İZMİR EKONOMİ ÜNİVERSİTESİ
"bilimle anla bilgiyle yönet"

İZMİR EKONOMİ ÜNİVERSİTESİ YAYINLARI

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Linking patient safety to primary healthcare green transition

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Focusing on patient safety in the green transition of primary healthcare involves providing the right care at the right time for the right person, ensuring no harm to both patients and the planet. This broader perspective of healthcare quality encompasses dimensions such as patient-centered care, effectiveness, efficiency, and timeliness. However, the essential dimension is delivering safer healthcare with a positive impact on planetary health. Patient safety and planetary health are driven by sustainability.

Climate change is a significant threat to public health, causing avoidable harm to patients. Sustainability involves using resources wisely to protect finite resources while considering future needs. Avoiding harm to patients and the planet can improve patient outcomes and enhance healthcare workers' capacity to engage in quality improvement.

Patient safety is a framework of organized activities that creates a culture, processes, procedures, behaviors, technologies, and environments in healthcare that consistently lower risks, reduce avoidable harm, and mitigate the impact of errors. A green patient safety perspective also considers preventing harm to planetary health. It links healthcare disruptions to Earth's natural systems and the resulting impacts on public health.

Globally, the burden of unsafe healthcare is significant, with an estimated one in ten patients harmed in hospitals and four in ten in primary care. This harm has financial costs, accounting for 15% of total hospital expenses, not to mention the impact on planetary health. It is critical to raise awareness as up to 83% of harm to patients and the planet is avoidable.

To cultivate a green patient safety culture in primary healthcare, actions can be taken through strategic objectives outlined in the Global Action Plan on Patient Safety 2021-2030.

Policy and Elimination of Avoidable Harm is the first objective of the plan. Promoting policies that directly link patient health to planetary health is crucial. Investing in sustainable primary healthcare facilities and implementing green accreditation can significantly reduce the healthcare system's environmental impact.

High-Reliability Systems is the second strategic objective. It hightlights the essential role of enhancing digital health. It can help reduce carbon footprints through safe remote care. Digitalization supports safe processes, especially in high-risk situations related to climate emergencies.

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Regarding the third objective, safety of clinical processs, we consider the hight impact that a green coordination of care along the healthcare levels. This includes sustainable drug prescribing to prevent environmental harm from pharmaceutical ingredients in both hospital and primary care levels.

Patient and Family Engagement is the topic of the fourth objective. Primary healthcare plays a crucial role in improving health literacy, empowering self-management, and fostering community connections, which can lead to broader environmental benefits.

The fifth objective is about Healthcare Worker Involvement. Raising awareness among healthcare workers about sustainability and planetary health should be integral to their education. As trusted figures, they can advocate for planetary health and model green behaviors.

The sixth strategic objective is oriented to Patient Safety Information Systems and Research. Facilities should collect data on climate change impacts on health, and primary care professionals should lead research and promote green practices.

The seventh strategic objective focuses on synergies and solidarity. This objective positions primary healthcare professionals as community leaders, collaborating closely with researchers, health policymakers, patient associations, and medical organizations. Together, they can produce evidence on green and safe healthcare practices, highlighting the benefits of incorporating sustainability and planetary health into routine medical care.

Some Closing Remarks to have a local impact can be to promote:

Eco-friendly Clinics. Primary care clinics adopting green building standards can reduce their environmental impact and improve safety.

Green Prescriptions with different perspectives. One on encouraging physical activity in natural settings improves health outcomes and promotes environmental stewardship. Another, prescribing medicines with a consideration on its impact on the health of the planet.

Enhancing telehealth in a way to reduce the need for travel, decreasing pollution and disease exposure.

Nevertheless, there are challenges to thrive:

The initial investment costs for these initiatives. Higher upfront costs for sustainable practices and technologies will have a later returning benefit for the health of the community and the planet.

Investement in training and education both PHC professionals and communities. Ongoing education for providers and communities on sustainability of the healthcare system.

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Crucial policy and regulation on greener healthcare systems. Navigating policies that may not support sustainable transitions and promote the development on regulations to enhance greener facilities and practices.

However, we need to act locally for a global impact. Therefore we should reflect on our behaviour for the Future we need to build every day. It does mean how to achieve global impact through local actions in an interconnected green patient safety network identifying opportunities for improvement, actions at the political and regulatory levels to foster a culture of patient and planetary safety. Let's green the practice!

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"One Minute for the Planet" in Brazil

Enrique Falceto de Barros*

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Member of The Lancet Commission on Sustainable Healthcare

Planetary health boundaries have been crossed, due to anthropogenic drivers. Hyperpopulation, unrestrained technology, and consumerism are generating complex cascades that trickle down into sick individuals and collapsing ecosystems. The recent climate change floodings in Southern Brazil are a powerful case study to understand the concept of "One Minute for the Planet" (OMfP) as one pragmatic tool to enable a journey for healing the patient-planet system. The planetary health education framework is essential to how OMfP can improve understanding of interconnections within nature between humans and the biosphere, and how this can lead to more effective healthcare for patient-planet systems.

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Workshop: How to implement planetary health on daily practice

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*Family Medicine Clerkship Director
Cumming School of Medicine, Undergraduate Medical Education

It is important that family doctors learn about planetary health and the principles of interconnectedness of the planet and all living creatures, and assessing vulnerability and ensuring equity as we adapt to and mitigate for climate change.
This workshop will use examples from obesity and hypertension medicine to discuss how to weave consideration of planetary health into our day to day care of patients. We will discuss considerations and actions that may be considered at the micro, meso and macro levels in which family doctors function.

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Environmental health prevention: Some principles and perspectives

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In the past, environmental health problems have often been successfully addressed by controlling a single source of pollutant or exposure. However, today's issues are usually more complex, such as Climate change, COVID-19, Resource depletion, Persistent social inequalities in health, and Obesity epidemics.

Traditionally, the relationship between environmental threats and health outcomes is described through a linear pathway starting from the hazard, which leads to exposure and drives the health effects. Admittedly, as we will see afterwards, dealing with Environmental Public Health Tracking, such an approach continues to deliver benefits, but it is clearly and widely inadequate when addressing multiple stressors and systemic challenges.

Context factors are indispensable for applying exposomics and other scientific developments within a public health service. The reason is that it is too difficult to think of interventions to reduce exposure without context. At higher levels of context, the results will have a more significant potential for benefiting more people, particularly in deprived socio-economic groups.

Another point which will be taken up in this presentation in discussing the actions that must be undertaken to address MPs and NPs is the one pointed out by the COVID-19 pattern of spread in time and space, which made clear that the distinction between local and global has become superficial. The local ecological and human interactions in Wuhan in China have been the origin of the SARS-COV-2 spillover and have afterwards affected the whole globe. In other words, Regional and local political and economic decisions contribute to the global climate crisis. On the other hand, in a globalised economic order, decisions are generally taken far away from where the environmental and social externalities show their harmful effects (usually in LMICs).

Accordingly, some principles and concepts have been provided. In particular, some examples and lessons from Rayner and Lang (2012) have been presented and discussed (Transitions to be addressed Environmental Public Health)

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In particular, the ecological public health approach can help address the challenges faced by public health today by aiming to integrate complexity, multiple interactions, and change in societal systems. By doing so, the approach can understand the ecosystem processes and the system as a whole and how they determine population health. Ecological public health provides a framework for considering a holistic approach from public health science to public health actions.

Finally, it has been emphasised that:

- Environmental aspects of health protection and promotion have emerged as crucial public health dimensions over the last fifty years
- A call to empower practitioners of all disciplines relevant to environmental public health is urgent.
- This is due to the short timescale required to convert human societies to sufficient ecological sustainability before climate and other environmental changes produce impacts that threaten the resilience of the social fabric catastrophically.
- Education of future generations would not lead to a sufficiently rapid process in this direction and, therefore, is meaningless unless the current generation of decision-makers works out present-day justifications and plans for the more sustainable options within the available spectrum of the workforce, using their current roles.
- In particular, effective EPH practice depends on the inclusive nature of the processes used for designing, promoting, implementing and evaluating programmes and projects whose ecological aspects may affect public health.

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Governing Planetary Health and Global Health

Dr. Elizabeth Willetts*

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The public health sector faces increasing challenges from increasing environmental burden of disease and threats from transgressed planetary boundaries across nine planetary systems. Governance of planetary health and global health are interconnected, and these synergies will be increasingly important. What is the state of this governance and where are opportunities going forward at the global level? This brief presentation will provide an overview of considerations.

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Introducing Green Practice Japan

Dr. Takashi Sasaki*

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Green Practice Japan is the only organization in Japan that promotes climate change countermeasures proactively by healthcare professionals who consider health and medical care in light of climate change and other environmental issues. The group has about 60 members including doctors, pharmacists, nurses (public health nurses), medical students, and other professionals interested in healthcare. In addition to holding study sessions and disseminating information within and outside the group, we are enjoying activities to promote climate change countermeasures from the healthcare field. I would like to explain how Green Practice Japan was formed. I was browsing the website of Corona Disaster 2020 and came across the webpage of Greener Practice in the UK. We are reducing the number of patients by medical treatment, but medical treatment also emits 5% of greenhouse gases, and medical treatment also has a large negative impact on climate change. And by its medical practice, it is creating future patients. And the health bad effects of climate change will be stronger in the next generation. I was greatly shocked by this. I wanted to learn more about this, so I searched Japan, but there was no teaching in Japan. Therefore, I studied at the Centre for Sustainable Healthcare's online workshop Sustainable Primary Care in 2021. So, with support, I started my activities in Japan. First of all, I called out on the ML of the Japan Primary Care Association and recruited colleagues. I held workshops, recruited colleagues, and gradually increased the number of colleagues. Let me explain the activities of Midori no Doctors. We are engaged in educational activities for medical professionals, medical education activities, research activities, and social activities in our spare time, centered on the daily clinical work of each member. Let me explain our activities in detail: Study meetings for medical professionals centered on the JPCA. We have organized about seven such events in the past two years, mainly for the JPCA. We held a meeting to exchange opinions with the president and vice president of JPCA, and established the Planetary Health WG within the JPCA. We are also actively disseminating information there and contributing to academic journals and other publications. At the 2024 Annual Meeting, we will issue the first declaration of a climate emergency by the Japanese Society of Clinical Medicine, making clear our commitment to tackling climate change as an academic society. We will also focus on its implementation after the declaration is issued. This is about healthcare activities outside of JPCA. We have asked other academic societies to send out e-mails to give their support, but there were not many societies that gave us good responses. However, many of them joined Green Practice Japan because they found

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out about our activities by chance. Our members hold various study groups at their organizations. The webpage "Green Practice" provides, easy-to-understand information for medical professionals and for the general public. On Facebook, we provide information on climate change and medical care that is not available in Japanese in an easy-to-understand Japanese language. In addition, as a lobbying effort, we have created an online petition "Toward Climate Change-Resilient Medical Systems and Net Zero Medicine" and submitted it to the Ministry of Health, Labor and Welfare in order to have Japan join the WHO's ATACH, which has more than 80 member countries worldwide but Japan is not a member. Thanks to this effort, the Japanese government announced its accession to ATACH at the WHO General Assembly in May 2024. This section describes our activities with healthcare organizations.

- We participate in the Climate Change Advisory Board of the medical thinktunk, Health and Grobal Policy Institute and make policy recommendations together with many people in the academic field.

Japan Medical Association: We are meeting with the executive director in charge of the environment to provide information on climate change and healthcare and to discuss what we can do as a member of the medical community.

- We are having discussions with doctors from the Planetary Health Alliance Japan Hub to create actions that will lead to the next steps, such as how to measure greenhouse gas emissions of medical institutions and consolidate planetary health implementation cases.

- WONCA Planetary Health WG: We endorsed the "Statement Calling on World Governments to Fossil Fuel Free" at WONCA Sydney 2023.

- We were the only group of Japanese health care providers to sign a letter to the COP28 President from health care providers, led by Health Care Without Harm.

-In this year On HPH IC in hirosima, Green Practice Japan was involved in the organization of an eco-friendly conference, supporting no use of plastic cutlery, no beef, and the introduction of a vegan diet. We will also be presenting a session with Health Care without Harm.

- We are the first Japanese medical institution to join Global Green and Healthy Hospitals. We will measure greenhouse gas emissions in the future, and aim to spread the membership in Japan. I would like to talk about our medical education activities.

- In Japan, "Climate Change and Medicine" has been included in the core curriculum of medical schools from this year, starting in 2024. We have created a model class in collaboration with the Japan Society for Medical Education. We are teaching its contents at medical schools.

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- We also took turns reading the book Planetary Health with medical students. - We worked together on the issue of beef during the medical students' fieldwork. I have an friends in the wagyu cattle industry near my home, so I had the students visit the field and consider beef issues from a Planetary Health perspective. Research Activities.

- A study showing the greenhouse gas emission reductions and monetary changes from changing inhaler devices from MDI to DPI in Japan under various scenarios (2023)

- As a generalist consortium, we conducted a study group to discuss health issues due to climate change with environmental experts and published a book about it. (2022)

- We are presenting our research using the written feedback from the Green Doctors' workshop on climate change and health care that we conducted at JPCA (2024) This is about collaboration with social activities.

- Green Practice Japan is a member of "Watashi no mirai," a group aiming for 100% renewable energy, in which various environmental groups participate. Last year, we held a parade in Tokyo.

- We exchanged views with Mr. Hirata of Climate Integrate, who won the Goldman Environmental Prize, the Nobel Prize in the environmental field.

- I attended a meeting of the Japan Climate Leaders Partnership, which was created by large Japanese corporations dedicated to environmental issues to decarbonize Japan. There, I spoke with members of the bipartisan Carbon Neutral Diet members' coalition, calling for decarbonization of the medical community and ATACH membership.

- I worked with Climate Dialogue, a media campaign on climate change, and together we held a Lancet Countdown 2024 event titled "Climate Change is Child Security.

- We also did an insta-live with Friday For Future Tokyo and were invited by an environmental podcast provider to appear on their show. This is an activity we are currently focusing on.

- We will fulfill our mission after the declaration of climate emergency at the JPCA conference in June.

- We will make the HPH international conference a success as an international conference for the global environment.

- This is a boost after the accession to ATACH. We are finally off to a good start and will work with the think tank to support the creation of a policy.

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- In addition, we will conduct research in the field of medical education, collaborate with clinical societies other than JPCA, and deepen cooperation with healthcare-related organizations to promote climate change measures in Japan as a whole, which is lagging behind compared to the global level.

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Technology, Mental health and Planetary Health

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The interconnection of technology, mental health, and planetary health reveals a complex relationship where advancements in technology impact both mental well-being and the environment, influencing each other in significant ways. On the positive side, technology has enhanced access to mental health services through telemedicine and mental health apps, provided platforms for online support networks, and enabled mental health monitoring through wearable devices. However, the negative impacts are also evident, with heavy social media use being linked to increased anxiety, depression, and loneliness, while digital overload contributes to stress and burnout. Additionally, privacy concerns around data security in mental health applications present another challenge. In terms of planetary health, sustainable technologies and innovations in renewable energy, smart grids, and energyefficient devices are contributing to reduced carbon footprints and better resource management. Yet, environmental challenges like the rapid increase in e-waste, high energy consumption in data centers, and the depletion of rare minerals for tech manufacturing are pressing issues that need to be addressed. The interplay between mental health and planetary health highlights the importance of a holistic approach. Access to natural environments has been shown to positively affect mental health, while environmental degradation can lead to issues such as eco-anxiety. Technology can also foster a connection with nature through virtual experiences and apps promoting outdoor activities. Promoting sustainable living practices and community-driven environmental initiatives can enhance mental well-being. To address these interconnected challenges, it is crucial to advocate for policies that promote sustainable technology use, raise public awareness about the impacts of technology on mental and planetary health, and invest in research to develop innovative solutions. A collaborative effort among technologists, mental health professionals, and environmental scientists is essential to create a future where technological progress supports both mental and planetary health.

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Family Medicine, Telehealth and Preventive Child Care

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Family physicians play a crucial role in health promotion and preventive practices throughout childhood, a period critical for establishing the foundation of lifelong health. This period is critical for health achievements and missed opportunities, as they lay the foundation for lifelong health, making this period very important for family physicians [1,2]. Preventive measures in pediatrics include monitoring growth and development, conducting newborn screenings, ensuring immunizations are up to date, promoting healthy nutrition, and administering chemoprophylaxis when necessary[3].

In the field of health promotion and preventive health services, parents may not be as willing to engage in structured health care as they are in the case of illness. Parents may face challenges in engaging with structured preventive healthcare, including work commitments, children's school responsibilities, and the perception that preventive care can be deferred. These factors contribute to situational and temporal barriers to in-person pediatric care.[4]

Telehealth utilizes communication technologies to deliver remote healthcare, supported by advancements in communications, computer science, informatics, and medical Technologies. [5] The literature highlights the application of telehealth in preventive health services, including subspecialty consultations and improved neonatal and infectious disease care, particularly in low—and middle-income countries (LMICs).[6]

Despite the availability of advanced technologies such as video communication, telehealth remained generally underutilized until the onset of the COVID-19 pandemic. The pandemic has accelerated its global acceptance, but effective implementation requires not only advanced technologies but also governmental regulation and the involvement of local experts to ensure cultural and resource alignment.[6]

In the U.S., significant disparities in pediatric healthcare access persist due to economic, racial, and geographic factors. However, robust and comprehensive telehealth coverage has the potential to bridge these gaps, enhancing access and quality of pediatric care, particularly for under-resourced populations.[8]

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A systematic review analyzing 20 studies from 2006 to 2018 assesses school-based telehealth. The review encompasses children under 22 as well as parents, providers, and school personnel from urban and suburban areas. Evidence suggests that school telehealth can reduce emergency department visits and enhance health outcomes for children with chronic and acute illnesses.[7] Also, in another research, an analysis of advanced practice nurse-delivered telehealth interventions revealed a significant shift in healthcare utilization among children with medical complexity (CMC). The intervention led to a decrease in unplanned visits and an increase in planned visits, indicating enhanced care coordination through telehealth services.[9]

In conclusion, telehealth represents a significant advancement in delivering pediatric preventive services and addressing healthcare disparities. The ongoing development and integration of telehealth into standard pediatric care practices in primary care could further enhance accessibility and quality of care, particularly for underserved populations.

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FOOD SAFETY

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Nutrition is one of the most basic needs of human beings and also the one of main criteria for a healthy life. Healthy nutrition is the most basic requirements for a healthy life process. One of the most important principles of healthy nutrition is "food safety". And this “food safety” has to continue with its farm-to-table ideology. Food safety is maintained as intended from production to the consumer's table.
It is the definition that refers to the foodstuff that has taken all the precautions based on the prediction and removal of possible physical, chemical, microbiological, radiological, allergen and other damages in foods when prepared. It has to be suitable for consumption and has not lost its nutritional value. The basis of food safety is to have no hesitation that when food is produced in accordance with its intended use and consumed by people, it will not cause a health problem or harm people.

Food safety covers all stages from primary production to reaching the consumer.Primary production covers important issues such as agricultural production, harvest, care, irrigation, animal health, vaccination of animals, control and transportation of the feed they consume. It has also been reported by FAO (Food and Agriculture Association of the United Nations) that food safety has a critical role in ensuring that the food chain remains safe at every stage from agricultural production to consumption.

According to FAO, food safety means "the absence of hazards in food that may harm the health of consumers or their presence at an acceptable level.” In Turkiye, Food Safety and Quality published in the Official Gazette No. 27009 In the Regulation on Inspection and Control, food safety is defined as "The set of measures taken to eliminate physical, chemical, biological and all kinds of harm that may occur in food" and by TGDF (Turkish Food and Beverage Industry Associations) food safety is defined as "Healthy and perfect food" is expressed as "complying with the necessary rules and taking precautions during the production, processing, preservation and distribution of foods in order to ensure food production."

Among the harmful microorganisms, some species can cause foodborne diseases. Disease-causing microorganisms are called pathogens, and when foods and drinks containing these pathogens are consumed, the pathogens themselves or the toxins they produce can cause diseases.

Foodborne diseases have negative consequences on human health in both developed and developing countries.

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These diseases pose serious dangers, especially to children, the elderly and pregnant women. The dangers posed by such diseases endanger people's health and cause them to lose their lives.

According to the data of the World Health Organization (WHO), highest risk of foodborne diseases pathogens are bacteria and viruses.

The most suitable foods for these pathogens to increase their numbers are cooked meat, chicken, fish, eggs, milk and dairy products (especially unpasteurized ones), seafood and other ready-to-eat foods and beverages.

In addition, food that has come into contact with contaminated water, water contaminated with human feces, and unhygienic work by people preparing food can also cause various diseases.

In WHO's declaration dated June 6, 2019, it was published as follows: "Every year, approximately 1 in 10 people in the world (an estimated 600 million people) become ill, and 420 thousand people die as a result of consuming bacteria, viruses, parasites or chemicals."

In the same declaration, it is reported that foodborne diseases cause serious labor and financial losses and that these 420 thousand deaths are completely preventable. According to data from the American Center for Disease Prevention and Control (CDC), approximately 48 million people get sick every year. 128 thousand people are admitted to hospital and 3 thousand people die from foodborne diseases.

According to CDC data, the most common foodborne pathogens are listed as Norovirus (5,461,731), Salmonella (1,027,561), Clostridium perfringens (965,958), Campylobacter spp. (845,024), Staphlococcus aureus (241,148).

According to the same data, the most common pathogens according to the estimated number of deaths were reported as Salmonella (378), Toxoplasma gondii (327), Listeria monocytogenes (255), Norovirus (149), Campylobacter spp (76).
The most common pathogens that caused the recall of products determined to be unsafe by the FDA were reported as Listeria monocytogenes and E.coli in 2020.

According to the statement of EFSA (European Food Safety Authority), one of every three foodborne epidemics seen in the European Union in 2018 was caused by Salmonella.

In terms of food safety, the most important thing that consumers should pay particular attention to is washing their hands with soap under running water for at least 20 seconds.

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In order to prevent foodborne diseases, foods should not remain in the temperature range of 5-63℃, where bacteria grow most rapidly. For this, food preparation, cooking, service and storage processes must be carried out quickly.

When purchasing packaged food, care should be taken to ensure that the packaging is not damaged or torn. Eggs with broken, cracked or dirty shells should not be purchased. Pasteurized and long-lasting milk should be preferred instead of plain milk of unknown origin. Cheese made from raw milk and unripened should not be purchased. The nutritional values of frozen foods are very close to fresh foods. They must be kept at least -18 °C from production to consumption. Cereals, legumes, sugar, etc. dry foods should be stored in a dark, dry and cool environment. Liquid oils should be stored in dry, cool and dark environments, should not be kept in tins, and should be stored in dark glass bottles. Solid oils should be stored in the refrigerator. To avoid cross-contamination between foods, knives, chopping boards, and serving utensils used for different foods should be changed or washed every time to prevent the transfer of microorganisms from one food or surface to another.

A thermometer should be used to measure the internal temperature of cooked food in restaurants. All poultry and seafood at least 74 °C. Dishes containing minced meat must be cooked to an internal temperature of at least 68 degrees and other meats must be cooked to an internal temperature of at least 63 °C.

Hazard Analysis and Critical Control Points (HACCP) applications have been used since the 1990s and the ISO 22000 program has been used since the 2000s to prevent and reduce food-related diseases in institutions where mass feeding is provided. However, as physical hazards, glass, metal pieces, bones, fishbones, seeds, wood chips or plastic pieces depending on the raw material of the product used, dust, insects, flies, hair, feathers and bristles are common sources of contamination. As for chemical hazards, pesticides, herbicides, heavy metals, aflatoxins, mycotoxins, antibiotics, pest control chemicals, cleaning chemicals, machine oil, food additives, migration and heavy metals are sources of contamination. Allergen substances, which have a very important place especially in childhood, currently have a very important place in food safety. Especially in Turkey and Europe, the incidence of gluten-containing grains, crustaceans, eggs, fish, peanuts, soybeans, milk and dairy products, nuts, celery, mustard, sesame, sulfur dioxide and sulfites, broad beans and molluscs in childhood are increased allergens. Pollen, propolis, royal jelly, mango, latex (natural rubber), tomato, peach and chicken meat can be given as examples of other products that are not on the common allergen list but may pose an allergen risk. Food safety hazards can occur at any stage of the food chain. Therefore, it is important to carry out effective control throughout the food chain. In addition food safety is a phenomenon achieved with the contribution of all units in the food chain.

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Breaking Down Barriers: Bangladeshi and Pakistani Physician's Perspectives on Addressing Climate Change with Patients "

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Background: The study explores the awareness, challenges, and actions of physicians in Pakistan and Bangladesh regarding the impact of climate change on human health. Highlighting the increasing relevance of climate change as a critical health issue globally, the research aims to understand the preparedness and perspectives of healthcare practitioners in these South Asian countries.

Methods: Utilizing a mixed-method approach, we conducted a descriptive online pilot cross-sectional survey using google forms and an explanatory qualitative study among physicians from Bangladesh and Pakistan. Online survey, focused on demographics, beliefs, and perceived barriers of physicians. The explanatory qualitative study followed quantitative study and comprised interviews with physicians, exploring their understanding of climate change's health implications and recommendations for mitigating climate-related health issues. Quantitative analysis was conducted by SPSS version 14 and Thematic analysis was done to extract key insights.

Results: Sixty physicians from Bangladesh and sixty-five from Pakistan participated in the online survey. The participants for qualitative study included eight from Pakistan and six Physicians from Bangladesh. Findings revealed a mixed awareness among physicians regarding climate change's health impacts. While a significant number demonstrated a detailed understanding, a minority perceived climate change as routine weather alteration. Physicians highlighted challenges in educating patients, citing constraints like limited time, inadequate knowledge, and patient disinterest. However, they acknowledged the importance of incorporating climate change discussions in healthcare settings and suggested strategies like patient education on hygiene and promoting healthy habits.

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Conclusion: Physicians from Pakistan and Bangladesh exhibited varied levels of awareness regarding climate change's health effects. Despite recognizing the significance, they faced obstacles in effectively communicating these concerns to patients. The study emphasizes the urgency of targeted educational initiatives and policy actions to empower healthcare professionals in addressing climate change's health implications. It underscores the pivotal role of physicians in advocating for climate-resilient communities and stresses the need for increased resources and support from healthcare organizations and policymakers to enable effective engagement in mitigating climate change's impact on public health.

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Case Presentation: Smoking and Impotence

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72-year-old male patient presenting to the smoking cessation clinic. He quit smoking three weeks ago with the initiation of nicotine gum at the smoking cessation clinic. However, he presented with complaints of developing impotence over the past week.

The patient has no history of diabetes or hypertension. However, he is under follow-up due to a colon cancer diagnosis made one year ago and is not receiving any treatment for it.

The patient denies using any additional medications. He was referred to urology but did not return. Nicotine, an addictive substance found in tobacco products, acts on the central nervous system. Long-term use of nicotine, particularly through smoking, can increase the risk of erectile dysfunction (impotence).

The effect of nicotine on erectile dysfunction can be explained by several mechanisms;

Effects on Vascular Health: Nicotine can cause narrowing of blood vessels (vasoconstriction), reducing blood flow to the penis. This makes achieving and maintaining an erection difficult. Smokers are at increased risk of atherosclerosis (hardening of the arteries), further restricting blood flow and leading to erectile dysfunction.

Effects on the Nervous System: Nicotine has stimulating effects on the central nervous system. Over time, this can impair nerve function and negatively affect the neural control of erection.

Hormonal Effects: Nicotine use can lead to a decrease in testosterone levels. Testosterone is necessary for healthy sexual function, and a decrease in its levels can contribute to erectile dysfunction.

Nicotine gum is used as nicotine replacement therapy (NRT) for individuals who want to quit smoking. It provides controlled amounts of nicotine over a specific period, reducing the desire to smoke and alleviating withdrawal symptoms. However, considering that nicotine gum also contains nicotine, long-term use may potentially have negative effects on vascular health and sexual function. Nevertheless, due to providing lower nicotine doses compared to smoking and having less severe side effects, nicotine gum is considered less risky than smoking.

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Case Report: Exposure to Third-hand Smoke in a Two-Month-Old Infant and Parental Smoking Behavior Modification

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Introduction: Thirdhand Smoke (THS) refers to residual nicotine and other chemicals that remain on surfaces and in dust after tobacco has been smoked. Each year, approximately 22% of infants and children are exposed to THS in their homes. However, in many clinical situations, there isn't always the opportunity for an in-depth smoking cessation interview. This is where Very Brief Advice (VBA) on smoking becomes valuable. VBA is an evidence-based intervention designed to increase quit attempts among patients who smoke.

This case report highlights the exposure to THS in a two-month-old infant during a routine pediatric check-up and the subsequent behavioral changes in the infant's father, who is a long-term smoker.

Case Presentation: A two-month-old infant was brought to the clinic for a routine well-baby check-up. The infant's father, in his 40s with a 20-year history of smoking, was present during the examination. During the visit, the physician detected the smell of tobacco smoke emanating from the father. Sensing the physician's awareness, the father confessed, "I have been trying to quit smoking since our baby was born, but it is not easy." Acknowledging the father's effort to quit smoking, the physician using VBA inquired about the steps he was taking to reduce his infant's exposure to smoke. The father responded that he smoked on the balcony with the windows open to ventilate the area, washed his mouth after smoking, and refrained from smoking inside the car when the baby was present. The physician then informed the father about THS and its potential risks, to which the father admitted that he was hearing about THS for the first time. During next visit, the father proactively addressed the topic, stating that after learning about THS, he conducted further research and decided to stop smoking inside the home and the car entirely. Furthermore, he expressed his intention to seek assistance from a smoking cessation clinic.

Discussion: The father in this case was unaware of the concept and risks of THS. The physician's brief intervention during the routine pediatric check-up served as a pivotal moment, leading to significant behavioral changes in the father.

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Conclusion: The intervention led to a notable change in the smoking behavior of the infant's father, highlighting the impact of awareness and education on reducing THS exposure. Continued efforts to inform parents about the dangers of THS and support for smoking cessation are essential in safeguarding the health of infants and young children.

Keywords: Third-hand smoke, Infant health, Parental smoking, Behavioral change, Smoking cessation.

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Building a Green General Practice

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Healthcare accounts for about 5% of annual carbon dioxide emissions of the world. One fifth of the health care carbon footprint is from primary care. Around a half of the Primary care carbon footprint is due to pharmaceuticals and chemicals and more than 10% is due to metered dose inhalers (MDI). The remaining 40%, the non-drug carbon footprint is related to practices: patient and staff commuting, medical and non-medical equipment, building energy, water, waste and other procurement contribute significantly. This provides a well-established rationale for family doctors to make their clinics green.

Two key aspects are important in greening our family practices: the actions that could be taken in patient care and actions that could be taken at your clinic.

What could be done as a family doctor in patient care? Rational prescribing of medicines is very important. Avoiding inappropriate polypharmacy, rational use of antibiotics and careful use of MDIs are imperative. Irrational investigations and unnecessary referrals to specialties including radiology and pathology have a considerable contribution to carbon footprint, thus prudent investigations and referrals are always encouraged. Lifestyle interventions are effective in primary and secondary prevention of all diseases, so definitely reduces healthcare visits. Always promote a lifestyle with a plant-based healthy diet with reduced animal sources, physical activities, social connectedness, blending with nature, activities for relaxation and adequate sleep. Staff and patient travels contribute a lot to the carbon footprint in a clinic. As community based primary care providers, we can encourage patients and staff to walk or cycle to the practice or at least to use public transport whenever practical. Not only just health advice but educating our patients on planetary health and climate change is also important. We should try to communicate simple relevant messages by using consultations as an opportunity.

What could be done in our practices? We can take steps to save energy; this could be ranging from a simple step such as switching off unnecessary bulbs or adjusting the thermostat of the air-conditioner to switching to renewable energy or implementing architectural designs to increase natural lighting and ventilation. We need to have a proper waste management

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protocol. Waste should be segregated, and possible waste should be sent for recycling. It is important to switch to eco-friendly communication methods. We can reduce paper use as much as possible by changing to electronic medical records and using electronic methods like text messages and emails in reminders and receipts. Family doctors are always trusted and can be good role models to the patients and staff. Maintaining a healthy body contour, healthy diet and a visible active lifestyle inspire our patients to trust us on what we preach. We can further take leadership and advocate for green initiatives and send a strong message to different stakeholders in the community we are based in.

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Stroke treatment with Evs - innovation and eco-impacts

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Stroke, a leading cause of death and disability, necessitates innovative treatment approaches. Extracellular Vesicles (EVs), nanosized lipid bilayer vesicles, have emerged as promising tools in stroke prediction and intervention. EVs can carry miRNAs, proteins, and lipids from their parent cells, serving as biomarkers for stroke risk assessment. Therapeutically, EVs derived from stem cells exhibit neuroprotective and regenerative properties, reducing motor-coordination deficits and promoting brain tissue remodeling in both young and aged rats post-stroke.

In a comparative study, young (4-5 months) and aged (19-20 months) male Sprague-Dawley rats exposed to permanent distal MCAO received MSC-derived EVs, demonstrating reduced motor-coordination deficits and enhanced brain tissue remodeling.

Additionally, EVs present significant eco-benefits. Their biocompatibility and potential for reducing the need for extensive synthetic drug production minimize environmental pollution. EVs can be sourced sustainably, promoting a shift towards greener medical practices. Further clinical research into EVs could transform stroke management and mitigate healthcare-related ecological impacts.

Keywords: EVs, MCAO, Neuroprotection, Regenerative Medicine, Eco-impacts

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Views of South Asian Physicians on climate related health effects: A multinational cross-sectional pilot study

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Background: South Asian populations are vulnerable to poor health outcomes associated with climate due to the region's complex topography, poverty, lack of education, and population density. Physicians, being highly trusted members of society, can help mitigate climate change effects in their countries.

Objectives: The present study assessed views of physicians from four South Asian countries (Bangladesh, Bhutan, India, and Pakistan). We hypothesized that physicians from these countries will be aware and knowledgeable about health effects of climate change. Methods: We conducted a cross-sectional online survey of physicians between March and July 2022. Data of 201 physicians was analyzed using the Kruskal-Wallis test and Dunn's post hoc method.

Results: The majority (86.6%) of physicians from all four countries were sure that climate change was happening, with the highest percentage (91.7%) from Bangladesh. Most physicians (86.6%) believed that climate change would make health conditions in their countries more severe or frequent (Bangladesh 83.3%; Bhutan 70%; India 91% and Pakistan 90.8%). Physicians from all countries believed that health conditions greatly affected by climate change include those related to reduced outdoor air quality (54.3%), water and foodborne diseases (49.8%), vector-borne diseases (46.7%), heat-related conditions, such as stroke, cardiorespiratory illnesses (46%), drought-related physical or mental harm (43.7%), increased poverty due to economic hardships (43%), hunger and malnutrition due to rising food prices (42.5%), anxiety,

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depression and mental health conditions (40.1%), and loss of housing and displacement due to extreme weather (37.3%). Common barriers to discuss climate change with patients from all four countries were physicians' lack of knowledge (strongly agree, 13.8%; agree 47.7%) in how to approach the issue with patients, lack of time (strongly agree, 12%; agree, 48%) and physician's belief that patients had no interest in discussion on climate change (strongly agree, 8.6%; agree, 42.6%). More than half (56.2%) of the physicians reported no training (Bangladesh, 51.7%; Bhutan, 80%; India, 44.6%; Pakistan, 63.1%) in climate-change-related health effects.

Conclusion: While additional large-scale mixed-method research is needed to unpack the trends observed in our pilot study, we recommend introducing interventions such as the specialty of family medicine to support physicians' knowledge and training in primary care health services about climate-related health impacts.

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İZMİR EKONOMİ ÜNİVERSİTESİ
"bilimle anla bilgiyle yönet"

İZMİR EKONOMİ ÜNİVERSİTESİ YAYINLARI

An Example of Social Prescribing in Adolescents: Kickboxing Prescription for Smoking Cessation

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Introduction

A good medical interview with adolescents is important, as it allows the practitioner not only to collect information but to set the tone for future interactions.

This case report examines how kickboxing was effective in the smoking cessation process of a 14-year-old girl through social prescription. The patient has been monitored since the initial consultation and various interventions were applied without the need for medication.

Case:

Initial Presentation: The mother sought help due to her daughter's desire to stay out late, go to bars, lack of anger control, and anxiety.

Family Situation: The mother is not working, and the father is a water purification technician with his own business. The family has a 12-year-old son. They have pets, including a bird and a cat.

Medical History: No health issues at birth or during childhood. No consanguineous marriage. Currently, there are no active health complaints. Physical growth and development are height at the 15'th percentile and weight at the 55'th percentile. Menarche occurred at age 11, with regular cycles lasting 5 days.

Social Situation: Good relationship with the mother, but bad relationship with the father. She has friends at school and in the neighborhood. She performs well academically and has aspirations to attend university. She has a boyfriend.

Hobbies: She swims and is a licensed taekwondo athlete. She used to do kickboxing but had to stop due to her family's disapproval.

First Appointment: An HEEADS-SS assessment was conducted, evaluating the patient's health, education, eating habits, activities, drug/alcohol use, sexuality, suicide/depression, and history of sexual/physical abuse. A discussion with the mother led to a recommendation for the patient to return to kickboxing. A follow-up appointment was scheduled for one month later.

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Second Appointment (1 month later): The patient resumed kickboxing, received nutrition counseling, and it was discovered that she occasionally smoked in social settings. Motivational interviewing for smoking cessation was conducted, and an increase in kickboxing training to three times per week was recommended.

Third Appointment (1 month later): The patient continued kickboxing three times a week and had successfully quit smoking. Due to the mother's anxiety about her daughter's exams, a joint mother-daughter session was planned.

Conclusion

This case demonstrates the effectiveness of social prescription methods in the smoking cessation process for adolescents. Directing the patient towards physical activities like kickboxing can play a significant role in eliminating harmful habits such as smoking.

Furthermore, strengthening family communication and support mechanisms is crucial for the success of this process. This case report highlights the positive impact of social prescription practices on adolescent health.

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