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Editor's Note: Translational Biomedicine

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Editor's Note

The aim of 'Translational Biomedicine' is to promote basic scientific research for the well-being of humankind. The scientific discipline of translational medicine encourages the research towards therapeutic interventions, which not only brings forward the possible therapeutics but also highlights the research gaps in research specific area. Rigorous study and research in the particular field has gifted us the promising attributes of vaccine for meningitis B and many more, which are appreciable. The current issue of 'Translational Biomedicine' showcases a wide range of studies such as the role of bacterial infections in inflammatory disorders such as APD and implant failure, the practice of douching in West Africa, the role of visual field defects in dyslexia, secondary septic arthritis as a complication of osteomyelitis, frequency and effects of mental health disorders in France, role of *Propionibacterium acnes* in orthopedic complications, and the connection between oxidative stress and PCOS.

Helicobacter pylori is the causative agent of several gastric disorders. *H. pylori* acts by enhancing the secretion of gastric acid in stomach which gives rise to gastric and duodenal ulcers. It may eventually result in acid peptic disorders like gastro-esophageal reflux disease (GERD) and Zollinger Ellison syndrome (ZES). Peptic disorders are characterized by hemorrhage and perforation, resulting in a high mortality rate. Gul et al. [1], investigated the relationship between consumption of junk food and stomach acidity in Pakistani population (200 males and 200 females). The participants were further sub-divided on the basis of frequency of junk food consumption i.e. daily, weekly, and every 15 days. It was observed that majority of consumers of junk food irrespective of gender, suffered from acid peptic disease (ADP) which correlated positively with *H. pylori* infection. These results revealed a positive correlation between prevalence of *H. pylori* and acid peptic disease.

Douching refers to the process of washing the vagina using liquid, semi-liquid, or powdery substances. The epidemiology of douching, its implications in health, method, duration, substances used, and women's behavioral pattern towards it have all been well documented. The process of douching is

prevalent across all cultures, yet scant data is available concerning douching practices among various West African ethnic groups. Ajayi and Afolabi [2], researched the various douching practices among a cohort of pregnant Nigerian women (n=220). This information would enable researchers and anthropologists to plan more robust studies on douching and its purported association with female hygiene and gynaecological pathologies.

Dyslexia is a condition which is usually identified during childhood; it is known to equally affect boys as well as girls. Historically, Dyslexia has been considered as a linguistic defect, but of late it has been postulated that failure in basic visual processing might be responsible for manifestation of these defects. To date, this hypothesis is controversial. Avellis et al. [3], investigated the visual field (VF) deficiencies in dyslexic children by observing their responses to spatial frequency doubling illusions which usually involve the magnocellular visual pathway. This study comprised 18 dyslexic subjects and 9 control subjects [mean age 8.4 ± 1.4 years (range, 7-13 years)] who underwent VF examination on a frequency doubling technology (FDT) Visual Field Instrument. They identified seven topographic patterns in both the right eye (RE) and left eye (LE) VFs. A statistically significant difference was between control and affected cases in three topographic patterns in the left eye (P<0.05).

Chronic osteomyelitis is a debilitating disease which requires a combination of antibiotic therapy and surgical intervention for its resolution. Sources of infection typically include trauma, spread from contiguous soft tissue, and hematogenous spread. The bacterium *Staphylococcus aureus* is the number one causative agent in healthy individuals whereas; *Aspergillus*, *Candida*, and *Mycobacteria* are more commonly associated with immunocompromised patients. Though infrequently, chronic osteomyelitis may lead to septic arthritis. In this issue, Ranson et al. [4], present the first case of osteomyelitis associated with secondary septic arthritis in an immunocompromised patient. They identified that the secondary septic arthritis was caused by *Cupriavidus pauculus*, a non-pathologic gram negative bacillus.

Mental health disorders are the main cause of morbidity and disability worldwide, and pose significant socio-economic costs to the patients. According to the WHO, mental disorders such as bipolar disorders, schizophrenia, and obsessive compulsive disorders, constitute some of the most serious health issues of the 21st century. France was identified as one of the countries with the highest rates of anxiety and mood disorders in a WHO World Mental Health survey. Ibanez et al. [5], studied the frequency and the socio-demographic factors associated with mental health disorders in France. Candidates were selected from 'ECOGEN' study; these contained all patients who consulted their general practitioners either at their medical practice or as a home visits. The study identified that the frequency of mental health disorders was 17.6% (CI 95% 17.1-18.1) in adults and 0.2% in children. The most common disorders were anxiety, depression, substance abuse, and sleep disorders in adults, and learning disorders in children.

Perioperative infections are amongst the most traumatic complications of orthopedic procedures. *Propionibacterium acnes* (*P. acnes*)-a low-virulence, anaerobic gram positive bacterium has been observed to be the cause of infection in a variety of implants, including cardiac devices and intracranial shunts. Recent studies show that *P. acnes* capable of colonizing the shoulder joint. Extensive data is present regarding *P. acnes* infection and subsequent complications in the background of shoulder surgery, but there is a paucity of data in the background of clavicle surgeries. Patel et al. [6], present a unique case report where chronic *P. acnes* infection resulted in implant failure and non-union of the third clavicle fracture.

Polycystic ovary syndrome (PCOS) is an endocrine disorder which affects about 8% to 12% of women in reproductive age. It frequently results in infertility and secondary amenorrhea. In addition, PCOS is also associated with metabolic disorders characterized by low-grade chronic inflammation, impaired glucose tolerance (IGT), dyslipidemia, and insulin resistance (IR). As opposed to 10% to 25% of the general population who exhibit IR, approximately 80% of the women suffering from PCOS present IR. The few studies that address PCOS, oxidative stress and inflammation are inconclusive about a possible

association. To unravel this connection, dos Santos et al. [7], evaluated the serum levels of oxidative stress markers and inflammatory markers in 20 women in reproductive age. They segregated the women into two groups: obese and non-obese. The obese PCOS group exhibited increased levels of oxidative stress and inflammatory markers.

This issue of Translational Biomedicine presents a variety of interesting findings such as-consumption of junk food causes peptic diseases as a result of acidification of the stomach, providing a conducive microenvironment for *H. pylori* to thrive; discrepancies in the visual field underpin learning disabilities in dyslexia; *Cupriavidus pauculus* infection causes secondary sepsis in chronic osteomyelitis; *P. acnes* infection underlies clavicle implant failure and joining; a positive correlation exists between PCOS, inflammation, and oxidative stress.

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