



A degree awarding institution registered with  
the Higher Education Commission, Mauritius



# **JSS Health & Education Newsletter**

**Volume II Issue I  
January-April 2022**



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### **About JSS Academy of Higher Education and Research, Mauritius (JSSAHERM)**

The JSS Academy of Higher Education and Research, Mauritius (JSSAHERM) was established in 2018 with degree awarding powers at the start of activities in Mauritius, registered with the Higher Education Commission, Mauritius.

JSSAHERM is located on a sprawling eight- acre freehold campus at Bonne Terre, Vacoas, the only one of its kind in the country, comprising of some 15, 000 sq. mts of built- up area with necessary infrastructure. The campus also comprises of hostels for boys' and girls' students, sports facilities such as Volleyball, Basketball, Football and in- door games. There are also residential units for staff and guests.

Building on its philosophy of quality education at affordable costs, JSSAHERM aims to present itself as the destination of choice for higher education and training in Mauritius and the Indian Ocean region.

JSSAHERM launched the Bachelor of Pharmacy and the BSc (Hons) Cosmetic Science programmes in August 2020. The Bachelor of Pharmacy programme of JSSAHERM has received Pre- certification from the Accreditation Council for Pharmacy Education (ACPE), USA, making JSSAHERM the first institution in African region to get ACPE precertification.

JSS Mahavidyapeetha (JSSMVP), Mysuru, India is the sponsoring society of JSSAHER, Mauritius. JSSMVP has established more than 350 educational institutions in India, Dubai, Mauritius, and USA, with a total student population over 50,000 and a staff strength over 12,000.

The parent institution for the establishment of JSSAHERM, is the JSS Academy of Higher Education & Research, Mysuru (JSS AHER, Mysuru, India), formerly known as the JSS University. JSSAHER, Mysuru, India is ranked overall in the band of 351-400 globally and ranked 2<sup>nd</sup> in India by the Times Higher Education (THE) Rankings 2021. Among young universities, JSSAHER Mysore stands 70<sup>th</sup> in the world and 1<sup>st</sup> in India as per THE 2022 ranking.

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High Commissioner of India  
Mauritius

### Message of High Commissioner of India



I am glad to note that the JSS Academy of Higher Education and Research (JSSAHERM) in Mauritius is bringing out the first issue of its Newsletter 'Health and Education' for the year, with a focus on the healthcare and pharma sectors. The issues covered in the Newsletter continue to be of great interest in a Covid-afflicted world.

As a bilingual nation that offers a high quality of life, Mauritius has befittingly positioned itself as a hub for quality and affordable education in the African region and is making efforts to attract larger numbers of international students to Mauritius. Another huge priority for the Government of Mauritius is to establish Mauritius as a pharmaceutical hub in the region, by creating an ecosystem for pharma manufacturing, trials and research.

I am happy that Indian entities like JSSAHERM are contributing to this vision of Mauritius, with their growing presence in Mauritius. With its fully equipped and modern campus, JSSAHERM is well-poised to offer Mauritian and international students, quality education in the healthcare and pharma sectors. While JSSAHERM currently provides BPharm courses, I understand that it plans to offer MPharm and PharmD programmes too in the future. With the renewed focus on enhancing health infrastructure and manpower capacities in the aftermath of the Covid-19 pandemic, I believe that there is enormous potential for JSSAHERM to scale up its services and provide a much-needed supply of well-trained professionals in the pharmaceutical sector, contributing to both the 'pharma hub' and 'education hub' visions of the Government of Mauritius. I am equally happy that JSSAHERM's growth plans will encourage greater inflow of Indian Academics and Researchers into the Mauritian Healthcare and Pharma sectors.

I believe that institutions like JSSAHERM testify to the deep ties between Mauritius and India as well as the huge potential for further expansion of our bilateral cooperation' in critical sectors like Health and Education. I look forward to greater collaboration in these important areas, in the years to come.

I congratulate the staff and students of JSSAHERM for bringing out this edition of the Newsletter 'Health & Education' despite the challenges of Covid-19 and wish the JSSAHERM faculty, students and team, the very best in all their future endeavours.

  
(K. Nandini Singla)

## Legacy of Sri Suttur Math, India

Sri Suttur Math, a pilgrim centre with a long history of more than one thousand years, is a multi-dimensional organisation that has contributed immensely to the cause of societal advancement. Over thousand years since its establishment, a lineage of pontiffs have done yeomen service for the betterment of mankind.

Sri Suttur Math can be aptly described as an active ongoing movement that upholds the cause of social and economic justice, based on spiritual ideals. It is no wonder today the Math's activities and influence has spread far beyond the small region on the banks of the River Kapila in Mysore, Karnataka, India and reached communities not merely in other parts of India but in many countries of the world.

“Work is Worship” the mantra that guides the Math is enshrined in its emblem. “Selfless Service” is the spirit behind every task that the Math undertakes and since the service is considered to be an offering to Lord Shiva, its purity and intention are of utmost importance.

Sri Suttur Math is today regarded as one of the leading organisations to spread human values and ethics across the world through an array of activities – spiritual, cultural and educational.

His Holiness Jagadguru Dr. Sri Shivarathri Rajendra Mahaswamiji, 23<sup>rd</sup> Pontiff of Sri Suttur Math, established the Jagadguru Sri Shivarathreeshwara Mahavidyapeetha (JSSMVP) in 1954. The origin of JSS Mahavidyapeetha (JSSMVP), a formidable educational movement, can be traced to the establishment of a small hostel in 1928 to cater to the accommodation needs of students pursuing higher studies in Mysore, Karnataka, India.

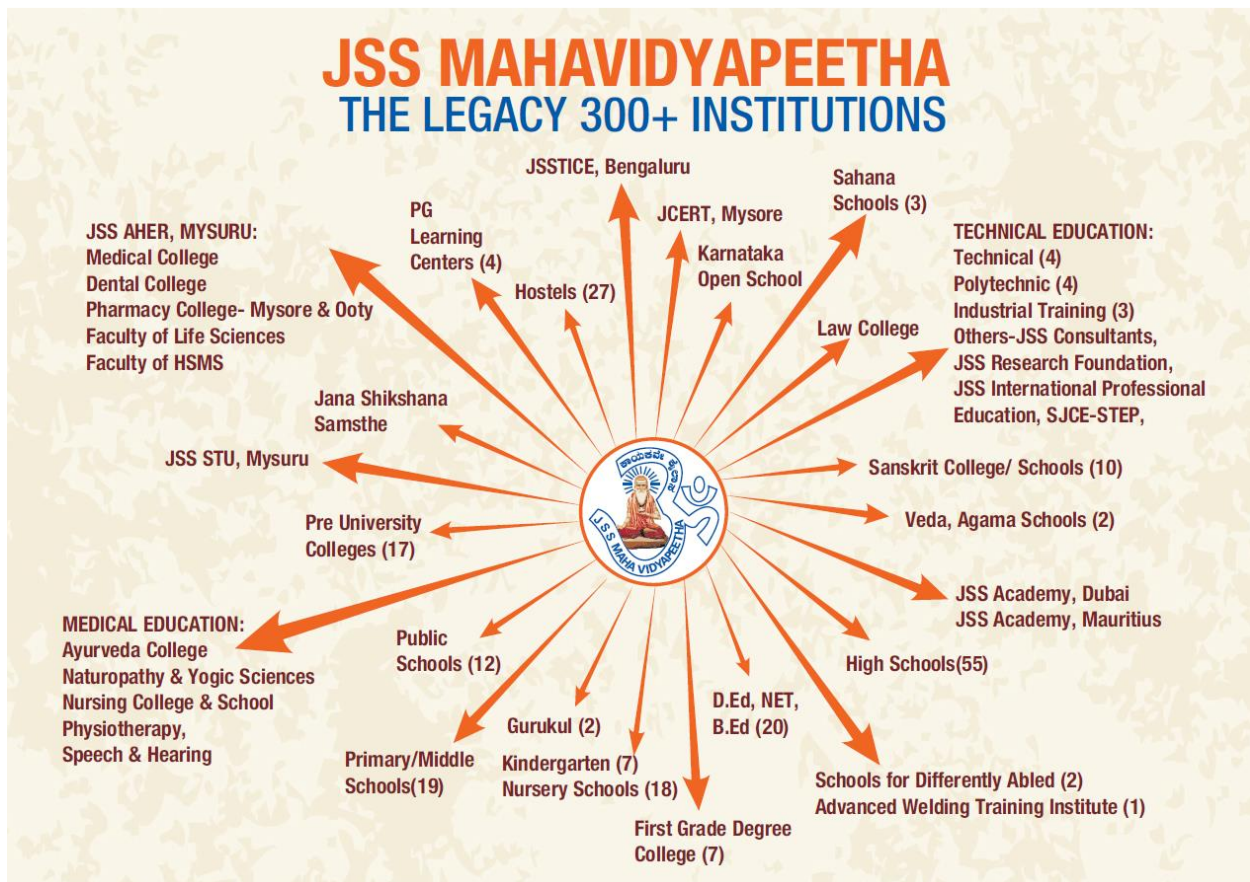
Focusing on a purpose as expansive and yet as specific as improving quality of life through Human Development, the JSS Mahavidyapeetha has grown from strength to strength. A long and healthy life, Education for all and a decent standard of living, the indicators of Human development, have been the underlying philosophy of Sri Suttur Math for centuries. This is also the philosophy for which the Mahavidyapeetha today stands for.

Under the untiring efforts of Jagadguru Dr. Sri Shivarathri Rajendra Mahaswamiji, the Mahavidyapeetha has witnessed enormous growth in the field of education and today has over 350 institutions under its fold, from kindergartens to postgraduate centres and postdoctoral research catering to the educational needs of more than 1,00,000 students.

The Mahavidyapeetha continues to play an important role in expanding the scope of its activities to several branches of knowledge, welfare, and culture. Its educational efforts span crèches for toddlers of working rural women, schools to impart primary and secondary education, Colleges, Polytechnics, Pharmacy, Engineering, Medicine, Nursing, Ayurveda, Law, Naturopathy, Orphanages for homeless children and senior citizens, etc. For realizing its mission, it has equipped itself with an extensive infrastructure and an army of dedicated and highly qualified human resource. These institutions, located in strategic areas, serve a broad spectrum of society, from virtually remote tribal villages to metropolitan cities such as Bengaluru, Noida, New Delhi, Ooty, and Coimbatore, besides their presence in United States, Mauritius, and Dubai.

The Mahavidyapeetha is now an iconic institution in the field of education moving forward with a motto of “Education for all”. It is an honour to state that many important personalities including Religious Leaders, Presidents, Prime Ministers, Governors, Men of letters, Noble Laureates, Scientists etc., have visited in the past and inspired us to embrace more service-oriented programmes.

Today, the Mahavidyapeetha under the spiritual guidance of His Holiness Jagadguru Sri Shivarathri Deshikendra Mahaswamiji, 24<sup>th</sup> Pontiff of Sri Suttur Math, is on the threshold of launching many more programmes covering all aspects of life in the service of the nation. The long tradition of the Mahavidyapeetha is being continued with renewed force and fervour.



**Compiled by**

**Mr. K P Naveen**

**Registrar**

**JSSAHER, Mauritius**

## What is Polypharmacy?

Multimorbidity, which is typically described as the coexistence of two or more chronic health disorders, is prevalent among the elderly. Multiple chronic illnesses complicate therapeutic care for both health professionals and patients and have a detrimental effect on health outcomes. Multimorbidity is related with a decline in quality of life, self-rated health, mobility, and functional capacity, as well as an increase in hospitalizations, physiological discomfort, health care resource utilization, mortality, and expenses. Globally, the health burden of multimorbidity is predicted to increase dramatically as the population ages and the number of persons living with multimorbidity increases.

Multiple medication use, colloquially referred to as polypharmacy, is frequent in the elderly population with multimorbidity, as each ailment may be treated with one or more medications. Polypharmacy is related with negative outcomes such as mortality, falls, severe medication responses, prolonged hospital stay, and readmission to the hospital shortly after discharge. The danger of unwanted effects and injury increases as the number of medications prescribed increases. Numerous factors, including drug-drug interactions and drug-disease interactions, might cause harm. Patients over the age of 65 are at an increased risk of adverse consequences due to impaired renal and hepatic function, decreased lean body mass, and diminished hearing, vision, cognition, and mobility.

While the use of numerous medications or polypharmacy may be therapeutically appropriate in many circumstances, it is critical to identify individuals who have inappropriate polypharmacy, which puts them at an elevated risk of adverse events and poor health outcomes.

**Dr. Khayati Moudgil,**

**Assistant Professor,**

**Faculty of Health Sciences, School of Pharmacy, JSSAHERM**

# Gestational Diabetes Mellitus (GDM)



Gestational diabetes mellitus (GDM) is a condition in which a woman's blood sugar (glucose) levels rise during pregnancy and typically return to normal following delivery. However, gestational diabetes can have a negative effect on the baby's health and increases the woman's risk of developing Type 2 diabetes later in life.

Gestational diabetes is classified into two types: Women with type A1 diabetes can manage their condition by food and exercise, whereas those with type A2 diabetes must take insulin or other drugs.

## CAUSE

The placenta generates hormones that raise the blood glucose level throughout pregnancy. In normal circumstances, the pancreas produces insulin to counteract this impact. However, if a woman's body does not create enough insulin, she is at risk of developing gestational diabetes.

## FACTORS OF RISK

A woman is more likely to develop gestational diabetes during pregnancy if she has the following characteristics:

- a body mass index (BMI) greater than 30 prior to pregnancy
- previously delivered a baby weighing 4.5kg (10lb) or more at birth
- had gestational diabetes in a previous pregnancy
- has diabetes in one of her parents or siblings
- is of Asian, Black, Hispanic, Native American, African-Caribbean, or Middle Eastern origin
- polycystic ovary syndrome (PCOS)

## SYMPTOMS INCLUDE:

- increased thirst
- frequent urination
- dry mouth
- fatigue

## Complications that could impact the infant include the following:

- Excessive birth weight. Increased blood sugar levels in moms can result in their infants being overly large. Babies weighing 9 pounds, or more are at an increased risk of becoming trapped in the birth canal, suffering birth trauma, or requiring a C-section.
- Premature (early) birth. High blood sugar levels may raise a woman's risk of preterm labor and delivery. Alternatively, an early birth may be recommended due to the baby's size.
- Polyhydramnios. Excess amniotic fluid in the pregnancy, which can result in preterm labor or delivery complications



- Severe difficulty breathing. Babies born prematurely to moms with GDM may have respiratory distress syndrome, a breathing disorder.
- Pre-eclampsia. It is a disorder that causes elevated blood pressure during pregnancy and, if left untreated, can result in pregnancy problems.
- Jaundice. Following birth, the newborn may experience low blood sugar or yellowing of the skin and eyes, which may necessitate hospitalization.
- Hypoglycemia (hypoglycemia). Occasionally, infants born to moms with GDM experience low blood sugar (hypoglycemia) immediately after birth. Severe hypoglycemia episodes may result in seizures in the infant. Prompt feedings and, in certain cases, use of an intravenous glucose solution can restore the baby's blood sugar to normal.
- Later in life, obesity and type 2 diabetes. Babies born to moms with gestational diabetes are at an increased risk of developing obesity and type 2 diabetes later in life.
- Stillbirth. Gestational diabetes if untreated can result in the death of a baby either before or shortly after birth.

### **TREATMENT:**

Consume a nutritious, low-sugar diet. Consult with one's physician to verify that one is receiving the proper nourishment.

- Substitute natural sugars such as fruits, carrots, and raisins for sugary treats such as cookies, candies, and pastry. Vegetables and whole grains should be added.
- Eat three small meals and two or three snacks daily at roughly the same times.
- Get 40% of your daily calories from complex, high-fibre carbohydrates, 25% to 40% from fat, and 20% from protein.
- Aim for between 20 and 35 grams of fibre per day. Fibre-rich foods include whole-grain breads, cereals, and pasta; brown or wild rice; oatmeal; and vegetables and fruits.
- Consume a range of vitamin- and mineral-rich meals. Additionally, supplements may be taken.
- Maintain an active lifestyle throughout pregnancy. Being active is an excellent technique to aid in blood sugar control. Maintaining a healthy weight during pregnancy benefits the woman's posture and can help alleviate several frequent symptoms, such as backaches and exhaustion.
- Aim for 30 minutes of moderate activity most days of the week. This could include running, brisk walking, swimming, or bicycling.
- Maintain a healthy weight prior to pregnancy. When preparing to become pregnant, decreasing excess weight prior to conception may assist ensure a healthier pregnancy. Concentrate on developing healthier eating habits, such as increasing vegetable and fruit consumption.
- Insulin therapy. Insulin injections or even Metformin tablets may be necessary.
- Additionally, the pregnant woman will be asked to: •Check her blood sugar levels four or more times daily

### **Target Blood Sugar Levels for Pregnant Women**

According to the American Diabetes Association, pregnant women who test their blood sugar should aim for the following targets:

- 95 mg/dL or less before a meal
- 140 mg/dL or less an hour after a meal
- 120 mg/dL or less two hours after a meal
- Check the urine for ketones, which are substances that suggest uncontrolled diabetes.

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### **Written by:**

**Ms. Lutfiya Molabaccus, 2<sup>nd</sup> year BPharm Student, JSSAHERM**

## Effect of Cockroaches on Human Health

Cockroaches are insects of the order Blattodea and there are approximately 30 species of the insect. They are mostly found in the tropics and subtropics. Due to their abilities to sustain low temperatures, cockroaches can live in the Arctic. Their habitats include leaf litter, cavities under barks, under log piles, among litters and many others. Cockroaches are generally omnivores for example, the *Periplaneta americana* feeds on bread, fruits, paper, skin flakes, hair etc.

According to the Asthma and Allergy Foundation of America, 78 to 98% of urban homes in America have cockroaches, with about 900 to 330000 cockroaches per home. 40 to 60% of asthmatic patients in urban areas possess IgE antibodies to cockroach allergens, found in cockroach faeces, saliva, and body parts. Studies showed that allergens Bla g 1, Bla g 2 and Bla g 4 are proteins secreted or excreted by cockroaches. Allergens with structural functions are released after degradation of the dead bodies of the insects.

The first allergy case was reported in 1943 when the patients developed skin rashes immediately after the insects crawled over their skin. The National Cooperative Inner-City Asthma Study measured the percentage of cockroach allergens Bla g 1 in dust collected from children's bedrooms and results showed that 85.3% had detectable levels and 50.2% had high levels. Other researches showed that prenatal exposure to cockroach and mouse allergens can activate the immune system of foetuses before birth and cause development of allergies. Also, sensitisation of cockroach allergens in young children contribute to wheezing.

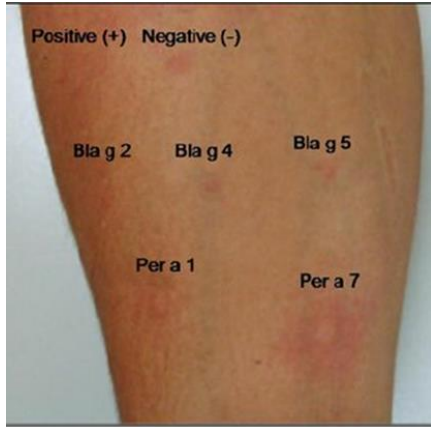
Cockroaches can contaminate food by leaving droppings which can contain fungi, bacteria and other microorganisms that may in turn cause food poisoning. Bacteria can be carried on the cuticle of cockroaches or be ingested then excreted by the insects. In the past, many pathogenic bacteria like *Salmonella* species, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* have been isolated from cockroaches. These insects are therefore vectors of many diseases such as typhoid, gastroenteritis and community acquired infections like pneumonia, UTI, RTI and skin infections. The skin prick test is carried out using aqueous extractions of crushed homogenized cockroaches and the results came out positive for allergens.

Cockroaches are known to regurgitate and deposit excrements while feeding. Consequently, their saliva that contains digestive enzymes can be introduced into someone who has been bitten or those with skin lesions onto which cockroaches feed.

Cockroach salivary fluids and serum can cause **leukocytolysis** and **hemagglutination** reactions on human blood cells, shown by in vitro studies.



Skin rash caused by cockroach



Skin prick test with recombinant allergens in cockroach-allergic patients with asthma and rhinitis.

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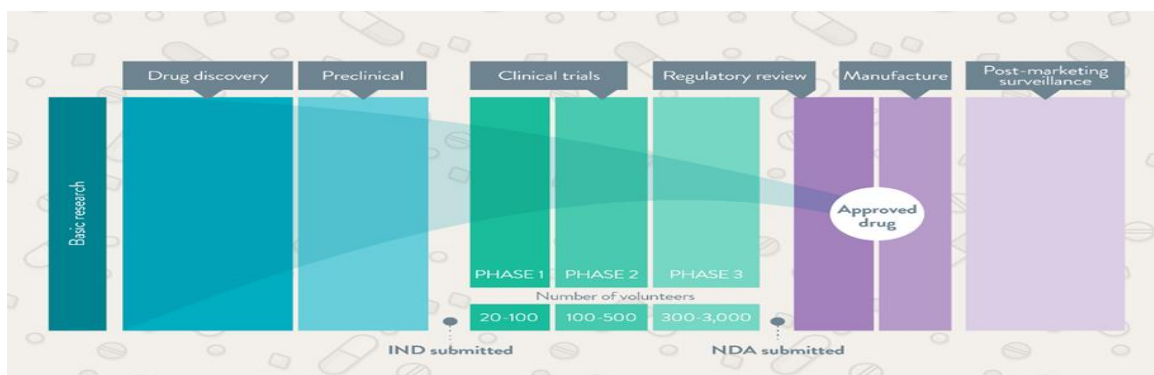
## Written by:

**Ms. Misbah Dhuny, 2<sup>nd</sup> year B Pharm Student, JSSAHERM**

# The Drug Development Process: From Discovery to Commercialization

Drug development is the process of introducing a novel drug into clinical practice. Through drug development, we can make advancements in medicine which help in treating patients more effectively. Before a drug can be marketed, it must undergo various trials and experiments to evaluate its safety when administered to a patient to treat a specific disease. This is achieved by conducting pre-clinical and clinical trials, which form part of the drug development process. The entire process can take around 10 to 15 years before the drug is deemed to be safe for use.

## Steps in the drug development process:



### 1. Drug discovery and development

New drugs can be discovered through rigorous testing of different chemical molecules or by studying the way a disease spreads in the body. Researchers can then find a way to undo the effects of the disease. Several experiments then need to be done on the drug discovered to collect data on the ADME (Absorption, Distribution, Metabolism, Excretion) of the drug, the dose of the drug to be administered, the toxicity, the administration route of the drug, drug-drug interactions, and the mechanism of action of the drug among others.

### 2. Pre-clinical research

In vitro and in vivo models are used to obtain information on the toxicity of the drug, which is a crucial aspect for the approval. At this stage, testing of the drug cannot be done on humans. Instead, it is done on animals (in vivo) and using non-animal methods (in vitro) such as two-dimensional and three-dimensional models which mirror the body systems in humans. In vivo methods require careful selection of the animal to determine which one would be best suited for the experiment since different species, gender, metabolism, and genetics of the animal can affect the results of the experiment. Through these experiments, the pharmacokinetics (what the body does to the drug) and pharmacodynamics (what the drug does to the body) of the drug can be understood. Following these experiments, researchers can then make use of the results to assess whether the drug is suitable to be tested on humans or not.

### 3. Clinical research

Clinical trials are conducted on humans suffering from the particular disease the drug needs to treat. Before starting clinical trials, researchers need to design the clinical study, that is, determine specific questions on the properties of the drugs they need more information on and thereafter, classify them into the three phases making up the clinical research.

The three phases are:

- Phase 1- 20-100 people diagnosed with the disease participate in it, lasting for a few months. The aim of this phase is to assess the safety and dose of the drug to be administered.
- Phase 2- several hundreds of volunteers participate in this phase, lasting for a few months to 2 years, to monitor the adverse effects and effectiveness of the drug.
- Phase 3- 300-3000 people with the disease engage in this phase which is one to four years long with the same purpose as phase 2.

### 4. Regulatory review and approval

After clinical and pre-clinical trials, drug developers submit a New Drug Application (NDA) to the regulatory authorities, which contains all the data obtained on the drug from the experiments conducted. The authorities will then review the application and approve the use of the drug if it has proved its effectiveness and safety. However, the authorities have the right to request for more experiments to be conducted if they have additional questions on the drug which have not been answered priorly.

After the approval of the drug, the drug developer needs to work on the prescribing information, known as “labelling”. This will instruct patients on how to use the drug.

### 5. Post-marketing drug safety surveillance

Once the drug has been approved and marketed, the lasting effects of the drug are monitored via Phase 4 of the clinical trials. Thousands of volunteers with the disease the drug is supposed to treat, participate in this phase, allowing researchers to gather information on the long-term dangers and benefits of the drug. The information can also be used to further develop the drug in terms of the route of administration of the drug and to use the drug for other age groups.

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**Written by: Ms. Salvi Wahidna, 1<sup>st</sup> year B Pharm student, JSSAHERM**

# Vaccine History—Benefits, Risks, and Prejudices

Vaccines date all the way back to 1796, when Edward Jenner discovered that cowpox pustules could be used to cure smallpox. The true history of vaccinations, on the other hand, begins with the long history of infectious diseases. Over the next two hundred years, his method underwent medical and technical advancements.

At the dawn of Bacteriology, tremendous progress ensued, and antitoxins, tetanus, tuberculosis, and other diseases were produced through the 1930s.

Vaccine research and development became more prevalent over the twentieth century. Viral culture methods have resulted in several discoveries and advances, including vaccinations for polio and other children's diseases such as mumps and measles. Vaccination has resulted in a significant reduction in disease burden. As was the case in the late 2020s, vaccinations against covid-19 were licensed in reaction to the pandemic.



Today, vaccination research is more inventive, with recombinant DNA technologies and novel delivery systems propelling scientists in new directions. Vaccine research has progressed to the point that it is now being used to treat non-infectious disorders such as allergies and addiction.

To gain a better understanding of vaccinations, it is critical to understand their mechanism of action. Nobody likes shots, and some people prefer natural protection, but certain viruses and diseases, such as polio and measles, are too powerful for the human immune system to manage. These diseases have the potential to kill people or leave them with life-altering consequences such as paralysis and neurological impairment. Thus, either antibodies or a weakened form of the microbe is administered into the body via a vaccination. The body's natural immune system responds appropriately and assists the body in combating the virus.

Vaccination has a plethora of advantages. While vaccines aid in the treatment of a variety of diseases, they have completely eradicated some, such as smallpox. Polio is also on the horizon, but vaccines are being administered until the illness is eradicated internationally. Individuals are encouraged to get vaccinated since as more and more people get vaccinated, the lower the risk of contracting that particular disease gets. This is referred to as Herd Immunity. Immunizations have a direct and tangible impact on global illness and virus control. It has transformed lethal, debilitating diseases into ones that are curable and preventable.

However, the question that has piqued the interest of many of us is this: Is the vaccine completely safe and without adverse effects?

Unfortunately, no. The vaccination does have some mild adverse effects, which are entirely dependent on the method of inoculation and how your body responded to it. Generally, any drug has adverse effects, and children who are not vaccinated have the biggest risk of contracting and spreading dangerous diseases.

It is usual to suffer moderate symptoms following vaccination, such as a cold or a little fever, while your body reacts to the vaccine. And these modest symptoms should subside within a few days. There are extremely rare instances in which some people may experience serious side effects from immunizations. While injection-related allergy reactions are exceedingly serious, they are extremely infrequent.

Vaccine reluctance is a complicated and delicate subject. The CEO of Nigeria's vaccine network for disease control emphasized to Results UK's National Conference that widespread Covid-19 immunization is being harmed by the propagation of disinformation about the vaccine's effect on fertility. Distrust of vaccinations created in Western African countries is frequently rooted in a history of unethical western medical practices. However, Pfizer CEO Albert Bourla stated in September 2021 that by 2022, there will be a surplus of covid19 vaccines, and vaccine hesitancy will become the limiting factor in worldwide vaccination.

While vaccines have been enormously beneficial in terms of saving millions of lives, there is still room for criticism. The rapid spread of misleading information on the internet has exacerbated vaccine apprehension. Patients and parents express reservations about the vaccines' efficacy and safety. This increase in vaccine hesitancy has heightened public distrust of scientific findings and, consequently, of the methods used. The scientific literature has found no evidence that immunizations pose a harm to human life. Public explanations of research concepts, techniques, and findings may help re-establish public faith in science.

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#### **Written by:**

**Ms. Bhatoo Bibi Zeenaat-Ul-Firdaus, 1<sup>st</sup> year BPharm student, JSSAHERM**



## How integrating technology in the health sector promotes health of patients?

**Pillcam-** This is a disposable capsule which is passed naturally and painlessly from the body within 24 hours after intake. Its use has been approved by the Food and Drug Administration in the late January 2014. Pillcam works by taking pictures of the inside of the gut as the capsule contains tiny cameras that can detect bowel cancer by showing around 50 000 pictures on its journey through the bowel. These images are then transmitted to the receiver wirelessly where a specialist analyzes it. Though colonoscopy is better in terms of performance since Pillcam can detect only 14 out of 19 cancers detected by colonoscopy, Pillcam remains safer and easier to take and helps avoid invasive procedures. With this invention, patients are more motivated to get tested as it brings less discomfort compared to colonoscopy. Moreover, by screening, bowel cancer, which is the third most common form of cancer, can become the most preventable form. Besides, since it is a recent technology, it can be further improved to detect the same types of cancers as colonoscopy or even more.



**Laparoscopy-** Another great invention is the minimally invasive surgery which is a surgery that reduces surgical incisions. An example of minimally invasive surgery is the advanced laparoscopy surgery. This surgical technique involves short, narrow tubes that are inserted into the abdomen through small incisions whereby the surgeon can manipulate, cut, sew tissue, and obtain biopsy samples of tissue from a particular organ in the abdomen.



The identification and diagnosis of pelvic and abdominal pain can be done using laparoscopy as the appendix, gall bladder, liver, pancreas, small intestine, large intestine(colon), spleen, stomach, pelvic and reproductive organs can be examined to detect abdominal mass or tumor, fluid in the abdominal cavity, liver disease, and the degree to which a particular cancer has progressed. Hence the physician can intervene by treating the condition immediately after diagnosis.

This new invention allows patients to recover faster as there is less surgical trauma and fewer wound infections. Furthermore, it improves the outcomes, causes less pain than traditional surgery, and leaves much smaller scars.

**3D printed cast** - A 3D printed cast is a shell made of environmentally friendly bioplastic that is formed from beetroot, sugarcane, and corn pulp, which encases part of the body to keep the structure stable for it to be able to heal. Unlike traditional plaster that are uncomfortable, unpleasant to look at and not environmentally friendly, this 3D printed cast is waterproof hence the patient can get it wet, allows the skin to breathe preventing the skin from becoming dry which can result in infection or rash and is much lighter than ordinary plaster. Apart from increasing patient comfort and satisfaction, it is easily removable thereby preventing infection and muscle atrophy and can be personalized. The Brazilian healthtech made 30 cast styles for fingers, wrists,

and shoulders. More than 4000 casts have been printed for patients thereby eliminating 2.5 tons of plaster made of petroleum products which do not readily decompose, hence harming the planet.

**3D PRINTED ORGANS** -This technique of printing organs is called cryobioprinting. A computer model is fed into a printer that will lay down the successive layers of biocompatible plastics until the 3D organs is produced. This invention is made solely for transplant of organs as, according to a survey in India, 200,000 people die every year due to liver failure and 10-15 % of these patients could have been saved with a quick organ transplant; however, donors are not easily available and donated organs must be transplanted into someone else's body within a few hours. 3D printed organs are made of the cells of the patient, for example, in the new invention of miniature versions of human liver, the blood of the patient is used and for 3D printed cartilage, the biopen is filled with stem cells derived from patient's fat to avoid organ rejection. These extracted cells are really fragile outside the body and need to be placed as quickly as possible in the final structure to ensure survival. They are then encapsulated within a water-based material which emulates a cell's environment, hence allowing it to live for longer period. Till now, many 3D organs have been created while some are still being modified, some have been given to patients for example a 3D printed ear has been created for a little girl name Maya where her cartilage has been used. The ear is fully functional and allows the patient to hear again. Other 3D printed organs that are still being studied that may be available in the future are the cornea which can prevent corneal blindness, liver created from blood cells, heart, bones for bone grafting, cartilage, ovaries which helps women with fertility issues, kidneys from stem cells, pancreas which will help diabetic patients avoid having to inject insulin and minimize the risk of secondary complications and skin for transplantation for victims of burns or skin diseases.

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#### **Written by:**

**Ms. Harsha Santchurn, 1<sup>st</sup> year B Pharm student, JSSAHERM**

## Children's vaccine hypersensitivity

Hypersensitivity reactions occur in approximately 1 in 50,000 to 1 in 100,000 vaccination doses. The majority of the reactions are mild and allow for the completion of the immunization series. Systemic effects are rare and can be rapid or delayed. While such reactions are frequently produced by one of the vaccination's components, they can also be triggered by the vaccine antigen.

### *Allergy to the egg protein present in the vaccine*

Children who have a history of egg allergy are usually denied the measles-mumps-rubella-varicella (MMR/MMRV) vaccine and the influenza vaccine. Even yet, these vaccines contain less than 1ng of egg albumin, and the majority of the allergic reactions to these vaccinations are not caused by an egg allergy. As a result, they can be used freely in such children, unlike the yellow fever vaccination, which contains more egg albumin. This needs a pre-vaccine skin prick and an intradermal test for vaccination sensitization in children with egg allergy.

Meanwhile, individuals who exhibit hypersensitivity to the MMR/MMRV vaccine should be tested for allergies to gelatine or other components found in the yellow fever and Japanese encephalitis vaccines.

### *Allergies to gelatine, galactose, and milk*

Gelatine prick testing and gelatine-specific immunoglobulin E (IgE) testing should be conducted on children with a history of gelatine allergy. If the results are negative, it is recommended to perform an oral gelatine challenge. For such youngsters, gelatine-free vaccinations or a graduated vaccination schedule are the two choices.

Vaccines made with gelatine, such as the zoster vaccine, should be administered cautiously in children allergic to galactose-1,3-galactose (-gal). Similarly, these children may develop hypersensitivity if they receive the MMR, varicella, and diphtheria-tetanus-pertussis/polio (DTaP/IPV) vaccines concurrently.

Milk allergies may result in unpleasant reactions to DTaP/IPV vaccines that contain residues of milk proteins, prompting a one-hour post-vaccination monitoring period for such persons. Due to a history of latex allergy, this ingredient must be avoided during vaccination administration.

### *Allergy to covid-19 vaccinations*

Anaphylaxis, the most severe type of hypersensitivity reaction, was reported to occur in 11 per million doses of the Pfizer/BioNTech and in 2.5 per million doses of the Moderna messenger ribonucleic acid (mRNA) vaccines against severe acute respiratory syndrome coronavirus 2. (SARS-CoV-2). By April 2021, the rate of anaphylaxis caused by the Pfizer immunization had been reduced to 4.7 per million doses.

Prospective research, on the other hand, casts doubt on the reporting mechanism that generated this estimate, revealing a similar incidence of 0.027 percent and 0.023 percent for

Pfizer and Moderna, respectively. There has been one instance of anaphylaxis associated with Johnson & Johnson's Janssen vaccine, which has been used in substantially fewer cases.

Females experienced the highest adverse events, with 86% happening within half an hour of the Pfizer immunization and 90% occurring within 15 minutes of the Moderna vaccination. There have been no fatalities associated with this cause.

### ***Factors at Risk***

Food allergies and adverse reactions to drugs, vaccines, cats, dogs, butterflies, jellyfish venom, polyethylene glycol polysorbate-80 (PEG-PS-80), other vaccine excipients, and contrast media containing iodine or gadolinium, as well as a history of hypersensitivity to the primary dose, all constitute risk factors. However, many of these incidents happened in the absence of any prior risk factor, emphasizing the importance of emergency facilities and at least a half-hour period of observation for those with a history of allergy to other chemicals during vaccination.

PEG-PS-80 is frequently to blame for a history of hypersensitivity to the initial dose of a COVID-19 immunization or its components. Skin testing for this chemical can cause allergic reactions, including anaphylaxis. The efficacy of this drug's desensitization therapy is still being researched. Patients who have previously experienced an adverse reaction to PEG-PS80 should abstain from receiving the second dose of the mRNA or any other COVID-19 vaccines that contain this substance. Local immune responses to mRNA vaccines are frequently delayed, and the second dosage is typically well tolerated.

**Conclusion-**The data suggest that a history of gelatine allergy increases the risk of anaphylaxis or allergic reactions to COVID-19 mRNA injections. Additionally, the emergence of a -gal allergy may demand care. Additional risk variables, such as those described above, are included.

When a patient has a history of allergy to vaccine excipients or the first dose of a COVID-19 vaccine, an allergist should assess the risk, and the results should serve as the basis for a shared decision-making process between the doctor and the potential recipient prior to the second dose. Additional study is needed to improve the reliability of these testing and desensitization approaches in patients with a proven history of hypersensitivity to the initial dosage.

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### **Written by:**

**Ms. Chunalvee Ramparsad, 2<sup>nd</sup> year BPharm student, JSSAHERM**

# Whipple technique

A Whipple procedure, alternatively referred to as a pancreaticoduodenectomy, is a difficult operation that involves the removal of the pancreas head, the first section of the small intestine (duodenum), the gallbladder, and the bile duct.

The Whipple surgery is used to treat pancreatic cancers and other pancreas, intestine, and bile duct diseases. It is the most often performed procedure for treating pancreatic cancer that has spread to the head of the pancreas. Following the Whipple procedure, the surgeon reconnects the residual organs to allow for normal postoperative digestion. The Whipple technique is a complicated and time-consuming procedure that carries significant hazards. However, this operation is frequently lifesaving, especially for cancer patients.

## Why is it done?

A Whipple procedure may be an option for people who have cancer or another condition of the pancreas, duodenum, or bile duct. The pancreas is a crucial organ located above the stomach in the upper abdomen. It collaborates closely with the liver and bile ducts and secretes enzymes that aid in the digestion of fats and proteins. Additionally, the pancreas secretes hormones that aid in blood sugar regulation.

Doctors may propose a Whipple surgery to address the following conditions:

- Pancreatic cancer
- Pancreatic cysts
- Pancreatic tumors
- Pancreatitis
- Ampullary cancer
- Bile duct cancer
- Neuroendocrine tumors
- Small bowel cancer
- Trauma to the pancreas or small intestine

Whipple procedures are used to remove cancerous tumors and to prevent them from developing and spreading to other organs. This is the only treatment that has been shown to significantly improve survival and cure rates for the majority of malignant cancers.

## Risks

The Whipple technique is a technically challenging operation that frequently requires open surgery. It is associated with dangers both during and following surgery. These may include the following:

- Bleeding at the surgical sites
- Delayed stomach emptying, which may impair one's ability to consume or keep food down momentarily
- Leakage from the pancreas or bile duct connection

Extensive research demonstrates that surgeries performed by highly skilled surgeons in sites that do a significant volume of these operations have fewer problems.

### **Whipple procedures can be performed in a variety of ways:**

- Laparoscopic surgery. An open operation requires the surgeon to create an incision in the belly to gain access to the pancreas. This is the most often used and studied strategy.
- Laparoscopic surgery is a type of minimally invasive surgery. It involves the surgeon making numerous smaller incisions in the abdomen and inserting specialized instruments, including a camera that feeds video to an operating room monitor. The surgeon monitors the screen in order to direct the surgical tools during the Whipple procedure.
- Robot-assisted surgery. Robotic surgery is a technique for doing minimally invasive surgery in which surgical instruments are coupled to a mechanical device (robot). The surgeon sits at a panel nearby and directs the robot with hand controls. A surgical robot can maneuver equipment in tiny places and around corners that are inaccessible to human hands.

Minimally invasive surgery has several advantages, including reduced blood loss and a faster recovery time in individuals who do not experience difficulties. However, it takes longer, which can be strenuous on the body. Occasionally, a procedure may begin with minimally invasive surgery but later on requires the surgeon to make an open incision to complete the operation due to complications or technological difficulties.

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### **Written by:**

**Ms. Umaira Oodally, 2<sup>nd</sup> year BPharm student, JSSAHERM**

## Vaccine Business: Big Pharma's Gold Rush

Not long ago, the prospect of making huge profits from getting people jabbed seemed unappealing to multinational pharmaceutical companies. However, with the advent of Covid-19 and the subsequent exponential demand for vaccine doses, the race for maximum profitability has been set.

Pre-Covid 19 pandemic data had shown that the contribution of vaccines to the overall turnover of healthcare companies (the market capitalisation of the Pharmaceutical Industry was evaluated at 1.27 trillion dollars) was not as substantial. This is illustrated in the table below-

**Table 1.6** Worldwide prescription drug & OTC sales by therapeutic area in 2020

Therapy area	WW sales in 2014 (US\$ billion)	WW sales in 2020 (US\$ billion)	CAGR % growth	WW market share in 2014 (%)	WW market share in 2020 (%)
Oncology	79.2	153.1	11.6	10.1	14.9
Anti-diabetics	41.6	60.5	6.4	5.9	5.9
Anti-rheumatics	48.8	53.2	1.5	5.2	5.2
Anti-virals	43.1	49.6	2.3	4.8	4.8
Vaccines	26.7	34.7	4.4	3.4	3.4
Bronchodilator	32.5	32.5	–	3.2	3.2
Sensory organs	18.6	30.4	8.5	3.0	3.0
Anti-hypertensives	30.5	25.8	–2.8	2.5	2.5
MS-therapy	19.4	23.1	2.9	2.2	2.2
Immunosuppressants	9.2	18.6	12.5	1.8	1.8

WW worldwide, CAGR compound annual growth rate, MS multiple sclerosis  
Source: Evaluate (2015)

The profitability of coronavirus vaccines has come under scrutiny in connection with vaccine patents, but the temporary lifting of patents that were supposed to make the production of the life-saving inoculations more financially feasible for poorer countries did not happen in the end. Critics of the procedure pointed out that even if patents and the costs associated with them would disappear, production facilities capable of manufacturing COVID-19 vaccines would still be lacking in most places.

As booster shots are ensuring that coronavirus vaccines remain sought after, company financial reports show that COVID-19 vaccine makers and developers like Johnson & Johnson, Pfizer, Moderna, AstraZeneca and BioNTech have mostly seen their profits increase since the vaccine rollout, at times majorly. Pharma giants like Johnson & Johnson and Pfizer bring in billions of dollars of income every quarter from diverse sources. While the COVID bump was smaller for Johnson & Johnson, it majorly increased Pfizer's bottom line due to its hugely popular vaccine.

For smaller AstraZeneca, profits actually decreased compared with 2020 in part linked to an increase in investments in R&D. The Anglo-Swedish manufacturer has also said it was selling its vaccine at cost during the pandemic and was not profiting from it. In the case of Moderna, the past

year has turned a loss into a profit. The case is similar for German company BioNTech, which collaborated with Pfizer on its COVID vaccine. The company had run a deficit since its founding in 2008 up until Q4 2020, when it posted a profit for the first time. The \$446 million earned that quarter only about made up for the losses accrued between Q1 and Q3 of 2020. In the three quarters since then, BioNTech has earned the more sizable sum of \$8.16 billion.

### **WHAT IT MEANS FOR MAURITIUS?**

The potential financial profitability of vaccines has renewed an interest for the creation of Pharmaceutical Hubs in certain newcomers on the scene and Mauritius is no different. The island-country whose primary source of foreign income is tourism was heavily affected by the pandemic and has since suffered a reduced GDP.

In a bid to alleviate the devastating effects of the pandemic on its economy, the Mauritian Government in 2021, announced the creation of a genuine pharmaceutical industry on the island primarily targeting the African market. The first step was the setting up of the Mauritius Institute of Biotechnology, deemed to be the ‘rocket launcher’ of the industry. Secondly the government provided leverage for the creation of pharmaceutical companies such as “premium investor certificates”, margin of 20%, air freight reimbursement up to 60% and so on.

As of yet, there exist only one local producer of pharmaceutical products, but the government promises the establishment of three companies known for their expertise in the sector.

**Good to know:** The African market for vaccines is evaluated at 1.3 billion dollars which represents 25% of the worldwide market. Estimates suggest a net increase of 2.4-5.4 billion dollars by 2030. Paediatric Vaccines remains the most prevalent in Africa in terms of volume.

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### **Written by:**

**Mr. Abdallah Sultan, 2<sup>nd</sup> year BPharm student, JSSAHERM**



# Eating and Drinking Habits

Nowadays, humans have lost their sense of purpose, with the result that they pay less attention to their lifestyle, which has an effect on their health. Rather than that, they are doing their bodies more harm than good. Simply by putting into practice a simple and fundamental activity on our part that may look nonsensical to our eyes results in a plethora of benefits to human health, as research demonstrates beyond our wildest imagination.

## **Why should we eat with our hands?**

While it may seem ridiculous to us, eating with our hands has been scientifically proven to have some health benefits. The human mind convinces us that eating with our hands is unsanitary, but clearly one should wash their hands before eating. That is why European civilization introduced the use of gleaming flatware (spoons and forks) for eating in order to avoid using our sensitive hands.

The following are some of the benefits that demonstrate why eating with your hands is a good practice.

### **1. Eating with your hands improves circulation.**

Eating with your hands is a wonderful form of muscle activity, which improves blood circulation. Excessive hand mobility may assist in maintaining a smooth blood flow.

### **2. Promotes Digestion**

The body is considered to include bacteria or flora that reside in areas such as the hands, mouth, throat, bowel, and gut and protects us from hazardous bacteria found in the environment. Thus, when we eat with our hands, the friendly flora shields our digestive system from harmful bacteria, activating the digestive system even more. Additionally, Ayurveda believes that the nerve terminals of the fingertips aid in digestion. Indeed, when you eat with your hands and engage your fingertips, you become more aware of the sensations, flavors, and scents.

### **3. May aid in the prevention of Type-2 Diabetes**

According to a study published in the Journal Clinical Nutrition, those with type 2 diabetes were more likely to be fast eaters who ate with silverware than people without the disease. Eating with spoons and forks results in increased eating speed, which has been connected to blood sugar imbalances in the body, which promotes to the development of type 2- diabetes. As a result, eating with our hands encourages us to eat slowly and mindfully.

## **The reasons why we should abstain from drinking water standing:**

Obviously, drinking water is necessary for a healthy existence. It assists in maintaining hydration, and it is critical to consume at least eight glasses of water every day. However, drinking water in the proper manner and posture is critical to maintaining a healthy lifestyle.

### *1. The hazards associated with standing and drinking water.*

According to health experts and Ayurveda, drinking water standing up has a direct correlation with the rate at which water enters the body. The way water is consumed can have a significant effect on the human body.

Sandhya Gugnani, a celebrity nutritionist, explains, "Your posture has a significant impact on your water consumption. When we drink water rapidly while standing, we put our nerves under tension, which alters the body's fluid equilibrium, resulting in an increase in toxins and indigestion. Additionally, it causes fluid accumulation in the joints, resulting in arthritis. Additionally, it inhibits the kidneys' filtration of water, and pollutants in the kidneys and bladder result in urinary tract infections." The following sections discuss why we should break the negative habit of drinking water standing.

### *2. Ayurveda's Final Judgment*

Ayurveda teaches that drinking water while standing has no health advantages. It is claimed that drinking water in a standing position prevents the body from absorbing any benefit from the water, since it runs down through the esophagus and into the lower stomach, causing injury to the surrounding tissues. In the long run, it wreaks havoc on the entire digestive system and adjacent organs. Additionally, Ayurveda never recommends drinking cold or chilled water because it has a negative effect on the stomach.

### *3. Harmful to the Kidneys*

When we drink water standing up, the fluid flows directly to the lower stomach without any filtering, all due to the high pressure. As a result, water pollutants collect in the bladder, causing severe damage to the kidneys.

### *4. It is not a true thirst quencher.*

It may appear strange to us all how drinking water does not quench our thirst, let alone in the standing position. This occurs because water passes right through, preventing needed nutrients and vitamins from reaching the liver and digestive tract. Additionally, water flows through the system at a high rate, putting the lungs and heart functions at risk. This also has an effect on the oxygen levels.

### *5. Contributes to the development of arthritis and joint damage*

While this may seem strange, drinking water while standing might result in health problems such as arthritis and joint damage. According to the study, when you drink water while standing, the water flow is increased, along with the air pressure, influencing the entire system and potentially causing problems such as arthritis and joint damage. Thus, the rate at which we consume water and the manner in which we use it are critical.

Finally, it is irrelevant how much water is consumed; what counts is how well the water is consumed. Indeed, it is said that quality is more important than quantity.

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#### **Compiled By:**

**Mr. Haiman Bhye Hassen Nubheebucus, 1<sup>st</sup> Year B Pharm Student, JSSAHERM**

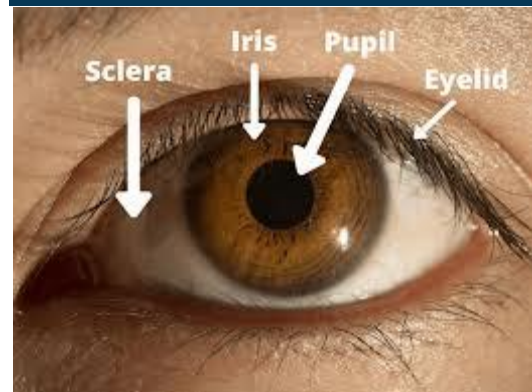
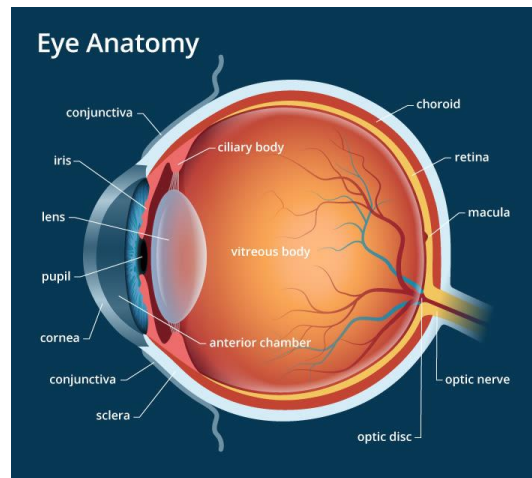
# The Eye and Ways to take care of the eye

## A brief introduction to the anatomy of eye

The human eye is one of the most important sensory organs in the human body, which forms part of the sensory nervous system and allows us to see and use that visual information to make appropriate decisions according to the environment surrounding us. The eye reacts to visible light and through that we can see things in front of us, keep our balance and maintain the circadian rhythm.

The eye can be compared to an optical device. A normal eye is nearly spherical in shape, with layers; retina (light sensitive), choroid (pigmented layer), sclera (white part of the eye).

The conjunctiva, a thin layer of tissue that covers the anterior part of the eye, except the cornea, is a clear, very thin, dome-like layer in front of the eye. The cornea bends and focuses light to the lens of the eye. The light will first pass from the cornea to the pupil which is an aperture in the eye, controlled by the muscles in the iris (colored part of the eyes). The iris controls the amount of light entering the eye, by changing the diameter of the pupil. Then the light passes through the lens and the latter focuses the light onto the retina. The ciliary body helps the lens to focus the light onto the retina, by slight changes in the curvature of the lens. The light, on reaching the retina, causes the photoreceptors present in this layer to turn the light stimuli into electrical signals which travels to the brain through the optic nerve. Finally, the brain processes the electrical signal, outputting the image that you see.



## Diseases of the eye

**Astigmatism:** It is a condition in which the cornea of the eye isn't spherical causing light to bend more in one direction than in another direction. This results in image blurriness. Astigmatism is usually associated with myopia or hyperopia (these conditions are called as refractive errors).

**Blepharitis:** It is an inflammation of the oil glands in the eyelids and usually causes dry eyes.

**Conjunctivitis:** It is the inflammation of the conjunctiva. It is highly contagious. It is usually caused by bacterial or viral infections, irritants, or allergic reactions. It causes redness in the anterior sclera.

**Diabetic retinopathy:** The blood vessels in the retina swell, leak fluids, or ruptures, which causes blindness or vision changes. It occurs due to high blood glucose level. It is a comorbidity of all types of diabetes.

**Glaucoma:** It is caused due to high intraocular pressure that damages the optic nerve, causing vision loss or blindness. The high pressure results due to buildup of fluid in the aqueous humor.

**Stye:** It is an abscess(pimple-like) formed on the lower or upper eyelid due to bacterial infection of the oil glands of the eyelids.

**Retinal Detachment:** It occurs when the retina pulls away or detaches from the tissues around it which provided anchorage to it. It causes blurriness or vision loss.

**Macular degeneration:** AMD (Age-related macular degeneration) occurs when the macula in the retinal tissue wears down due to ageing. It can cause partial vision loss.

### Ways to take care of your Eyes

- **Eat a balanced diet with healthy food:** Eat plenty of fruits, like oranges and other citrus fruits, and vegetables, particularly green leafy vegetables such as spinach, kale, collards. Other nutrients such as **lutein**, **lycopene** (found in tomato), **zinc**, **copper**, vitamins **A**, **C** and **E** also help to ward vision problems. Non-meat protein sources such as eggs, nuts and beans are a must-have in your meal.

**Carrots:** Carrot is one of the first food that come to mind when talking about the eyes. Carrots are rich in **Beta-Carotene** which is very good for the proper eye function and the retina.

Eating fish high in **omega-3 fatty acids**, such as salmon, sardines, tuna, and halibut keep your eyes healthy. Omega-3 fatty acids help to prevent cataracts and dry eyes. They also have anti-inflammatory properties which can prevent diabetic retinopathy. They can also be found in flaxseed, chia seeds, soy, nuts and canola and olive oils.

Spinach contains **lutein** which helps in the protection of the retina.

**Niacin** found in turkey, beef, fish and some cereal can help to prevent formation of cataracts and glaucoma in the eyes.

**Vitamin C** found in berries (strawberries, blueberries) has been found to prevent macular degeneration and cataracts which can happen as you age. It is also required to make collagen that is used to maintain the sclera and the cornea of the eye.

**Vitamin A**, found in sweet potatoes, pumpkins, and bell peppers, maintains a clear cornea. Vitamin A deficiency can lead to xerophthalmia, an eye disease which starts with night blindness. Vitamin A reduces the risk of cataracts and age-related macular degeneration.

**Lutein and Zeaxanthin** are carotenoids which can be found in the macula and the retina of the eyes where they help to filter the harmful blue light. Hence an intake of these nutrients helps to maintain the normal functioning of the eyes. They have also been found to prevent cataracts and macular degeneration. They are found naturally in spinach, kale and collards.

- **Lose weight and maintain a healthy weight:** Obesity increases your risk of developing diabetes which can lead to diabetic retinopathy and glaucoma.
- **Exercise regularly:** Exercise help to prevent or control diabetes, high blood pressure, and high cholesterol. These conditions can lead to vision problems such as cataracts, glaucoma, or diabetic retinopathy.
- **Wear sunglasses:** UV radiations, UV-A and UV-B coming from sun can damage the eyes, and directly looking at sun can cause damage to the cornea (solar keratitis) and retina (solar retinopathy). The UV light literally burns the cornea and burns a hole in the retinal tissues. Sunglasses filter up to 99% of the UV radiations, hence protecting your eyes.
- **Wear protective eye wear:** To prevent eye injuries when working in factories, construction, dealing with chemicals in laboratories, playing certain sports such as ice hockey and racquetball, it is nearly imperative to wear eye protection.
- **Avoid smoking:** Smoking increases the risk of eye diseases such as macular degeneration and cataracts as you age. It can even cause damage to the optic nerve.
- **Family medical history:** It is very important to know your family medical history, as some eye diseases are inherited. It will provide you with knowledge about eye diseases which you are more at risk of developing and in the presence of any such symptoms of the diseases, you can immediately go for an eye check-up.
- **Rest your eyes:** Prolonged usage of computers can lead to eye strain, dry eyes, ophthalmic migraine, eye fatigue and the rate at which you blink your eyes decreases drastically. To avoid those problems, you can follow the 20-20-20 rule, which is after every 20 minutes, look away about 20 feet in distance for 20 seconds, then return to your work on the computer. Use of anti-glare screen with eye care features are recommended. Also try to blink your eyes more frequently or use artificial tears solution to prevent dry eyes. Try to reduce the brightness of your screen as too much brightness can put stress on the eyes.
- **Eye Check-up:** It is essential to go to an eye doctor for an eye checkup at least once every 1 to 2 years. Your eyesight will be tested, and any eye problems will be diagnosed. An early diagnosis is always better as the eye problem will be resolved quicker.
- **Wear your prescribed glasses or contacts:** It is recommended to wear your glasses when doing your daily tasks since you will see more clearly and be more at ease. If you are not wearing them, the symptoms such as blurriness or eye fatigue which you had before may recur. Eyeglasses help to correct your vision from the refractive errors. Make sure your glasses prescription is up to date by confirming with your eye doctor.
- **Get enough sleep:** Sleep helps to relax the eyes and revitalize them for the next day.
- **Eye Supplements:** You can also take some eye supplements which contain essential vitamins and minerals for the normal functioning of the eyes.

- **Eye Exercises:** Doing some eye exercises which takes around 3- 5 minutes can help to relax the eyes and prevent dry eyes.

Eye problems can be easily prevented if you practice essential eye care habits in your daily life. They are very practical, easy to accomplish and to be accustomed to, which in the long run will keep your eyes healthy. We possess only one pair of eyes; hence it is in our best interest to take care of them in our lifetime.

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2. The 9 Most Important Vitamins for Eye Health [Internet]. Healthline. Available from: <https://www.healthline.com/nutrition/eye-vitamins>
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**Compiled by:**

**Mr. Chetram Singh Chummun, 2<sup>nd</sup> Year B Pharm Student, JSSAHERM**

## FDA Approved Drugs

S.No	Drug	Indication	Date of Approval
1	Voxsogo (vosoritide) Powder for Injection	Treatment for achondroplasia	19/11/2021
2	Livtencity (maribavir) Tablet	Treatment for post-transplant cytomegalovirus (CMV) infection	23/11/2021
3	Cytalux (pafolacianine) Injection	Identification of ovarian cancer	29/11/2021
4	Tezspire (tezepelumab-ekko) Solution	Treatment for severe asthma	17/12/2021
5	Vyvgart (efgartigimod alfa-fcab) Injection	Treatment for generalized myasthenia gravis	17/12/2021
6	Leqvio (inclisiran) Solution	Treatment for heterozygous familial hypercholesterolemia or clinical atherosclerotic cardiovascular disease	22/12/2021
7	Adbry (tralokinumab-ldrm) Injection	Treatment for moderate-to-severe atopic dermatitis	27/12/2021
8	Quviiq (daridorexant) Tablets	Treatment for insomnia	07/01/2022
9	Cibingo (abrocitinib) Tablets	Treatment for refractory, moderate-to-severe atopic dermatitis	14/01/2022
10	Kimtrak (tebentafusp-tebn) Injection	Treatment for unresectable or metastatic uveal melanoma	25/01/2022
11	Vabysmo (faricimab-svoa) Injection	Treatment for neovascular (wet) aged-related macular degeneration and diabetic macular edema	28/01/2022
12	Enjaymo (sutimlimab-jome) Injection	For decreasing need for red blood cell transfusion in cold agglutinin disease	04/02/2022
13	Pyrukynd (mitapivat) Tablet	Treatment for hemolytic anemia in pyruvate kinase deficiency	17/02/2022
14	Vonjo (pacritinib) Capsule	Treatment for myelofibrosis	28/02/2022



## Events' Corner

### Event 1: Webinar Report

#### “Prevention, Detection & Treatment of Cancer : Close the Care Gap”

19<sup>th</sup> February 2022 through online platform.

**Zoom link:**

[https://us02web.zoom.us/webinar/register/WN\\_H5aTUCQBQ2irOvD7PBkr0A](https://us02web.zoom.us/webinar/register/WN_H5aTUCQBQ2irOvD7PBkr0A)

The School of Pharmacy, JSS Academy of Higher Education and Research, Mauritius (JSSAHERM) in association with International India Welfare Association (IIWA), Mauritius conducted the webinar on the mentioned topic on 19<sup>th</sup> February 2022 with the following objectives:

- ✓ **Cancer detection at early stage**
- ✓ **Prevention & Treatment**
- ✓ **Depression, Anxiety with Cancer**
- ✓ **Cancer survival as it's not a death**

Renowned Oncologist Dr Shashi Sewsum, Head of Radiation & Clinical Oncology Victoria Hospital, Mauritius and Dr Mridua Naga, Psychiatrist were the lead speakers for the event.

Both the speakers touched upon the different dimensions of cancer. Dr Shashi in her talk mentioned on cancer and early detection, diagnosis and shared her vast experience on working with cancer patients/survivors in Mauritius. Where in Dr Naga spoke about the psychological aspects associated with cancer and ways to overcome those with drugs, mindful medication and yoga.

Mrs Neelu Hassamal, President of IIWA, Mauritius and the cancer warrior who defeated cancer shared her story and sent the strong message that cancer is the journey but not death. Her inspiring story was well appreciated by the participants that was evidenced by the messages received in the online session.

Mrs Cindy Miguel, representative of Link to Life, Cancer NGO spoke about the activities the NGO is carrying out for the betterment of the society.

The panel discussion was held where in Dr Khayati Moudgil, Asst. Professor, JSSAHERM shared her view on the role of pharmacist in cancer treatment and mentioned that pharmacists play a key role in patient counselling. Mrs Medha Gujadhur, Director, KiddiKids Pre Primary School and Asst. Professor, JSSAHERM mentioned on Child and Cancer.

Earlier, Mrs Shilpa Gujadhur, Founder, IIWA Mauritius welcomed the virtual gathering and Dr

Ashish Wadhvani, Professor and Head, Faculty of Health Sciences, JSSAHERM gave the opening remarks and mentioned the statistics on the cancer a leading cause of death worldwide and how the lives and livelihoods of every citizen are affected globally.

Even though registration was not compulsory, we note that we were more than 500 registered participants in the virtual conference room, coming from various countries across the globe including Mauritius, India, USA, UK, Singapore, Korea, Europe etc.

Mrs Priya Dhillon Narang, social worker gave the closing remarks and summed up the entire sessions.

This webinar was very informative and unique by its on as there was oncologist, psychiatrist, cancer warrior, NGO, pharmacist, entrepreneurs, and social work came together to share their experiences to make this webinar a success.

**A glimpse of the session;**



## Event 2: International Women's Day

The International Women's Day is celebrated worldwide on the 8<sup>th</sup> of March. This special day has been chosen to highlight the role of women around the globe to protect their rights and to bring about gender equality. I believe that not just this day, but everyday women should be respected.

At JSS Academy, the female staff and students made this day exceptional by sharing sweets and chocolates among each other.

Women's day is celebrated to break the various stereotypes surrounding women as solely being the caregiver. Instead, it enforces the idea of women assuming various roles in society.

Since women are the strongest pillar of this society, it is only adequate that a day of the year is dedicated to all women to commemorate their major achievements and to further stress on the importance of women empowerment.

This year, the International Women's Day theme is 'Break the Bias'.

A world where there is no gender stereotyping.

A world where diversity is valued.

The success of every woman should be an inspiration to another. We are strongest when we cheer each other on.

I feel proud to be a woman.

Cheers to women power

Cheers to us



### Event 3: Independence Day



JSS Academy of Higher Education and Research, Mauritius (JSSAHERM) celebrated the 54<sup>th</sup> Independence Day of Mauritius on the 11<sup>th</sup> of March 2022.

As per the tradition of the JSSAHERM, the newly joined staff members Mrs. Ramowtee Roopa Lalljee and Mrs. Purnima Bai Rama hoisted the flag followed by the message of the Prime Minister read by the CEO, Dr Praveen Mohadeb. It was a moment of great pride for all the Mauritians. The teaching and the non-teaching staff were present during this occasion. After the ceremony, refreshments were served to all those present on the day. Students and some staff joined the celebration via Zoom also.



## JSSAHERM Faculty Publications

(January to April 2022)

1. Vedpal Singh, Namrita Lall, **Ashish Wadhvani** and Sangai P. Dhanabal. GC-MS analysis of *Curculigo orchoides* and medicinal herbs with cytotoxic, hepatoprotective attributes of ethanolic extract from Indian origin. J Complement Integr Med March 2022; aop <https://doi.org/10.1515/jcim-2020-0545> (IF: 1.86)
2. M. B. Aishwarya Gowda, Shefali Deo, Sayoojya Rajeev Nair, Shonitha Sagadevan and **Khayati Moudgil\***, A Cross-sectional Study to Investigate the Association of Depression among COPD Patients at a Secondary Care Hospital in Nilgiris, Journal of Pharmaceutical Research International, 2022, 34(1B): 17-24.
3. Oorvashree Hari, Medha Gujadhur, **Khayati Moudgil\***, A Mini Review On Nutraceuticals: An Emerging Era In The Health Industry, Bangladesh Journal of Multidisciplinary Scientific Research 2021 4(1) 1-5.
4. Shazalyana Azman, Mahendran Sekar, Suzana Wahidin, Siew Hua Gan, **Jaishree Vaijanathappa**, Srinivasa Reddy Bonam, Mallika Alvala, Pei Teng Lum, Vandana Thakur, Jayesh V Beladiya, Anita A Mehta. Embelin Alleviates Severe Airway Inflammation in OVA-LPS-Induced Rat Model of Allergic Asthma, Journal of Asthma and Allergy, 2021, 1511-1525 (IF: 4.45).
5. Sai Akilesh, **Ashish Wadhvani\*** Novel Applications of Nanotechnology in Controlling HIV and HSV Infections, Current Drug Research Review, 2021;13(2):120-129. PMID: 33238862
6. Gomathy Subramanian, Farhath Sherin, Naina Merin Joy, **Ashish D Wadhvani**, Gowramma Byran and A Shanish Antony. Docking studies and synthesis of novel 4-thiazolidinone derivatives bearing 1, 3, 4-Oxadiazole moiety as sirt-3 activators targeting parkinson's disease. Rasayan J. Chem., 2022; 15(1), 483-496

# Laureates of the Parent Institute

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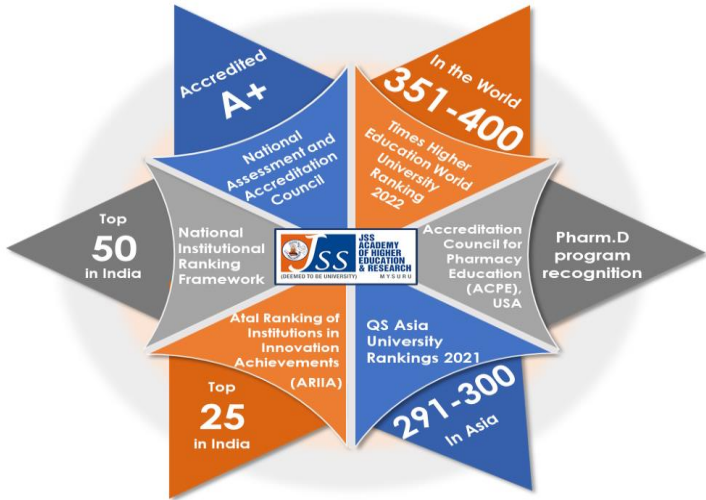
**Times Higher Education Young Universities Ranking 2022**

[www.jssuni.edu.in](http://www.jssuni.edu.in)

**THE World University Rankings by Subject 2022**

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**Prepared and Circulated by:**

School of Pharmacy

Faculty of Health Sciences

JSS Academy of Higher Education and Research,  
Mauritius

Droopnath Ramphul Avenue, Bonne Terre,  
Vacoas-73304, Mauritius

Phone: +230 4016415

Website: <http://www.jssaher.edu.mu>

Email: [info@jssaher.edu.mu](mailto:info@jssaher.edu.mu)