

GLOBAL COOPERATION IN DRUG REGULATION

In an increasingly interconnected world, the regulation of pharmaceuticals is a pressing issue that transcends national boundaries. The importance of global cooperation in drug regulation cannot be overstated, as it plays a crucial role in ensuring the safety, efficacy, and accessibility of medicines worldwide. This cooperation is essential for addressing challenges such as public health emergencies, combating counterfeit drugs, and fostering innovation in drug development.

The COVID-19 pandemic has highlighted the necessity of global collaboration in drug regulation. The rapid spread of the virus necessitated the swift development and approval of vaccines and therapeutics, which required a harmonized regulatory approach. International organizations, such as the World Health Organization (WHO), played pivotal roles in facilitating the sharing of information and best practices among countries. By establishing frameworks for emergency use authorization and mutual recognition of clinical trials, countries were able to expedite the approval process for life-saving treatments.

Such cooperation is not limited to pandemics; it is equally important in managing endemic diseases. For instance, global coordination is vital in the distribution of antiretroviral therapies for HIV/AIDS and vaccines for diseases like measles and polio. By aligning regulatory standards, countries can ensure that safe and effective treatments are available to those who need them most, regardless of their geographic location.

The proliferation of counterfeit and substandard medicines is a significant threat to public health. The World Health Organization estimates that nearly 10% of medicines globally are falsified, with this figure rising to 30% in some developing countries. Counterfeit drugs not only fail to provide therapeutic benefits but can also cause serious harm to patients. Global cooperation in drug regulation is essential for combating this menace.

By collaborating on regulatory standards and sharing information about suspicious products and manufacturers, countries can create a unified front against counterfeit drugs. Initiatives such as the WHO's MedNet and the Pharmaceutical Inspection Co-operation Scheme (PIC/S) foster information exchange and enhance regulatory oversight. Furthermore, international treaties and agreements can strengthen legal frameworks, making it easier to prosecute those involved in the production and distribution of counterfeit medicines.

Access to essential medicines remains a significant challenge in many parts of the world, particularly in low- and middle-income countries. Global cooperation can help address these disparities through initiatives that promote affordable and equitable access to drugs. Collaborative efforts between countries, international organizations, and the private sector can lead to the development of frameworks that facilitate technology transfer, local manufacturing, and the sharing of resources.

For instance, the Medicines Patent Pool (MPP) works to increase access to affordable medicines by negotiating licenses with pharmaceutical companies, allowing generic manufacturers to produce and distribute lower-cost versions of essential drugs.

This kind of cooperation helps bridge the gap in access to life-saving treatments, ensuring that vulnerable populations receive the care they need.

Innovation in drug development is another area where global cooperation is vital. The complexities of developing new medicines-ranging from research and development to clinical trials and regulatory approval-require collaboration among various stakeholders, including governments, academia, and the pharmaceutical industry.

Global partnerships can facilitate joint research initiatives, share knowledge, and pool resources to overcome common challenges. For instance, the Global Health Innovative Technology Fund (GHIT Fund) focuses on developing new medicines for neglected diseases by bringing together partners from Japan and developing countries. By fostering an environment of collaboration, countries can drive innovation and accelerate the development of new therapies.

World Anatomy Day: Unleashing 'Anatomy in Motion'

DR REEHA MAHAJAN
Anatomy is a branch of science that deals with the structure of the body from the macroscopic (visible to the naked eye) to the microscopic level (visible under a microscope).

It is well said by Hippocrates that "Anatomy is the basis of medical discourse". Human Anatomy is the foundation of the medical profession, including MBBS, dentistry, nursing, physiotherapy, occupational therapy, and various other allied health courses. Anatomy is the cornerstone for understanding the human body, diagnosing illnesses, and performing medical procedures.

World Anatomy Day was collectively declared by the International Federation of Associations of Anatomists (IFAA) and national anatomical societies. The IFAA Congress decided to observe World Anatomy Day on 15th October every year at the 19th IFAA World Congress held in London in August 2019.

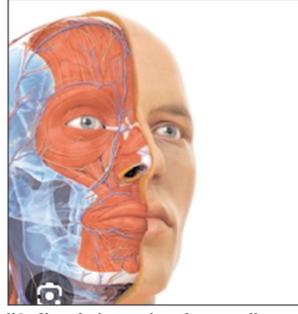
World Anatomy Day is celebrated on 15th October and marks the death anniversary of Andreas Vesalius, who died in 1564 on the same day. Andreas Vesalius (AD1514-1564), a Dutch anatomist, was the greatest anatomist of his time and is now regarded as the "Father of Modern Human Anatomy". He is also called the "Reformer of Anatomy". Vesalius laid the foundation on which many subsequent advances in medicine and surgery occurred. He wrote a set of seven books known as De humani Corporis Fabrica Libri Septem (On the workings of the Human Body), which transformed anatomy teaching and remained a commanding text for two centuries.

World Anatomy Day is a day to commemorate the discipline of anatomy and to spread awareness of its pivotal role in educating and shaping the career of healthcare professionals globally. This day is a reminder to enhance anatomical awareness in society, promote the diversity of disciplines, change the understanding of anatomy, thank the cadaveric donor, acknowledge the kith and kin of donors, address the donor shortage, and attract young scientists into anatomy.

The Theme for World Anatomy Day 2024 is "Anatomy in Motion"

There are various subdivisions of Anatomy which include Gross anatomy/ topographical anatomy, microscopic anatomy/ histology, surface anatomy, comparative anatomy, physical anthropology, living anatomy, clinical anatomy, radiological anatomy, developmental anatomy/embryology, genetics and experimental anatomy.

Gross anatomy can be studied region-wise as well as system-wise. Locomotor system is an integral system of the human body responsible for movements and locomotion. The locomotor system of the body comprises primarily of the bones, cartilages, joints and muscles. Abnormalities in the development of these tissues can lead to skeletal deformities and malformations in the children. These deformities, if left uncorrected, can produce gait disorders and restriction of certain movements during childhood as well as in adult



Happy World Anatomy Day!

life, directly impacting the overall growth and productivity of the individual.

Embryology is the subdivision of Anatomy dealing with development and growth of an individual before birth. During morphogenesis i.e., growth and development of various tissues and organs of human body, the interplay of several genetic or environmental factors may interfere with the normal development of the fetus leading to congenital anomalies at birth. Thus, thorough knowledge of embryology helps us in understanding not only the formation and functions of different parts of body but also the elements responsible for causing birth defects. The understanding of these factors helps the medical practitioner in the prevention, diagnosis, and treatment of such conditions.

Overview of the development of parts of the body responsible for movements of the body: Anatomy in Motion

The appendicular skeleton is composed of upper and lower limbs and includes the shoulder and hip region. The limb buds form out pocketings that form ridges on the sides of the body wall at the end of the 4th week of pregnancy, which is genetically determined by HOX (Homeobox) genes. The forelimbs start forming first, followed by the hindlimbs 1-2 days later. The limbs attain the bud stage by the end of 5th week. The germ layer called ectoderm thickens at the end of the limb to form a ridge, the Apical Ectodermal ridge (AER) which has an inductive influence on neighbouring undifferentiated tissue which later differentiates into cartilage and muscle. The development of the arm and thigh is followed by the development of the forearm and leg and still further by the development of the hand and foot. The terminal portion of the limb buds becomes flattened to form hand and foot in 6-6-week-old embryo. The cell death in the AER separates the ridge into five parts leading to the formation of fingers and toes. During the 7th week of pregnancy, the limbs rotate in opposite directions. The upper limb rotates 90° sideways, causing the muscles involved in the extension of the limb to be placed on the back and thumbs laterally, whereas the lower limb rotates almost 90° medially, shifting the extensor muscles on the front and big toe toward the central axis of the body. The arrest of chondrogenesis (development of cartilage) at the cartilaginous condensations leads to formation of joints. The retinoic acid made in flank mesenchyme cells initiates a genetic cascade to cause dif-

ferentiation of skeletal system in the arm and thigh region while the differentiation of skeletal system of forearm, leg, hand and foot regions involves various other genes including Sonic Hedgehog (SHH). Any insult to the developing tissue during the first trimester of pregnancy between the 3rd-8th week is likely to result in skeletal malformations. The mutations in HOX genes results in various congenital limb anomalies and deformities.

Congenital anomalies of the locomotor system resulting from abnormal development

The skeletal system anomalies of the limbs include short digits, brachydactyly, syndactyly, polydactyly, synpolydactyly, absent digits, absent radius (lateral bone of forearm), hypoplasia of any of the limb bones, skeletal dysplasias, clubfoot (multifactorial pattern of inheritance), achondroplasia, (common cause of dwarfism or shortness of stature caused by mutation of FGFR3 gene, leading to abnormal endochondral ossification), etc.

Other skeletal abnormalities of vertebral column/spine include Spina bifida, which is a gap in the vertebra behind, seen more commonly in females. This could be covered by skin with no neurological symptoms (spina bifida occulta) or it could present as protrusion of meninges and spinal cord on the surface of back without skin cover (Spina bifida aperta). Some individuals with vertebral abnormalities may have half vertebra (hemivertebra) leading to scoliosis (sideways bending of spine). Some children may also present with congenital fusion of vertebrae leading to decreased range of motion and pain.

Apart from this, there may be malformations of trunk region in the form of presence of accessory ribs that is, extra cervical or lumbar ribs in the neck and trunk region respectively. The cervical rib may cause compression of nerves and vessels leading to pain and numbness in the arm.

These congenital anomalies are generally caused by the following factors:

1. Genetic factors such as chromosomal abnormalities due to mutant genes, e.g., brachydactyly (short digits).
2. Environmental factors such as intake of drug thalidomide during first trimester of pregnancy, leading to amelia (absence of a limb), meromelia (malformed limbs/ congenital absence of part of limbs) and phocomelia (undeveloped hands and feet directly attached to the trunk).
3. Both genetic and environmental factors

(multifactorial inheritance), e.g., congenital dislocation of the hip.

4. Decreased blood supply to certain body parts (Ischaemia), e.g., reduction in size of limbs

5. Radiation: High doses of X-rays during pregnancy are linked with skull defects and spina bifida.

6. Fetal alcohol syndrome: Consumption of alcohol during pregnancy is associated with hypoplasia (incomplete development of parts of the body) and altered joint mobility.

7. Nutritional deficiencies: Folic acid deficiency during pregnancy is related with neural tube defects such as, spina bifida (gap in the spine)

8. Obesity: Recently, it has been seen that women with obesity are associated with increased possibility of neural tube defects in their babies.

9. Mechanical factors: Certain birth defects such as clubfoot, congenital dislocation of hip, intrauterine amputations (removal of a part or whole limb) etc. may occur due to malformed uterus, oligohydramnios and amniotic bands formed due to rupture of amnion during early pregnancy.

The congenital anomalies of the skeletal system can be detected during pregnancy by various methods of prenatal diagnosis like ultrasonography, maternal serum screening, amniocentesis, fetoscopy, MRI, etc.

With the recent advancements in the medical field, certain skeletal anomalies like neural tube defects can be corrected in the fetus during pregnancy with the help of fetal surgery, restoring the normal anatomy and leading to proper motion in the individual immediately after birth.

Role of Physical rehabilitation in restoring the "Anatomy in Motion" to the optimal level

The treatment of Congenital skeletal and neuromuscular conditions, e.g., clubfoot, scoliosis, neural tube defects, muscular dysplasia and dystrophies, etc., requires a multidisciplinary approach tailored to each individual's need for achieving optimal function, mobility, and quality of life. The goal of physical rehabilitation is to improve mobility and range of motion, enhance strength and flexibility, promote functional independence, and enhance cognitive and emotional well-being. The various interventions for physical rehabilitation include physical therapy (exercises, gait training, massage, joint mobilization etc.), occupational therapy, orthotics and prosthetics (customized devices for support and mobility), pain management and corrective and reconstructive surgeries. Physical rehabilitation not only aids in restoring the normal anatomy but also reduces the risk of secondary complications.

The truth is that in human movement, there are no A=B answers. Everything is unique and individual and needs addressing. This is why we teach a thought process, provide a model to follow and invite people to engage in a self-assessment and awareness of their own anatomy" - GARY WARD

(The writer is Asso Prof, Dept of Anatomy, AIIMS Jammu)

Disappearing of Pottery Diwali Diyas

SURJIT SINGH FLORA

Diwali is a vibrant and joyous celebration. The festival of lights reliably inspires a sense of nostalgia. In the days preceding Diwali, the dedicated potter community in the villages of Punjab would produce exquisite earthen lamps and a variety of crafts. It is concerning to observe the decline of these traditional arts in numerous regions. With the market increasingly saturated with imitation lamps and electric chains produced in China, along with various other lighting options, the allure of earthen lamps seems to be waning. Individuals committed to supporting their families through the art of clay are currently facing a notable economic downturn.

The tradition of crafting pottery during Diwali is diminishing, as it is increasingly overshadowed by the prevalence of electronic and mechanized products. Illuminating clay lamps during Diwali has been a valued tradition in our culture. Although certain individuals persist in maintaining this practice, they need our assistance to sustain it.

Clay lamps, often known as 'Diya', have been a significant part of Diwali celebrations for many years. They provide light and carry significant cultural and spiritual value. Lamps, generally powered by oil and cotton wicks, represent the conquest of light over darkness and the success of good over evil. Lighting a Diya creates a distinctive ambience; the flickering flames foster a warm atmosphere enriched with treasured memories. My grandmother frequently noted that the illumination from a lamp infuses warmth and positive energy into the home.

Recently, electric lights have experienced a notable increase in popularity. These options provide increased convenience, superior safety, and enhanced



energy efficiency in comparison to traditional lamps. Furthermore, they are more prominent in terms of decoration. Adorning balconies, windows, and doors with electric lights can produce a remarkable visual impact.

A considerable number of individuals are choosing LED lights to improve the exterior of their homes, likely because of their durability and ability to withstand various weather conditions. The use of clay lamps in the ritual of puja prayer continues to provide a vital element of tradition and authenticity to the practice.

Ultimately, regardless of whether one chooses clay lamps or LED lights, the essence of Diwali is found in the celebration of light, joy, and unity. Your Diwali celebration ought to embody the elements that genuinely evoke joy and warmth in your spirit and environment.

It is a fact that in today's world, the potters responsible for crafting the significant lamps and idols for Diwali are

lacking proper lighting in their homes and are distancing themselves from their traditional art and trade. The artisans convey that they invest significant effort in the creation of pottery and lamps; however, they perceive a lack of recognition for their hard work, which discourages the next generation from engaging in this craft. For the potters, Diwali represented more than merely a celebration; it functioned as an essential source of income. Recently, there has been a significant trend as individuals start to transition from Chinese lamps and re-embrace the appeal of traditional lamps. In contrast, these artisans contend that the Punjab government should, akin to the Himachal government, provide them with complimentary tools to aid in the revival of this diminishing heritage.

Diwali represents a collection of radiant lights. Deepavali is derived from the combination of the words 'Deep' and 'Avali'. Deepavali refers to a series of lamps, as 'Avali' denotes a row.

The presence of the potter's wheel and utensils is essential for a complete celebration, whether it be Karva Chauth, Ashtami, Deepavali, or any other festival. In the villages, lamps played an important role during Diwali, with clay lamps being the customary selection for residences. Nonetheless, the impact of modernity appears to have affected this valued heritage.

Historically, planting was a prevalent practice; however, with the evolution of lifestyle and the impact of modernity, the advancements of today have eclipsed the artisans who once expertly shaped the earth.

The brilliance of Chinese chains in the bazaars is beginning to eclipse the glow of the clay lamp.

For centuries, Diwali has been celebrated with the lighting of clay lamps in our homes; however, the emergence of Chinese lamps in the market has significantly reduced the significance of our traditional clay lamps. The potters are encountering

considerable challenges. The impact of modernity has extended to the residences of potters, who have historically brightened their environments with lamps during Diwali. The lamp manufacturers are currently facing challenges, resulting in an inability to provide light for their own residences. It is rather ironic that during Diwali, individuals participate in the worship of Lakshmi and Ganesha using idols and lamps, all with the intention of inviting Lakshmi into their homes. However, these idols and lamps have been removed from the artisans who created them. Candles and colored light bulbs have replaced traditional lamps.

The potters who craft lamps demonstrate a significant level of dedication and effort in their work. The clay must first be transported from distant locations, then sifted, followed by kneading and shaping into the final product. After considerable effort, the dried materials are successfully placed in the fire, and the lamps are now prepared for use. Despite the considerable effort invested, the genuine worth of their contributions remains overlooked, resulting in a sense of undervaluation among the inexperienced.

The lamp-making craftsman indicated that his children are not inclined to follow this career path because of its demanding nature. Consequently, they are not obtaining adequate compensation. In our rapidly evolving world, there appears to be a disconnection from our rich cultural heritage. It is crucial to implement measures for the preservation of traditional arts, and the public is encouraged to actively support these initiatives by acquiring their creations.

(The writer is a veteran journalist and freelance writer based in Brampton).

Do-it-all syndrome and YouTube neighbour: Women and COVID-19 Virtual Economy

JASLEEN

In some sense, social media has facilitated the "global village" dream of the tech industry. It offered social connection when isolation was the norm.

The female social media user experience is no different. Once logged-in the app (as if she ever logged out), she is exposed to adrocity which is inevitable to these platforms. As she "chooses" to scroll by and "decides" to watch entertaining reels, she is made to work for these platforms. She is not only producing "user" data but helping with the targeted advertising which underlie the political economic logic of these platforms.

One scroll and she's exposed to an influx of "easy" cooking, "beauty," and "beginner pilates" "at home" tips and tutorials from all over. This may feel like a Covid phenomenon, but it has become an integral part of our current techno-culture environment. "Papa's Princess" was doing it all again, even though this time, partially, virtually.

Her culinary skills have to match with that of the "kitchen influencer," while also having to maintain her health and beauty standards in accordance with "slim and Korean glass skin". This leaves her with questions about her own worth, self-esteem. She is made to participate in an increased self-surveillance - as if Mohalewale log (translated to: people in your neighbourhood) were not enough, we need a couple thousand virtual yardsticks to compare ourselves, our bodies.

Techniques such as guilt tripping and silence-ing have been used on our females for centuries; albeit internet content makes it easier to impose hierarchical social comparison and subjugation.

Not only this, by engaging with these apps and platforms, she is somehow also fueling the socio-culturally constructed notion of "good" daughter or wife or mom. YouTube, Facebook and Instagram are full of such long form and short form video content. These interactions of the "real" world social expectations and social media usage patterns are telling. She is rendered a cog in the patriarchal and hegemonic reel and real world. But I'm sure, and we all believe, that she can do it all!

The do-it-all syndrome reaffirms the gendered hierarchies and furthers discrimination through means of increased expectations. Free domestic and emotional labour of the caregiving role that women provide is starting to surface.

Various waves of feminism hit India, differently. Arguably, we are currently in the fourth one. It seems that in certain weird ways, the post-pandemic world order (though COVID-19 continues to spread) has helped to retain the (unequal) status quo for women. The "YouTube-neighbour" has become a "new normal" for economies of the "at home" content. Such an economy generates revenue for the virtual platforms and extracts by subjugation and control on the basis of gendered-role classification.

What's next? I'm sure, with AI, she will be able to do-it-all! (The writer is postgraduate (MA/ MBA), presently connected with the community through a women-centric NGO in Vancouver).