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1.) CORONAVIRUS A TERATOGEN?

A teratogen is any agent that can disturb the development of an embro or foetus. Teratogens may cause a birth dfect in the child or may outrightly halt the pregnancy.

In limited reports of infants born to women with COVID-19 illness around the time of delivery, most newborns have not had any evidence of infection. However, in one report 3 newborns developed symptoms of COVID-19 and tested positive for the virus soon after delivery. Although this report suggests the possibility of the virus being able to be passed from a mother to her unborn child, researchers need more information in order to confirm this and to give a better understanding of all the effects of COVID-19 in pregnancy.

There has appeared to be some risk of premature rupture of membranes, preterm delivery, fetal tachycardia and fetal distress when the infection occurs in the third trimester of pregnancy. However there is still no evidence suggesting transplacental transmission based on very limited data, as the analysis of amniotic fluid, cord blood, neonatal throat swab, and breast milk samples available from six of the nine patients were found to be negative for SARS-COV-2.

Limited data obtained from cases of pregnant women with COVID-19 suggests that the transplacental transmission is unlikely in late pregnancy close to term, as the virus was not identified in the amniotic fluid, placenta, and breast milk of these mothers or in the nasal secretions of their neonates. However, infection can occur in neonates via close contact. Two such cases of neonatal COVID-1 infection have been confirmed so far at 36hours and 17 days after birth, both appear to have been postnatally infected.

There is also a reported case of COVID-19 infection with positive nucleic acid of pharyngeal swab virus occurred in a baby only 36 hours after birth and the mother was a confirmed case of COVID-19. Therefore the existence of mother-to-child transmission of COVID-19 is still yet to be verified.

Meanwhile in china there was a case of four new born babies in a Wuhan hospital that did not contract the corona virus from their mothers who had the virus while giving birth and these babies have remained healthy with no signs of infection. Hence research is still going on to confirm if COVID-19 is truly a teratogen or not.

2.) **THE IMPACT OF AGEING AND ENVIRONMENT IN THE OUTBREAK OF COVID-19**

**THE ENVIRONMENT**

The virus that causes COVID-19 is mainly transmitted through droplets generated when an infected individual coughs, sneezes, or speaks. These droplets are too heavy to hang in the air hence the disease is not air borne as the droplets then fall on floors or surfaces. One can be infected by breathing in the virus if a person is within 1 metre of a person who has COVID-19, or by touching a contaminated surface and then touching one’s eyes, nose or mouth before washing the person’s hands

Staying at home as much as possible during the ongoing spread will also help to reduce the chances of exposure to the virus.

**AGEING**

Officials in china have released a major report into fatality rates for the coronavirus. The average fatality rate is 2.3% but it changes significantly with age rising to nearly 15% among those over 80 years old.

The Chinese Center for Disease Control and Prevention compiled a paper based on 72,314 patient records and 44,672 confirmed cases of the coronavirus in Mainland China as of 11th February 2020.

It was noted that out of the total number of confirmed cases, 1,023 deaths were recorded, equating to a case fatality rate of **2.3%**. And the paper found that the fatality rate gradually increases with age. For example, there were no deaths among children aged 9 or younger while it stood at 0.2% for people aged between 10 and 39. It increased to 1.3% in the 50-59 age bracket, then 3.6% in the 60-69 age bracket before rising to 8.0% among those aged 70-79 and 14.8% among people in their 80s or older than that.

3.) **IMPORTANCE OF SPERMATOGENESIS AND OOGENESIS**

Sexual reproduction depends on the production of haploid gametes, and their fusion to form diploid zygotes.

**Spermatogenesis** is the tightly regulated process by which spermatozoa are produced in the testis. This process involves interaction between somatic and germ cells to achieve the two primary functions of the testis: spermatogenesis and production of androgens. Spermatogenesis is regulated by hormones and growth factors. There are three phases namely: Spermatocytogenesis (Mitosis), Meiosis, SpermiogenesisSpermatogenesis produces mature male gametes, commonly known as spermatozoa, which arevable to fertilize the counterpart female gamete, the oocyte, during conception to produce a single-celled individual known as a zygote.

**Oogenesis** is the process of producing the female gametes (ova). There are three phases involved and they are as follows: Multiplication phase, Growth phase, Maturation phase. Oogenesis helps to retain sufficient amount of cytoplasm in the ovum which is essential for the development of early embryo.

Spermatogenesis and oogenesis are the process of formation of male and female gametes. Spermatogenesis leads to the formation of sperms while Oogenesis helps in the formation of ova. Thefertilization of sperm and ova leads to the formation of a zygote which further develops into an embryo

These two processes entail the reduction of the genome content from diploid to haploid by carefully partitioning chromosomes, and subsequent differentiation into gametes competent for fertilization which in males is characterized by profound nuclear restructuring. They are very important processes and this is because they produce the functional gametes (egg and sperm cell) either through meiosis from a diploid cell or mitosis from a haploid cell (in plants). Also these gametes are important because they allow genticaly-varied organism (offspring) to be formed.

4.) **THE RELATIONSHIP BETWEEN PERSONAL HYGEINE AND DISASTER**

Personal Hygiene and Hand washing after a Disaster or Emergency

Good basic personal hygiene and hand washing are critical to help prevent the spread of illness and disease. Clean, safe running water is essential for proper hygiene and hand washing.

Disasters happen all over the world. Different regions experience different kinds of disasters.

After a major disaster, you risk of becoming ill from disease or infection rises all the way up

The maintenance of personal hygienic environment are the biggest priorities after a disaster has come to an end. Being clean is the best way to prevent yourself from getting ill during times of disaster, that is to say that washing of hands, brushing of teeth and taking showers is our first line of defense against diseases.

Learning to properly sanitize our hands is the best method to stay illness free or the use of boiled or treated water with soap to wash our hands and also the intake of fruits and foods that can boost the immune system e.g. ginger, watermelon and many others.