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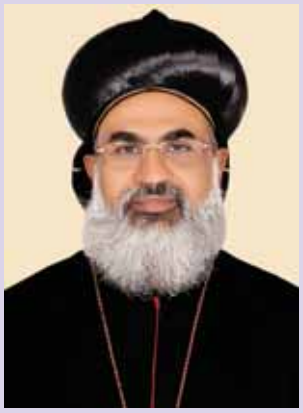
PHARMA ECHO

Vol. 6 (1), 2021

A BIANNUAL NEWSLETTER FROM PUSHPAGIRI COLLEGE OF PHARMACY

OUR PATRON



H.G. Most Rev. Dr. Thomas Mar Koorilos
Metropolitan Archbishop
Catholic Archdiocese of Tiruvalla

OUR VISION

We Care.... God Cure...

OUR MISSION

To work towards a knowledge society with a life in abundance, through science and technology, to improve health care.

MESSAGE FROM CEO

I am extremely delighted to know that Pushpagiri College of Pharmacy is releasing another issue of colourful college newsletter "PHARMA ECHO". The college Newsletter will definitely help to showcase the activities that are happening in the campus. It also helps in building up teamwork which is very much needed today in the world of competition. I congratulate the Editorial Board of this News Letter who have played wonderful role in accomplishing the task in time. I wish all success to the team.

Rev. Fr. Jose Kallumalickal
Chief Executive Officer
Pushpagiri Group of Institutions

MESSAGE FROM DIRECTOR

It gives me immense pleasure to know about the forthcoming issue of the college newsletter. The editorial team has worked very hard to bringing out this newsletter. I take this opportunity to congratulate all the devoted hands who worked behind and I wish all the success to "PHARMA ECHO" and hope that this culture of releasing newsletter continues forever.

Rev. Fr. Aby Vadakumthala
Director, Institutions

MESSAGE FROM PRINCIPAL

I am happy and proud to know that the college is bringing out another issue of the college newsletter "PHARMA ECHO". I am sure that this newsletter will be informative and resourceful. The faculty, staff and the students have included all the events that were organized in the college in the last few months. I am glad to welcome alumni, students and faculties with more interest in bringing the article with more bright concepts and innovative ideas in the next issue. I also applaud the coordination and efforts behind the editorial team to bring out this issue especially in this COVID-19 scenario.

Prof. Dr. Santhosh M. Mathews
Principal

FROM THE EDITORS DESK

Ms. Julie Mariam Joshua
Chief Editor

Warm greetings to the readers!!

Our much anticipated another issue of college newsletter is on course and we have tremendous strides to bring you this edition, filled with inspiration and information as intended. As with many journeys, especially at the onset, there's always challenges that seem to defy our plan, we also encountered unforeseen challenges but challenges that we endeavour to overcome so that we can continue unabated. I have great pleasure and satisfaction to introduce another issue of our college newsletter "PHARMA ECHO". I would like to take this opportunity to extend my heartfelt gratitude to my entire team of PHARMA ECHO who have strived hard to bring this newsletter at the forefront. It takes immense dedication and hard work to assemble the contents in an orderly way, congratulations to the entire team for their diligent efforts. This edition of newsletter highlights the overview of articles regarding Corona virus, various college activities, list of ongoing projects and college students union initiatives during this tough times of COVID-19. We are immensely thankful to the management for giving support, encouragement in this endeavor. Last but not the least we are thankful to all the authors who have contributed their articles for the newsletter especially our fellow alumni members. I hope you will enjoy reading this issue. Any suggestions or criticism on the newsletter would be most welcome.

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MYOZYME (Alglucosidase Alfa) IN POMPE DISEASE

Amal Thomas
Pharmacist,
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Alumni (2010-2014 B Pharm batch)
(CLAIRVOINTS)

Pompe disease is a rare (estimated at 1 in every 40,000 births), inherited and often fatal disorder that disables the heart and skeletal muscles. It is caused by mutations in a gene that makes an enzyme called acid alpha-glucosidase (GAA). Normally, the body uses GAA to break down glycogen, a stored form of sugar used for energy. The enzyme performs its function in intracellular compartments called lysosomes. Lysosomes are known to function as cellular clearinghouses; they ingest multiple substances including glycogen, which is converted by the GAA into glucose, a sugar that fuels muscles. In Pompe disease, mutations in the GAA gene reduce or completely eliminate this essential enzyme. Excessive amounts of lysosomal glycogen accumulate everywhere in the body, but the cells of the heart and skeletal muscles are the most seriously affected.

Early onset (or the infantile form) is the result of complete or near complete deficiency of GAA. Symptoms begin in the first months of life, with feeding problems, poor weight gain, muscle weakness, floppiness, and head lag.

Late onset (or juvenile/adult) Pompe disease is the result of a partial deficiency of GAA. The onset can be as early as the first decade of childhood or as late as the sixth decade of adulthood. The primary symptom is muscle weakness progressing to respiratory weakness and death from respiratory failure after a course lasting several years.

MYOZYME

MYOZYME (alglucosidase alfa), a lysosomal glycogen-specific enzyme, consists of the human enzyme acid ±-glucosidase (GAA), encoded by the most predominant of nine observed haplotypes of this gene indicated for use in patients with Pompe disease (GAA deficiency). It is the first Specific Treatment for Pompe Disease.

Mechanism of Action

Myozyme is designed to act as an exogenous source of GAA, acting to correct GAA deficiency that is the hallmark of Pompe disease. Myozyme binds to mannose-6-phosphate receptors on the cell surface via carbohydrate groups on the GAA molecule, after which it is internalized and transported into Iysosomes, where it undergoes proteolytic cleavage that results in increased enzymatic activity. It then exerts enzymatic activity in cleaving glycogen.

Composition and Pharmaceutical Form

MYOZYME 50 mg/10 mL powder for concentrate for solution for infusion. Each 50 mg vial contains 52.5 mg alglucosidase alfa. Following reconstitution as directed, each vial contains 10.5 mL reconstituted solution and a total extractable volume of 10 mL at 5.0 mg/mL alglucosidase alfa. MYOZYME does not contain preservatives. Each vial is for single use only. Each reconstituted vial must be diluted prior to administration in 0.9% sodium chloride for injection.

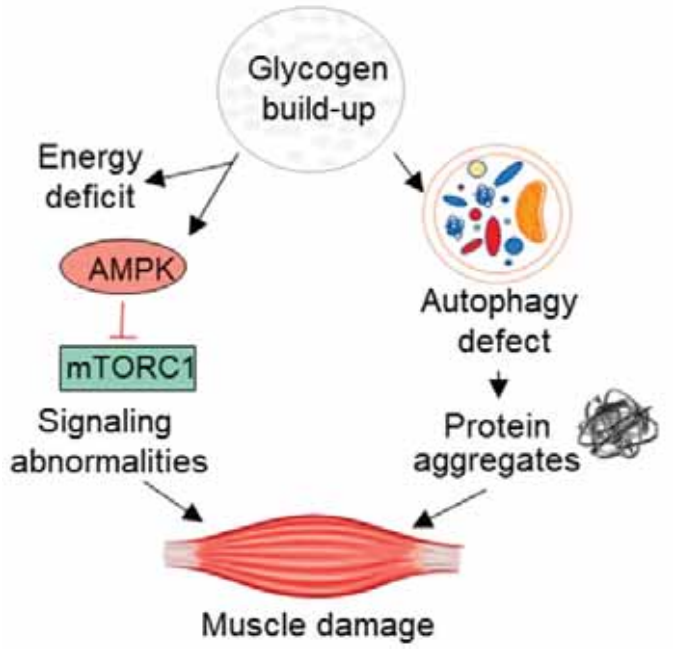
Dose and Method of Administration

The recommended dosage regimen of MYOZYME is 20 mg/kg of body weight administered once every 2 weeks as an intravenous infusion.

Elderly population: Clinical studies did not include any subjects aged 65 years and older.

It is not known whether they respond differently than younger subjects.

Paediatric population: There is no evidence for special considerations when MYOZYME is administered to paediatric patients of all ages.



Method of administration: Each reconstituted vial must be diluted prior to administration in 0.9% sodium chloride for injection. Special precautions for disposal and other handling. Infusions should be administered incrementally. MYOZYME should be administered at an initial infusion rate of no more than 1 mg/kg/hr. The infusion rate may be increased by 2 mg/kg/hr every 30 minutes, after patient tolerance to the infusion rate is established, until a maximum rate of 7 mg/kg/hr is

Table: Treatment - emergent adverse events (regardless of relationship) that occurred in at least 20% of patients treated with MYOZYME in clinical trials

General disorders and administration site conditions
- Pyrexia

Infections and infestations
- Pneumonia
- Otitis media
- Upper respiratory tract infection
- Gastroenteritis
- Bronchiolitis
- Nasopharyngitis
- Ear Infection

Skin and subcutaneous tissue disorders
- Rash
- Diaper dermatitis
- Urticaria

Cardiac disorders
- Tachycardia
- Bradycardia

Respiratory, thoracic and mediastinal disorders
- Cough
- Respiratory distress
- Respiratory failure

Gastrointestinal disorders
- Diarrhoea
- Vomiting,
- Gastroesophageal reflux disease

Investigations
- Oxygen saturation decreased

Injury, poisoning and procedural complications
- Post procedural pain

Blood and lymphatic system disorders
- Anaemia

Vascular disorders
- Flushing

reached. Appropriate medical support measures should be readily available when MYOZYME is administered because of the potential for severe infusion reactions. The infusion rate may be slowed and/or temporarily stopped in the event of Infusion Associated Reactions (IARs).

Overdose

There have been no reports of overdose with MYOZYME. In clinical trials, patients received doses up to 40 mg/kg of body weight. For general advice on management of overdose, contact the Australian Poisons Information Centre (telephone 13 11 26), or the New Zealand National Poisons Information Centre (telephone 0800 POISON or 0800 764 766) for advice on management.

Undesirable Effects & drug interactions

The most common adverse drug reactions (ADRs) were infusion associated reactions (IARs). Infusion reactions occurred in approximately 50% of patients treated with MYOZYME in two infantile-onset clinical studies for 52 weeks. The majority of these reactions were mild to moderate. IARs which were reported in more than 1 patient in clinical studies and the expanded access program included rash, flushing, urticaria, pyrexia, cough, tachycardia, decreased oxygen saturation, vomiting, tachypnoea, agitation, increased blood pressure, cyanosis, hypertension, irritability, pallor, pruritus, retching, rigors, tremor, hypotension, bronchospasm, erythema, face oedema, feeling hot, headache, hyperhidrosis, lacrimation increased, livedo reticularis, nausea, periorbital oedema, restlessness and wheezing. Severe infusion reactions reported in more than 1 patient included pyrexia, decreased oxygen saturation, tachycardia, cyanosis and hypotension.

If severe infusion reactions occur, immediate discontinuation of the administration of MYOZYME should be considered, and appropriate medical treatment should be initiated. Because of the potential for severe infusion reactions, appropriate medical support measures should be readily availablewhen MYOZYME is administered.Most infusion related reactions requiring intervention were ameliorated with slowing of the infusion rate, temporarily stopping the infusion and/or administration of antipyretics, antihistamines or steroids. No drug interaction or *in vitro* metabolism studies were performed.

Special Precautions for Storage

Store MYOZYME under refrigeration at 2°C - 8°C. DO NOT FREEZE OR SHAKE. Do not use MYOZYME after the expiration date on the vial.

This product contains no preservatives. To reduce microbial hazard, use as soon as practicable after dilution. For storage conditions after dilution of the medicinal product, see section 6.3 Shelf-life. The reconstituted and diluted infusion solution should be protected from light.

A review on Computational-based Drug repurposing strategy to combat COVID-19

Ragisha Francis
Assistant Professor,
Department of
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Pushpagiri College of Pharmacy,
Thiruvalla

In the late 2019, the emergence of the animal-origin coronavirus in a seafood market in Wuhan, named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), made the world to face the critical challenges. The World Health Organization (WHO) named the newly virus-induced disease, which spread rapidly throughout the globe the coronavirus disease as COVID-19 and declared the pandemic as Public Health Emergency of International concern. SARS-CoV-2 was shown to be an enveloped virus with different proteins on its surface, which entraps a single-stranded ribonucleic acid (ssRNA) with its about 30000 base pairs. Due to the rapidly developing nature of the current COVID-19 outbreak and its almost immediate humanitarian and economic toll, coronavirus drug discovery efforts have largely focused on generating potential COVID-19 drug candidates as quickly as possible. Scientists have turned to a drug repurposing approach to rediscover the potential use and benefits of existing approved drugs. The method of repurposing and the use of existing molecules has proven to be a landmark in the field of drug rediscovery.

Drug repurposing is the process to identify the new indications for existing drugs and considered as an efficient and economical approach. It is also known as repositioning, re-profiling, re-tasking and rescue of drugs. It has been considered that 75% of known drugs could be repositioned for various diseases. Broadly, there are three kinds of approaches which are widely used in drug repositioning: computational approaches, biological experimental approaches, and mixed approaches.

Overall, drugs currently being tested for repositioning in COVID-19 can be distinguished as , drugs potentially able to inhibit one or more steps of the coronavirus lifecycle and drugs potentially able to counteract the effects of SARS-CoV-2 infection. To date, only remdesivir has been approved to treat COVID-19.

There are several types of computational techniques that have been applied to drug repurposing in COVID-19.The first approach is molecular docking, which investigates the affinity between the existing drugs and the structure of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) .The main limitation of this class of approaches is that these methods cannot be applied for all the existing drugs due to higher computational operations.

The second group of computational approaches is network-based techniques, which form a network based on the genes or proteins of the disease or virus-host interactome. Then, the network is extended, and the graph traversing algorithms are applied to it. The main limitation of the second class of techniques is that many biological aspects associated with the disease are unknown, and the network-based approaches may not yield promising drug candidates

The third group of methods is machine learning approaches, which are applied to detect potential drugs which may interact with SARS-COV-2. It seems that a combination of machine learning methods and other techniques can yield a powerful treatment plan for managing COVID-19.

Conserved structures in the viral genome represent a high potential to candidates.

Targeting such a highly conserved site will provide cross-reactive protection in different strains. Highly conserved elements of the 2019-nCoV (SARS-CoV2) include non-structural proteins such as 3CLP, RdRp, and PLP, Helicase and structural proteins such as the S protein.

3CLP: The main protease of the 2019-nCoV, known as 3CLP or the C30 endopeptidase. When translation takes place, it is the first one that is auto-cleaved from the polyprotein. Then, it, in turn, would mediate the cleavage of the other 11 non-structural proteins that are vital for viral replication and transcription. Thus, 3CLP might serve as a marvelous target for COVID-19 therapy. The good binding energy and docking score for each one of Elbasvir, Simeprevir, Indinavir, and Atanzavir might nominate these drugs as candidates for the inhibition of 3CLP of SARS-CoV2. Both Indinavir and Remdesivir might be effective against SARS-CoV2 infection due to their excellent docking scores and limited toxicity. Nelfinavir was also mentioned as one of the best drugs binding to the 3CLP. However, it appeared less efficient than Tegobuvir and Bictegravir when the affinity and the physical-chemical analysis parameters were calculated.

RdRp: Viral RdRp is an enzyme that accelerates the replication of RNA from a template RNA. Among the drugs that target this protein, Remdesivir is a bold

one which, by a triphosphate nucleotide, would act as an ATP-competitive inhibitor of RdRp and intervene with the viral RNA synthesis. Also, Remdesivir can bind to the human TMPRSS2, a protein that mediates the cleavage of the viral S protein and promotes the entry of SARS-CoV2 into the host cells. Ribavirin is another drug reported in two studies to interact with RdRp.

PLP: PLP plays a crucial part in the initiation of infection through its ability to antagonize interferon (IFN) activity and deubiquitinate viral and cellular proteins. Eight different structures attached to SARS-CoV PLP comprise sequences that are at least identical to that of SARS-CoV2 PLP. The studies suggests focused on PLP drug candidates Telaprevir, Boceprevir, and Grazoprevir that have acceptable binding energy for SARS-CoV2 PLP but lack an excellent binding score. Conformational changes of PLP upon binding to Darunavir and suggests the molecule to be a as a competitive inhibitor of PLP . The two other drugs that also reported affect the SARS-CoV2 PLP are Chloroquine, an anti-malarial agent, and Formoterol, a drug that mainly works as a bronchodilator.

Helicase-/nsp13: Helicase or nsp13 is an enzyme that plays an essential role in the replication of SARS-CoV-2. The enzyme is critical to the virus's life cycle remained highly conserved. According to the results, lumacaftor and cepharanthine showed a higher score with the conformational states of the enzyme.

Multi-target therapeutic agents: These are more useful than mono-target drugs in terms of better predictive pharmacokinetics, better patient compliance, and reduced risk of drug interactions simultaneously impacting different targets.

Antivirals: Atazanavir, Efavirenz, and Dolutegravir as the top-ranked drugs as arranged by the number of drugs. These drugs can similarly hit 3CLP, RdRp, helicase, 3'-to-5' exonuclease, 2'-O-ribose methyltransferase, and endo-RNAse proteins. Subsequently, each one of Ritonavir, Raltegravir, Darunavir, and Grazoprevir can target five viral replication proteins. Helicase, 3'-to-5' exonuclease, and endoRNAse are common between them while Darunavir can exclusively target PLP and 3CLP, Grazoprevir can target PLP and RdRp, and both Ritonavir and Raltegravir are related to RdRp and 3CLP.

The best-documented multi-target drugs repurposed by computational methods for COVID19 therapy include antiviral drugs commonly used to treat AIDS/HIV (Atazanavir, Efavirenz, and Dolutegravir Ritonavir, Raltegravir, and Darunavir, Lopinavir, Saquinavir, Nelfinavir, and Indinavir), HCV (Grazoprevir, Lomibuvir, Asunaprevir, Ribavirin, and Simeprevir), HBV (Entecavir), HSV (Penciclovir), CMV (Ganciclovir), and Ebola (Remdesivir).

Anti-malarials and Immunomodulators

Chloroquine, primarily known for its anti-plasmodium actions, has antiviral activity as well. This drug originally derived from Cinchona plant is now largely a synthetic drug (4-amino quinoline) . The molecular simulation analysis reveals that .this drug might inhibit the PLP and the E-channel. In all of these studies, the binding energy of Chloroquine is acceptable, but it lacks an excellent value. Like Chloroquine, hydroxychloroquine can have anti-malarial and immunomodulatory effects in a manner useful to patients with autoimmune diseases. Both Chloroquine and hydroxychloroquine have shown to help antiviral immunity through inhibition of the fusion between viral and host-cell membranes, virus replication, and viral glycosylation and assembly.

Angiotensin receptor blockers (ARBs), Angiotensin-converting enzyme inhibitors (ACEIs)

SARS-CoV2 binds the ACE2 receptors similar to the SARS coronavirus. COVID-19 is associated with the acute respiratory distress syndrome (ARDS) and higher activity of ACE2 leads to attenuation in ARDS. ACE2 expression is down regulated in COVID-19 patients. Nitrofurantoin, Isoniazid pyruvate, Eriodictyol, is the top three candidates that bind to the ACE2 part of the ACE2 receptor-spike protein interface.

Statins

Statins, the lipid-lowering drugs, have shown pleiotropic activity through anti-inflammatory and immunomodulatory properties to prevent acute lung injury in different experimental and clinical conditions; therefore, it may be used as re-tasking drug for the COVID-19 patients

Drugs acting on host pro-inflammatory cytokines

Tocilizumab is a recombinant humanized monoclonal antibody which is responsible to bind the human IL-6 receptor and inhibiting its signal transduction pathway. This drug does not act on the virus but it acts to reduce the cytokine response of the host.

The present review study provides a list of existing drugs that can be utilized for drug profiling to treat Covid -19 on the basis of computational analysis. However, there are number of available drugs with approval of FDA for treatment of other diseases which could be used on the basis of the trial against COVID-19 and considered as the repurposed drugs. Among the drug repurposing methods, in silico-based approaches may lead to more acceptable outcomes than others in terms of enhancing efficacy and reducing the time and cost of a drug discovery project. Molecular docking would be the central technique to identify the probable therapeutic agents against COVID-19 patients and the screened agents, thereby, could be verified for their effectiveness in in-vitro and in-vivo studies.

2-Deoxy-D-Glucose Drug and Its Efficacy in COVID-19

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(2020-21)
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Thiruvalla

2-Deoxy-D-glucose is a drug that has been recently approved for the treatment of Covid-19 as an add-on/ adjuvant therapy in moderate to severe cases by DCGI. In glucose, there is hydrogen group and hydroxyl group such that, on second carbon, this oxygen is deleted and replaced by hydrogen group thus called as 2 Deoxy-D- glucose or 2-Deoxy- Dextro glucose.

Development of 2-DG

DRDO Initiated the development of an anti-COVID therapeutic application of 2-DG. In April 2020, during the first wave of the pandemic, INMAS-DRDO scientist conducted laboratory experiments with the help of Centre for Cellular and Molecular Biology (CCMB) Hyderabad, to check the efficacy of this molecule against the SARS-CoV- 2 virus and the property of inhibiting the viral growth and its replication.

After obtaining a positive result, approval for phase 2 trials was given by DCGI and CDSCO in May 2020 till October. The Trial was conducted in partnership with industry DRL, Hyderabad. The trial was conducted in 2 subdivided phases – Phase 2a and phase2b.

Phase 2a was conducted in 6 hospitals and phase 2b was conducted in 11 hospitals in a total of 110 patients. Trends showed that patients treated with the 2-DG showed faster symptomatic relief than the standard of cure on various endpoints.

After the phase 2 result, the Phase 3 trial was approved in November 2020 on 220 patients at 27 hospitals in different states of the country.

Efficacy of 2-DG in clinical trials

In the 2-DG arm, a significantly higher proportion of patients improved symptomatically and became free from the requirement of supplemental oxygen (42% v/s 31%) within day3, in comparison to SoC, indicating an early relief from oxygen therapy/ oxygen dependence. From day 3 to day 8,RT-PCR was found to be negative rather than a normal 15 days to 1 month schedule. A similar trend of recovery was also observed in patients aged more than 65 yrs as well.

More about 2-DG

It has been used in cancer, preventing the entry of glucose into cancer cells and preventing its growth. By inhibiting these supply. It prevents the cancerous cells from further growing. In covid 19, it accumulates in virally infected cells and thereby inhibits the viral synthesis and its energy Production (ace2 receptor gets attached with corona virus) whereas, on the administration of this drug, it inhibits the binding of ACE–2 receptor with corona virus thereby inhibiting its growth. 2- DG is a generic molecule therefore it's easy for producing in bulk.

Mechanism of action

Glycolysis is an aerobic pathway, such that in glycolysis energy is utilised and later it's released (glucose gets converted into pyruvate with ATP production).

However in the case of 2- DG when 2 – DG enters the virus.It gets converted into 2- d – glucose 6 phosphate (on the presence of the enzyme hexokinase). This molecule would inhibit the hexokinase enzyme causing inhibition of the further glycolysis of 2-DG. Therefore, Pyruvate conversion is inhibited preventing its energy production.

Henceforth, on consuming 2-DG, It gets accumulated on virus – specific cells thus inhibiting its proliferation and killing these virus particles. Furthermore, for glycolysis to occur there is a need for oxygen such that on glycolysis inhibition oxygen consumption is also reduced, which could be later on utilized for the energy production from other sources such as fat, proteins thus reducing the oxygen requirement for the body(2 – DG decreases the oxygen requirement by almost 43%).

How to administer 2 -DG

* It's in powder form with every sachet containing 2.34 grams of 2 – DG.
* It is dissolved in water as like normal glucose powder and then consumed.
* In covid 19 patients it is taken twice daily for 5- 7 days. It's not advisable for outpatient department and strictly under surveillance of healthcare professionals.

PCP SCIENTIFIC SERIES 2021

Seminar on

World Health Day

A seminar was hosted by Department of Pharmacy Practice in connection with World Health Day 2021 to promote the theme suggested by WHO- 'Building a Fairer-Healthier World' on 13th April 2021. It is celebrated annually and each year in order to draw attention to a specific health topic of concern to people all over the world.

The session was handled by Dr. R. N. Sharma, HOD, Department of General Medicine, Pushpagiri Medical College Hospital, Tiruvalla. Dr. Christy K Jose, Vice Principal and Prof. Girisa Chandra, HOD, Department of Pharmacognosy honoured the speaker with a memento.

National Webinar on

World Earth Day

A webinar was conducted in relation with International Earth Day 2021 by the Department of Pharmacognosy of Pushpagiri college of Pharmacy on 22nd April 2021.

The Chief Guest of the webinar was Dr. Biju Sebastian, Vice Principal (Academics), Pushpagiri College of Dental Sciences. Chief Resource person Mr. Renosh Tom Varghese K, Assistant Professor, Post-Gradua tion and Research Department of Botony, Marthoma College, Thiruvalla delivered a talk on the topic 'Restore Our Earth'. It was thought provoking and inspiring.

ലോകാരോഗ്യദിനം സെമിനാർ നടത്തി

ലോകാരോഗ്യദിനത്തോടനുബന്ധിച്ച് തിരുവല്ല പുഷ്പഗിരി ഫാർമസി കോളജിൽ നടന്ന സെമിനാർ ഡോ.ആർ.എൻ. ശർമ ഉദ്ഘാടനം ചെയ്യുന്നു.

ദീപിക Fri, 16 April 2021 https://epaper.deepika.com/c/59803580

ഭൗമദിനം ആചരിച്ചു

തിരുവല്ല: ലോകഭൗമദിനത്തോടനുബന്ധിച്ച് പുഷ്പഗിരി ഫാർമസി കോളജിൽ സംഘടിപ്പിച്ച വെബിനാർ പുഷ്പഗിരി ഡെന്റൽ കോളജ് വൈസ് പ്രിൻസിപ്പൽ ഡോ. ബിജു സെബാസ്റ്റ്യൻ ഉദ്ഘാടനം ചെയ്തു. മാർത്തോമ കോളജ് അസിസ്റ്റന്റ് പ്രഫ. ഡോ. റിനോഷ് ടോം വർഗീസ് വിഷയാവതരണം നടത്തി. പ്രിൻസിപ്പൽ പ്രഫ. ഡോ. സന്തോഷ് എം. മാത്യൂസ്, ഡോ. ക്രിസ്റ്റി കെ ജോസ്, പ്രഫ. ഡോ. ഗിരിസ ചന്ദ്രൻ, ജിനു ജോസഫ്, റാണി മഞ്ജു, ലിസി എസ്, നിതിഷാജു തുടങ്ങിയവർ പങ്കെടുത്തു.

പുഷ്പഗിരി മെഡിക്കൽ കോളജ് ആശുപത്രി പ്രതീക്ഷ ചൈൽഡ് ഡെവലപ്മെന്റ് സെന്ററിലെ കുട്ടികൾ തണൽ മരങ്ങൾ നട്ടുപിടിപ്പിച്ചു. ആശുപത്രിയുടെ നേതൃത്വത്തിൽ പ്രകൃതി സംരക്ഷണ സന്ദേശ വീഡിയോയും പുറത്തിറക്കി. പ്രതീക്ഷ ചൈൽഡ് ഡെവലപ്മെന്റ് സെന്റർ ഇൻചാർജ് ഡോ. മഞ്ജു ജോർജ് ഇലഞ്ഞിക്കൽ, ജിൻസൺ കെ. ജോഷ്വാ, ലിജോ ജോൺ, അജിത് കുമാർ എന്നിവർ നേതൃത്വം നൽകി.

മംഗളം Fri, 23 April 2021 epaper.mangalam.com/c/59970

Seminar on

Autism Awareness Week

In connection with World Autism Awareness Week-2021, Department of Pharmacy Practice organized a seminar on 13th April 2021. The webinar aims to increase awareness about people and especially children who have autism.

Dr Manju George Elenjickal, Associate Professor, Incharge, Pratheeksha Child Development Centre, Pushpagiri Medical College, Tirivalla was the resource person of the event and she presented her talk on the topic 'Autism and its impact on society'.

Mr. Nithin Manohar R, Associate Professor, Department of Pharmacy Practice honoured the speaker with a memento.

International Webinar on

National Technology Day

The Department of Pharmaceutics organized an interactive one day International webinar on 'New technologies in Formulation Development' in association with National Technology Day on 11 May 2021 at 09:00am through zoom online platform.

The webinar was inaugurated by the chief guest Dr. George Varghese, Principal, Pushpagiri College of Dental science, Thiruvalla.

Resource person for the programme was Dr. Murali Mohan Sabu, Technical Advisor Dexa Development Centre. He highlighted about new technologies used in the formulation development among various dosage forms in a pharmaceutical Industry.

PCP SCIENTIFIC SERIES 2021

World Malaria Day

The Department of Pharmacy Practice organized a one day webinar on 'Zero Malaria–Draw the Line against Malaria' in association with World Malaria Day on 26th April 2021.

The webinar was inaugurated by the chief guest Prof. Sr. Teresa SIC, Principal, Pushpagiri College of Nursing, Thiruvalla. Resource person for the event was Dr. Aneeta Mary Jacob, Assistant Professor, Department of Microbiology, Pushpagiri Medical College, Thiruvalla. She highlighted the symptoms, causes and various treatment regimens for malaria.

The Department of Pharmacy Practice also published a leaflet highlighted the transmission, prevention, diagnosis as well as the treatment options for malaria.

Wold Environment Day

In connection with World Environment day, a national day was organized by Department of Pharmacognosy on June 5th 2021 at 10.00 am with an aim to raise global awareness to take positive environmental action to protect nature and the planet earth.

The webinar was inaugurated by the chief guest Prof. N. M. Mathew (Former Principal Mar Thoma College, Thiruvalla).

Dr. Abdussalam A. K. (Assistant Professor Department of Botany Sir Syed College, Kannur)- speaker of the programme presented a talk on the topic "Ecological Restoration of Degraded Habitats: Role of Youth".

World Anti-Tobacco Day

In connection with World Anti-tobacco day, Department of Pharmacology organized an interactive one day national webinar on 'Tobacco Cessation-Significance in COVID-19 Pandemic Era' on 31st May 2021 at 09:00am. The webinar aims to raise awareness on harmful and deadly effects of tobacco smoke use.

The webinar was inaugurated by the chief guest Dr. Tomy Philip, Principal, Pushpagiri College of Medicine, Thiruvalla.

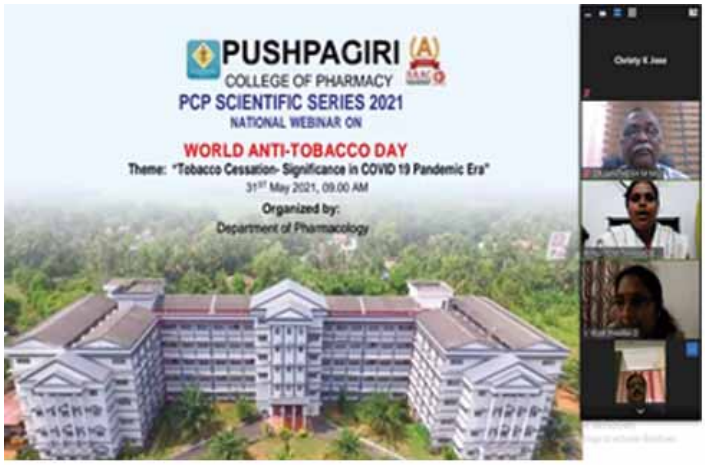
Resource person for the programme was Dr. Mathew Ninan, Associate Professor, Department of Respiratory Medicine, Pushpagiri Medical College Hospital, Tiruvalla.

International Day of Innocent Children Victims of Aggression

A national webinar on International Day of innocent children victims of aggression on the topic "Identification of abuse and its legal impact" was organized by Department of Pharmaceutics on 04th June 2021, 10.00am.

The webinar was inaugurated by the Chief Guest Dr. R N Sharma, Former HOD, Professor-Emeritus, Department of General Medicine, Pushpagiri Medical College Hospital and congratulated the entire team of Pushpagiri College of Pharmacy for organizing such an informative session.

The speaker of the day, Adv. Sreela Menon, State Co-ordinator, Nirbhaya Cell, presented various abuses which were going through in day to day life and the legal part to be proceeded so that the community can stop such practices against innocent children



PCP SCIENTIFIC SERIES 2021

World Food Safety Day

The Department of Pharmaceutical Chemistry organized a National webinar on 'Safe Food Now for a Healthy Tomorrow' in connection with World Food Safety Day on 7th June 2021 at 11.00am.

The Chief Guest, Sri. Jacob Job, IPS (General Manager-HR & PR Pushpagiri Medical College Hospital) inaugurated the programme.

The Chief Resource Person was Mrs. Neethu Ravikumar (Food Safety Officer O/o the Asst. Commissioner of Food Safety, Pathanamthitta Dist.). To promote food safety awareness, second year students of M Pharm presented a video showing various measures to prevent foodborne diseases.

World Yoga Day

A national webinar on World Yoga Day on the topic "Benefits of Yoga Asana" was organized by Department of Pharmacognosy on 21st June 2021, at 10.30am through online zoom platform.

The webinar was inaugurated by the Chief Guest Dr. Reginold Varghese, President, Football Association, Pathanamthitta, Thiruvalla Municipality Councillor.

The speaker of the day was Swami Nataraj (Dr. Rudolph Rapisarda), Director, Sivananda Yoga Vedanta Dhanwantari Ashram, Trivandrum. He presented a talk on different types of yoga asana and their benefits to improve health. Students of third Pharm D presented a short video on different types of Yoga Asana.

International Day against Drug Abuse and Illicit Trafficking

In connection with International Day against Drug Abuse and Illicit Trafficking, Department of Pharmacology organized an interactive one day national webinar on 'Substance Abuse and Mental Health' in association with National Technology Day on 26th June 2021 at 10:00am

The webinar was inaugurated by the chief guest Mr. B. Venugopalakurup, Deputy Commissioner of Excise, Pathanamthitta.

Resource person for the session was Mr. Sarath S Nair, Psychologist, Vimukthi Counsellor, Calicut. He conducted an informative session on different substaince abused in our society and its after effects.

World blood donor day

The Department of Pharmacy Practice organized a Webinar on "World Blood Donor Day" with theme "Creating awareness and encourage youth to give blood and keep the world beating" on 14th of June 2021 at 9 am. This aims to raise awareness of the need for safe blood and blood products and to thank voluntary, unpaid blood donors for their life-saving gifts of blood.

The chief guest, Mr Biju Kumbazha, District President-Blood Donors Kerala inaugurated the webinar.

The scientific session was initiated by the resource person, Dr Sasidaran V P, HOD, Department of Immunohematology and Blood transfusion, Pushpagiri Medical College Hospital. The students of fourth Pharm D also presented a short film named "Blood-Every drop counts".


യോഗാദിനം ആചരിച്ച് സംഘടനകൾ

BLOOD DONATION CAMP @ PUSHPAGIRI MEDICAL COLLEGE HOSPITAL

EVENTS @ PUSHPAGIRI COLLEGE OF PHARMACY

INAUGURATION OF B PHARM AND PHARM D ACADEMIC BATCHES 2020- 21

Release of Clinical Pharma Practice News Echo published by Department of Pharmacy Practice

College Union Election 2021

COVID Jagratha Committee meeting

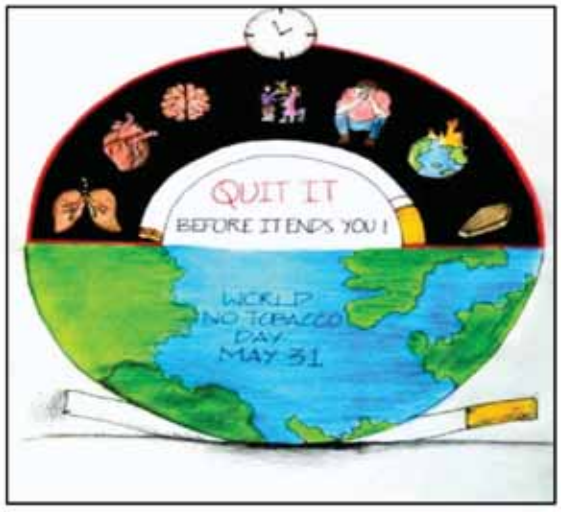
Farewell to Sr. Tersitt, FDSHJ

Honouring Dr Christy K. Jose, Vice Principal for securing PhD in Pharmaceutical Sciences

Inauguration of renovated office, central library, newly designed quality assessment cell and PG labs by Rev. Fr. Jose Kallumalikkal, CEO, Pushpagiri Group of Institutions

POSTER DESIGNING COMPETITION

In connection with World Anti-Tobacco Day, Department of Pharmacology organizes a poster designing competition for the students based on the theme "Quit it, before it ends you". The aim of this competition was not merely to see the creative aspect but also to trigger the thought process of the students and sensitize them towards these burning & serious issues. Around 22 students participated and the decision regarding the winners was made on the criteria like relevance to the theme, originality, artistic composition, creativity etc. Joanne Jasison of first Pharm D, Sreelakshmi CB of third semester B Pharm, Dona George of second Pharm D and Kevin Chacko of first Pharm D were the winners.



First Prize: Joanne Jasison
I Pharm D

Second Prize: Sreelakshmi CB
III Sem B.Pharm

Third Prize:
Dona George, II Pharm D & Kevin Chacko, I Pharm D

STUDENTS UNION 2021

The 2021-2022 College Students Union was selected on the union election which was held on April 7 2021 at Pushpagiri College of Pharmacy. The following students were selected. Chairperson-Manu K Anil (Third B Pharm), Vice Chairperson-Githin T Scaria (Third Pharm D), Jins Thomas (Third B Pharm), General secretary –Aloysius Siby (Fourth Pharm D), Joint secretary-Jeena S (Third B Pharm), Arts secretary-Carrel Tom (Third Pharm D), Sports secretary -Berlin Thomas(Third Pharm D) , Magazine Editor- Anupriya Franci George (Third Pharm D), UUC-UG-Aswajith S.S (Fourth PharmD), UUC-UG -Nidheesh Titus (Third B Pharm) and PG representative -Josney kurian (Fourth Pharm D).

In an initiative to generate the habit of using old things to create beautiful crafts among students, a concept which has global significance, a 'Trash to Treasure' competition was organized by Students Union 2021 in connection with World Environment Day on June 5th 2021. They used their imagination and creativity to make innovative things. There were almost 31 participants and criteria for the competition were presentation, use of material, impact and overall effect. Kevin Chacko from 1st year Pharm D, Shebin Ansu Babu of 1st year Pharm D and Albin Alex of 1st B Pharm were the winners of this competition.

In connection with 'World Blood Donor Day', Students Union 2021 have organized a programme 'Jeevadhara' on June 14 2021. Various competitions like pencil drawing, short video making and caption making were conducted. A total of 65 students participated in drawing competition. Irene Elsa Soji of 2nd Pharm D, Binu of 1st B Pharm and Nikil K Mathew of 5th Pharm D were the winners. The short video competition was conducted and Team Luminaries (2nd Pharm D), Nisha Ann (2nd Pharm D) and Team B Positive (Third B Pharm) were the winners. The caption competition was held online on instagram page of students union 2021. The winners of this competition were Rose Kuriakose (1st Pharm D), Pallavi Krishna (3rd Pharm D) and Meekhal Ann Manu of 3rd B Pharm. The students actively participated in the competitions and wondrously showcased. Amazingly, the enthusiasm among the participants was worth watching

First Prize: Irene Elsa Soji
II Pharm D

Second Prize: Binu C. Thomas
I B.Pharm

Third Prize: Nikil K. Mathew
V Pharm D

LIST OF ONGOING PROJECTS

1. Bacteriological Profile and Antibiotic Treatment Pattern in Pregnant Women with Urinary Tract Infections.
2. A Retrospective Study on the Clinical Outcomes of Hemodialysis Patients in a Tertiary Care Hospital.
3. Study on Prescribing Pattern of Antihypertensive Medication and Adherence to Joint National Commission – 8 Guidelines In A Rural Tertiary Care Indian Teaching Hospital.
4. Analysis on Drug Prescribing Pattern among Geriatric Inpatients at General Medicine Department in a Tertiary Care Teaching Hospital.
5. A Retrospective Analysis on Dermatological Diseases and its Treatment in Geriatric Population in a Tertiary Care Hospital.
6. A Retrospective Analysis of Acute Poisoning and its Treatment Pattern in a Tertiary Care Hospital.
7. A Retrospective Study on Prescribing Patterns in the Management of Osteoporosis in Tertiary Care Hospital.
8. A Retrospective Study Drug Prescribing Patterns in the Management of Osteoarthritis in a Tertiary Care Hospital.
9. A Retrospective Study on Prescribing Patterns of Anti – Epileptic Drugs in Pregnant Women with Epilepsy in a Tertiary Care Hospital.
10. A Retrospective Study on the Risk Factors and Management of Peptic Ulcer.
11. A Retrospective Analysis of Treatment Pattern of Anti- Epileptic Drugs in a Tertiary Care Hospital.
12. Design, Synhesis, Characterisation & Pharmacological Evaluation of Novel Azomethine Derivatives of Benzimidazole
13. Design, Synhesis, Characterisation & Pharmacological Evaluation of Novel 3, 5-Thiazolidine-2, 4-Dione Derivatives
14. Design, Synhesis, Characterisation & Pharmacological Evaluation of Novel Quinazolin-3(H) 4-One Derivatives
15. Evaluation of Cardioprotective Activity of *Talinum triangulare* Leaf Extract
16. Evaluation of Anti-Ulcer Activity of *Pajanelia longifolia* Leaf Extract
17. Evaluation of Hepatoprotective Activity of *Salvinia molesta* Ethanolic Extract
18. Evaluation of Antiurolithiatic Activity of *Vitex negundo* Root Extract
19. Evaluation of Antiulcer Activity of *Stereospermum tetragonum* Root Extract
20. Evaluation of Anti-Inflammatory and Analgesic Activity of Alcoholic Extract of Rhizome of *Curcuma angustifolia* Roxb.
21. Evaluation of Antidiarrhoeal and Antiulcer Activities of Whole Plant Extract of *Naregamia alata* in Experimental Rats.

PUSHPAGIRI COLLEGE OF PHARMACY

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Approved by Govt. of Kerala, Pharmacy Council of India and affiliated to Kerala University of Health Sciences (KUHS)
Accredited by National Assessment and Accreditation Council (NAAC) with "A" Grade

COURSES OFFERED

- B Pharm, Pharm D, Pharm D (PB)
- M Pharm (Pharmaceutical Chemistry)
- M Pharm (Pharmacy Practice)
- M Pharm (Pharmacology)

OUR SPECIALITIES

- Easily accessible by MC Road
- Hostel Facility available within the campus
- Clinical training @ Pushpagiri Medical College Hospital