



FROM THE EDITOR'S DESK

DR. SADIA KASHIF FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY

The publication of January, 2023, is finally here. A much awaited indeed! It comprehends recent health issues of concern to healthcare providers including the glimpse of events conducted at the campus. The articles are diversified yet informative. The glimpse of events and newsletters adds value to the publication.

Unfortunately, Ziauddin lost one of its prestigious members last year in October 2022. Dr. Rafeeq Alam Khan's demise was heartbreaking, especially for his students, faculty members, and his family. His tremendous contributions and efforts to the medical field and his role as

a mentor in our lives will remain unfulfilled. May Allah (SWT) grant him the highest rank in Jannah. We would like to dedicate this issue to our beloved mentor, companion, and fellow.

As we are progressing day by day, the information shared is of utmost importance and creates awareness among the readers. The articles are based on experts' experiences and opinions. The purpose of the publication is yet to be served as we are growing, excelling, and improving every day and will keep doing it. We wish our readers may have a safe, healthy, and beautiful life.

MEMORY OUTSIDE BRAIN???

PROF. DR GHULAM ABBAS

FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY

Learning and memory are among the executive functions attributed to intelligent forms of life. Unfortunately, there is a lack of clear understanding regarding the underlying mechanisms governing these functions. Most of the modern-day scientists attribute these functions solely to brain. However, in the latter half of last century, a number of reports suggested existence of extra-cranial memory; the phenomenon supported by religious and spiritual text. Bacterial resistance, efflux pumps in cancerous cells, phantom pains and sperm running are also the examples of extra neural learning. The cells do not required brain to learn and memorize. However, taking into account the organisms with centralized brain, the involvement of peripheral cells in learning and memory is generally considered irrelevant. The pioneering work in this regard was performed by McConnell in the middle of last century. He performed his experiments on the flatworms, which possesses centralized brain and remarkable ability to regenerate when chopped into small pieces. He trained the flatworm in a behavioral task followed by decapitation. The re-grown flatworm

showed the signs of training despite of the development of entirely new brain. McConnell further surprised the world with the report suggesting that the cannibalism of light-shock conditioned planaria enhanced the ability to learn the situation in fewer trials as compared to naïve planaria. This experiment led to the basis of "memory transfer hypothesis". Some have linked this phenomenon to RNA while others believed that peptides were responsible. The terms like "educated RNA" and "scotophobin" were coined. This atypical work involving flatworms, yeast RNA and scotophobin was received with deep skepticism and ultimately disregarded due to lack of reproducibility and appropriate explanation. However, the present century reproduction of McConnell's result by has again revitalized his forgotten claims. It is of note that the synaptic plasticity, long term potentiation and associated expression studies have long served as the axis of rotation for learning and memory related work. The therapeutic utility of this axis demonstrates stagnation of progress, which press upon the need of exploring newer avenues. In this regard,

the in-conclusive claims from flatworm, scotophobin and yeast RNA experiments merits further investigation in context of newer advancements in sciences. The use of biogenic approach, exosomes, concept of peripheral-to-central communication, and role of non-coding RNAs are the possible ways forward to delineate these old claims. Is it McConnell's RNA or Ungar peptide? What they actually are? Do they have some role to play in memory? Can memory be transferred? The technology has revolutionized since last century and numerous questions related to these experiments can be explicitly answered today. Since, there has only been slight progress towards explanation of learning and memory in the modern neuroscience; it is worth exploring this alternate hypothesis and related body of evidence. If done so, the history may change the future.

Reference: Ghulam Abbas, Wajahat Mahmood and Faisal Khan. Can memory exist outside of brain and be transferred? Historical review, issues & ways forward. Medical Hypotheses 2017; 109: 106-110



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ARTICLES

RELAPSING POLYCHONDRIITIS: CLINICAL PRESENTATION OF A HIGHLY AMBIGUOUS RARE DISORDER

DR. MUNEEZA LODHI FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY

Relapsing Polychondritis (RPC) is an inflammatory disorder, episodic in nature, characterized by recurrent inflammation of cartilaginous tissues and eventual destruction of affected tissues. The disorder mainly affects the eyes, respiratory tract, nose, and ears. It has a chronic relapsing and remitting course that can be fatal at times; although most times, it is the disfigurement due to tissue destruction that is of concern; rather than the threat to life.

RPC can present in a highly ambiguous fashion, and in one series of cases, the mean delay from the time of presentation to diagnosis was 2.9 years.

Criteria for the diagnosis, as suggested by McAdams and colleagues, include three or more of the following clinical features: (1) bilateral auricular chondritis; (2) nasal chondritis; (3) respiratory tract chondritis; (4) non-erosive seronegative inflammatory polyarthritis; (5) ocular inflammation; (6) cochlear and/or vestibular dysfunction; (7)

compatible histological features in a cartilage biopsy specimen. Here I want to discuss a case of RPC in a 63-year-old female, which went undiagnosed for eight months and ultimately turned fatal immediately after diagnosis.

A 63-year-old female patient came to the OPD with acute onset of breathlessness for the past two days, accompanied by high-grade fever associated with swelling and redness of both ears and near chest for the past two months. The patient's history was significant, with a similar episode of redness and swelling of the ears, first appearing before eight months, with a waxing and waning

course and subsiding before three months; We present a case of RP in a 63-year-old female, which went undiagnosed for eight months and ultimately turned fatal immediately after diagnosis. The patient was given antibiotics after considering that her condition was cellulitis, and subsequently, she was referred to the Dermatology

vary considerably from patient to patient. Subtle, early manifestations often remain unrecognized for prolonged periods. As a result, the diagnosis is frequently obtained only after the emergence of characteristic manifestations such as auricular inflammation, saddle-nose deformity, or other features of cartilage destruction. No known clinical or laboratory measures predict the expression of specific disease manifestations or the overall disease course.

Relapsing polychondritis (RPC) is a rare disease that appears to occur among individuals of all races and age groups. Males and females are affected equally, but much about the epidemiology of RPC remains unknown because of the relatively small number of affected patients. RPC is most prevalent in White individuals.

Nonsteroidal anti-inflammatory drugs, dapsone and/or colchicine, may control disease activity in some patients. In other patients, immunosuppressive drugs and prednisone have been effective. RP is a potentially lethal disease; pulmonary infection, systemic vasculitis, airway collapse, and renal failure are the most common causes of death.

Reference: Patel, K., 2010. Relapsing polychondritis-delayed diagnosis and fatal outcome. *Indian Journal of Dermatology, Venereology, and Leprology*, 76(1), pp.67-67. Borgia, F., Giuffrida, R., Guarneri, F. and Cannavò, S.P., 2018. Relapsing polychondritis: an updated review. *Biomedicines*, 6(3), p.84.



Department to rule out drug reactions. After examination, the patient was thoroughly investigated further. On examination, she was found to have high-grade fever (101°F.), wheezing, and dyspnea; swelling and redness of the conjunctiva and cornea, with watery discharge from both the eyes; inflamed, erythematous, and swollen left ear; deformity of both ears with sparing of ear lobes; deformity of the nose (saddle nose). There was no history of joint pain or swelling of joints or any other skin lesions in the past.

The clinical features and course of RPC

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EFFECTS OF VIRTUAL REALITY ON HEALTH

DR. RASHEEDA FATIMA FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY

Virtual reality is a sensory environment field. Its simulation enables a person to involve with artificial life 3D visuals. This field is mostly working in entertainment like video games, education sectors such as medical training, and business sector as well for the virtual meeting. In this article. We discuss the effect of virtual reality on health because there are many health issues and unwanted symptoms that appear after prolonged use of VR. Most virtual reality systems come with consumer warnings like seizures and blackouts. Few users may experience motion sickness, eye strain, headache and discomfort. Other problems may occur in physical interaction with one environment while wearing a VR headset.

VR set may regularly cause eye fatigue so it's contributing to myopia. According to research women are significantly more affected than men and the most common symptom reported is motion sickness approximately 25- 40%. Some common symptoms are also observed like discomfort, nausea, vomiting, pallor, sweating, fatigue, and drowsiness. For example, Nintendo's virtual boy received criticism for its negative physical effect including dizziness and nausea, vergence-accommodation conflict (VAC) is one the main cause of virtual reality sickness.

According to 2022 January, THE WALL STREET JOURNAL found that virtual reality

usage could lead to physical injuries including leg, hand, and shoulder injuries. It has been concluded that VR is a new and novel technology, good for entertainment activities, and easy to use. VR also helps in education activities but with a limitation of time as its use for prolonged periods causes a lot of symptoms that can lead to chronic conditions.

Reference:

Moro, C., Birt, J., Stromberga, Z., Phelps, C., Clark, J., Glasziou, P., & Scott, A. M. (2021). *Virtual and augmented reality enhancements to medical and science student physiology and anatomy test performance: A systematic review and meta-analysis. Anatomical sciences education, 14(3), 368-376.*

PATIENT COUNSELING - AN UNDERRATED RESPONSIBILITY OF PHARMACIST

DR. NAYEL SYED FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY

Pharmacists are mainly medicine experts but they are called with many other different identities whose main role lies in accomplishing different tasks such as dispensing, counselling and maintaining the quality of the medicines Proper drug dispensing and counseling is a key component of pharmacy practice. The final link between the patient and medications are pharmacist. A good relationship between pharmacist and patient indicates good outcomes of medication on basis of rational drug use. Pharmacist should also educate patients regarding the name of medication, its frequency, side-effects, duration of treatment, drug food interactions, and drug – drug interactions. Good patient counseling by pharmacists also prevents the chance of adverse drug effects, therapy complications and also improve cost-effective therapy.

Patient's counseling regarding their medications plays a very important role to achieve high efficacy and proper constancy on therapy. Therapeutic failure and

adverse drug reaction may occur due to non-compliance of patient to drug therapy. This is part of health care services especially professionals of pharmacy to counsel the patients and improve patients' knowledge about medications that eventually increase patients' compliance to the therapy. Pharmacists improve the quality of life by helping doctors to improve their prescription and give advice to patients on their prescribed medicines. This has always been the traditional responsibility of the pharmacist, but in today's healthcare system, their responsibility has elevated to guide patients about the drug use and let physicians know and advice about the drug therapy. In certain countries like Ethiopia, nurses and other health assistants have to perform pharmacist's responsibilities due to the shortage of pharmacists.

Practice of counselling in hospital pharmacy is studied at National and International level, although in Pakistan, counselling in community pharmacy has faced a little negligence. In Pakistan, pharmacists do not always provide the patients with drug

information or counsel them about their medications. Especially in community pharmacies or the retail pharmacies, that have always been the easiest approach for the patients in health care system, this protocol is absolutely missing.

Pharmacist who is dispensing the medications whether in a community pharmacy or in a hospital pharmacy is responsible to always provide medication counseling to the patient (or the patient's care giver) every time a prescription is being dispensed as it is a key opportunity to increase the patient compliance towards the treatment. Deficiency of medication counseling can be a critical contributor of errors in dispensing.

Pharmacist can help patients make the most of their medications to treat/control their disease(s) by conveying pharmaceutical care to the patients as well as conversing the issues they are facing and counsel them accordingly that increases patients' compliance to the therapy and therefore healthy outcomes are achieved.

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EMERGENCY PREPAREDNESS AND RESPONSE IN PHARMACIES (PEPR)

DR. JAVERIA AMEER FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY

Pharmacists have long been involved in public health and emergency preparedness and response (EP&R). This involvement includes preventive measures like screening, vaccinations, testing, and medical and pharmaceutical countermeasures, as well as ensuring the safety and accessibility of medications during pandemics and natural disasters. In the fight against the COVID-19 epidemic, pharmacists are seen as crucial allies. In order to provide important services, community and hospital pharmacies are increasing their hours and services, placing pharmacists and their coworkers at the forefront of patient care and safety to promote public health. Additionally, pharmacists are becoming more and more involved in regional, national, state, and municipal EP&R initiatives, as well as in inter-professional teams like the Medical Reserve Corps (MRCs). There are still gaps in the integration of pharmacists into public health and safety programs, nevertheless. There are many chances and

suggestions that should be taken advantage of in order to improve population health interventions and patient care, as well as to guarantee the safety of healthcare workers and the general public.

The COVID-19 pandemic response has been spearheaded by pharmacists and other pharmacy professionals. However, there are still issues like the absence of personal protective equipment, the high danger of exposure to infectious diseases presents in the healthcare industry, and legal restrictions that prevent providers from receiving their due payments. The recommendations to broaden the role of pharmacists as public health specialists engaged in EP&R include focused training and instruction on important policies and framework topics. Pharmacists should work more closely with multidisciplinary public health teams. The importance and participation of pharmacists during public health emergencies can be better understood with more study and dissemination

on the implications of EP&R. The proposed PEPR Framework can be used to create, put into practice, assess, and distribute outcomes in order to bolster current projects and launch new ones in EP&R.

Reference:

Aruru, M., Truong, H.A. and Clark, S., 2021. Pharmacy Emergency Preparedness and Response (PEPR): a proposed framework for expanding pharmacy professionals' roles and contributions to emergency preparedness and response during the COVID-19 pandemic and beyond. *Research in Social and Administrative Pharmacy*, 17(1), pp.1967-1977.



FOOD ALLERGY

DR. SYED ADEEL AHMED SHAH FACULTY OF PHARMACY, ZIAUDDIN UNIVERSITY

Food allergy is defined as an adverse immune reaction to a dietary protein. Food allergies are one of the leading causes of anaphylaxis, so it's important to see an allergist for diagnosis and treatment. Diagnosis involves a thorough history and diagnostic tests, such as skin tests, serum immunoglobulin E (IgE) tests, and, when indicated, oral swabs. Most children develop allergies to milk, eggs, soy, wheat, peanuts, tree nuts, fish, and shellfish. Food-related reactions are associated with signs and symptoms that affect multiple body systems, including the skin, gastrointestinal tract, respiratory tract, and cardiovascular system. Skin reactions are the most shared clinical indications of allergic reactions to food that include angioedema (swelling), acute urticaria (hives) and erythe-

ma (redness of the skin). The Respiratory symptoms include rhinorrhea, laryngeal edema and bronchospasm. Abdominal pain, nausea, vomiting and diarrhea are the GI-related symptoms of food allergy.

Food allergy is a robust problem that sometimes becomes chronic due to improper diagnosis, lack of prevention, inappropriate way of treatment and absence of counselling sessions. Assessment by an allergist is very important for proper diagnosis and treatment. The diagnosis is based on taking a careful history. We prevent this problem by taking proper precautions like arranging an awareness program, patient education sessions and early diagnosis by a diagnostic test like serum-specific IgE and skin prick

tests. The basis of treatment is the avoidance of food(s) causing the allergy. Once the diagnosis of food allergy is confirmed, strict elimination of the offending food allergen from the diet is necessary. For patients with significant systemic symptoms, the treatment of choice is epinephrine administered intravenously.

References:

Sicherer SH, Muñoz-Furlong A, Sampson HA: Prevalence of seafood allergy in the United States determined by a random telephone survey. *J Allergy Clin Immunol*. 2004, 114: 159-165. 10.1016/j.jaci.2004.04.018.
Waserman, S., Watson, W. Food allergy. *All Asth Clin Immunol* 7 (Suppl 1), S7 (2011). <https://doi.org/10.1186/1710-1492-7-S1-S7>.

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FACULTY UPDATES

Independence Day Celebration

The 75th Independence Day was celebrated on Friday, 12th August 2022. The program started at 10.00 am sharp at the Faculty of Pharmacy with cake cutting ceremony organized by the Leisure club, FoP. Prof. Dr. Anwar Ejaz Beg and Meritorious Prof. and Dean of Faculty Dr. Rafeeq Alam Khan (Late) inaugurated the program by cake cutting. The Literary club of FoP hosted speeches on Independence Day in both Urdu and English. Shields were distributed to participant students.



Blood Donation Drive

On 29th September 2022- Thursday, the community and welfare society of the faculty of pharmacy-Ziauddin University arranged a blood camp in collaboration with Indus hospital. The purpose of



arranging this blood camp was to help people meet their blood requirements through Indus hospital. Everyone around the campus showed great enthusiasm toward this event and participated actively.

The event started at 10.00 am and around 71 people visited the blood camp where 45 students donated blood. Both students and staff members of FOP gesture in bringing a ray of hope to alleviate the serious problems of acute shortage of blood. The staff of Indus hospital was also served with refreshments by the end of the event.

Pharmacist Day Celebration

On the occasion of World Pharmacist Day, Ziauddin University, Faculty of Pharmacy organized an event, to celebrate Pharmacist Day around the world. To honor the field of Pharmacy, the



Scientific Society of ZFP arranged a "walk". Students from the first to fifth year actively took part in it by displaying their enthusiasm through banners and posters. The event was followed by cake cutting ceremony in the presence of the whole Faculty.

Awareness of Quality Medicine and Pharmacovigilance

The Faculty of Pharmacy, Ziauddin University has long supported and encouraged the organization of academic events like lectures, seminars, and workshops as a means of disseminating knowledge. In continuation of this commitment, the Department of Pharmaceutical Chemistry has organized a lecture on "Awareness of Quality Medicine and Pharmacovigilance" in collaboration with Novartis Pharmaceutical Pakistan on 4th October 2022.

Work shop on Problem Based Learning

On 30th November 2022, The Department of Pharmaceutics and



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Pharmacy Practice, Faculty of Pharmacy organized a workshop on PROBLEM-BASED LEARNING for faculty members. To solve the complex real problem via critical thinking and solution, PBL can promote good communication and teaching skill.

Academic Poster Competition

Department of Pharmacognosy partnered with Department of Pharmacy Practice and conducted the Academic Poster Competition for 3rd year Pharmacy Students. Whole class was divided into nine major groups that separately was assigned individual topic. The activity planned on August, 22, 2022 at Ziauddin University Faculty of Pharmacy Link Road campus.

On the basis of jury evaluation groups were awarded winning positions.

Pathway for Pakistani Pharmacists to Canada

Scientific Club of Faculty of Pharmacy, Ziauddin University organized an event on "Pathway for Pakistani Pharmacists to Canada" with the very special guest speaker "Syed Faraz Hussain Jafri" who's currently an owner of "Dover pharmacy" and former Assistant Manager at South City Hospital, Karachi. He shared his journey to becoming a Community Pharmacist in Canada. He inspired many students and gave them the confidence to take a step forward in their Professional careers. The event ended with an interactive questions and answers session.



Azaadi Gala

The Azaadi Gala was celebrated on Tuesday, 16th August 2022. The Program started at 10.00 am sharp at the Faculty of Pharmacy, organized by Leisure Club, FoP, ZU. Prof. Dr. Anwar Ejaz Beg, Meritorious Prof, Dean Faculty Dr. Rafeeq Alam Khan (Late) and Faculty members inaugurated the program with a ribbon cutting. In the Azaadi Gala students arranged different



games and food stalls of GOL GAPPAY, CHANA CHAT, FRENCH FRIES, BIRYANI, WAFFLES, JUICES, SLUSHES, NACHOS and KHATTAY ALOO.



Nanotechnology: Modern Framework for Assessing Natural therapeutics

Department of Pharmacognosy, Faculty of Pharmacy organized a lecture on "Nanotechnology: Modern Framework for Assessing Natural therapeutics" on Wednesday, 26th October 2022. The lecture was conducted by Dr. Huma Sharif, HOD at the Institute of Pharmaceutical Sciences, Jinnah Sindh Medical University.

Lab on A Poster

The Faculty of Pharmacy organized LAB ON A POSTER, 2022 exhibition at Ziauddin University, Link Road campus on Tuesday, 1st November 2022. Dr. Syed Irfan Haider, Vice Chancellor ZU, Prof Dr. Anwar Ejaz Beg and Chief Guest Prof. Dr. Faiyaz Vaid (Dean, Faculty of Pharmacy and Pharmaceutical Sciences, University of Karachi) inaugurated the program by cake cutting. The guest evaluators of posters from different pharmaceutical industries and Universities evaluated the posters of students from 1st year to 5th year, Faculty of Pharmacy. Shields were distributed to guests and to students.

