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10th World Conference on Medical and Health Sciences (MED-HES 2024)

İzmir Tınaztepe University İzmir, Turkey

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Abstract Book

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Keynotes



Prof. Dr. Nilgün Sarp

Professor of Health Administration and Child development, Istanbul Aydın University, North Cyprus

Keynote Title: ""Sustainable Development in Addressing ADHD: A Call for Collaboration to Unlock Children's Potential"

Biography: Prof. Dr. Nilgün Sarp graduated with two

bachelor's degrees, one in Child Development and Education from Hacettepe University in 1980, and the other in Special Education from Ankara University in 1983. She completed her master's degree in public health - Health Education at Hacettepe University in 1983 and earned her doctorate in Family Health at the same university in 1987. In 1998-1999, she studied Health and Hospital Management at the University of Birmingham. She became an associate professor in Child Development in 1995 and in Health Management in 1996. In 2000, she became a professor of Health Management, and in 2015, she obtained her second professorship in Child Development. She served various roles at Ankara University's Faculty of Health Education, including Dean, Faculty Senator, Vice Dean, and Head of the Department of Health Management, until her retirement in 2012. From 2002 to 2003, she worked as a Fulbright visiting professor at George Washington University's The Center for Disaster, Crises, and Risk Management in the United States. Currently, she serves as the Director of Graduate Education at the International Final University. She is a quality evaluator at the Higher Education Quality Board (YÖKAK), the Health Sciences Quality Board (SABAK), the Ministry of Health Quality Board of Turkey, and the Turkish Health Institutes Institution (TÜSEB). Prof. SARP has authored national and international books, articles, and papers related to her areas of expertise.



Prof. Dr. İlke Keser

Gazi University, Faculty of Health Sciences, Physiotherapy and Rehabilitation, Physiotherapy and Rehabilitation, Ankara Turkey

Keynote Title: "Technology in physiotherapy and rehabilitation"

Biography: Prof. Dr. İlke Keser completed an undergraduate degree at Hacettepe University School of Physical Therapy

and Rehabilitation in 2001; her master's degree in science at Hacettepe University Institute of Health Sciences in 2003 and her doctorate in 2009. she became a research assistant at Hacettepe University School of Physical Therapy and Rehabilitation in 2001 and worked at Ghent University Faculty of Medicine and Health Sciences Department of Physical Therapy and Motor Rehabilitation in Belgium for 4.5 months between 2007 and 2008. She continued her duties as a doctoral lecturer at Gazi University Faculty of Health Sciences Department of Physiotherapy and Rehabilitation in 2009, as an associate professor in 2014 and as a professor in 2020. She established the first oncological physiotherapy and rehabilitation unit in Turkey. She has numerous international and national articles, reports, projects, book chapters, book translation editorships, assistant editorships in scientific journals, conferences and awards. Her academic interests are oncological rehabilitation, neurological rehabilitation, physiotherapy and rehabilitation in lymphedema and geriatric rehabilitation. She is the chairman of the Turkish Physiotherapists Association Oncological Rehabilitation and Palliative Care Working Group. She is currently continuing her scientific studies at Gazi University, Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation.



Assoc. Prof. Dr. Levent Çetinkaya

Çanakkale Onsekizmart University, Turkey

Keynote Title: "Revolutionary Applications of Artificial Intelligence in Medicine: Future Developments and Ethical Issues"

Abstract: The twenty-first century is defined as a period where artificial intelligence (AI) has revolutionized the field of medicine. AI has significantly improved the quality and

efficiency of healthcare by enhancing early diagnosis and effective treatment options. In critical areas such as imaging and patient monitoring, AI plays a vital role by offering significant advantages in the analysis of medical data. These technologies contribute substantially to disease prediction and personalized treatment planning. However, the use of AI in healthcare also brings ethical and legal concerns, such as the privacy of patient data and the transparency of algorithms. Consequently, the integration of AI in medicine has transformed diagnostic accuracy and treatment efficacy, leading to a major shift in healthcare delivery. In the future, as AI continuesto advance, it is expected that healthcare services will be delivered more quickly, accurately, and effectively.



Assoc. Prof. Dr. Mehmet Arun

Ege University Faculty of Pharmac, Department of Clinical Pharmacy, Izmir Turkey

Keynote Title: "Artificial Intelligent in the Evaluation of Pharmacy"



Assoc. Prof. Dr. Elif Ertuna

Ege University Faculty of Pharmacy Department of Clinical Pharmacy, Turkey

Keynote Title: "Excipient allergy: a cause of drug hypersensitivity"

A Rare Case of Lumbar Intramedullary Spinal Cord Metastasis from Papillary Thyroid Carcinoma

Ercan Kaya, Mardin Training and Research Hospital, Mardin

Abstract

Background: Intramedullary spinal cord metastasis (ISCM) from papillary thyroid carcinoma (PTC) is extremely rare and poorly documented. In this article, a case of lumbar ISCM from PTC is presented. Case Presentation: A 55-year-old woman presented with persistent back pain. An intramedullary mass was found at the L1 level. Although there was no known thyroid disease, the pathology result was PTC metastasis. Subsequent thyroid ultrasound and biopsy confirmed the diagnosis. She also underwent a thyroid operation and radioiodine treatment. Although sensory deficits persisted, the patient's back pain improved. Conclusion: Spinal metastases are an unusual presentation of PTC. This case highlights the importance of multidisciplinary management of ISCM from PTC, focusing on surgical intervention to improve outcomes.

ADDRESS FOR CORRESPONDENCE: Ercan Kaya, Mardin Training and Research Hospital, Mardin Email Address: drercankaya@gmail.com

Healthcare aid for people suffering from Parkinson's

Antara C Kamath, India

Abstract

Parkinson'sis a neurodegenerative disease that can cause tremors. It is responsible for the disruption of muscle coordination as well as the impairment of muscle control. There are two types of Parkinon's: 1. Akinetic rigid Parkinson's and 2. Tremor dominant Parkinson's. It affects almost 10 million people worldwide, and the risk of Parkinson's increases with age. The symptoms of Parkinson's can affect either one side of the body, or both, depending on severity of the disease. Parkinson's cannot be prevented, but onset of the disease can be delayed, aided by physiotherapy and medication. The main cause of Parkinson's is the lack of dopamine and norepinephrine hormones in the body. The production of these hormones is in minimal quantities during Parkinson's. This is because the nerve endings that are responsible for the production of these neurotransmitters die, which results in movement issues. One such issue is gait disturbance, also known as Freezing of Gait'. "Freezing of Gait' can be solved using cues - visual, auditory or somatosensory. This paper highlights how rhythmic vibrations imparted on certain muscles of the leg (popliteal muscle, tibialis anterior muscle and achilles tendon), influence walking and step behavior. These vibrations are imparted on these muscle groups at certain intervals, using a wearable brace with the help of coin vibration motors. The vibrations aim to influence spatial gait parameters like step length, stride length, step cadence, number of steps and number of strides, in order to improve and effectively overcome 'Freezing of Gait'.

Pharmaceutical Technology Approach to Assess Total Phenolic Content and Antioxidant Activity of Miswak and Toothpaste via UV-Visible Spectroscopy

Ruba ISSAM Malkawi, Jadara university, Irbid, Jordan

Abstract

This study investigates the total phenolic content and antioxidant activity of Green Miswak, Dry Miswak, and a commercial toothpaste. The samples were soaked in 80% methanol for two days, and UV-Visible spectroscopy was employed to assess their total phenolic content. The results indicate a concentration-dependent increase in phenolic content for all samples, with absorbance values ranging from 0.1191 to 0.8801 corresponding to phenolic concentrations of 2 to 12 μ g/ml. In addition, antioxidant activity was measured before and after a 30-minute incubation period in a medium designed to mimic the oral cavity environment. The Green Miswak exhibited a percentage inhibition ranging from 39.68% to 52.47%, with a mean absorbance of 0.3373. Dry Miswak showed higher inhibition values, with an average of 57.70% inhibition and a maximum value of 66.36%. In contrast, the toothpaste demonstrated the highest antioxidant activity, with percentage inhibition reaching up to 76.25%. These results suggest that both Green and Dry Miswak, along with toothpaste, have substantial phenolic content and antioxidant properties, with toothpaste showing superior antioxidant performance under the tested conditions. This research highlights the potential of natural and commercial oral care products in contributing to oral antioxidant defense mechanisms.

ADDRESS FOR CORRESPONDENCE: Ruba ISSAM Malkawi, Jadara university, Irbid, Jordan Email Address: r.malkawi@jadara.edu.jo

The physiological journey of Phoenixin, a newly discovered pleiotropic neuropeptide, from the brain to the gut: Phoenixin is more than a reproductive peptide

Özden Kutlay, Afyonkarahisar Health Sciences University, Turkey

Abstract

Phoenixin (PNX), a pleiotropic neuropeptide discovered in 2013, was initially introduced to the scientific community as a reproductive peptide (1). However, recent studies have revealed that PNX, by crossing the blood-brain barrier, exhibits protective effects in the cardiovascular system, nociception, inflammation, and oxidative stress, as well as physiological roles related to food intake, anxiety, and stress(2). Phoenixin is an endogenous peptide expressed not only in the central nervous system, including the hypothalamus, pituitary gland, and spinal cord, but also in peripheral tissues such as the heart, kidneys, lungs, duodenum, jejunum, colon, pancreas, adipose tissue, and ovaries (2). Although not definitively proven, GPR173 is widely accepted as the most likely receptor for PNX (3). GPR173 is primarily expressed in the brain and ovaries. While PNX exists in various isoforms with amino acid lengths of 14, 17, 20, and 36, the bioactive forms are phoenixin-20 and phoenixin-14. PNX-20 expression is dominant in the hypothalamus, whereas PNX-14 is predominant in the heart and spinal cord (1, 4). Phoenixin has been demonstrated to possess analgesic properties when administered intrathecally (5). Additionally, when introduced intracerebroventricularly or infused into the hippocampus, it has been found to improve both memory formation and retention while also producing a dose-dependent anxiolytic effect (6). Furthermore, PNX is recognized for its involvement in gut-brain communication, similar to its function within the hypothalamic-pituitary gonadal axis (7). Even though research on Phoenixin is still in the early stages, various in vivo and in vitro experimental studies have provided encouraging insights into its physiological functions. These findings could be beneficial for the pharmacological treatment of endocrine disorders, neurodegenerative diseases like Alzheimer's and Parkinson's, as well as a range of psychiatric and psychosomatic disorders such as anorexia nervosa and post-traumatic stress disorder, along with the increasing number of stress-related conditions like burnout syndrome and depression (3)

ADDRESS FOR CORRESPONDENCE: Özden Kutlay, Afyonkarahisar Health Sciences University, Turkey Email Address: <u>ozden.2007@gmail.com</u>

The physiological journey of Phoenixin, a newly discovered pleiotropic neuropeptide, from the brain to the gut: Brain-Gut Interaction of the Pleiotropic Peptide Phoenixin

Tülay Akan, Afyonkarahisar Health Sciences University, Turkey

Abstract

In recent years, significant progress has been made in understanding the role and effects of neuropeptides in the bidirectional interaction between the brain and the gut, leading to the discovery of many new peptides such as Phoenixin (1). Phoenixin was initially found in brain nuclei involved in the regulation of food intake in the hypothalamus. Subsequent studies have identified the presence of Phoenixin and its receptors in various parts of the gastrointestinal system, including the esophagus, stomach, pancreas, spleen, jejunum, duodenum, ileum, and colon (2,3). It has been shown that Phoenixin is involved in bidirectional signaling of the brain-gut axis in the regulation of food intake and has orexigenic effects (4) Phoenixin has been observed to contribute to the modulation of energy homeostasis and metabolism by regulating the function of pancreatic endocrine beta and alpha cells, which secrete key regulatory hormones of glucose and lipid metabolism. It controls the production/secretion of insulin following high glucose levels. The peptide's secretion is influenced by blood glucose and fatty acid levels. Phoenixin promotes white adipose tissue formation by contributing to the proliferation of preadipocyte cells and their differentiation into mature adipocytes. Additionally, it is known that blood levels of Phoenixin have a positive correlation with body mass index (5). Given Phoenixin's roles in stimulating food intake and thereby regulating energy metabolism, further research is needed on its regulatory effects on the brain-gut axis, as well as in the pancreas, intestines, and stomach. In conclusion, this review will examine and discuss the physiological and pathophysiological effects of Phoenixin in the brain-gut axis.

ADDRESS FOR CORRESPONDENCE: Tülay Akan, Afyonkarahisar Health Sciences University, Turkey Email Address: tulay akan@yahoo.com

Assessing Intercultural Competence in Health contexts

Carmen Pena-Diaz, University of Alcalá, Spain Fe Amalia Garcia-Santiago, University of Alcalá, Spain Carmen Merino, University of Alcalá, Spain

Abstract

The services currently used to solve communication-related needs between patients who do not speak the host country language and healthcare professionals are not completely effective in most hospitals and most medical professionals will explain that in their consultations with migrants who do not speak their language, they ask them to bring along a family member or friend who can act as an interpreter. The ideal solution to tackle this problem is twofold: on the one hand, the use of professional interpreters and translators from public services trained in interculturalism is necessary to break down language barriers and make communication effective. On the other hand, in order to address the linguistic and cultural asymmetries that impact negatively on patients in terms of inequality, inefficiency and even exclusion, awareness of the importance of intercultural competence should be introduced or increased for healthcare staff. Multidisciplinary research between the health, language, and communication disciplines is necessary to explore, develop and improve the ways in which healthcare professionals and patients communicate and to achieve an equal society in which migrants have equal access to healthcare. Moreover, clinical consultations studied from a sociocultural perspective can help understand why individuals behave in a certain way (Henderson, Horne, Hills, & Kendall 2018) and how culture (understood as the language, customs, beliefs, rules, arts, knowledge, and collective identities and memories developed by members of a social group) is a major element in human interactions and sets the basis for understanding each other in communicative exchanges. On the one hand, this proposal pursues to describe the barriers created by intercultural and interlinguistic asymmetries in communication between healthcare providers and female patients, contributing thus to identifying cultural and linguistic discordance to help deal with the challenge of migrant integration and, thus, migrant social justice rights, and their access to health. As previous studies have shown (among others, Kawar 2004; International Migration Report 2015; Chauvin, Simonnot, Vanbiervliet et al. 2015) female migrants are often users with a greater cultural vulnerability (e.g, it is common for Muslim women to have their husbands interpret for them). The number of migrant women is higher in certain clinical areas, such as obstetrics and gynaecology, in which creating a sensitive and respectful environment is of the utmost importance. On the other hand, this proposal will give an account of the different assessment models of intercultural competence. There are no models which can be applied to health contexts specifically. We will present a model to measure interculturality in the context of health care for immigrant women, both by professionals, dealing with immigrant women in the field of gynaecology and obstetrics, and also to measure perceived interculturality in healthcare by foreign users.

ADDRESS FOR CORRESPONDENCE: Carmen Pena-Diaz, University of Alcalá, Spain Email Address: <u>carmen.pena@uah.es</u>

Glucose Index using Analytical Hierarchy Process

Karla Daniela Gerardo González, Instituto Politécnico Nacional, Mexico José Juan Carbajal Hernández, Instituto Politécnico Nacional, Mexico

Abstract

Diabetes is a globally prevalent disease with negative physical and economic consequences if not properly managed with medication and a balanced diet. Despite the increase in diabetes cases in recent decades, a culture of self-care has not yet been established in society. The aim of this study is to assess glycaemic behaviour using an Analytical Hierarchy Process (AHP) with metrics that assess glycaemic variability, such as Mean Amplitude of Glycaemic Excursions (MAGE), Mean Daily Differences (MODD), Continuous Overlay Glycaemic Action (CONGA) and Standard Deviation (SD), implementing data from continuous glucose monitors to generate an index called IGU, which assigns values from 0 to 10, where 0 corresponds to the best value and gradually increases up to 10, which is the worst value that can be assigned to an evaluated glycaemic profile. It has been observed that patients with diabetes have IGU values higher than 5, while patients who control the disease have values lower than 5. It can be concluded that the use of different metrics to evaluate glycaemic profiles provides a better evaluation than a single biased result.

ADDRESS FOR CORRESPONDENCE: Karla Daniela Gerardo González, Instituto Politécnico Nacional, Mexico Email Address: karlagego@gmail.com

Association of functional capacity and endothelial function in patients with cardiovascular disease: A flow-mediated dilation assessment based study

Ridvan Aktan, Izmir University of Economics, Turkey Cemal Ozemek, University of Illinois at Chicago, United States Richard Severin, University of Illinois at Chicago, United States

Abstract

Background and Aim: Cardiovascular diseases are often associated with poor outcomes, including exercise intolerance. Endothelial dysfunction may contribute to impaired vascular homeostasis, thereby affecting the functional capacity of patients with cardiovascular disease. This study aimed to investigate the association between functional capacity and endothelial function in these patients. Methods: Nine patients diagnosed with cardiovascular disease who were admitted to an outpatient cardiac rehabilitation clinic were included in the study. Endothelial function was assessed through the flow-mediated dilatation (FMD) technique, which measured both absolute (mm) and percentage (%) changes in brachial artery diameter. Functional capacity was evaluated using the 6-minute walk distance (6MWD) test. The Shapiro–

Wilk test was used to assess data normality, while Pearson's correlation analysis and a linear regression model were applied to examine the relationship between functional capacity and endothelial function, with a significance level of 5%. Results: Significant positive correlations were found between 6MWD and FMD. The Pearson correlation coefficients were 0.80 (p = 0.01) for the absolute change (mm) in FMD and 0.81 (p = 0.01) for the percentage change in FMD. The linear regression model explained 58.8% of the variance in 6MWD ($R^2 = 0.588$, t = 12.385, p = 0.01), with the equation for 6MWD = 236.240 + (12.721 × FMD%). Conclusion: The findings suggest that functional capacity is closely associated with endothelial function in patients with cardiovascular disease. Specifically, the 6MWD increased as endothelial function improved.

ADDRESS FOR CORRESPONDENCE: Ridvan Aktan, Izmir University of Economics, Turkey Email Address: ridvanaktan@gmail.com

"Optimizing Assessment Post-Revascularization: Exercise Stress Test and FFR in Borderline Coronary Stenoses Following Acute Coronary Syndrome"

Ali Öztürk, Ozel Saglik International Hospital Cardiology Department Taha Okan, Kardiya Medical Center Cardiology Department

Abstract

Backround: The current guidelines recommend complete revascularization during the initial procedure for Non-ST Elevation Acute Coronary Syndrome (NSTE-ACS) with multivessel disease (Class IIa), or a functional evaluation of non-infarct-related artery (non IRA) severity (Class IIb). Recent trials have demonstrated that in ACS patients with multiple affected vessels, Fractional Flow Reserve (FFR)-guided selective percutaneous coronary intervention (PCI) in the non-IRA is superior to routine PCI in the non-IRA, leading to reduced rates of death, myocardial infarction (MI), and repeat revascularization. FFR accurately assesses coronary lesions but is invasive and entails risks and expenses. The exercise stress test (EST) is a safe, and cost-effective method for evaluating coronary artery disease. The Duke treadmill score (DTS), a prognostic indicator, interprets EST data. We planned to examine the correlation between EST and DTS, with FFR. Methods: This prospective study included patients undergoing revascularization for ACS with an additional borderline stenosis. FFR measurements were scheduled after 30 days post ACS. Asymptomatic patients during this period underwent an EST. The study assessed the correlation between EST parameters (DTS) and FFR measurements in this subgroup. Results: Seventy-eight eligible patients participated. EST parameters and FFR measurements correlated significantly. DTS, treadmill angina index, and FFR measurements also showed significant relationships (p=0.007, p<0.001, respectively). Conclusion: Non-invasive, simple, and safe EST data, including DTS, could be a viable alternative to FFR procedures. This approach, especially useful in low-income countries with rising Non-NSTE-ACS cases, offers a cost-effective diagnostic method, and minimizing the need for PCI and stents.

ADDRESS FOR CORRESPONDENCE: Ali Öztürk, Ozel Saglik International Hospital Cardiology Department Email Address: aegeanaliozturk@gmail.com

EVALUATION OF CORONARY ARTERY PLAQUE FEATURES IN CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY IN PATIENTS WITH DIABETES MELLITUS

Caner Topaloğlu, Medical Point Hospital, Cardiology Taha Okan, Kardiya Medical Center Cardiology Department

Abstract

Background: Computed tomography angiography (CTA) is frequently used to evaluate the risk of coronary artery disease in patients with Diabetes Mellitus (DM). Characteristic plaque features of coronary arteries can be evaluated with CTA. The aim of this study is to evaluate the coronary artery plaque structure on CTA between patients diagnosed with DM and patients without a diagnosis of DM. Methods: A total of 192 patients, 96 patients diagnosed with DM and 96 patients without a diagnosis of DM, who underwent coronary CTA, were included in the study between January 2024 and July 2024. The groups were evaluated according to the plaque structure, number of plaques, and degree of stenosis on coronary CTA. High sensitive C-reactive protein (hsCRP) levels of the patients were measured from blood samples. The number of plaques, degree of stenosis, structure of plaques and hsCrp levels were evaluated between both groups. Results: In coronary CTA, coronary artery lumen stenosis, plague count and multiple vascular disease are higher in the DM patient group (p<0.001). While there was no significant difference between the groups in terms of non-calcific plaques, calcific and mixed plaques were more common in the DM patient group (p<0.001). Similarly, while no statistically significant difference was found between mild stenosis between the groups, moderate/severe stenosis and total occlusion were more common in the DM patient group (p<0.001). Additionally, hsCRP levels were increased in patients with calcific plaque and/or severe vascular stenosis on coronary CTA (p<0.001). Conclusions: Patients with DM are at high risk for the development of coronary artery disease and their prognosis is worse. The number of plagues, severe lumen stenosis, calcific and/or mixed plague structure are more common in patients with DM, and the combination of CTA and hsCRP is the most effective method in detecting the risk of early coronary artery disease.

ADDRESS FOR CORRESPONDENCE: Caner Topaloğlu, Medical Point Hospital, Cardiology Email Address: topalol@gmail.com

Areca Nut Use and Its Association with Health Risk Perception among Youth Population in China

Hui YIN, School of Public Health, Peking University

Abstract

The objective of this study was to understand the behaviors of areca nut and corresponding risk perceptions in the Chinese youth population and the association between them. Study object and methods A total of 792 Chinese youth aged 18-24 participated in the study and completed the online survey using a self-administered questionnaire. The association between areca nut use behavior and perceptions of health risks as well as other socio-behavioral factors was analyzed using ordered logistic regression. The areca nut use rate of the survey sample was 2.02%, and 16.04% had used areca nut. The ongoing areca nut use rate was higher in the young male population (2.87%) than in the female population (0%), and the ever use rate was also higher in the young male population (16.13%) than in the female population (15.81%). The main reasons for being using areca nut were "refreshing" (82.35%) and "releasing stress" (70.59%); the main reasons for ever trying to use areca nut were "curiosity" (55.47%) and "areca nut handed by others" (47.66%). The average score of the survey sample on the perceived health risks of areca nut use was 5.76, and the survey sample had the lowest perceptions of the three items of areca nut use causing inflammation of the gastric mucosa, perforation and malnutrition (73.74%) compared to the oral health hazards associated with areca nut. The regression results showed that insufficient knowledge of areca nut health risks (p=0.007) was an important cause of areca nut use in the survey sample, in addition to smoking (p=0.000), alcohol consumption (p=0.000), and birthplace or regular residence being the place of areca nut production and processing (p=0.000) were also risk factors for areca nut use in the survey sample. Conclusion Areca nut use has become a relevant health issue in the Chinese youth population, and the rate of areca nut use among young people is related to their perceptions of the health risks of areca nut, which should be reduced through active promotion of the harm of areca nut.

Keywords: Areca nut use; Risk perception; Youth health education

ADDRESS FOR CORRESPONDENCE: Hui YIN, School of Public Health, Peking University Email Address: yinhui@pku.edu.cn

Artificial Intelligence Applications in Oncological Rehabilitation: Data Analytics and Prediction Models

Assoc. Dr. Levent Cetinkaya, Department of Computer and Educational Technologies, Canakkale Onsekiz Mart University, Canakkale, Turkey

Prof. Dr. Ilke Keser, Gazi University Faculty of Health Sciences Department of Physiotherapy and Rehabilitation, Ankara, Turkey

Abstract

Aim

This study aims to investigate the role and potential of artificial intelligence (AI) applications in oncological rehabilitation. In particular, it examines how data analytics and predictive models can be used and how these technologies can improve patient monitoring. The contributions of AI to increasing the effectiveness of treatment, reducing its side effects and improving its results will be discussed.

Method

This study was carried out in two stages: literature review and case studies. Academic studies published in the last decade (2014-2024) were examined using the PubMed, IEEE Xplore and Scopus databases. Additionally, performance metrics have been used to measure the effectiveness of AI-based applications. Application examples are supported by case studies from various institutions.

Results

The use of AI in oncological rehabilitation has been examined under three main headings: data analytics, prediction models and application examples.

 Data Analytics: AI plays a critical role in analyzing large data sets. Oncology rehabilitation data includes patients' response to treatment, treatment-related side effects, and general health status. By analyzing this data, machine learning algorithms have the potential to optimize patients' personalized treatment plans.
Predictive Models: AI is used to predict the future health status of patients. Neural networks and regression models can predict complications after cancer treatment. These models guide healthcare professionals in taking proactive precautions.

3. Application Examples: Case studies show that AI-based rehabilitation programs have the potential to improve patients' quality of life. In some studies, AI has identified cancer subtypes and determined the most appropriate treatment methods. AI-supported mobile robotic exoskeletons have been found effective in motor rehabilitation.

Conclusion

Research shows that AI applications have the potential to improve patient care in oncology rehabilitation. Data analytics and predictive models have the capacity to make treatment processes more effective and individualized. However, the current knowledge about ethics and safety of the applications of AI in healthcare is insufficient. In the future, it is expected that AI will be used more widely in oncological rehabilitation with further research and development studies.

ADDRESS FOR CORRESPONDENCE: Assoc. Dr. Levent Cetinkaya, Department of Computer and Educational Technologies, Canakkale Onsekiz Mart University, Canakkale, Turkey Email Address: <u>cetinkayalevent@gmail.com</u>