media profiles. Although this combination seems ideal, respondents (according to their own research) make little use of their potential. Internet users relatively rarely tap into the knowledge available on medics' profiles, often do not follow them at all, and do not take advantage of the opportunity to get professional advice. Medics purposely share their content in various places on the Internet, such as YouTube, Instagram, Facebook, TikTok, in order to reach as many people as possible, in different age groups. Unfortunately, Internet users still prefer to ask so-called "Uncle Google" about their health, rather than consult a specialist, whom they can also find on the Internet. Medical professionals contribute to social media as educators and health promoters, thus building their personal brand.

Keywords: social media, personal branding, health education, influencer

Immersive technologies between technicization and human dimension: general aspects and applications

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Aim. The paper offers an overview of the most studied and used immersive technologies to date, considering the main applications and possible related experiments. In recent years, the technological revolution is profoundly changing the humanity's way of life. Immersive Technologies, in particular the Augmented Reality (AR) and Virtual Reality (VR), are changing the relationship between humans and technology.

Methods. The immersive technologies are introduced starting from a historical point of view, through a possible definition and concepts that describe in particular AR and VR, reaching the recent developments.

Results. Industry, the entertainment sector, marketing, medicine, education and training are considered as main fields of application. Then the focus goes on the discipline of Public Speaking, considering its challenges, techniques and benefits.

Conclusions. The potential benefits of AR and VR in the considered application fields are highlighted, and the results of a study conducted at the University of Padova (Italy) relating to Public Speaking are indicated.

Keywords: Reality, Immersive technologies, Augmented reality (AR), Virtual reality (VR), Public Speaking, E-methodology, Education.

A study of the use of AI by student-teachers

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Aim. The study aims to know how student-teachers of B.Ed. course make use of AI for education and their opinion about the use of AI in education, in general.

Methods. The Survey method was used for the study. There were 72 student-teachers of B.Ed. the course of Savitribai Phule Pune University, Pune, and studying at Tilak College of Education, Pune, India, participated in the survey. The questionnaire was the data collection tool for the study. The questionnaire was circulated on WhatsApp group through Google Form which had 12 questions with choices based on the status variable.

Results. The data analysis of the 12 questions was done by using percentages and it was presented in Pie charts for each question. The results summarize that most of the student-teachers use ChatGPT, most of the student-teachers use AI for lessons, practicals, reports, and presentations and student-teachers use AI sometimes in a limited manner. According to the analysis of student-teachers, the use of AI should not be banned but regulations and guidelines should be there.

Conclusions. The study underlines that student-teachers use AI in their course and they are in support of use of AI in education. Hence there is a need for general guidelines from the apex bodies regarding use of AI in Education rather a blanket ban on AI.

Keywords: AI in education, teacher education, ICT in education, trends in education, teacher training

Information flow in public discourse based on the Oder river environmental disaster

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Aim. The aim of the research is to determine the trend of changes during public discussion during the ecological disaster on the example of the poisoning of the Odra River in August 2022.

Methods. The subjects of the study were articles and posts on news portals and social media published on August 10-12, 2022 were retrospectively monitored using the Brand24 tool. For analysis were qualified most popular publications under the hashtag "odra".

Results. About 20% of data from #odra is clickbait content. Most of them occur at the beginning of the topic's popularity, then their number gradually decreases. The analysis defines the sentiment of 54% of the data as negative, 42% as neutral, and only 4% of messages with a positive sentiment occur.

Conclusions. Negative public sentiment coexists with greater engagement on social media. The nature of the posts shows a pattern where initially the public looks for substantive information, then, after assessing the threat, humorous materials are created, and finally, they lose interest in the experts' positions and look for the culprits on their own. Moreover, humorous posts have a specific ironic tone, where people use with remarks to point out current problems and absurdities.

Keywords: data tagging; social media monitoring tool; trend of changes; environmental disaster; public discourse

Is feedback in the eye of the beholder? Chat GPT vs. Google Gemini in giving feedback on students' oral presentation scripts

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Aim. Giving feedback to students can be challenging as it can be time-consuming and require a high level of expertise and individualized attention. The aim of this paper is to demonstrate how the integration of innovative technologies like Chat GPT and Google Gemini can offer a transformative approach to this process.

Methods. This qualitative research explores the effectiveness of Chat GPT and Google Gemini in assessing students' oral presentation scripts. The sample consists of 12 oral presentation scripts written by medical students in years 5 and 6 for their Medical English class. The scripts are ordinarily evaluated based on the rubrics including clarity, cohesion, medical terminology, grammar, and syntax. Also, the Medical case report benchmarks are considered in the evaluation. The identical assessment criteria were used as prompts for both Chat GPT and Google Gemini and the feedback produced by each tool was then compared manually. The feedbacks were analyzed for comprehensiveness, suggestions, problems and tone to determine which tool is more suitable for this task.

Results. The results indicate that there are differences in the comprehensiveness and the focus of the assessment. Whereas Chat GPT relies for the most part on medical case report benchmarks and how they were/were not met by the students, Google Gemini analyzes strengths, areas for improvement (clarity, concision, flow and transitions) and provides specific feedback by slide.

Conclusions. The results can contribute to a better understanding of the capabilities and limitations of Chat GPT and Google Gemini in providing feedback on students' oral presentation scripts. Furthermore, the findings can help educators select the most beneficial tool to improve

feedback for oral presentations. By using the analytical capabilities of Chat GPT and Google Gemini educators can provide personalized and immediate insights and thus support student learning and growth in medical English.

Key words: feedback, oral presentation scripts, Chat GPT, Google Gemini, medical case report

In silico algorithms in the service of drug discovery

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Aim. The aim of the research is to summarize the state of development of computational methods, used in drug research, phytochemistry and medicinal chemistry.

Methods. The review was prepared via databases (PubMed, Google Scholar) search.

Results. The use of in silico algorithms and artificial intelligence (AI) in drug discovery, medicinal chemistry and phytochemistry has gained significant attention in recent years. Computational methods could help to optimize the extraction and synthesis methods, to automate the isolation techniques and to assess the safety profile and effects on the receptors. Another important utilisation of computational methods is prediction of structures, based on spectral data (MS, NMR, UV, IR). Due the algorithms-assisted advances, researchers could create better models, identify natural product biosynthetic gene clusters, what could lead to the new methods of drug production via biotechnological route.

Conclusions. Application of algorithms, AI and computational methods in phytochemistry and drug research accelerates the speed of research. In addition, it could be money-saving

Keywords: chromatography, phytochemistry, drug research, computational chemistry

Examining the Landscape of Online English Language Teaching: An Exploration of Challenges faced by the Teachers

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Aim. The aim of this research is to explore the various types of challenges faced by the English Language Teachers working online in the Netherlands. Through a comprehensive examination, supplemented with collected research data and insights from teachers' perspectives, this paper seeks to provide a nuanced understanding of the strengths and limitations of online English language teaching and explore potential areas for improvement.

Methods. The study was conducted in the Netherlands where the data was collected from 125 English language teachers who were primarily working through online mode with a minimum experience of three years. The survey method was used for data collection. A questionnaire created by the researcher which consisted of 12 questions was circulated via Google Forms. The data collected with the help of questionnaires was analyzed thoroughly and the results were presented graphically to address the challenges faced by the online English language teachers in the areas of technical difficulties, content delivery and student engagement.

Results. The analysis revealed that most of the respondents (56.8%) rarely faced technical difficulties while conducting online lessons, however, 43.2% respondents had issues with the technical support provided by the English teaching platforms or institutions. The area of content delivery showed mixed response where on one hand the respondents stated that they never (28.8%) or rarely (40%) encountered difficulties in maintaining students' attention, but on the other hand, they did face issues with the organization and structure of the lesson material available online (40.8%). Respondents also admitted that they faced student-related issues such as lack of participation (40.8%) and challenges related to students' technological proficiency or access to necessary devices/software (33.1%). 49.6% and 22.4% respondents

agreed and strongly agreed respectively that online English learning environments effectively accommodate diverse student needs and learning styles.

Keywords: Online English Language Teaching, technical difficulties, content delivery, student engagement

Online Diet Center-basic information

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The Online Diet Center is a modern form of obtaining free online consultations in the field of dietetics and psychodietetics. The Online Diet Center platform offers individual advice for the entire family, it is an excellent form of e-health support.

Keywords: diet center, online consultations, dietetics

Early warning methods for epidemic wave prediction

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Emerging epidemics pose a profound challenge to public health and medical infrastructures due to their potential to induce widespread morbidity, mortality, and healthcare resource strain. Epidemic Volatility Index (EVI) is considered a simple, straightforward, easily applied, warning method that was developed to identify upcoming waves in an epidemic. The method is based on the volatility of newly reported cases per unit of time and issues an early warning when the volatility change rate exceeds a threshold. Originally EVI was developed for the data on the daily confirmed cases of the coronavirus disease 2019 (COVID-19) pandemic, caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). The presentation will emphasize the significant role of early warning methods in managing epidemics and safeguarding public health and will display several settings where early warning methods have been applied aiming to promote future research for optimal outbreak interventions and application of the methods in the context of One Health Epidemiology.

Keywords: One Health, Epidemiology, Epidemics, Early warning

Mental health - expert advice vs. chat GPT

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Introduction. Artificial intelligence is increasingly being used in healthcare. Although it is not yet widely used by mental health professionals, in the future, it may have broad applications in this area as well [1]. The use of AI can address, among other things, the process of diagnosis. Improving this process can occur through algorithms' detection of patterns and correlations not consistently observable by a specialist. AI can also monitor the therapy process - by analyzing the patient's voice, facial expressions, text, and gestures. One wonders if AI can be successfully applied in the area of support. Chatbots are widely available and can be used 24/7, which is a definite advantage. However, the question of whether the advice generated by chatGPT is comparable to that of specialists arises.

Objective. The purpose of this study was to substantively analyze the responses of experts and chatGPT to selected mental health questions.

Material and methods. Eight areas of mental health were selected: anxiety disorders, mood disorders, personality disorders, psychotic disorders, eating disorders, addictions, sexual health, crises, and psychotherapy. A selection of 8 questions from users of the mental health portal, falling into the categories mentioned, was made. The responses of the experts (ER) were then collected and compared with those of the chatGPT (GPT).

Results. ER and GPT responses to the same questions were analyzed for content, structure, and style. Basic similarities and differences:

1. Response structure: GPT: introduction, valuable tips, conclusion; ER similarly, but without listing/enumerating tips. GPT answers are longer.
2. Relationship with the questioner: Both GPT and experts answer with more personal questions have answers that begin with empowerment, e.g., "I understand that it's difficult for you right now."; Addressing the questioner: GPT: first person; ER: using Mr./Ms. in the case of adults; both distinguish the form by gender.
3. Language: style is similar; in GPT, there is more frequent use of scientific terms; technical aspect: in both GPT and ER responses, there is attention to Polish characters, punctuation
4. Factual value: In GPT and experts' responses, pointing to sources is sporadic (one case each in the entire analysis). In the case of ER, the answer's author is known, about whom additional information can be found. The portal checks the author's qualifications, which increases accountability. Experts take more into account the context and local/cultural character and show specificity: for example, in the question about the difference between a psychologist and a psychotherapist, there is a requirement for a 4-year school of psychotherapy. GPT answers are more culturally universal.
- 5 Method of helping: Common elements in both GPT and ER are explanation, comforting/showing understanding, and referral to specialists.

Discussion. Although AI is not currently a widely used tool in psychology or psychotherapy, its use in psychology will increase. Following Irshad et al., attention should be paid to the need to prepare professionals for adopting AI technology in the field. Professionals should not ignore AI. The main task in applying the new technology should be to benefit both patients and professionals.[1]

As in our study, Howe et al. and Ayers et al. noted that the answers given by GPTs were longer than those given by experts. The cited studies also asked about subjective ratings of these responses. Surprisingly, GPT responses were also rated higher. Survey respondents described them as more helpful, more complete, and even more empathetic. Despite this, respondents declared that in a situation where they needed advice, they would be more likely to turn to other people [2, 5]. Ayers et al. emphasize that further research into the use of chatbots is needed [2]. Because mental health issues are also highly sensitive, patient safety, privacy, and ethical concerns must be especially considered. [3] Researchers have yet to reach a consensus on the validity of using chatbot GPT to treat patients. According to Dergaa et al. [4], the quality of GPT chat content is insufficient to be a source of advice for both users and experts.

Conclusions. With the increasing use of AI in mental health, professionals should enrich their

knowledge and be prepared for the coming changes. ChatGPT can provide general information on mental health. Researchers have yet to agree that it could replace the knowledge and expertise of experts. More research is needed on the usefulness of AI psychological therapy.

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Keywords: Mental health, chat GPT, AI, therapy

The Impact of COVID-19: A Study of Academic Stress in High School Students of Vietnam Due to the Transition from Offline to Online Lessons

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Background: COVID-19 had a detrimental impact on all humans in our society, from white-collar office workers to students. The outbreak caused stress in all individuals, leading to pressure, and a decline in learnability, even though its magnitude and origins varied. In context with the

education domain, the students have suffered adverse repercussions due to the shift from traditional in-person classes to online learning modes, which has been a major cause of their mental health's downward spiral, leading to poor performances, and the inability to learn in unmonitored classroom conditions.

Aim: To assess the stress in high school students and correlate their stress levels with their end-of-year examination results for 2021.

Method:

This can be achieved using Pearson's correlation coefficient, by assessing 78 high school students selected as per inclusion and exclusion criteria, from the public schools of Hanoi, with their respective results obtained for their end-of-year examinations of March 2021. The Academic stress will be calculated with the Student Academic Stress Scale (SASS), and, all the percentage grades will be out of 100.

Results: The results obtained from the following Pearson's correlation coefficient tests showed a moderate negative correlation existing between the Academic Stress levels and the marks obtained, with the r value of -0.447. Limitations: The sample was collected from 4 public schools in Hanoi, not taking the rest of the country into account, and the accuracy of the stress level grading using SASS which can be affected by an impairment in cognitive function, excludes outliers from the research that was conducted.

Keywords: High school students, SASS, perceived academic stress

Tracking people using their phones in service of public health

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This study conducts a temporal network analysis to understand urban mobility and contact patterns in Berlin during the COVID-19 pandemic, using GPS mobile phone data from November 2020 and 2022. It examines the evolution of contact network structures, cluster dynamics, and the temporal motifs in movements between common locations. The analysis

reveals a significant shift in mobility patterns during the pandemic, with changes in nearest neighbor distances and consistent contact motifs. These insights contribute to the development of advanced models for urban dynamics in crisis situations.

Keywords: Temporal Network Analysis, Urban Mobility Patterns, COVID-19 Impact

Protein & ligand: target search

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Massive modern in silico experiments help to find the target antigens for viruses and check their affinities.

Keywords: bioinformatics, protein structure, structure-based search, molecular reaction, antigen, affinity

Impact of endometriosis on the quality of sexual life of women of reproductive age in Poland

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Endometriosis is a condition affecting numerous women worldwide, including Poland. The aim of this study was to investigate how endometriosis impacts the sexual quality of life of women of reproductive age in Poland. The first chapter discusses the causes, symptoms, and treatment of endometriosis. The second chapter presents an analysis of the responses from the Computer Assisted Web Interview (CAWI) study. The study included 135 participants, comprising both women diagnosed with endometriosis and healthy individuals forming the control group. The study addresses questions such as the frequency of dyspareunia (pain during intercourse) in women with endometriosis compared to healthy women, the alteration of self-perceived attractiveness among affected women, the frequency of engaging in sexual activity in comparison to healthy counterparts, and how treatment influences the overall assessment of the sexual quality of life in group of women with endometriosis. The third chapter focuses on patients suffering from endometriosis within healthcare systems, the costs associated with treatment, and endometriosis prevention strategies.

Keywords: endometriosis, quality of life, reproductive age

Social determinants of health and telerehabilitation: opportunities and threats for more inclusive medical management. PulmoRehab project

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The presentation aims to familiarize listeners with the results of the PulmoRehab study, in which a remote health intervention was carried out with COPD patients. The main element of the presentation will be to show the social determinants of participation in telerehabilitation,

showing it as opportunities and threats for more inclusive medical treatment.

Keywords: telerehabilitation, copd, social determinants of health

Health students towards telemedicine

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Aim: This study explored how medical and paramedical students use, perceive, and are willing to integrate telemedicine post-COVID-19. **METHODS:** We surveyed 51 students, mostly female, from Wrocław Medical University about their use and views on telemedicine.

Results: Telemedicine was infrequently used by 31% of respondents, and views on its reliability were mixed. However, many were interested in future telemedicine roles, especially in online consultations and research.

Conclusions: While students generally viewed telemedicine positively, mixed reliability views suggest the need for more education to build trust. Young women are driving change in telemedicine as they are significantly more enthusiastic about telemedicine. There is currently no gender difference in current use of IT technology and telemedicine, but the future is in girls' hands. Psychological chatbots are the most popular medical intelligent/distance solutions among health students, which may be an effect of distance learning during the pandemic. Interest in applying telemedicine in future practices indicates significant potential for its integration into healthcare curricula.

Keywords: telemedicine, students, towards telemedicine

Supporting inclusion in teaching and learning STEM subjects within the DISCO+ project

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The objectives of DISCO+ (Dropout and Inclusion at SChOol) project are twofold: to implement an inclusive approach and prevent early school leaving in STEM subjects. The participating partner institutions apply cooperative engineering to develop units in mathematics and science subjects that can be implemented in different European educational contexts to meet the project objectives. Within the project (WP2) 16 transnational groups of pre- and in-service teachers take part in an eTwinning digital training sessions on the notion of school inclusion in Europe, the implementation of the principle of equality between girls and boys, the development of the critical thinking in learning scientific disciplines. Small group discussions refine each participant's understanding of the issues involved, and the work carried out makes it possible to go beyond the local character of the definitions and to reach a common and shared understanding of the intercultural nuances present in each country. These exchanges will help build links between participants and create a network of European colleagues. The groups' experience books will serve as a basis for posters, which will be presented in June 2024. These presentations can be filmed and contribute to a 5-hour MOOC, which will be developed at a later phase in the project. In my presentation I will introduce my experiences as a trainer of two transnational groups (Group 15 and 16).

Keywords: inclusion, STEM subjects, eTwinning, collaboration

Implementing E-Methodology in the Classroom: Enhancing Learning in the Digital Age

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Aim: The study examines the concept of e-methodology and its impact on classroom instruction. E-methodology refers to the systematic use of digital tools, resources, and platforms to facilitate teaching and learning processes.

Concept: The study explores the benefits of e-methodology in enhancing student engagement, promoting interactive learning experiences, and catering to diverse learning styles. It also discusses the challenges associated with implementing e-methodology, including digital literacy gaps among educators and students, access to technology, and concerns regarding screen time and distractions. This study is based on extensive review of literature.

Results: Findings highlights the importance of ongoing professional development for educators to build their capacity in utilizing e-methodology effectively.

Conclusion: This study emphasizes the transformative potential of e-methodology in redefining teaching and learning paradigms in the digital age. By harnessing the power of technology, educators can create dynamic and inclusive learning environments that prepare students for success in an increasingly digital and interconnected world.

Originality: This study is an outcome of Author's independent and original work. Author' has given proper acknowledgement to all the sources from which the ideas and extracts have been taken.

Keywords: e-methodology, technology, learning, digital age, education

Awareness of EFL teachers in Multilingualism Classes

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This study examines the awareness of English as a Foreign Language (EFL) teachers in multilingualism classes. It investigates how much EFL teachers are cognizant of the linguistic and cultural diversity within their classrooms and the pedagogical implications that arise from this awareness. The research aims to explore the teachers' comprehension of multilingualism and their attitudes towards it, providing insights into the challenges and opportunities linked to teaching English in diverse language learning settings.

Keywords: Multilingual, EFL classes, Teachers, Education

Integrated Pulmonary Patient tele-care discussion on telemonitoring and e-health

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In 2023-2024, the Uniwersyteckie Centrum Kliniczne (UCK) in Gdańsk and its Partners (Świat Zdrowia Operator Medyczny Sp. Z o.o., Przychodnia BALTIMED Sp. z o.o sp. k., Łomżyńskie Centrum Medyczne Sp.z o.o, Medily Sp.z o.o., Grupa Horyzont AS, Polskie Towarzystwo Programów Zdrowotnych) implemented the TeleCareCOPD project financed by Norwegian Grants and the Polish Ministry of Health.

The main goal of the project was to show how information and communication technologies can support the process of diagnosis and therapy of COPD patients. The proposed patient-centric telecare model used an internet platform to coordinate activities for the patient and a website as an educational tool for patients. There were two paths: I - teleconsultations of patients from distant primary health care units in cooperation with Partners, II - integrated care for patients with advanced COPD implemented at the UCK. In both care paths, patients can use the publicly available website www.pacjentwcentrum.eu. This is a website run by the Polish Society of Health Programs, among others, for the purposes of the project. Educational content posted on the website www.pacjentwcentrum.eu was used by patient assistants during visits to educate patients.

The proposed solution in path II was a hybrid solution. Combining telecare with support for patients with severe, unstable COPD by an interdisciplinary team of professionals, including: physicians, a coordinator, physiotherapists, a psychologist, a dietitian and patient assistants trained in the care of COPD patients and the principles of telecare. The proposed support by a patient assistant is an innovative solution that was intended to enable patients from the high-risk group of COPD exacerbations (including those unable to operate digital devices on their own) to participate in the TeleCareCOPD project. In both paths, the project implementers developed algorithms for medical and non-medical activities to implement the telemedicine solution.

Preliminary results: Some of the planned video consultations in path I took place in primary medical care units because patients were unable to use the telemedicine solution at home. Approximately 75% of patients from II path, after intensive and cyclical training, were able to use video consultations (e.g with a psychologist) with on the platform on their own. Detailed

study results are under analysis. The experiences from the pilot should be useful to determine further directions for the development of integrated e-health care.

Keywords: telemedicine, copd, social determinants of health