General Internal Medicine

Editor
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ISBN
978-625-7707-62-6

Book Title
General Internal Medicine

Editor
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ORCID iD: 0000-0002-7768-2455

Publishing Coordinator
Yasin Dilmen

Page and Cover Design
Typesetting and Cover Design by Akademisyen

Publisher Certificate Number
47518

Printing and Binding
Printing press Vadi

Bisac Code
MED045000

DOI
10.37609/akya.1206

GENERAL DISTRIBUTION
Akademisyen Kitabevi A.Ş.

Halk Sokak 5 / A
Yenişehir / Ankara
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siparis@akademisyen.com

www.akademisyen.com

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Chapter 1

CHILDREN WITH HEARING LOSS DURING THE COVID−19 PANDEMIC PROCESS

Ayşe Sanem ŞAHLI[1]

INTRODUCTION

The COVID–19 pandemic process has led to significant changes in the daily routines of children with hearing loss and their families, as in all segments of society. While these changes were more pronounced on issues such as the prohibition of leaving homes/going out of the house that started with the stay home call, social isolation, obeying hygiene rules and wearing a mask, with parents taking a break from their work life for a while and spending more time at home, academic, physical and social problems that children experienced due to interruptions that children experienced in their academic and other educational lives, and COVID–19 induced anxiety, panic, and concerns that family members experience in relation to each other have increased. In interviews conducted with family members via phone, e-mail and online on the topic, it was observed that family members were under intense stress, fear and anxiety. When the reasons for this were examined, it was determined that the biggest stress factors were the risk of catching the disease, uncertainties related to when this period would end, physical, social and economic difficulties experienced in the home environment, and disruptions in the treatment and education processes of their children. Similarly, in related scientific studies conducted in the pandemic process, it is emphasized that the biggest problems experienced by the child and the family are emotions such as fear, anxiety, worry and social problems (1-3).

COVID−19 IN THE WORLD

WHO (World Health Organization), described the outbreak of COVID – 19 as a public health emergency at an international level on January 30, and defined it as a global pandemic on March 11 due to the occurrence, spread

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shaped in accordance with the course of the COVID–19 pandemic process in the coming period, considering the possibility of the pandemic continuing, shaping of private educational services systematically by taking the opinions and recommendations of relevant institutions, organizations, associations, health/education professionals and families into consideration and establishing a tele-rehabilitation infrastructure suitable for current technological and societal conditions will be critically important (16).

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Chapter 2

OCCUPATIONAL COVID-19 FROM A GENERAL PERSPECTIVE

Nejdiye MAZICAN[1]

On December 31, 2019, the World Health Organization (WHO) China Country Office informed of cases of pneumonia of unknown etiology in the city of Wuhan, China (1). On January 7, 2020, the cause was identified as a new coronavirus (2019-nCoV) that had never been previously detected in humans (2), with the disease later named to COVID-19, and the virus named as SARS-CoV-2 due to its close resemblance to SARS CoV. The general incubation period of the virus is between 2 and 14 days; replication rate in the host, disease attack rate, and hospitalization rates are reported as much higher compared to the influenza virus. Although the main mode of transmission is through droplets, the disease can also be transmitted by touching the mouth, nose, or eye mucosa with contaminated hands, after being in direct contact with droplets which have spread from the coughing or sneezing of sick individuals (3). Due to the worldwide spread of COVID-19, it was declared a global pandemic by the WHO on March 11, 2020. Although it is possible for all individuals to encounter the SARS-CoV-2 virus in every environment due to the nature of the pandemic, workplaces are among the environments with the highest rates of transmission, therefore certain employees and groups are known to be at higher risk of being infected. Risk is much higher among employees working close together or in occupations requiring close contact, especially in closed and crowded spaces, compared to the general public (4).

In Turkey, occupational disease is defined as "disease caused by exposure to occupational risks" according to Act No. 6331 on Occupational Health and Safety (5), whereas it is defined as "conditions of temporary or permanent illness, or physical and mental disability, which the insured suffers due to a recurring reason or job conditions" according to the Social Security and General Health Insurance Law (6). As can be understood from the definitions, occupational diseases are diseases that have a particular cause, with

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D" in the appendix of the Determination of the Loss of Working Power and Earning Power regulation (13). Diseases in this group are considered occupational diseases that occur as a result of the work performed or under the effect of the special conditions of the workplace and the infection must be proven by laboratory findings. COVID-19 is not yet listed in this group. However, in accordance with Law No. 5510, any disease which is not included in the list may be considered an occupational disease by decision of the High Council of Health (14).

In conclusion, during the course of the pandemic, occupational transmission of disease due to SARS-CoV-2 because of the nature of the work or profession depends on the individual circumstances and conditions in which the infection occurred. Therefore, like the diagnostic processes of all other occupational diseases, each case should be evaluated separately, and by taking into account special circumstances, to decide whether or not the case is an occupational disease. In this regard, it is very important, in terms of employee rights, to recognize the rights of first responders and healthcare workers, especially those who carry out very risky tasks for the benefit of society. Furthermore, since diagnosis and notification systems of occupational diseases are of critical importance, they should be established by observing the priority of prevention and protection.

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Chapter 3

OVERVIEW OF POSSIBLE PREDICTORS OF MORTALITY IN COVID-19 PATIENTS

Hazal Cansu ACAR[1]

INTRODUCTION

In late December 2019, serious cases of pneumonia of unknown cause began to appear in Wuhan, China. On 7 January 2020, virus was identified as coronavirus and on January 12 named as 2019 novel coronavirus (2019-nCoV) (1). Later on pairwise protein sequence analysis showed that the virus belongs to the species of severe acute respiratory syndrome related coronaviruses. The virus was renamed as the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and the disease caused by this virus was called coronavirus disease 2019 (COVID-19) (2). On March 11, World Health Organization declared that COVID-19 is a pandemic. Till 29 September 2020 around 33.7 million cases and more than one million deaths were reported in 213 countries and territories (3).

Observed case-fatality ratio (the number of deaths divided by the number of confirmed cases, CFR) of COVID-19 differs from country to country and varies usually between 0.5% and 10%. However, there are some exceptions such as Yemen with CFR of 28.9% and Singapore with CFR of 0%. Differences in CFR can be caused by the number of people tested, demographics of population, characteristic and burden of the healthcare system, and other unknown factors (4).

The most common symptoms in COVID-19 patients are fever, dry cough and tiredness while the most serious symptoms are shortness of breath, chest pain and loss of speech or movement (5). A great majority of COVID-19 patients have mild to moderate respiratory disease and can manage their symptoms without treatment. However, one-fifth of the patients are severe or critical cases and need medical attention. These patients are at risk of progressing from acute respiratory distress syndrome to multiple organ dysfunction or

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>389 U/L increased the risk of ICU admission by 3.3 fold while LDH >460 U/L increased the risk of death by 5.8 fold (10). Besides these urea was also found to be a risk factor for mortality. In a study it was showed that patients with urea level > 7 have increased risk of death (16).

Current studies report that approximately one-fifth of COVID-19 patients have abnormality of the coagulation function and increased risk of thrombosis, thus, may cause to the progression of the disease to critical stage or death (17). A study assessing association between coagulation parameters and prognosis found patients with fatal outcome had higher levels of D-dimer. In the same study, it is stated that D-dimer was prominently elevated in the non-survivors' last stages (22).

CONCLUSION

Although current studies show some similarities, there is a wide range of risk factors for mortality and also the prediction model in every study is different from the others. Information obtained from the literature so far shows that demographic, clinical and laboratory parameters can be used to predict the risk of disease progression such as ICU admission and mortality in COVID-19 patients. Development of easy-to-use and accurate models for the risk estimation and the use of this predictive models by clinicians can help early identification of patients with poor prognosis. Thus, mortality can be reduced in COVID-19 patients with timely and appropriate intervention.

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Chapter 4

PHARMACOLOGICAL PROPERTIES OF HYDROXYCHLOROQUINE, AZITHROMYCIN, FAVIPIRAVIR AND LOPINAVIR/RITONAVIR USED IN THE COVID-19 TREATMENT

Mahluga JAFAROVA DEMIRKAPU[1]

INTRODUCTION

COVID-19, due to SARS-CoV-2, which was first reported from Wuhan, Hubei province of the Republic of China, and spreads all over the world, causing pandemics, has no effective treatment yet. Therefore, the use of certain drugs, such as hydroxychloroquine (HCQ), azithromycin, favipiravir and lopinavir/ritonavir, has been granted an emergency use authorization (EUA) by authorities[1,2]. The EUA of HCQ in COVID-19 treatment was issued by the FDA in April 2020, but revoked in June 2020[3]. However, its effectiveness in COVID-19 continues to be investigated by clinical studies[4]. HCQ administration in COVID-19 prophylaxis and/or treatment is still recommended in Turkey[2].

Pharmacokinetics and pharmacodynamics of HCQ, azithromycin, favipiravir and lopinavir/ritonavir, effects on reproduction, pregnancy and breastfeeding, drug-drug interactions are detailed in subtitles.

HYDROXYCHLOROQUINE

HCQ is an antimalarial drug of the aminoquinoline group, that has been used since 1955[5]. Besides malaria treatment, it is used in diseases such as rheumatoid arthritis (RA), systemic lupus erythematosus (SLE), chronic discoid lupus erythematosus, dermatomyositis (cutaneous disease), porphyria cutanea tarda, primary Sjögren syndrome (extraglandular involvements), Q fever (*Coxiella burnetii*), Sarcoidosis (arthropathy and cutaneous disease) etc[5,6]. Pharmacokinetics and pharmacodynamics of HCQ are presented in Table 1.

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Chapter 5

AN OVERVIEW OF CANCER EPIDEMIOLOGY

Uğurcan SAYILI[1]

INTRODUCTION

Cancer is an important public health problem and one of the most cause of death worldwide. The burden of cancer is rapidly increasing worldwide due to the aging of the population and the adoption of lifestyle behaviors known to increase cancer risk, such as smoking, malnutrition, physical inactivity and changes in reproductive behavior (lower parity and late first birth). (1, 2) It is estimated that 9.6 million people died in 2017 caused of different types of cancer. 16.3% of deaths in the world are caused by cancer, making it the second leading cause of death after cardiovascular disease. (3)

RISK FACTORS

A very small proportion (5-6%) of cancers are genetic; whereas 80% of cancers are caused by environmental factors or lifestyle behavior that's why cancer is a preventable disease. Cancers can be caused by inherited conditions, endogenous factors or exogenous carcinogens and the risk factors. (4)

There are certain known cancer risk factors: Aging, family history, smoking, alcohol, radiation, chemicals, nutrition factors, exposure of sunlight, hormones, some viruses and bacteria. (5) Aging and family history are associated with many cancers but are unchangeable risk factors. Cancers develop related to multifactorial cause, not only for one cause. The most causes of cancer are:

Tobacco

Tobacco smoking is by far the most important risk factor for cancer and the main known cause of human cancer-related death worldwide. Tobacco consumption which causes mainly lung cancer, causes tumors of the larynx, pancreas, kidney, bladder, oral cavity, esophagus carcinoma. In the developed countries, tobacco accounts for 30% of all malignant tumors.(4)

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Chapter 6

AN OVERVIEW OF NONCOMMUNICABLE DİSEASES

Fatma AĞ[1]

INTRODUCTION

The developments also experienced in the field of health (in diagnosis and treatment) thanks to the scientific and technological developments in the last century prolonged expected duration of life at birth (Figure 1). But increasing elder population, quick-unplanned urbanization, unhealthy life style and health inequities increased the prevalence of noncommunicable diseases. (1)

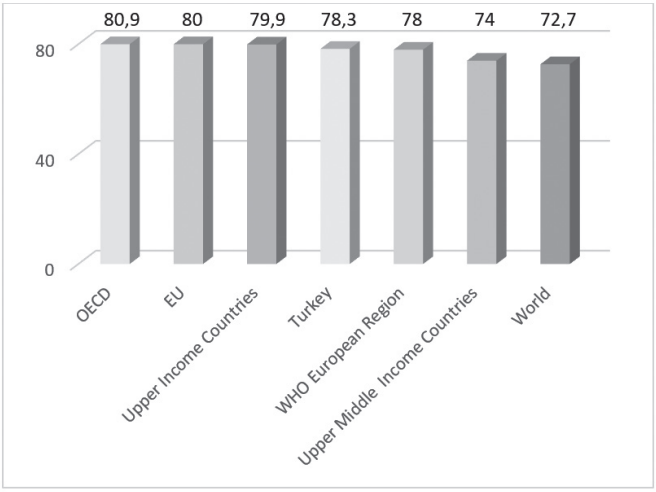

Figure 1- International comparison of life expectancy at birth, 2018 (2)

Noncommunicable diseases (NCDs) constitute the prevailing global death cause and are among the greatest health problems of the 21st century. (3) Cardiovascular diseases, cancers, chronic respiratory diseases and diabetes mellitus are noncommunicable diseases (NCDs).

NCD-related deaths generally take place in latter periods of countries with

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tutes a significant risk factor for other death causes and has an attributable disability load. Diabetes is also a significant risk factor for cardiovascular disease, kidney disease and blindness. [8]

Prevention and Control of NCDs

WHO presents a comprehensive action plan on noncommunicable diseases and applicable political options to all member countries through 'Global action plan for the prevention and control of NCDs 2013-2020'. The program targets a relative decrease of 25% in 4 major NCD-related premature deaths until 2030. [9]

Turkish Republic Ministry of Health has control programs such as Smoke-Free Air Zone, Healthy Nutrition and Dynamic Life Program, Lowering Extreme Salt Consumption Program, Turkish Cardiovascular Diseases Prevention and Control Program, Chronic Airway Diseases Prevention and Control Program and Turkish Diabetes Program. [10]

CONCLUSION

Noncommunicable diseases not occurring due to a single factor like communicable diseases, the causes of the diseases, highly- complexibility of their formation phases require different disciplines to take joint action in the struggle against these diseases . [1] Studies should be made to remove four major risk factors including tobacco use, bad nutrition, harmful alcohol use and inadequate physical activity through policies aiming individuals and social behavioral change. Most NCDs and complications can be prevented both through struggling against risk factors and through early diagnosis and follow-up. [3]

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Chapter 7

CARDIAC TROPONINS IN THE DIAGNOSIS OF ACUTE CORONARY SYNDROME

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Acute coronary syndrome (ACS), clinical spectrum, includes patients with unstable angina (UA), non-ST-elevation myocardial infarction (NSTEMI), or ST-elevation myocardial infarction (STEMI). The clinical spectrum of ACS is wide. In spite of the fact that, in the last four decades a reduction in death due to coronary heart disease (CHD), ACS remains the leading cause of death in people over the age of 35.[1, 2]

In the pathophysiology of ACS, the basic component is decreased bloodstream to a zone of the cardiac muscle, more often than not auxiliary to plaque rupture and thrombus arrangement.[2] Although atherothrombotic vascular disease is the main cause in the majority of patients with ACS, some of the patients may develop ACS without obstructive coronary disease.[2,3] The causes of the non-obstructive acute coronary syndrome include spontaneous coronary dissection, coronary embolism, prolonged severe vasospasm, and stress-induced cardiomyopathy.[3]

The pharmacologic treatment of ACS can be broken down into several groups of medications that improve survival, decrease recurrent ischemic events, and provide symptomatic relief. Choosing an adequate treatment modality in ACS involves several critical decisions. It is essential to distinguish STEMI patients from those who are experiencing NSTEMI or UA. This distinction further impacts the priorities, timing, and selection of pharmacotherapy used in different patients with ACS.[4]

The first stage of evaluation in the patient is an electrocardiogram (ECG) to distinguish STEMI and non-STEMI, unstable angina. In the case of STEMI, the patient should have an emergency angiography for primary percutan coronary intervention.[2] The basis for UA and NSTEMI differentiation is the presence of biomarkers of myocardial damage (cardiac-specific troponins) in the blood sample of patients. STEMI refers to acute coronary syndrome accompa-

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Chapter 8

COMMUNITY PHARMACIST'S KNOWLEDGE AND ATTITUDE ABOUT FIP CODE OF ETHICS

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INTRODUCTION

The area where the pharmacist is responsible for dispensing and compounding drugs or preparing suitable dosage forms for administration of drugs are clinical settings, manufacturing, community pharmacy, and research. Pharmacy practice require a set of ethics because while providing daily patient's pharmaceutical care and/or interacting with other medical professionals, ethical issues could arise in the clinical setup in hospitals [1]. Pharmacists are becoming the primary source of medication information in many countries [2], especially in the community setting where pharmacists closely and directly interact with and impact on the final consumer of medicines [3].

Ethical concerns in health care have grown mainly because of the increasing cost concerns and technological developments. Especially the consumerist nature of community pharmacy and the co-modification of medicines have led to experiencing a number of conflicts [4].

All over the world, pharmacists have been facing some ethical dilemmas. According to the study of Bahnassi in Saudi Arabia "Community pharmacists felt comfortable to provide medicines legally labelled as 'prescription only' without a prescription on a wide scale" [5].

Ethics (also moral philosophy) is the branch of philosophy that involves systematizing, defending, and recommending concepts of right and wrong conduct [6]. The International Pharmaceutical Federation (FIP) recommends

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is a significant relationship between community pharmacists' attitude to Principle 10; "The pharmacist behaves fairly in the distribution of health-related resources." in terms of gender and years of service (table 6).

The interesting result of Cooper's thesis study is that independent pharmacists did not find the codes of ethics so useful and that community pharmacists working in the pharmacy alone is the main problem. This has isolated pharmacists from the environments and relationships that will conduct ethical discussions [27]. On the other hand, nearly half of pharmacists participating in presenting research use the internet as an ethical information source, which will allow remote online editing of in-service trainings.

Pharmacists should be encouraged to provide quality services in today's difficult market conditions by being ethics, solving ethical dilemmas, using effective time and problem solving techniques, applying latest regulations.

CONCLUSIONS

The results of the study pointed out that the community pharmacists strongly agree to the FIP code of ethics. Attitude of pharmacists towards some principles of FIP Code of Ethics are in correlation with their age and experienced years in profession. The quality of the education has been affecting ethical debate, irregularities among the factors that influence and determine ethical principles, with the most common difficulties experienced about ethics in pharmacy services is unfair competition and drug-health policies.

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Chapter 9

EXERCISE IN THE MANAGEMENT OF DIABETIC-RELATED NEUROPATHY

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INTRODUCTION

Peripheral neuropathy is the latest microvascular complication of diabetes. Early identification, treatment and preventive interventions of risky feet can prevent negative consequences. It often develops in the feet. It affects the quality of life of the diabetic negatively. It is one of the indicators that diabetes is poorly managed. The long duration of diagnosis and the degree of hyperglycemia is a risk factor for the development of diabetic peripheral neuropathy. In peripheral neuropathy, it causes loss of balance and gait disorders in approximately half of diabetics by causing loss of muscle strength and reflexes, along with impairments in vibration and position sensations in the foot and ankle. It can cause problems in the physical functions of the hands and feet. For this reason, it is important to take safety precautions and exercise for the prevention and regression of neuropathy development and make it a part of neuropathy treatment.

In this section, the epidemiology, pathophysiology, risk factors, physical function losses caused by diabetic peripheral neuropathy, which is common in diabetic patients, the contribution of exercise in neuropathy management, exercise and physical activities recommended for neuropathy, and the education responsibility of health professionals are discussed in a multidimensional manner in line with the current literature.

EPIDEMIOLOGY

In diabetic patients, pain, throbbing, sensation, burning and loss of sensation in the toes or fingers may be symptoms of peripheral neuropathy. Peripheral neuropathy can often develop on the hand or feet. Sensory loss in

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fort associated with painful types of neuropathy. Although physical activity does not completely reject peripheral symptoms, it can improve nerve function, decrease muscle strength, and decrease flexibility and loss of function in diabetic patients with diabetes. Often aerobic, balance, stretching exercises are applied for the whole leg and foot, and there are studies that the Buerger-Allen Exercise is beneficial for diabetic neuropathy for the last 2 years. Nurses and physiotherapists who are healthcare professionals have the responsibility of teaching and monitoring diabetic patients with practical training from the moment they are diagnosed to prevent the development of neuropathy in diabetic patients.

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Chapter 10

HEARING LOSS IN CHILDREN AND EARLY DIAGNOSIS & EARLY INTERVENTION

Ayşe Sanem ŞAHLI[1]

INTRODUCTION

Hearing loss is one of the most common congenital disorders. Hearing loss, which affects nearly all areas of development, especially speech and language development, if not diagnosed early. It is the result of pathologies that occur in the outer, middle, inner ear, and auditory pathways for various reasons and the resulting peripheral voices and speech voices cannot be detected. The impact of sensorial experience on neural structures and functions vary by age. The effect of peripheral sensorial activity loss is much more prominent and important when it occurs during the critical developmental period. Thus, the success of interventions performed for hearing loss within this period (ie. cochlear implant) is associated with a better development of neural functions (1).

The factors during the prenatal, natal and postnatal periods of infants and children cause the emergence of hearing loss with different traits. The risk factors listed below, are the main causes for the formation of hearing loss in children. If the child is affected by even two of these factors, the risk of hearing loss is over 90%.

These factors include;

1. The family history of hearing loss occurring in childhood
2. Premature birth, low birth weight (1500 grams or less)
3. The syndromes accompanied by characteristic hearing loss
4. Infections such as bacterial meningitis, encephalitis, mumps
5. Cytomegalovirus, herpes, rubella, syphilis, toxoplasma infections
6. Hyperbilirubinemia, persistent pulmonary hypertension secondary to mechanical ventilation
7. Neurofibromatosis, osteoporosis, Usher's syndrome

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brain in infants requires a training program that supports the development of amplification and auditory skills. In case of infants with hearing loss, in the absence of sounds, the brain reorganizes itself by receiving stimuli from other senses (primary visual sensation) and its auditory neural capacity decreases. This process is called cross-modal reorganization. In the first year of life, the brain is stimulated by amplification and subsequent implantation with more auditory inputs, and auditory capacity increases. Early amplification and implantation synchronize the activity in the cortical regions (17,28,29,44).

CONCLUSION:

With the development of newborn screening, early diagnosis and intervention programs, the number of infants and young children undergoing cochlear implantation is ever increasing. With early cochlear implantation, effective periods of critical period (0–2 years), which are very important for speech and language development of hearing loss infants, are provided. Also, children underwent implantation under 2 years of age have the chance to catch up their normal-hearing peers. For this reason, it is very important to be exposed to speech voice as early as possible for speech and language development.

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Chapter 11

IMAGING-GUIDED PERCUTANEOUS KIDNEY BIOPSY

Cenk ELİBOL[1]

Percutaneous kidney biopsy (PKB) is an important diagnostic intervention in both the diagnosis and management of kidney diseases. PKB is first used in the diagnosis of acute and chronic kidney disease in both native and allograft kidneys by Iversen and Brun in 1951 (1). In 1954, Kark and Muehrcke modified this procedure by lying the patient in the prone position and inserting an exploratory needle to localize the kidney (2). Today, the ultrasound (US) guidance and usage of automated biopsy systems have increased the reliability of the procedure by ensuring adequate tissue safely (3). Complication rates are significantly reduced by performing the procedure with image guidance (4). In a recent study, it is shown that bleeding rates due to the biopsy are similar in both blindly performed and US-guided kidney biopsies, but blind biopsies have mostly resulted in inadequate biopsy results and obtained fewer glomeruli (5).

INDICATIONS:

PKB can be used in the diagnosis and follow-up of diffuse renal parenchymal disease, suspicion of glomerulonephritis, cases with renal failure whose etiology cannot be revealed, nephrotic and nephritic syndrome, suspected rejection of kidney transplants, and also in the diagnosis of solid kidney masses. In patients with extrarenal primary malignancy, a biopsy can be performed to differentiate kidney metastasis from the primary tumor of the kidney. It can be performed to obtain a pathological diagnosis in complicated cystic lesions. It can be also used to have a histopathological result before performing tumor ablation (6). The sensitivity and specificity of percutaneous PKB in renal masses is 99.7% and it is a diagnostic tool that can be used safely (7).

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can be used easily before kidney biopsy in daily practice. This calculator calculates the risk of minor and major bleeding using the information of age, body mass index, platelet count, hemoglobin, kidney size, native or graft kidney (35). Also, it is shown that the evaluation of the biopsy tract by Doppler USG after biopsy in cases with low GFR is a very useful guide to evaluate the risk of developing complications (36).

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Chapter 12

IMPORTANT PHYSIOLOGICAL FUNCTIONS OF MELATONIN HORMONE

Arzu ŞAHİN[1]

INTRODUCTION:

As a result of the activation of beta adrenergic receptors of the pineal gland, the hormone melatonin, synthesized from the tryptophan amino acid, plays an important role in regulation of many physiological functions. Its production and release begins with darkness and ends with light. Regulation of sleep rhythm and body temperature, renewal of cells, strengthening the immune system are among other important functions. Melatonin receptors are widely available throughout the body. Melatonin and agonists, which are used against sleep disorders and as antidepressants, are used in the treatment of various diseases today. Melatonin is the strongest antioxidant known for its lipophilic properties. Due to its lipophilic feature, it can reach all body areas and cross the blood-brain barrier. Although studies on melatonin have considerably increased in recent years, their functions arestill not fully known. For this reason, compiling and presenting information about melatonin will be a resource for those who want to study on this subject.

PINEAL GLAND AND STRUCTURE

The pineal gland was described by Herophilus of Alexandria (325-280 BC) in the 300th year BC.[1] The word pineal also comes from the word *pinealis*, which means pine cone.[2] The pineal gland is on average 100-150 mg, 5-10 mm tall and 3-5 mm deep and 3-6 mm wide conical gland. While it is seen that its weight and size increase until adolescence, it decreases after adolescence.[3,4] The pineal gland is a structure located in the depression between the two colliculus superior and midline (Figure 1). It is separated from the splenium part of the corpus callosum by the interlining choroidea of the third ventricle. The front part of the pineal gland extending forward is divided into two lamina, upper

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ical effects in the organism in the light of the scientific data obtained. It has been emphasized that mood disorders, especially with a disruption in circadian rhythm, are closely related to plasma melatonin levels. It has been proven in both experimental and clinical studies that sleep pattern and anti oxidant properties have protective effects on many systems.

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Chapter 13

MANAGEMENT OF ACUTE PANCREATITIS

M. Fatih AYDIN[1]

INTRODUCTION

Acute pancreatitis (AP) is defined as an acute inflammatory process of the pancreas. In AP, other region tissues or distant organ systems are also influenced. AP is one of the main causes of hospitalization due to gastrointestinal disorders (Peery et al. 2018). Despite advancements in gastroenterology, AP remains associated with significant morbidity, mortality and healthcare costs (Roberts et al. 2013). The incidence of AP is 15.9-36.4/100.000, and there is scientific evidence that the incidence of the disease is increasing recently (Chatila et al. 2019). In this chapter; the etiology, pathogenesis, diagnosis and complications of AP, which is among the most common gastroenterological diseases, are discussed.

1. EPIDEMIOLOGY

AP is expected to increase the burden on the use of healthcare resources in near future (Roberts et al. 2019; Spanier et al. 2008). Mortality rate of AP is between 5-17% in the severe form and approximately 1.5% in the mild form of the disease (Cavallin et al. 2004).

2. ETIOLOGY

AP, which is a pancreatic inflammatory process, has been associated with an inflammatory response that interferes with the functions of other organs and systems. The etiology of AP can be clearly determined in 75-85% all cases (Wang et al. 2009). In the developed countries, the most common cause of AP is obstruction of the biliary tract with stones (38%) followed by excessive alcohol consumption (36%) (Spanier et al. 2008).

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CONCLUSION

AP is still a common cause of hospitalization due to gastrointestinal conditions. The presence of gallbladder stones and alcohol abuse are the most common etiologies in AP. AP causes a significant increase in the rates of mortality, morbidity, and healthcare costs. The disease varies in a wide spectrum ranging from the mild form to the severe form including death. The treatment primarily includes fluid supplementation, nutrition and the management of complications. A multidisciplinary team including internalists, gastroenterologists and interventional radiologists should be involved in the management of AP. In addition, given the constantly changed etiology of the disease, further comprehensive studies are needed to end the debate on this issue in the literature and to achieve a consensus.

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Chapter 14

MOMORDICA CHARANTIA (MIGHTY POMEGRANATE) AND ITS ANTIDIABETIC EFFECT

Ayfer BAYINDIR ÇEVİK[1]

INTRODUCTION

Diabetes is one of the most common diseases in developed and developing countries [(1)] Increasing evidence indicates that chronic hyperglycemia in diabetes causes microvascular and macrovascular complications associated with increased risk of mortality such as atherosclerosis, hyperlipidemia, ischemic attacks, retinopathy and nephropathy. [(1,2)] It has been determined that there are more than 1200 herbal medicines that have a beneficial effect in the tender. It is estimated that one third of diabetic use complementary and alternative medicine. [(2)] It is clear from the current literature that one of the plants that draw the most attention in terms of diabetic properties is M. charantia and it is widely used. [(3)] In this form, it is one of the most promising herbs for diabetes today, with traditional use backed by modern scientific evidence of the beneficial function of M. charantia. For these reasons, this review will mainly focus on the introduction of M. charantia and its anti-diabetic properties.

MOMORDICA CHARANTIA AND ITS VARIETIES

This plant is also used to lower blood sugar between indigenous communities of Asia, South America, India and African Populations. [(1)] In the world, bitter melon, bitter cucumber, balsam apple, balsam pear, karela, bitter gourd, fu kwa, nigai uri, It is also known as ampalaya, karela, papailla, pavaaki, salsamino, peria, sorossies, chin li chih and goo-fash. [(4)] In our country, wormwood, strange apple, bitter melon, miracle apple, and papara are often known as "Mighty Pomegranate." [(5)] It is a tropical and subtropical fruit. It is a member of the Cucurbitaceae (Cucurbitaceae) family of the vine family. It was first grown in India and introduced to China in the 14th century. [(6)]

The shape and bitterness of this plant variety with edible fruits are different in many countries. Although it is a tropical plant, it is possible to grow in

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damage of the heart. [19,20] Charantia fruit extract has been shown to have anti-hyperglycemic, antioxidant and cardioprotective properties that may be useful in the treatment of diabetic cardiac fibrosis. [21,22] It also maintains blood pressure because it absorbs excess sodium in the body. It is rich in iron and folic acid, which reduces the risk of stroke and protects the heart. [23]

Effect on diabetic nephropathy

After 28 days of treatment with Momordica charantia juice supplement, the effect of pioglitazone on PKC-β and PPAR-γ activity in kidneys compared to pioglitazone determined a significant decrease in PKC-β levels. [21,22] Administration of MC extract prevents oxidative damage in diabetic nephropathy. [24-26]

Effect on wound healing in diabetes

It shows that the application of the MC extract improves and speeds up the wound healing process in diabetic animals. [27]Therefore, its use should be investigated in the treatment of diabetes-related foot wounds.

CONCLUSION

M. charantia is a traditional medicinal plant that is popularly used for the management of diabetes. Many studies have been shown to have glucose-lowering activity. More research is needed to develop anti-diabetic oral medication from this natural source. However, due to the hypoglycemic effect of fruit extracts, M. charantia (potency pomegranate) tends to be seen among people as a diabetes treatment and alternative nutritional advice. For this reason, it is important for diabetes professionals to be informed about this medicinal plant to provide accurate information to diabetics.

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Chapter 15

PERCEIVED STRESS IN TURKISH HIGHER EDUCATION STUDENTS RESIDING AT DORMITORIES IN İSTANBUL: A CROSS-SECTIONAL STUDY

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1. INTRODUCTION

During higher education years, adolescents are often separated from their families and, as such, must adapt to an entirely new physical, biological and social environment. They are, therefore, exposed to physical and social stressors at this period and are confronted with life uncertainties ranging from the thought of finding career paths to balancing academic engagements with usual family and social disengagement. Stress has been observed to be prevalent among university students all over the world in a number of studies (1-6) and as such Rehmani, Khan and Fatima (7) reported that students exhibited some level of stress, anxiety and depression in a study conducted among medical students, nursing and dentistry students at a private university in Saudi Arabia. Stress impacts negatively on individuals' concentration ability, problem-solving ability and decision-making skills (8).

Many factors have been attributed to stress in individuals, including physical and psycho-social factors (9, 10). Gender, room sharing, education expenses, academic performance, cell phone usage and harassment at the university

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study and a higher sample size. We also recommend the inclusion of variables such as blood pressure values, weight, technology use habits and substance use status in future study design.

5. CONCLUSION

Regardless of varying socio-demographic characteristics, the perceived stress scores of students are neither very high nor very low, which can be interpreted as manageable stress levels. Our findings, when interpreted in the light of the aforementioned literature, imply that it is not a justified generalization to assert that a certain socio-demographic factor is a definite determining factor for perceived stress. For instance, if a student has a poor financial status, this fact alone doesn't provide sufficient reason to conclude that this student is predisposed to stress. Therefore, if socio-demographic factors are evaluated to determine if a student is predisposed to stress, it is important to consider that these factors don't necessarily determine the final outcome. On the other hand, our findings don't imply that socio-demographic factors do not contribute to stress at all. The fact that no relationship was observed between perceived stress and socio-demographic characteristics in this study is likely due to other interrelated determinants of stress being absent (e.g. not being in the exam week, not having to commute to the university, not having to pay tuition fees).

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Chapter 16

SCIENTOMETRICS IN MEDICINE: A NARRATIVE REVIEW

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INTRODUCTION

In medical publishing, the quality of contributions to literature by researchers, papers and/or journals are compared and measured with so-called "quality" indicators. These indicators apply various methods to calculate the said quality or "impact", which usually involves citation count. Industrialization of science, along with medicine, and the age of the Internet, undoubtedly led to the increased number of publications, increased number of journals and a need to effectively analyze, understand, qualify and quantify this ever-increasing data. These data are significant in a way that will direct several purposes, such as selecting journals for paper submission, measuring academic competence of researchers, diverting financial support or purchasing subscriptions for libraries.

Scientometrics, a subfield of bibliometrics and informetrics, involves itself with measuring and analyzing impact (i.e. citation profiles) of scientists, scientific papers and/or scientific journals. Modern scientometrics stems from Derek de Solla Price and Eugene Garfield, which the latter was the father of Science Citation Index (SCI) and Institute for Scientific Information (ISI) (1). These different calculations can be conducted on author, article or journal levels and represent an overall associated prestige. Although the aim of scientometrics is to measure impact, there are more than several criticisms for different scientometric indexes; it is difficult to pinpoint which of the scientometric indexes would be the so-called ideal index. For a researcher, understanding these indexes and knowing how to read them with their pros and cons will help them find the most appropriate index or indexes for their field of science.

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sue with IF is that citation skew overestimates a journal's IF, as demonstrated in a study on Plastic Surgery journals, where two thirds of the published articles failed to reach their respective journals' IF (22).

Based on similar data, The San Francisco Declaration on Research Assessment (DORA) lists potential pitfalls of IF:

- Citation distributions are highly skewed.
- The properties of the journal impact factor are field-specific.
- Journal impact factors can be manipulated or gamed.
- Data used to calculate the journal impact factors are neither transparent nor openly available to the public.

DORA also recommends against using journal-based metrics as a measure of the quality of papers, researchers or institutions such as funding agencies. DORA recommends the use of multiple metrics to provide a richer understanding of journal performance, citing primary literature rather than review papers to give credit where it's due and assessing scientific content rather than scientometric scores for committees about funding, hiring or promotion decisions (23).

CONCLUSION

When evaluating scientometric indexes, researchers should note how the measure is calculated, what is represents and if the measure is field-specific or not. Nevertheless, field specific studies comparing scientometrics are needed to understand publication and citation profiles of each scientific field. Therefore, it would be more reasonable to evaluate a journal, a paper, or a scientist, considering the advantages and disadvantages of scientometric data, as well as the extent to which they correlate with each other in the field of science. All researchers should be aware of the pitfalls of scientometric measures and all DORA statements for further understanding of the current situation regarding scientometrics. Using multiple metrics at once, especially not using IF alone, using quartile based and field specific measurements would be the most sensible current approach to scientometric data.

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Chapter 17

MESENCHYMAL STEM CELL (MSC) TREATMENTS AND THE EFFECT OF PHYTOTHERAPY ON MESENCHYMAL STEM CELLS

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INTRODUCTION

Stem cells are defined as cells that have the capacity of self-renewal and can differentiate into organ- or tissue-specific mature cells (1). The term "stem cell" was used for the first time in 1909 by a Russian researcher named Alexander A. Maximow (2). Stem cells were initially named as "colony-forming cells" in 1960s, and after this, the term "stem cell" started to be used due to their self-renewal and differentiation properties (3). The telomerase enzyme activities of stem cells are very high. This way, by preventing the shortening of telomeres at the tip of linear chromosomes, these activities prevent stem cells from getting old and diminishing division capacity (4). During cell division, while stem cells conduct production of cells that will differentiate into precursor cells on the one hand, on the other hand, they create backups of themselves. This way, the pool of stem cells in the organism is kept stable on a certain level throughout life. Extracellular matrix components, neighbor cells and secretion proteins form the microenvironment (niche) outside stem cells. This microenvironment keeps the numbers of stem cells and their status under control (5). Stem cells are obtained from several different sources. In general, based on the source that are obtained from, stem cells are classified into two groups as embryonic and non-embryonic stem cells (6). The long lifespan of stem cells and their self-renewal and differentiation properties endow them with a unique and significant role in terms of usage in treatment in normal and pathological cases (7). For stem cell treatments to reach the desired success, they need to differentiate into cells that are specific to the tissue in the region of their application and reach a sufficient number

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stimulants could be preferred today in treatment of many diseases as they are less toxic and less costly.

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