GENDER DYSPHORIA,

ISSUES AND SOLUTIONS

IN CONJUNCTION WITH IIUM 40TH ANNIVERSARY

الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يونيورسيتي إسلام انتارابغسا ملايسيا

Project Leader

PROF. DR. SAMSUL BIN DRAMAN

GENDER DYSPHORIA, ISSUES AND SOLUTIONS

A PART OF THE IIUM FLAGSHIP ENTITLED

"GENDER DYSPHORIA"

IN CONJUNCTION WITH IIUM 40TH ANNIVERSARY

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MESSAGE FROM THE RECTOR

Gender Dysphoria has been a topic of ongoing debate both internationally and even within our own borders. It is time for Muslim researchers, particularly those from IIUM, to come together and brainstorm the best possible answer to this situation from an Islamic scientific perspective. To deal with this community, programmes need to be created in the most efficient manners. We hope IIUM will continue to lead in offering the most optimal remedy for this issue based on the evident obtained thus far.

I would like to express my sincere gratitude to all the contributors to the creation of this book, which not only discusses the issues at hand but also suggests solutions from the viewpoint of Muslim academics and researchers especially given the IIUM experience. I believe the inclusion of information from both scientific and Islamic knowledge in the book will result in a comprehensive strategy for undertaking and in the quest for solutions.

I am convinced that this book, which is part of a flagship initiative under the Kulliyyah of Medicine, IIUM, will inspire many other NGOs, institutions, or special interest groups to band together and tackle this issue collaboratively. It is my genuine wish that this book will serve as an excellent pioneering training resource for learning about gender dysphoria, its associated problems, and the suggested solutions. In so doing, God willing, this book will fulfil its mission for Rahmatan Lil 'alamin.

DZULKIFLI ABDUL RAZAK, PROF. EMERITUS TAN SRI DATO'
Rector
International Islamic University Malaysia

MESSAGE FROM THE DEAN

بِسْمِ اللهِ الرَّحْمَنِ الرَّحِيْمِ

اَلسَّلاَ مُ عَلَيْكُمْ وَرَحْمَةُ اللهِ وَبَرَكَا تُهُ

Gender dysphoria, the discomfort stemming from incongruence between one's assigned gender at birth and one's true gender identity, is a complex issue that transcends cultural and religious boundaries.

The Quran explicitly describes that mankind is created from a male and a female. *"O Mankind! We created you from a male and a female…*" (Ḥujurāt: 13). *"And the male is not like the female…"* (Āl ʿImrān: 36).

In Islam, compassion and non-judgment are emphasised, and these values can be applied to discussions about gender identity and dysphoria. Under the flagship of Gender Dysphoria, International Islamic University Malaysia staff and students have been actively involved in many community outreach to create awareness of this issue. This has been going on for years, and we are proud of the active and continuous support and collaboration from other universities, government organisations and non-governmental organisations (NGOs). It is hoped that this will become part of the da'wah for the betterment of the Muslims worldwide.

Throughout the Nusantara Ibadah Camp 2023, we will have spiritual reflection, learning, and connection opportunities. This camp will foster a sense of unity and shared purpose among all participants, transcending differences and embracing the core values that bind us as a community.

I want to express my heartfelt appreciation to the organising committee, led by the esteemed Prof. Dr. Samsul Draman and Dr Abdul Hadi Said, for their dedication and tireless efforts in making this camp a reality. Their commitment to ensuring this gathering is a safe and welcoming space for all is commendable.

Thank you

Prof Dr Jamalludin Ab Rahman
Dean
Kulliyyah of Medicine

MESSAGE FROM THE PROJECT LEADER

Alhamdulillah, we managed to produce one more book on gender dysphoria as part of our small contribution to the ummah. It is not an easy task, and a lot of time was spent together with the effort, idea, networking, sponsorship, etc. However, the team managed to do it despite the hectic schedule, Alhamdulillah.

We appreciate and thank Tan Sri Prof Emeritus Dato Dzulkifli Abd Razak, Rector IIUM, who relentlessly supported the Gender dysphoria flagship. Dato Prof Dr Ahmad Hafiz Zulkifly, Deputy Rector Responsible Research and Innovation, Prof Azmi Md Nor Campus Director, Prof Jamalludin Dean Kulliyyah of Medicine, colleagues and many others who directly and indirectly support us.

In conjunction with IIUM's 40th-anniversary celebration this year, we will organize the 3rd Nusantara Ibadah Camp from 28th Sept to 1st Oct 2023 in Mardi Tanah Rata Cameron Highland. One hundred thirty participants from all over Malaysia, Indonesia, Thailand and Singapore will come to learn about Islam and medicine. They will come voluntarily, and we take this opportunity to launch this book. We hope it will give them more insight into the complications of gender dysphoria.

LGBT nowadays has become a sensitive issue, and pre-exposure prophylaxis (prep) has become more controversial. They claimed that prep can prevent HIV from spreading to the young generation, and this can curb HIV issues, particularly death. However, the relevant authority forgets other important issues, such as other sexually transmitted diseases, including hepatitis, gonorrhoea, syphilis, etc. Prep is only to prevent HIV and not others. Another aspect that needs to be considered is the Islamic perspective. What does Islam say about prep? Giving prep, even though it may prevent HIV, directly or indirectly, anal sex activity will be encouraged. The LGBT community will feel safe and protected from getting HIV. The community must be informed of all this information so it can be documented. One of the best mechanisms is through this book, and it is a 'Jariah'.

Lastly, congratulations again on the launch of this book. We hope this effort of writing a book will continue forever so that the LGBT issue Insyallah will end. LGBT in future will be known as Lelaki Gagah Bangun Tahajud and no more as Lesbian Gay Bisexual Transgender, Insyallah.

Thank you

Prof Dr Samsul Draman
Leader
Gender Dysphoria Flagship

Preface

Gender dysphoria has long been discussed in all parts of the world. Everyone has an opinion on this subject. The most important thing, though, is to discover the finest answer to it. Some may take a different strategy than others, which is entirely dependent on personal preferences.

This book examines the subject from the eyes of Muslim researchers at IIUM University. Not only are we debating the problem, but we are also proposing a solution that we believe is the best way to tackle it. This book explains the fundamentals of gender dysphoria, its health difficulties, the fundamentals of normal sexual physiology, and our strategy for working with this population.

Hopefully, this book will benefit many researchers and academicians out there to better understand this topic and join us in dealing with the community together in the future.

Abdul Hadi Said

Chief editor

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CHAPTER 1: EXPLORING THE PERSONAL EXPERIENCE OF TRANSGENDER WOMEN IN MALAYSIA

Introduction

The term 'LGBT' is a shortform stands for Lesbian, Gay, Bisexsual and Transgender. It is a common term used nowadays when discussing issues related to this group, especially health-related issues. This chapter aims to briefly introduce the readers about the terms used related to LGBT group. Beyond that, this chapter will also share with the readers about the personal experience of transgender women in Malaysia which is based on their own stories.

Definition of terms

1. Lesbian/Gay: This term refers to people who are attracted to the same sex or gender romantically, emotionally, or sexually. Gay is the commonly used term when discussing issues related to men who have sex with men (MSM).
2. Bisexual: This refers to individuals who are attracted to multiple sexes or genders romantically, emotionally, or sexually.
3. Transgender and cisgender: While cisgender refers to a person whose gender identity or expression corresponds to their assigned birth sex, transgender is an umbrella word that includes people whose gender identity differs from their original assigned birth sex. In addition, there are three main subcategories of the term transgender: transgender women, transgender men, and nonbinary. Transgender men are those who were given the gender of a woman at birth but who now identify as a man, and transgender women are those who were given the gender of a man at birth but who now identify as a woman. Non-binary refers to additional specific genders like genderqueer, agender, bigender, and genderfluid if a person does not identify with both binary genders.
4. Gender Dysphoria; A term/concept used in the DSM-5-TR (diagnostic and statistical manual of mental disorders) as a significant impairment or distress clinically, related to gender incongruence, which may include desire to change primary and/or secondary sex characteristic.

Transgender women in Malaysia

Tasyabbuh, which in Arabic means "resembling something," is the word for transgender. The Fiqh Jurists' definition of transgender from an Islamic perspective is that it refers to men who resemble women or vice versa through their clothes, decoration, voice and mannerism, gait and mannerism, as well as to changing their physical appearance. This is prohibited in Islam.

In Malaysia, terminology like "trans woman," "mak nyah," "transsexual," and "thirunagai" are frequently used to refer to transgender women. Some of the terminology used, such as "bapok," "pondan," and "sotong," among others, may be derogatory to transsexual women.

Although the total number of transgender women worldwide is unknown, it is estimated that between 0.5% and 1.3% of babies who are born males identify as transgender women. In Malaysia, transgender advocates pegged the number of transgender women at between 20,000 and 30,000 in the year of 2018. Sixty percent of these are Malay. Meanwhile, local studies found an increase from 10,000 to 50,000 transgender women between 2001 and 2016. Despite this population's tremendous rise, it is still not widely accepted in Malaysia. Transgender women often encountered stigmatisation and prejudice in various contexts, which made their lives difficult. The health problems that

the transgender community experiences have an impact on both their physical and mental well-being.

Exploring the personal life of transgender women in Malaysia

Desire to become a transgender woman

"*I've loved playing 'pondok-pondok' with girls ever since I was in elementary school. From elementary to secondary school, all of my buddies were female. I had only two or three guy friends."*

"I have had 'maknyah' experiences since I was a young child. My sister and I switched clothes. She wore my things, and I did too. Since I was a little child, when I was maybe 5 or 6, I've enjoyed dressing in feminine clothes".

"I have always identified as a woman. I liked being female. When I was 13 years old, I began using my mother's cosmetics in secret, including her lipstick".

For most of them, the urge to transition into a woman has been present since a young age. This was evident in their lifestyle, friends, and clothing. Hence, both parents and teachers have a duty to watch over these kids from a young age. Even if they were unable to control their desire to transition, they should nonetheless get adequate sexual and Islamic education. They should be able to lead a better life in the future with proper guidance.

Contributing elements to becoming a transgender woman

"I was the one who took care of our house because my mother was too busy involving in politics. I also looked after my deceased grandmother….. In the kitchen, I was entirely responsible. So, having to perform all of the household chores, I have a propensity to be a woman".

"When my mother pregnant of me, my gender was revealed by the ultrasound as a girl. But then I was born a boy. But my parents only had girl's clothing ready when I was born, so I wore girl's clothing. Only when I started kindergarten did I get my first haircut. I would wear a baju kurung during Hari Raya, just like my sister".

"My siblings could be a contributing element as well. Since they were all female, I became accustomed to females. After I left school, I became more interested with being a 'maknyah'".

Their personal wishes and the impact of their families and friends were the key elements that caused them to transition into a transgender woman. Some were treated as girls since childhood even though they were boys. This eventually led them to live as a woman instead of a man. Nevertheless, they might still be able to stay away from sex work with the right advice and assistance from their environment. Families should always treat each child according to their gender, preventing them from engaging in activities or wearing apparel that belongs to the other gender.

Engaging with the first sexual intercourse

"My uncle taught me about sex. I was simply feminine in primary school, but it started to become more apparent in secondary school. He first started having sex with me at a 'kenduri'. When I first did it, I was 14 years old".

"When I was 17 years old, right before SPM, I began having sex. During that time, I often saw my teacher preparing for SPM. I had my first sexual encounter with him. The teacher did not make me do anything; yet I was the one who desired it. I did it right before turning 17 years old."

"When I first have sex, it was purely for fun. We are called 'the Divas' in my village. The boys would follow my group and I as we rode about on our motorcycles after school. I first had sex at that time. They are secondary school seniors. At the time, I was a Form 3 student".

Most of them started to engage in sexual activity during adolescent age. Sadly, their first sex partner comes from their own family members, teachers, friends as well as customers. Surprisingly, they frequently have their first sex encounter with the closest and most trustworthy adult. Since sodomy is a carnal act outside nature's order and some of them were under the legal age of 16, it is illegal and punishable by law. Parents should keep track of where their children are and teach them about healthy sexual behaviour, especially throughout the adolescent years.

Experience as a sex worker

"I began working as a sex worker when I was 19 years old, just after SPM. I initially went to 'Lorong' with my pals, and by that time I had already started dressing like a woman and applying cosmetics. At that time, I also had feelings for guys. I went and began learning about 'Lorong'. My very first sexual encounter was with a client. My own lust was the cause. I'm not worried about money yet. However, when my lust was sated and I received the cash, my urge to perform sex acts grows".

"When I started working at a resort, I became a sex worker. There, I was a showgirl. I would take a customer after my night shift ends. I was 19 years old when that happened. The visitors to the resort were my clients. It eventually turns out enjoyable".

"Since I moved to KL, I started working as a sexual worker. I performed massages and other services for cash. I moved to KL after finishing my studies when I was 18 to 19 years old, and I work by myself".

"Prior to this, I was employed, but my boss treated me unfairly. I consequently connected with the 'maknyah' community and began to learn about the 'lorong' sex industry. I started working as a sex worker at 'lorong' only after experiencing discrimination from my boss. I did it for money because I had quit my permanent work at that time".

While most of them were compelled to work as sexual prostitutes for financial reasons, some of them did so out of passion and for fun.
Unfortunately, a small number of people experienced discrimination and mockery in their prior field, which compelled them to leave and turn to sexual work in order to survive. Similar results were observed in other earlier research. Government or nongovernmental organizations should look into this issue as many of them start out in sex work due to financial necessity and low educational attainment in order to develop more strategies for reducing the number of transgender sex workers in our country.

Take home message

In Malaysia, transgender women have experienced numerous difficulties since their young age. Family is crucial in helping to raise children correctly and gender-appropriately during their formative years. In addition, everyone must play a part in preventing transgender women from becoming sex workers, including teachers, family members, and the community. To enable this population to live a better life free from risky sex and other unhealthy behaviors, social issues like discrimination against them must be resolved.

In order to lessen discrimination against transgender people, assist them in bettering themselves, and encourage them to give up sex trafficking, the government, non-governmental organizations, and the community must all play a part.

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CHAPTER 2: THE PHYSIOLOGY OF THE REPRODUCTIVE SYSTEM

Men and women are the most exquisite beings created by the grace of Allah. The creation and development of a man and woman involve a different complex process. From a scientific standpoint, there are numerous similarities in the organs and systems of the human body when comparing men and women. The similarities include the respiratory, cardiovascular, nervous, and digestive systems, among others.

However, the most prominent distinction between man and women lies in the variances within their reproductive systems. This inherent gender disparity manifests in the different reproductive physiological functions, physical appearance, cognitive patterns, and psychological aspects. Nevertheless, these differences are particularly important for the sexual reproduction and the continuation of human offspring.

Scientifically, gender differences are based on three factors including: (1) genetic gender, which refers to the type of sex chromosomes (XY and XX chromosomes), (2) glandular gender, which involves the testes in males and ovaries in females, and (3) phenotypic gender, which includes observable characteristics (structural, biochemical, physiological, and behavioural) of man and woman appearance.

GENETIC GENDER DIFFERENCES

The determination of an individual genetic gender is based on the presence of sex chromosomes. Sex chromosomes are a type of chromosome that exist in two forms: the Y chromosome, which is associated with males, and the XX chromosome, which is associated with females (Figure 1.0). These chromosomes are inherited from an individual's biological parents. The mother contributes an X chromosome, while the father can contribute either an X or a Y chromosome. If the foetus receives a Y chromosome from the father, it develops as male with XY chromosomes. Conversely, if the foetus receives an X chromosome from the father, it develops as female with XX chromosomes.

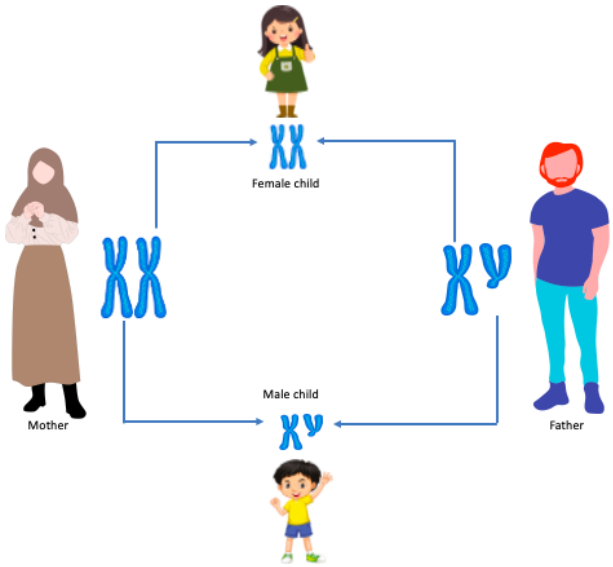


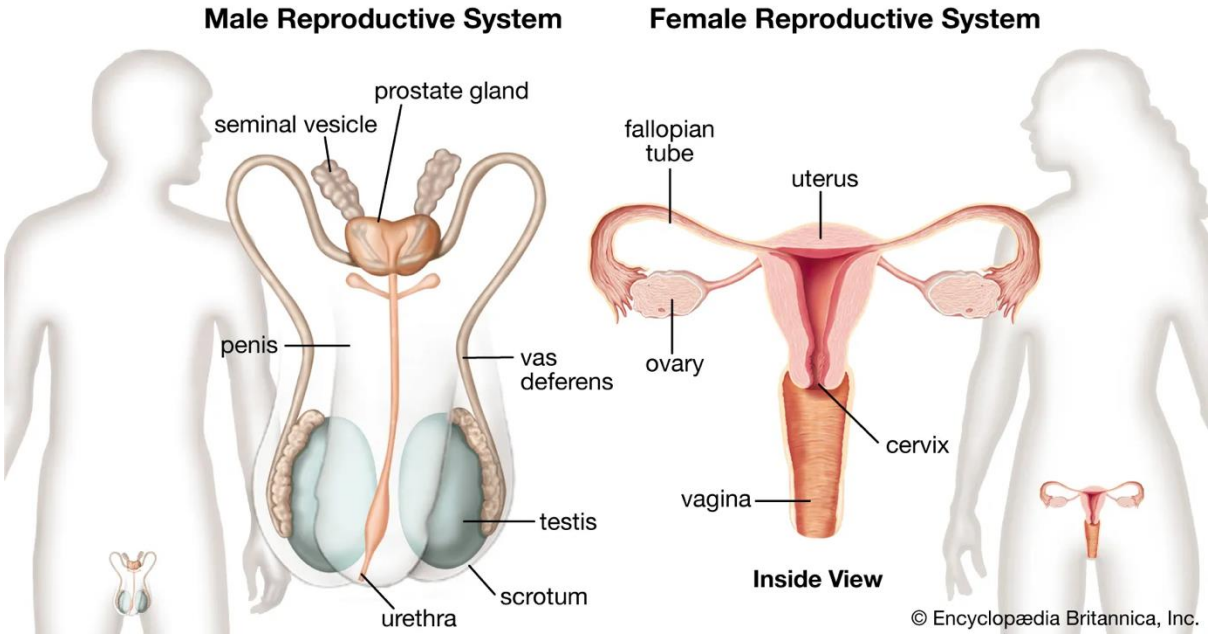
Figure 1.0 X and Y sex chromosomes determine the gender of the offspring

During the early stages of foetal development, there are no glandular differences until around 5 weeks of gestation. After reaching 6-7 weeks of gestation, the testes begin to form in male foetuses with XY chromosomes, while ovaries start to develop at around 9 weeks of gestation in female foetuses with XX chromosomes. Therefore, the presence of X and Y chromosomes, which

are genetic gender differences, plays a significant role in determining the development of sex glands.

Reproductive gland differences

As previously stated, the development of reproductive glands is determined by the genetic sex chromosomes XY in male and XX in female. Hence, male foetuses will develop of a pair of testes whereas in female foetuses develop of a pair of ovaries as shown in Figure 3.0 (a) and (b). These sexual glands play a distinct role in the synthesis and secretion of male and female hormones which will be explain later.



(a) (b)

Figure 2.0: The reproductive system of male and female

Hormones

Hormones are chemical compounds produced by specific glands in the human body. They are secreted into the blood and circulate throughout the body systems. The production of hormones is closely monitored and regulated to ensure its optimum actions. Hormones functions as communication mediators by carrying information through the blood, allowing cells in the body to interact and carry out specific organ functions according to the body's needs. In our context, the sex hormones are produced and secreted by the testes in males and the ovaries in females in response to our body needs during physical activity, stress levels, and sexual arousal.

Sexual glands

Male and female has a set of sexual glands. They are also known as gonads. The sexual glands are the primary organs of the reproductive system. Specifically, the sexual gland is the testes in male and the ovaries in female.

In males, the testes functions to (1) produce testosterone hormone and (2) produce sperms, while in women, the ovaries functions to (1) produce oestrogen and progesterone hormones and (2) produce ova (eggs). The production of sex hormones (testosterone and oestrogen) influences the development of the reproductive organs such as the ovaries, the fallopian tubes, the uterus, the

cervix, and the vagina in female and in men, it includes the prostate, the testes, and the penis as shown in Figure 3.0. Moreover, sex hormones play a pivotal role in modulating various aspects of physiology, including physical characteristics, biochemical processes, emotional responses, psychological traits, and organ functionality.

Testosterone (The Male Hormone)

Testosterone is the primary male hormone produced by the testes. It is also produced in small quantities by other organs such as the adrenal glands, kidneys, and ovaries. Therefore, testosterone also exists in small quantities in females.

The main function of testosterone in males is to stimulate the development and maintenance of the reproductive system, including the growth of the penis and prostate gland. Moreover, this hormone stimulates the growth of male secondary sexual traits, such as increased muscle mass, bone development, and the growth of facial and body hair, including moustaches, beards, and chest hair. Additionally, it also stimulates sexual desire, regulates fat distribution, and enhances muscle and bone density and strength. Hence, man have characteristics such as a broad chest, a flat abdomen, a deep voice, and a more focused and rational mind.

The normal testosterone level for the male ranges from 300 to 1,000 nanograms per decilitre (ng/dL) or 10 to 35 nanomoles per litre (nmol/L) while in female the levels are much lower and ranges from 15 to 70 ng/dL or 0.5 to 2.4 nmol/L. Scientific studies have found that testosterone levels started to increase around the age 8 to 12 with some variations among individuals. The peak of testosterone production typically occurs around the age of 12 to 20, also with some variations among individuals. The hormonal changes that occur during puberty (age 12-20) is a phase characterized by accelerated physiological growth and maturation. After reaching this peak, testosterone levels gradually stabilize and may decrease slightly with age as shown in Figure 2.0.

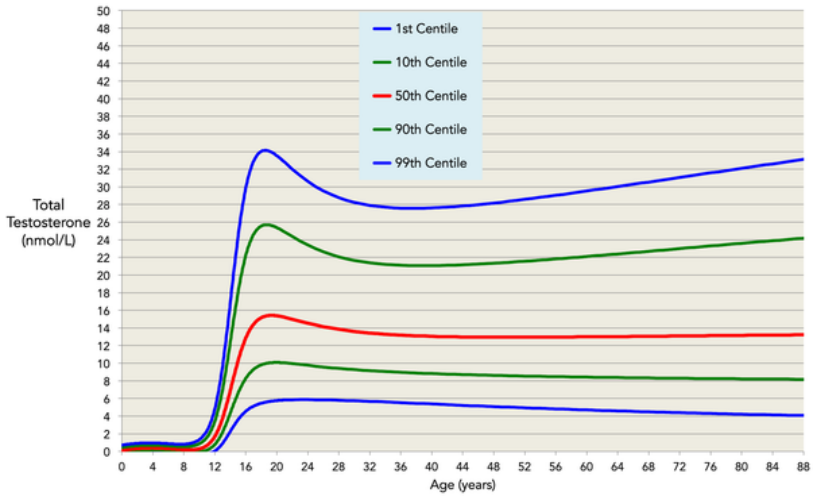


Figure 3.0: Normative ranges for the model of total testosterone from ages 3–88 years
https://doi.org/10.1371/journal.pone.0109346.g005

The maintenance and regulations of testosterone levels may be affected by several factors including increasing age (as shown by Figure 2.0). In addition to age-related factors, there are many other factors that can contribute to a decrease in testosterone levels including sedentary lifestyle, poor diet control, obesity, cigarette smoking. Diseases of the testes or pituitary gland and chronic illnesses such as diabetes, high blood pressure and chronic kidney disease may significantly affect testosterone homeostasis.

Moreover, the level of testosterone is also influenced by excessive stress, smoking, lack of exercise, side effects of medications including steroid and opioids, traditional remedies, dietary supplements and toxins, pollutants, or hazardous chemicals from the environment. Therefore, maintaining a healthy lifestyle is crucial for achieving optimal hormonal homeostasis.

When males exhibit decreased testosterone levels, they may manifest specific symptoms. The symptoms include a decrease in muscle mass, an increase in abdominal fat, feelings of tiredness and lack of energy, difficulty concentrating, enhanced emotional sensitivity, and a tendency towards depression. The most feared problem associated with decreased testosterone levels among man is erectile dysfunction, where they experienced weak or insufficient erections that can ultimately lead to depression. ✅

Oestrogen (Female Hormones)

Oestrogen is the primary female hormone produced by the ovaries. It is also produced in small quantities by the adrenal glands in the kidneys and fat cells. In general, oestrogen functions to influence the development and regulation of the reproductive system and female secondary sexual characteristics.

Oestrogen carries its functions throughout various stages of a woman's life, beginning with puberty and continuing all over menstrual cycle, pregnancy, and menopause. During puberty, oestrogen plays a crucial role in the development of female physical characteristics including the enlargement of the ovaries, uterus, vagina, labia, and breasts and growth of pubic hair. It also regulates the menstrual cycle. Besides stimulating breast enlargement, oestrogen helps to maintains the texture and function of breast tissue in pregnancy and lacatation. Additionally, it controls hair growth in the pubic and underarm areas and prevents facial hair growth. Oestrogen also contributes to maintain skin softness, preserve brain function and bone health and last but not least, it regulates cholesterol levels.

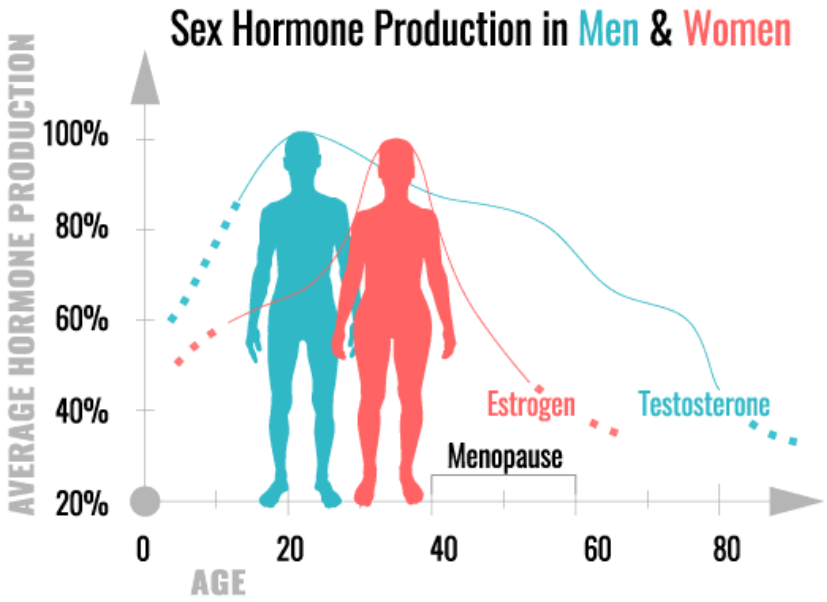


Figure 4.0 The oestrogen and progesterone level variation throughout man and woman life

Oestrogen level varies with age and gender. The normal oestrogen level for the female ranges from 30 to 400 pg/mL for premenopausal women. 0 to 30 pg/mL for postmenopausal women. Meanwhile, the level ranges from 10 to 50 pg/mL for men. Figure 4 shows the pattern of oestrogen production throughout woman's life. Its level started to increase around the age of 10

and peak around age of 35. Typically, oestrogen levels gradually decline when women reach the age of 40, as the ovaries are no longer produce high levels of oestrogen. Additionally, oestrogen levels in the body may decrease due to various factors such as nutritional deficiencies, excessive exercise, stress level, disruptions in thyroid hormone levels, medical diseases such as ovarian failure and Turner syndrome, or chronic medical condition such as chronic kidney failure.

Due to various functions of oestrogen, women who have low oestrogen levels may experience perimenopausal symptoms such as irregular menstrual cycles, excessive fatigue, decreased concentration, joint pain, dry skin and vagina, brittle bones which are prone to fractures, headaches, and depression.

In medicine, various treatment options exist to elevate oestrogen levels. Nonetheless, most of these estrogenic hormones are synthetic in nature. They are available in the form of tablets, gels, skin patches, and implants. Some studies have shown that hormone replacement therapy with oestrogen carries more risks than benefits. However, its effects vary from woman to woman.

Oestrogen therapy is widely used for contraception among childbearing age women. This hormone also helps in treating menopausal symptoms, hypogonadism (insufficient production of sex hormones by the reproductive glands in males), prostate cancer and breast cancer. However, there is an increasing trend of its usage in transgender therapy. This therapy specifically aims to induce femininization and suppress testosterone levels. Hence this will cause the transitioning individuals from a male to a female phenotype including breast development, as well as a female pattern of hair growth and body fat distribution.

Excessive intake of oestrogen can cause several issues such as swollen and tender breasts, headaches, mood changes, nausea, and vaginal bleeding. Moreover, the more severe effects of excessive or long-term oestrogen intake include breast cancer, blood clots, and strokes. Therefore, oestrogen hormone therapy is not recommended for individuals with liver problems, high blood pressure, or a family history of breast, ovarian, or uterine cancer.

DIFFERENCES IN SEXUAL PHENOTYPE

Phenotype refers to the visible physical traits of an individual, which are influenced by the hormones produced by their reproductive glands. In the case of males, the testes produce testosterone, while females' ovaries produce oestrogen. These hormones play a significant role in the formation of the distinct secondary sexual characteristics that differentiate males from females.

The Role of Testosterone and Secondary Sexual Characteristics in Males

During puberty, adolescent males experience a series of physical changes that are driven by the production of testosterone. These changes include the growth of facial hair (moustache and beard), underarm hair, and pubic hair. Additionally, males undergo voice deepening, increased muscle size, testicular growth, and the production of sperm (Figure 5.0). These secondary sexual characteristics are vital for the male reproductive system, enabling them to fulfil their role in procreation.

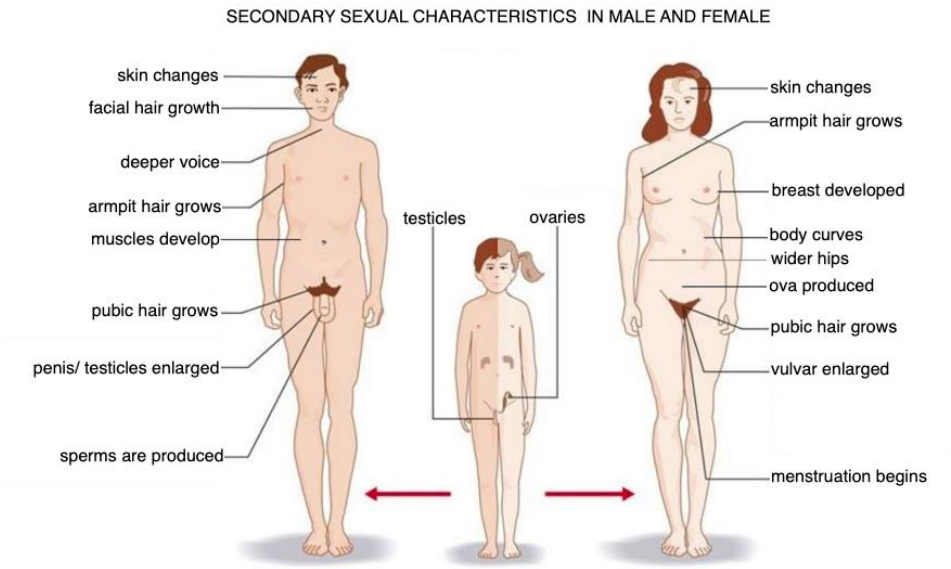


Figure 5.0: Secondary sexual characteristics in male and female

The Influence of Oestrogen and Secondary Sexual Characteristics in Females

In contrast, adolescent females undergo a distinct set of changes due to the influence of oestrogen. Breast development is one of the prominent changes observed, along with the development of noticeable body curves. Furthermore, the growth of underarm and pubic hair occurs, and the onset of menstrual cycles marks an essential milestone in female reproductive maturation. These secondary sexual characteristics are crucial for the female reproductive system, enabling them to contribute to the continuation of the human population.

SEXUAL REASSIGNMENT SURGERY

Sexual reassignment surgery (SRS) is also known as genital-affirming surgery or gender-affirming surgery. This type of surgery is utilized by transgender individuals with gender dysphoria. This SRS is performed in transgenders whether transitioning from male to female or female to male. The procedures help them to change their personal physical characteristics to align with their desired gender identity which differs from their assigned sex at birth. In other words, the surgery helps them achieve a physical appearance that better reflects who they are and how they wanted to be identified.

The SRS is typically a multistage surgery. It may require several series of surgeries to ensure the best possible outcome for the individual undergoing the surgery. These surgeries help to alleviate gender dysphoria by altering the primary and/or secondary sexual characteristics. However, the ultimate objective of the surgery is to construct new genitalia resemble male or female anatomy as requested by the patient. Hence the outcomes will assist them feel more comfortable and authentic in their own skin hence promoting a sense of well-being and self-acceptance.

The common SRS for transgender male to female patients are classified into primary and secondary procedures.
The primary procedures include:

1. Genital reconstruction (vaginoplasty, phalloplasty, metoidioplasty),
2. Chest surgeries (mastectomy or breast augmentation)
3. Facial surgeries (facial feminization or masculinization).

The secondary procedures include:

1. Voice modification

2. Hair transplantation
3. Body contouring surgeries

Male to female reassigment surgery

Vaginoplasty

Vaginoplasty is a term that refers to a type of plastic surgery specifically performed on the vagina to alter and reconstruct its structure. In context of gender dysphoria, this surgery is performed in male to female transgender. The procedures aim to construct a new vagina and vulva (clitoris, labia minora and labia majora) from the existing penis and scrotum.

The basic steps in a vaginoplasty include:

1. Incision of the perineal raphe. Perineal raphe is a visible line or ridge of tissue on the body that extends from the anus through the perineum to scrotum. Figure 4.3 (1).
2.
3. Orchidectomy - This is a surgery to the remove the external genitalia (scrotum) and gonads (testes). The procedure may involve one or both side of the external genitalia. In transgender patients, this surgery will usually involve the removal of both sides of testes and scrotum. Figure 4.3 (2).

4. Transformation of the glans (tip) of the external genitalia into a clitoris - This procedure is called clitoroplasty. This procedure involves reshaping and resizing of the glans (tip) of the penis to resemble a clitoris. The basic techniques include reducing the glans size, repositioning the sensitive nerve endings, and adjusting the surrounding tissues. The newly formed clitoris is placed through a small opening in the newly created vaginal entrance. Usually, this procedure causes minimal bleeding from the nerve and blood vessels during the surgery. Figure 4.3 (3 to 5).

5. Dissection of a space for the vagina between the bladder and the rectum. This procedure will dissection an opening space for the vagina between the bladder and the rectum. Figure 4.3 (6).

6. Inversion of skin from the shaft of the erectile tissue (penis) to create the inner walls of the vagina. This procedure involves reversal r transposition of skin from the shaft of the erectile tissue (penis) to create the inner walls of the vagina. Figure 4.3 (6).

7. Creation of labia majora through scrotal tissue rearrangement. This procedure includes potential use of extra skin from the external genitalia (scrotum) to line the neovagina, with the hair roots on the skin graft being cauterized. Figure 4.3 (7).

8. Shortening of the urethra. Figure 4.3 (6).

9. Creation of the vulva, which includes the mons, labia, clitoris, and urethral opening, using tissue from the scrotum and urethra. Figure 4.3 (7 and 8).

10. Insertion of a temporary urinary catheter into the bladder. Figure 4.3 (7 and 8).

11. Placement of a temporary prosthesis or stent in the vagina. Figure 4.3 (7 and 8).

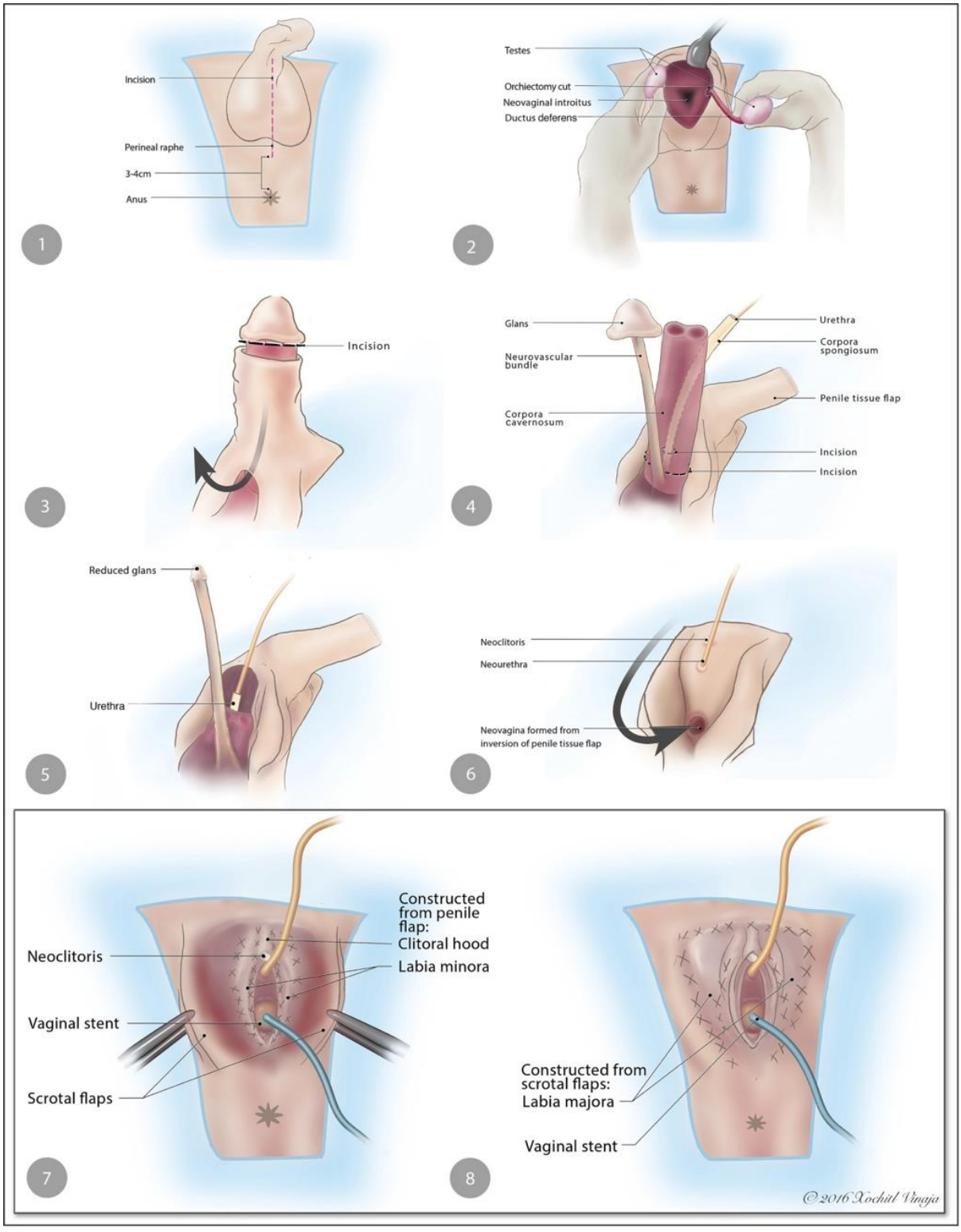


Figure 4.3 The basic procedures in Vaginoplasty

Complications of Vaginoplasty

There can be complications after vaginoplasty surgery for transgender man. Some complications are minor and can be easily treated, while others are more serious and require ongoing care. These complications can happen right after surgery (acute) or later on (chronic). Examples of acute complications include bleeding from surgical site, collection of blood under the skin (haematoma), pain and discomfort, infection, delay wound healing, narrowing of the neovagina (neovaginal stenosis), injury to internal organs, abnormal openings (fistulas), and pelvic floor

disorders. Nevertheless the chronic complication includes formation of scars at the surgical site, which can vary in appearance and texture, vaginal stenosis which is the narrowing or tightening of the vaginal canal, altered sensation which can be temporary or permanent in the genital area, including reduced or altered sensitivity, persistent urinary incontinence or difficulty urinating, sexual dysfunction, including poor satisfaction or difficulty with arousal or orgasm.

These long-term complications may necessitate additional treatments or surgeries, as well as frequent and regular follow-up appointments, which can impose a substantial financial and emotional burden on patients. Additionally, the patients might experience emotional challenges related to body image, identity, or adjusting to the changes brought about by the surgery.

Breast Augmentation

In transgender patients, the surgical approach to enhance breast size and shape is commonly employed. Various techniques can be utilized based on individual goals and preferences to achieve the desired outcome. Breast implant (silicone and saline) and fat transfer is among the popular methods use in transgender individuals. Each of these methods has its own advantages and disadvantages, which vary depending on the specific objectives of the patients.

Breast implant

The silicone breast implants are filled with a cohesive silicone gel. The gel has a similar consistency to natural breast tissue, providing a more natural look and feel. Silicone implants are available in various shapes, sizes, and profiles to meet individual preferences. (Figure 4.4)

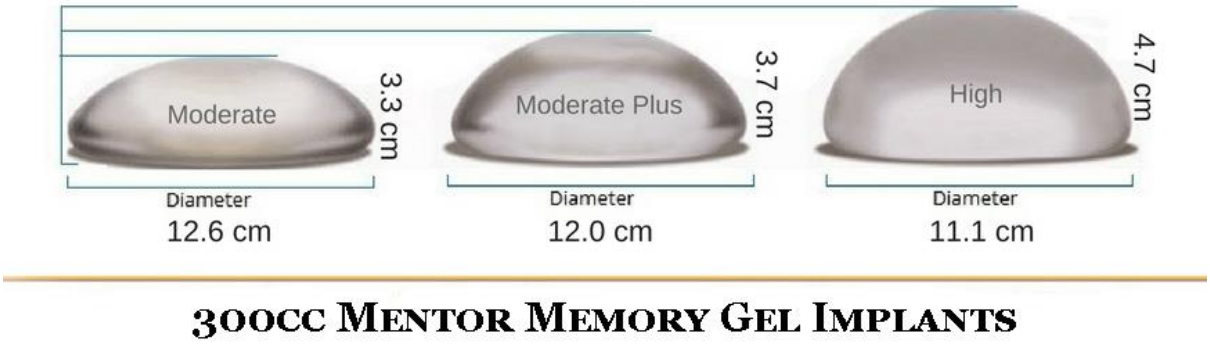


Figure 4.4 Silicone breast implant

The advantages of silicone implants include their ability to provide a texture that closely resembles natural breast tissue. They also exhibit a softer and more flexible texture, closely mimicking the shape and curvature of natural breasts, carries lower risk of rippling or wrinkling, and reduce risk of deflation compared to saline implants.

On the other hand, silicone implants have some drawbacks. One notable drawback is the higher cost compared to saline implants. Silicone implants can be up to 10 times more expensive than saline implants. Additionally, the insertion of silicone implants requires a larger incision compared to saline implants.

Another concern with silicone implants is the possibility of leaks or ruptures, which can lead to complications. The complications associated with silicone implants rupture include the possibility of silicone gel leakage into the surrounding breast tissues or remaining contained within the implant shell (silent rupture). In such cases, additional surgery is typically required to address the issue and remove or replace the affected implant. To ensure the ongoing well-being of individuals with silicone implants, regular monitoring through imaging tests, such as MRI, is recommended to assess the condition of the implants.

On the flip side, the saline breast implants are filled with sterile saline solution (saltwater). These implants are initially inserted without the saline solution and then filled with the solution after they are properly positioned inside the breast. The prominent features of saline implants include alterable saline volume during surgery. This helps in achieving symmetry between the breasts. In the event of a rupture, saline is harmlessly absorbed by the body.
Typically require a smaller incision compared to silicone implants and this type of implant incur lower cost compared to silicone implants. However there are some drawbacks od saline implants in which it may have a slightly firmer feel compared to silicone implants, and there is a higher chance of visible rippling or wrinkling. Additionally, if a saline implant leaks or ruptures, it is usually noticeable as the implant deflates, requiring prompt removal or replacement.

Fat transfer

Another option for breast enlargement is fat transfer, which is a cosmetic surgical procedure. The basic technique involves removing unwanted fat from areas such as the thigh, waist, hip, abdomen, or back of the arm through liposuction. This helps slim and contour those areas The harvested fat is then injected into the breasts. The injected fat will remain in the breasts permanently. Figure 4.5.

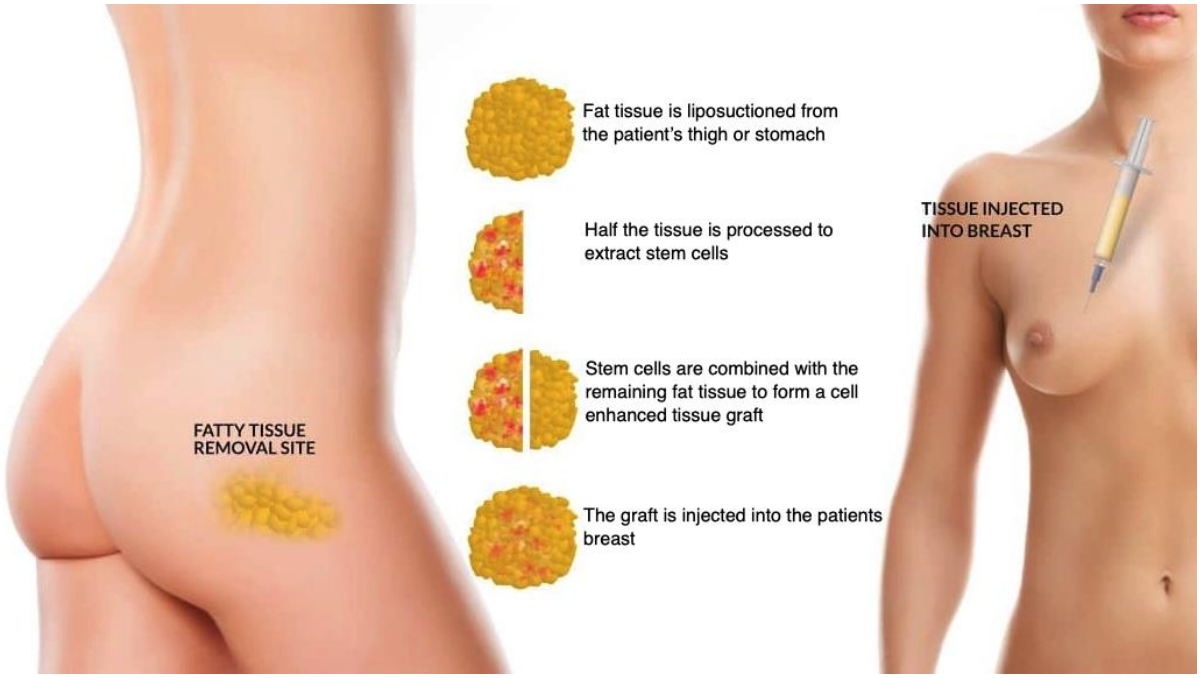


Figure 4.5 Fat transfer for breast augmentation

Unlike breast implant surgery, breast augmentation with fat transfer is a far less invasive procedure with smaller incisions (~ 4 mm) thus causes minimal scarring. Additionally, it is an ideal choice to improve sagging breast. This technique provides easier recovery in less time compared to breast implant method.

However, this technique comes with several disadvantages. Firstly, it may result in only a minimal increase in breast size, which might not meet the desired expectations of some individuals. Secondly, lean individuals may have inadequate adipose tissue for an effective fat transfer. Additionally, there is a relatively low fat survival rate (approximately 50-70%), which could necessitate multiple surgeries to achieve the desired outcome. Lastly, it's worth noting that fat transfer procedures generally have a significantly higher cost compared to traditional breast implant surgery. Another important concern to consider is that, unlike breast implants, sagging

of the breasts can occur naturally with advancing age and significant weight loss. This natural sagging is unpredictable and may affect the results achieved through a fat transfer procedure.

Facial femininization surgery

Facial feminization surgery incorporate an extensive procedures to transform the face shape to look feminine. It include lowering the hairline, reducing the forehead, lifting the eyebrows, rounding the cheeks, recontouring the jawline, filling and lifting the lips, slimming the nose, hair transplants, and Adam's apple reduction as shown in Figure 4.6.

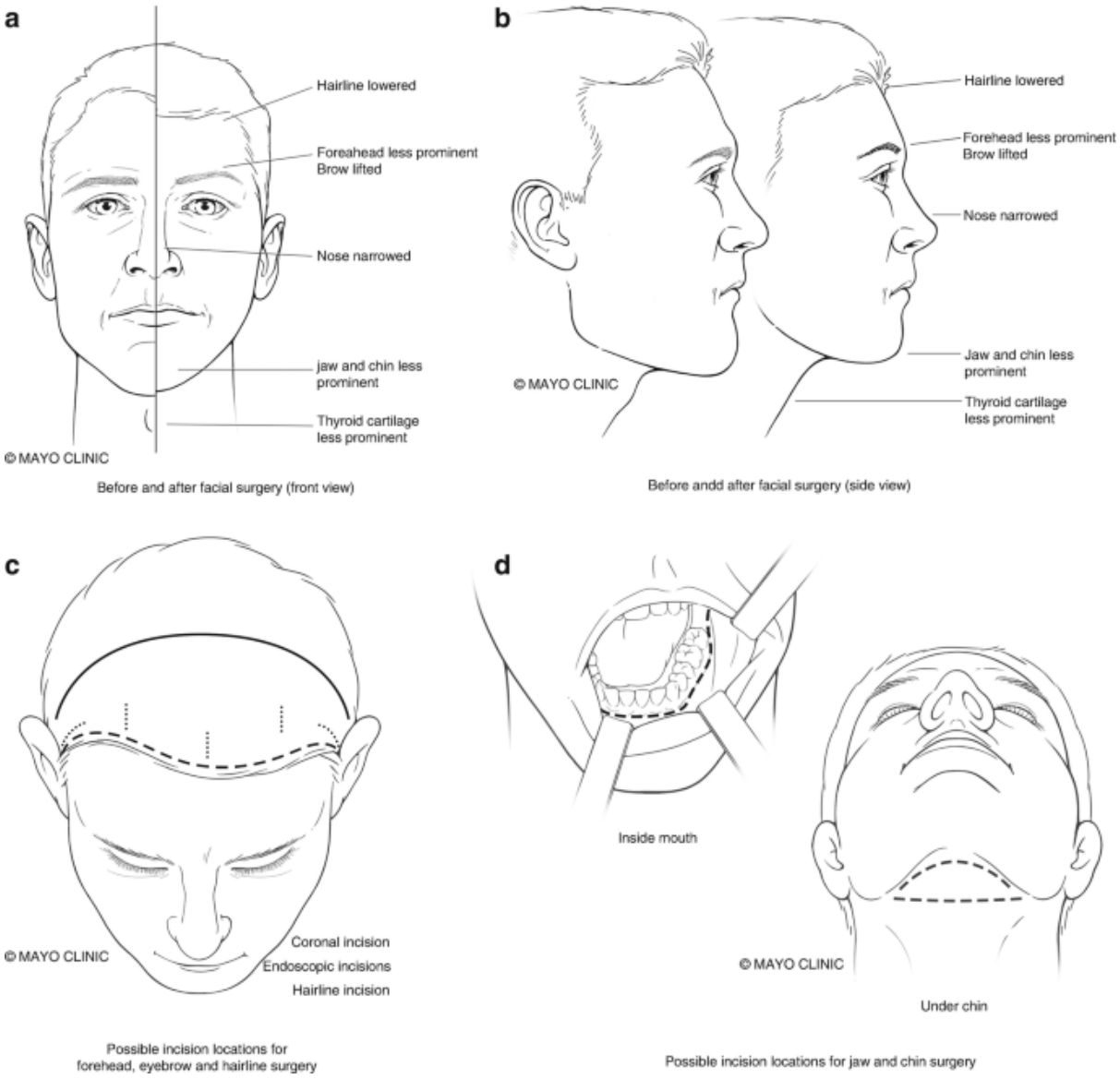


Figure 4.6 Facial femininization surgery

FEMALE TO FEMALE REASSIGMENT SURGERY

Metoidioplasty

Metoidioplasty is a surgery that construct s a new penis around the clitoris as shown in Figure 4.4. This is an option to create the male external genitalia by straitening and lengthening of the hormonally enlarged clitoris. Hence, this surgery is usually done in female to male transgender individual. The objective of this surgery is to create male-like genitalia, enable voiding while

standing, achieve satisfactory sexual function, and achieved the desired aesthetic appearance. Prior to the surgery, the clitoris is enlarged with testosterone hormone therapy.

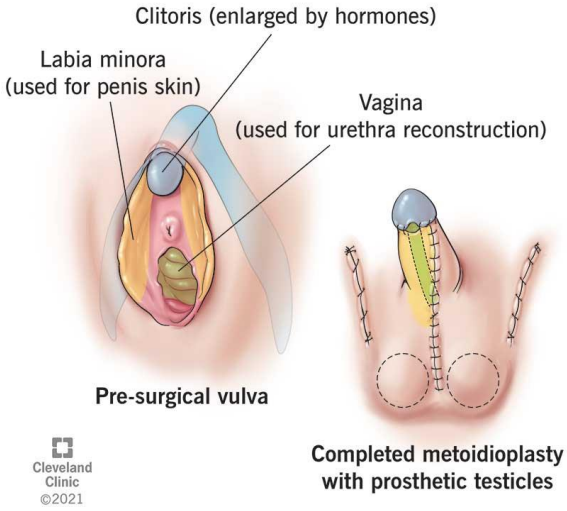


Figure 4.4 Metoidioplasty surgery

The surgery involves a few basic procedures which include:

1. Skin incision: A small incision is made below the head of the clitoris.
2. Release of ligaments: The ligaments supporting the clitoris are cut to allow for further adjustments.
3. Urethral plate dissection: The tissue under the urethra is carefully dissected and divided.
4. Clitoral body covering: The remaining clitoral skin, along with the labia minora and majora, is used to cover the clitoris, creating a larger appearance.
5. Levator muscle dissection: The bottom part of the levator muscle is dissected and stitched to provide support for the enlarged clitoris.
6. Preservation of urethral opening: The natural opening of the urethra is left in place, allowing for possible urethral lengthening in the future.
7. Scrotum closure
8. Urinary catheter usage: A catheter is used to drain urine and prevent leakage over the reconstructed skin surrounding the clitoris.

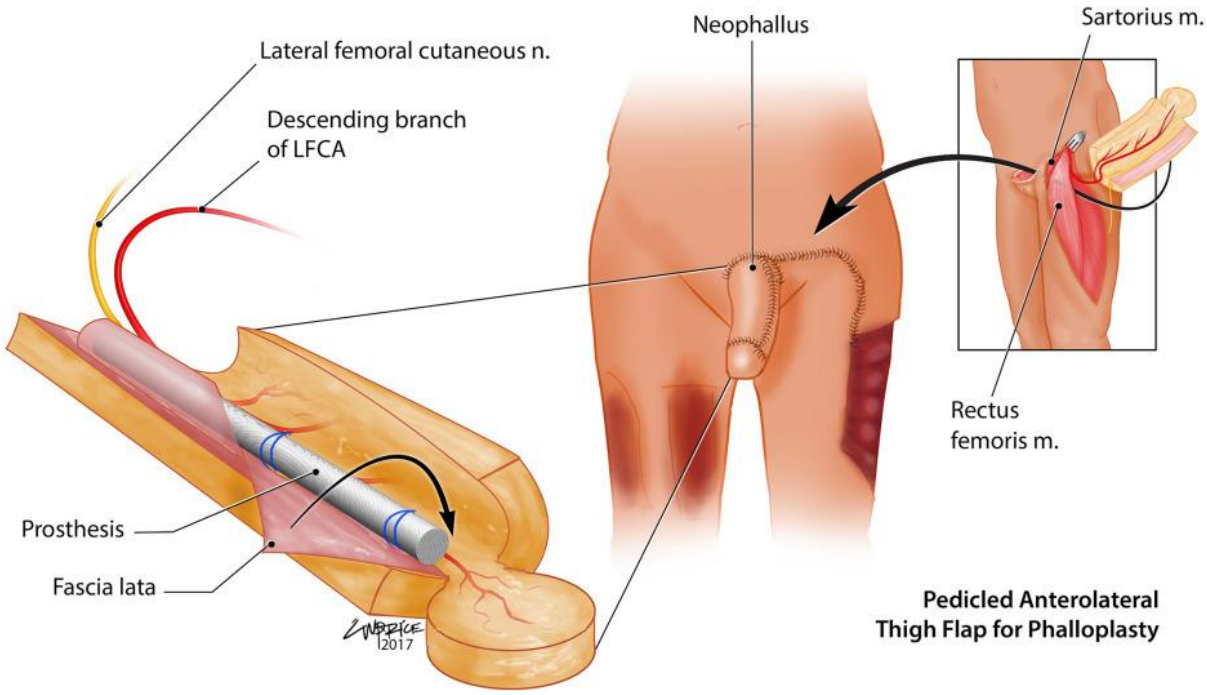
By following these steps, metoidioplasty is performed to enhance the size and appearance of the clitoris in transgender individuals. The main disadvantage of metoidioplasty is that the length of the neophallus is usually inadequate for penetrative sexual intercourse. Scientific studies shows that only around 50 percent of patients are able to achieve penetration during sexual intercourse post metoidioplasty. However, the outcome varies from person to person.

There are few complications that may occur after metoidioplasty. The acute complications include pelvic bleeding and pain, infection at the operation site, damage to surrounding tissues (bladder or rectal injury), loss of sensation, prolonged need for urinary drainage due to urinary incontinence and dribbling, and incorrect reactions to anaesthesia or other medication. Among the fearful long-term complications after metoidioplasty is improper healing or misalignment of the skin closure, urethral stricture, and urethral fistula causing urine leakage.

Phalloplasty

Phalloplasty on the other hand, is a surgery to construct a larger penis compared to metoidioplasty. This surgery uses tissues from the patient's individual arm, thigh, back, or

abdomen. In this procedure, the urethra is lengthened so that the person can urinate from the tip of the newly constructed penis. The procedure of this surgery is shown in Figure 4.5.



SIGNIFICANCE OF PHENOTYPIC DIFFERENCES

Due to the inherent differences between men and women, Islam has laid down detailed guidelines to maintain the harmony of human life. These guidelines are crucial to ensure that the purpose of creating men and women is fulfilled without causing any harm. Allah created human beings for no other reason than to worship Him. Allah says:
"And I did not create the jinn and mankind except to worship Me." (Quran, Adh-Dhariyat: 56)

According to Islamic teaching, the human body is regarded as a sacred and pure creation. Regarding the reproductive system, the Quran, along with the hadeeth encompass various aspects of self-care throughout one's life. It is emphasized that proper covering of the aurah (private parts) is required. The details and specific instructions regarding this are outlined in the Quran where Allah says:

“And tell the believing women to lower their gaze and guard their private parts and not expose their charms, beyond what may be [acceptable to] display. Let them drape [a portion of] their head coverings over their breasts, and not reveal their charms except to their husbands, their fathers, their husbands' fathers, their sons, their husbands' sons, their brothers, their brothers' sons, their sisters' sons, their womenfolk, their slaves, or those male attendants having no sexual desire, or children who are not yet aware of women's private parts. And let them not stamp their feet to make known what they conceal of their charms. And believers-all of you-turn to God in repentance, that you may succeed”. (An-Nur:31). This verse holds great importance in safeguarding our private parts and avoiding unnecessary attraction from the opposite gender.

Allah SWT also created human beings, both men and women, with the purpose of remembering and worshiping Him. In the Quran, Allah says: “Allah created you from dust, then from a drop of semen, then He made you pairs (male and female).” (Al-Fatir 35:11). In other surah Allah says

“And of all things We created two mates (male and female) perhaps you will remember. (Adh-Dhariyat : 49).

The uniqueness of Allah's creation and His ultimate justice in the physical and physiological differences between men and women result in differences in styles, responses to situations, thoughts, feelings, and adaptability to the surrounding environment. All these differences make them interdependent and complementary to each other, leading to a prosperous life.

The observable differences in secondary sexual characteristics between males and females play a crucial role in fulfilling the fundamental human function of reproduction. The unique physical traits developed under the influence of testosterone and oestrogen allow each gender to perform their specific reproductive roles effectively.

In the process of fertilization, men play a crucial role by producing sperm by the testes, while women contribute by producing eggs (ovum) by the ovary. Nonetheless, woman exhibit features including menstrual cycles and breast development, which are essential to support the development of foetus and nurturing the offspring.

The physical differences between males and females are influenced by hormones produced by their sexual gonads. These differences show up as unique features that facilitate the process of human reproduction. Understanding and acknowledging these differences helps us better understand human biology and the importance of gender roles in creating new life. Recognizing the importance of these physical variations can lead to a greater appreciation for the diverse and intricate nature of human existence.

As discuss previously, the main function of the reproductive system is to procreate offspring. Islam recognise this sexual ethics in the context of lawful marriage. The process of procreation, expression of love and intimacy should be within legal marriage within Islamic teaching boundaries. This is important because in Islam, marriage is considered a religious obligation, a means of moral protection, and a commitment within society.

Islamic teachings also provide a clear guideline on purification and cleanliness of the reproductive system (taharah). Taharah include ritual practice including wudu’ (ablution) and ghusl (bath). Allah mentioned (Surah Al-Maidah:6) “O you who have believed, when you rise to perform prayer, wash your faces and your forearms to the elbows and wipe over your heads and wash your feet to the ankles. And if you are in a state of janābah, then purify yourselves. But if you are ill or on a journey or one of you comes from the place of relieving himself or you have contacted women and do not find water, then seek clean earth and wipe over your faces and hands with it. Allah does not intend to make difficulty for you, but He intends to purify you and complete His favour upon you that you may be grateful.”

Taharah is greatly emphasised in Islam to maintain proper hygiene both physically and spiritually. This practice is extremely highlighted in Islam to prevent organic diseases including sexual transmitted diseases such as syphilis and gonorrhoea and infection to the genital organs. Spiritual purification is also important to promote a positive and meaningful life by eliminating misery that may cause one’s soul distress or dysfunction.

According to the Quran, Allah created the first human being (Prophet Adam, peace be upon him) from clay. In Surah Al-Qiyamah, verses 37-39, Allah emphasizes that He created human beings from clay and a humble fluid, then breathed the soul into the human body, giving them hearing, sight, and hearts.

Understanding the knowledge of our creation reminds us of the purpose of Allah's obligation on us to worship Him. Devotion to Allah is the safe path to prevent us from going astray, which can

lead to moral decline, an increase in crime, the weakening of faith, and a diminishing belief in Islam, which can bring greater harm such as shirk (associating partners with Allah) and apostasy. Human beings are Allah's creation in the best form. We have been endowed with intellect and desires. Therefore, every human being is responsible as Allah's vicegerent on earth as mercy to all the world for all mankind.

CHAPTER 3: HEALTH ISSUES RELATED TO TRANSGENDER WOMEN

Hormone and Transgender Women

Gender-affirming hormone therapy is widely used by transgender women to bring about bodily changes that align with their gender identification as women. This hormone therapy helps to produce a more feminine body shape, stimulating breast development, preventing facial hair growth, and improvement in sexual function. The hormone therapy may increase and alter the distribution of fat while simultaneously reducing muscle mass. Additionally, it softens the skin and reduces oiliness.

The majority of transgender women in Malaysia usually consume pills that contain oestrogen or androgen-lowering pills to suppress testosterone hormone production, while other techniques include injections and transdermal patches. Estrogen pills are commonly taken with a dose of less than 4mg per day. Some transgender women buy combination oral contraceptives instead of estrogen-only products since these types of pills a more readily available in this country and are believed to produce a more promising result (Rashid et al., 2022). In some cases, progesterone is taken alone by transgender women to suppress androgen hormones like testosterone. However, this strategy increases the risk of breast and cardiovascular disease, particularly in older people.

After initiating the hormonal therapy, the time physical changes take place is varies and determined by the underlying body physiology of the person. While for some persons, the physical changes may be obvious right once, others like breast growth may take months to notice the changes.

Hormone Therapy Adverse Effect

In Malaysia, it is unlawful for transgender to obtain a prescription for hormone therapy. Thus, purchasing the hormone is often done via a local pharmacy (without prescription), online, in traditional drug stores, or by asking friends who reside in nearby countries (Rashid et al., 2022). This behaviour exposes transgender women to potential adverse effects since they are not receiving information from a qualified medical practitioner before purchasing the drug. Their decision to choose a non-prescriber method puts their health in danger. Due to a lack of pre-medication medical professional screening and ongoing long-term follow-up, they are more susceptible to pharmaceutical side effects. One observational study reported that the mortality risk of transgender women using hormone treatment was higher than the cisgender men in general population (C. J. de Blok et al., 2021).

The use of estrogen usage is related to negative consequences such as venous thrombosis and raises the risk of cardiovascular death. Before taking estrogen hormone, they need to be informed regarding specific contraindications, such as a history of liver disease, stroke, heart disease, thromboembolism and breast cancer. If these symptoms are present, further examination and assessment by a medical professional are required. Oral estrogen also can trigger severe hypertriglyceridemia and complications of acute pancreatitis for those having familial hypertriglyceridemia. Thus, screening with serum lipid levels before starting the hormone is highly recommended (Elkins & Friedrich, 2018; Randolph, 2018; Romano & Uggeri, 2004). In addition, they must also be made aware of the importance of doing a mental health check before starting any medicine since, if a problem is detected, it may worsen if not treated promptly.

The severity of side effects may vary depending on the doses and method of administration for oestrogen hormone therapy. Transdermal oestrogen patches are generally thought to be safer than oral and oestrogen injections. However, because it is less expensive, the latter is more favoured by many transgender people. Furthermore, increasing to higher doses to hasten the transition effect is frequently done. They are a small number of people have been reported to

consume higher doses of oral estrogen (6 to 10 mg) to fully suppress testosterone hormone production (Randolph, 2018).

Venous thromboembolism (VTE) is a primarily observed complication in transgender women who took oral estrogen and other antiandrogens. The rate is estimated 20-fold higher than that of the other male population not taking the hormone. Unprescribed ethinyl estradiol (EE) is the common type of estrogen taken and often taken in overdose. This type of hormone is widely known as associated with VTE, compared to other types of estrogen formulation (Asscheman et al., 2014; van Kesteren et al., 1997).

Compared to cisgender people, transgender have higher rates of obesity. In a study done by Kyinn et al.(2021), an average weight increment of more than five kilograms was seen after 11 to 21 months of follow-up from the initiation of hormonal therapy. At the start of the research, the prevalence rate of obesity was 25%, and it thereafter rose to 30%. Consuming estrogen and progesterone pills may result in weight gain and obesity, hence, will raise the risk of developing a thromboembolic and arterial disease in the future. In general, having too much body fat shortens life expectancy and raises the risk of hypertension, diabetes, dyslipidemia, stroke, sleep apnea, fatty liver disease, gallbladder disease, osteoarthritis, and slipped discs. It could also make some cancers more likely.

According to a report, transgender people who use oestrogen for longer than six years are more likely to get an ischemic stroke than a man who does not take the hormone (Getahun et al., 2018). Therefore, cardiovascular disease (CVD) risk assessment such as measuring the blood pressure, body mass index, serum glucose and cholesterol level should be done periodically for a person who takes hormone therapy for an extended length of time. In addition, tobacco smoking is common among transgender women, and it is one of the major risks for cardiovascular disease, thus they should always be encouraged to quit smoking. The risk of having thromboembolism is significantly increased in transgender women who smoke, have hypertension, or dyslipidemia, are obese, and are immobilised after surgery.

Transgender women are more likely to get breast cancer, and their risk may increase with continued hormone exposure. This fact is supported by retrospective research conducted in the Netherlands, which observed a higher prevalence of breast cancer among transgender women compared to cisgender men. Therefore, it is recommended that those who have used hormone therapy for at least five years and are over 50 years old should get breast cancer screening (De Blok et al., 2019).

After long-term usage of antiandrogen hormone or androgen suppression therapy, osteoporosis or a decrease in bone mass density may develop. They are susceptible to fracture because of this condition. Appropriate advice for preventing osteoporosis, such as consuming enough calcium and vitamin D as well as engaging in enough weight-bearing activity, should be given to all during follow-ups by a medical professional. Another common androgen deficiency feature is dry skin and the person is required to apply moisturizer cream to avoid complications.

Psychosocial Aspect

Malaysia is a country with two third of the population practising Islam. Here, the transgender group are not accepted by the community and there is much opposition to their belief in sex conversion. Because of this situation, the group experienced indirect discrimination and had limited access to care and support.

Transgender people frequently experience stigmatization, oppression and non-acceptance from family members, friends, co-workers and school mate, which can all contributes to negative mental health. Some transgender is homeless due to being separated from their family. Compared to cisgender persons, they are more likely to have a mental illness, suicidal thoughts, prostitution,

drug abuse, and intentional self-injury due to difficulty to get jobs, financial constrain and stigmatization (King et al., 2008; McCann & Danika, 2016). Transgender women's sexual behaviour contributes significantly to Malaysia's high HIV prevalence, which costs millions of ringgits from the tax payer's money to manage (Ngadiman et al., 2015).

Transgender youth also are observed to have more numbers of having comorbid psychiatric morbidities compared to their peers. Physical and verbal abuse, exposure to discrimination, social isolation, bad peer relationship, low self-esteem, and body weight dissatisfaction are the common factors for negative mental health. Consequently, they are exposed to depression, eating disorders, suicidality and self-harm (Connolly et al., 2016). It is crucial to start management early, starting with school-age children. There is evidence that good social support, school belonging and safety, and good family relationship are all resilience-promoting elements for adolescent mental health (Tankersley et al., 2021).

Transgender-specific mental health care that was attentive and catered to their needs frequently seemed insufficient resulting in unmet needs. This minority community lacks services from professionals who are knowledgeable about the transgender issue and are trained and skilled especially in need of counselling and psychotherapy. Eventually, many transgender persons adopted avoidant behaviours toward the current healthcare system, which worsened their feelings of marginalisation and rejection.

To improve the situation in Malaysia, we need to strengthen the collaboration among stakeholders, including medical sectors, researchers and Islamic scholars. The holistic strategy to help this group may include creating an enabling environment to reduce stigma, providing qualified personnel for psychotherapy sessions, and providing social and professional support to enhance their quality of life.

Transgender Sexual Aspect

Sexual desire, or libido, is a natural part of human needs, and transgender women can have it just like everyone else. However, some transgender women may have low libido as a result of hormone therapy or other medical interventions throughout their transition. For instance, hormone treatment may cause transgender women to suppress the production of testosterone, which may result in a drop in libido. Furthermore, some transgender women could feel discomfort about their genitalia, which could reduce their desire for or satisfaction from sexual activity. Thus, regular follow-up and monitoring of hormonal levels are recommended for the transgender group.

It's important to note that transgender women, similar to people who were assigned male at birth, have male reproductive anatomy, including testes in place of ovaries, and a penis in place of a vagina. They also have a wide range of experiences with their bodies, including consuming hormone therapy or surgery to align their physical characteristics with their gender identity. However, these interventions do not typically include the ability for sexual reproduction comparable to that of a person with female reproductive anatomy.

Transgender women who were assigned male at birth naturally have male genitalia, including a penis, and some may experience erections. However, hormone therapy or other medical interventions that some transgender women undergo as part of their transition may affect their ability to have or maintain an erection. The suppression of testosterone hormone also leads to atrophy or shrinking of the testes and it is a common effect of the therapy. The degree of testicular atrophy however can vary depending on factors such as the individual age, the dosage and duration of hormonal therapy and other medical conditions. The small testes may enter the inguinal canal and cause discomfort to them.

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CHAPTER 4: STDs AND THE PATHOGENIC TINIES

What are STDs?

STDs is the short form for sexually transmitted diseases, previously known as venereal diseases (VD). They are transmitted from person to person by unprotected sexual intercourse, more commonly asymptomatic but then can easily develop into serious conditions that are fatal or irreversible such as infertility, without any detection and treatment. These diseases can also be transmitted non-sexually for instances; an infected pregnant mother transmits the disease to their child during pregnancy or an infected individual shares needles between a healthy individual[1]. STDs can be caused by pathogenic **TINY (ies)** living things that are microscopic including bacteria, fungi, viruses, and micro-parasites as summarised in the following table [2].

Disease	**Name of underlying pathogen**	**Type of pathogen**
• Gonorrhea • Chlamydia/ Chlamydiasis • Syphilis	• *Neisseria gonorrhoeae* • *Chlamydia trachomatis* • *Treponema pallidum*	• Bacteria
• Candidiasis/moniliasis	• *Candida albican*	• Fungi
• Human immunodeficiency virus infection and acquired immunodeficiency syndrome (HIV/AIDS) • Human papilloma virus (HPV) genital warts, cervical, anal or throat cancers. • Hepatitis B • Genital herpes.	• Human immunodeficiency virus (HIV) • Human papilloma virus (HPV) • Hepatitis B • HSV-2	• Virus
• Trichomoniasis	• *Trichomonas vaginalis*	• Parasite

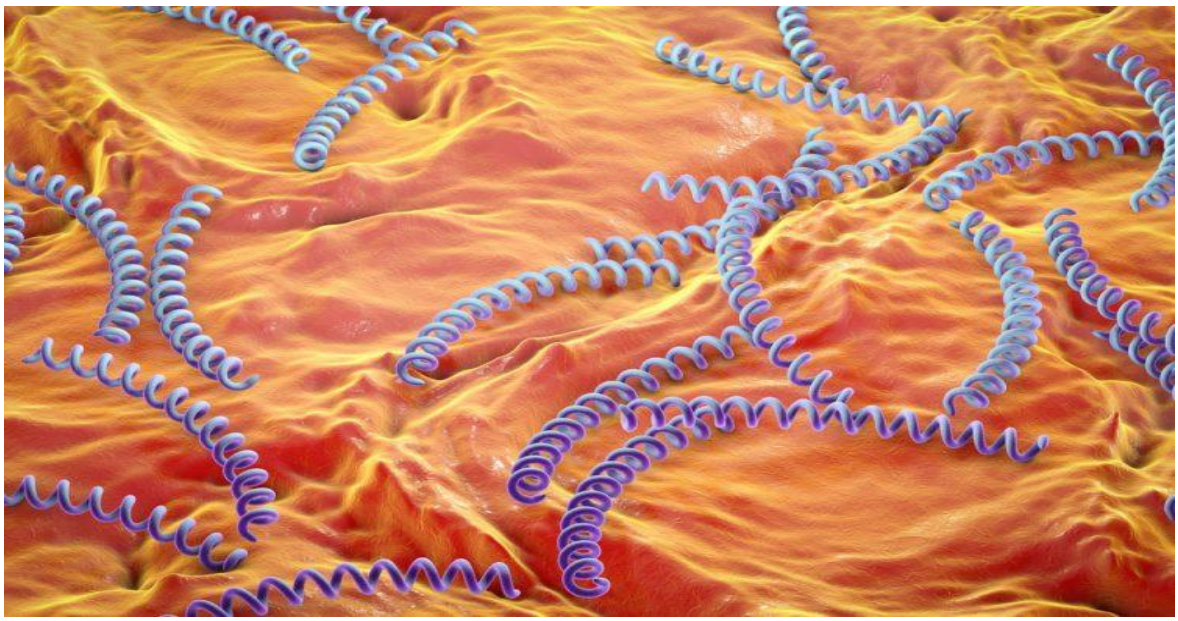
Data from the Centers for Disease Control and Prevention (CDC) illustrates that women have a higher biological risk for contracting sexually transmitted infections (STIs) and HIV than men, with a higher probability of transmission from men to women[3]. This is due to the fact that the female reproductive system is anatomically more susceptible to infection than the male reproductive system. However, elevated STDs risk amongst MSM (men who have sex with men) has been well recorded. Additionally, it was also found that gay-MSM have more sexual partners and a higher prevalence of HIV than heterosexual-MSM[4].

Syphilis

The transmission

Syphilis is divided into stages (primary, secondary, latent, and tertiary), that is caused by helically coiled bacteria known as ***Treponema pallidum***, or formerly known as ***Spirochaeta pallida*****.** The transmission is only among humans. Most cases of syphilis involved **MEN**, with the vast majority are occurring amongst gay, bisexual (practice both heterosexualism and homosexualism), and other men who have sex with men (MSM). According to National Academies of Sciences Engineering and Medicine report: Sexually Transmitted Infections: Adopting a Sexual Health

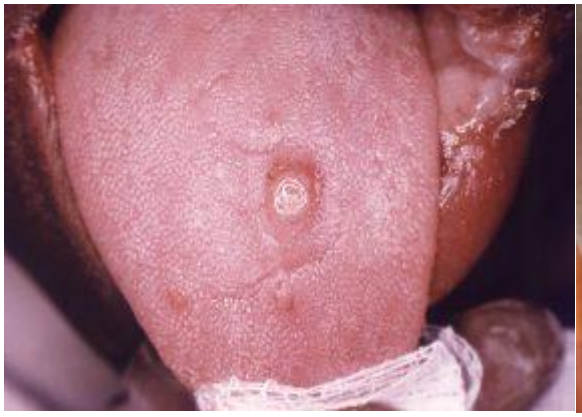
Paradigm in 2021, approximately 176,713 cases of syphilis (all stages and congenital syphilis) were reported, including 53,767 cases of primary and secondary (P&S) syphilis, the most infectious stages of the disease. MSM are disproportionately impacted by syphilis, accounting for almost half (46.5%) of all male. In fact, more than a decade ago, the prevalence of syphilis was seen in 42.3% of transgender group and 18.1% in non-transgender individuals[5].



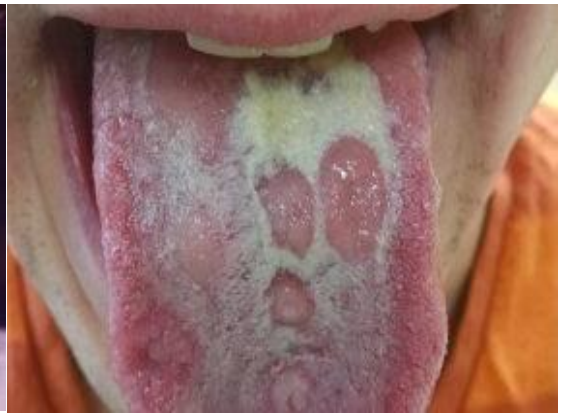
This image is adapted from https://www.drugtargetreview.com/wp-content/uploads/Treponema-pallidum-

Symptoms

During the primary stage of syphilis, a single sore or multiple sores will be noticed. The sore is the location where syphilis entered your body, which usually occurs in, on, or around the penis, vagina, anus, rectum and lips or in the mouth[3]. During the secondary stage, skin rashes and/or sores in your mouth, vagina, or anus may appear. This stage usually starts with a rash on one or more areas of your body. The rash can show up when your primary sore is healing or several weeks after the sore has healed. The rash can be on the palms of your hands and/or the bottoms of your feet and look rough, red or reddish-brown. Most people with untreated syphilis do not develop tertiary syphilis. However, when it does happen, it can affect many different organ systems. These include the heart and blood vessels, the brain and nervous system. Tertiary syphilis is very serious and would occur even 10 to 30 years post infection. In tertiary syphilis, the disease damages your internal organs and can result in death[3].



Primary stage syphilis sore (chancre) on the surface of a tongue[3].



Secondary stage syphilis lesions on the surface of a tongue[3].

Gonorrhea

The transmission

Gonorrhea is one of the most common STDs caused by ***Neisseria gonorrhoeae***. It is a gram-negative species with a diplococci morphology that can be cultured on a chocolate agar[6]. Gonorrhea has progressively developed resistance to the prescribed antibiotic drugs which is also demonstrated by the laboratory, that higher-than-expected levels of an antibiotic are needed to stop its growth[7]. Interestingly, humans are the only host of Neisseria gonorrhoeae. The transmission is through sexual contacts without a condom (vaginal, anal and oral), as the transmission occurs exclusively through direct mucosal contact.

This image is adapted from https://prevent-and-protect.com/pathogen/neisseria-gonorrhoeae/

In 2021, a total of 710,151 cases of gonorrhea were reported to the CDC, making it the second most common notifiable sexually transmitted infection in the United State[3].

Symptoms

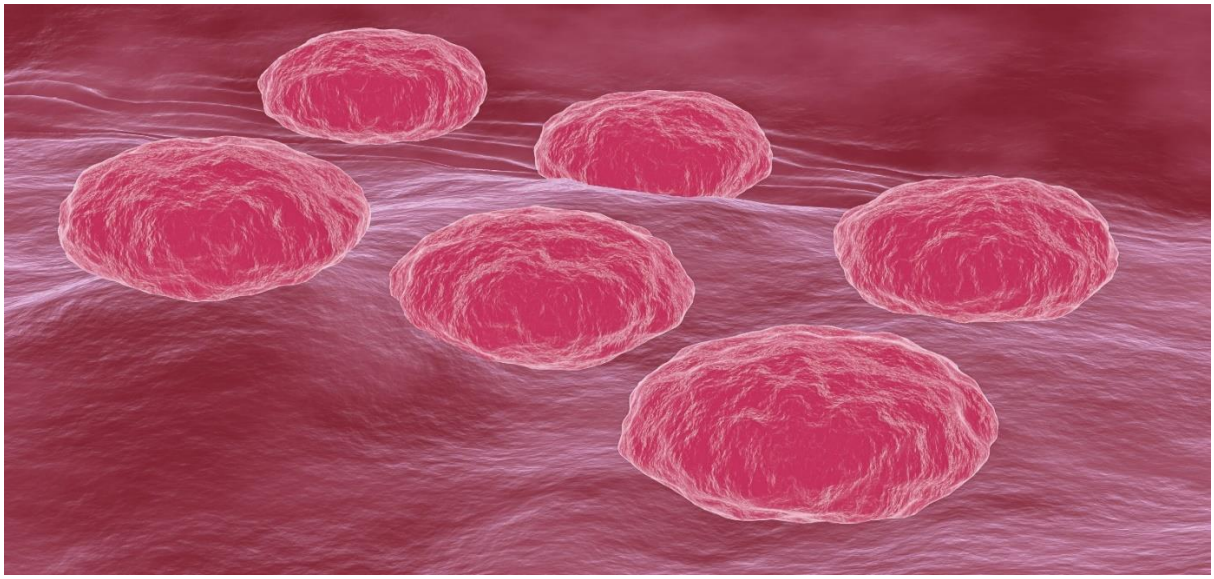
Symptoms of gonorrhea are yellowish discharge from penis, burning sensation, dysuria, anal discharge and anal itching, erythematous exudate of pharynx, and sore throat[8]. If the disease is left untreated, it may cause infertility in both men and women. Furthermore, prolonged gonorrheal infection can lead to disseminated gonococcal infection (DGI) which causes the bacteria to spread into the bloodstream, inflamed and affect various parts of the body causing symptoms such as joint pain and skin rashes [9] eventually affecting vital organs such as the heart causing endocarditis which is the inflammation of the organ.

Chlamydiasis

The transmission

Chlamydia infections disproportionately affect men or people assigned male at birth (AMAB) who have sex with other men or partners AMAB, compared to those who have sex with women or people who are assigned female at birth (AFAB). Chlamydia is thought to lead the (STI) involving a total of 1,644,416 cases in 2021, in the U.S. [3]. The main cause of the infection is ***Chlamydia trachomatis***. These bacteria are gram-negative, anaerobic, intracellular obligates that replicate within eukaryotic cells. Besides being the most common sexually transmitted infection, it is in fact, reported as the most common bacterial infection, which causes an ocular infection called

"trachoma,", the leading infectious cause of blindness worldwide. Penicillin is not effective against the infection; thus, the tetracycline and erythromycin are the drugs of choice[10].



This image is adapted from https://microbix.com/product/chlamydia-trachomatis/

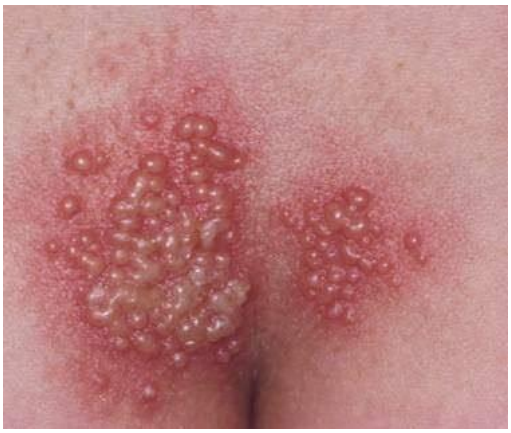
Symptoms

Genital infections include nongonococcal urethritis in men and acute salpingitis and cervicitis in women. Other strains cause lymphogranuloma venereum, an STD with genital lesions and regional lymph node involvement (buboes).

Herpes genitalis

The transmission

Herpes genitalis is also one of the most common sexually transmitted infections globally [11]. **Herpes Simplex Virus- 2 (HSV-2)** is the most common cause of genital herpes, affecting approximately 22% of adults ages 12 and older, representing 45 million adults in the United States alone. It is spread through vaginal, oral, or anal sex. HSV-2 can spread to the mouth during oral sex. Less commonly, **HSV-1** can be transmitted to the genital area through oral-genital contact to cause genital herpes. HSV-1 is mainly transmitted via contact with the virus in sores, saliva or surfaces in or around the mouth. Genital herpes can often be spread by skin-to-skin contact during sexual activity [12].



Symptoms

Primary genital infections with HSV-1 and HSV-2 are usually asymptomatic. The classical clinical features consist of macular or papular skin and mucous membrane lesions occurring approx. 4–7 days after sexual contact; these progress to vesicles, pustules and ulcers and can last for up to 3 weeks. Typical symptoms also include pain, especially painful inflammatory swelling of the vulva in women, burning pain and dysuria [11].

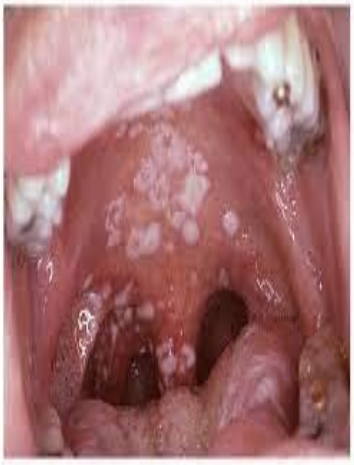
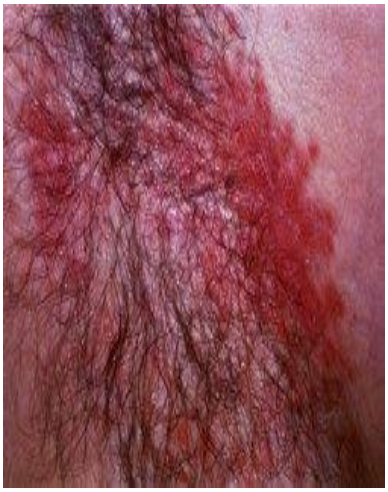
Candidadiasis

The transmission

Candidiasis or "yeast infection" is caused by ***Candida albicans*** which is not usually infected by sexual activity but can occasionally be transmitted to the sexual partner. The treatment initially with the antifungal inserted into the vagina. Candidiasis is an opportunistic infection due to Candida, which can affect the oral cavity, vagina, penis, or other parts of the body. Untreated Candida infection carries the risk of leading to a systemic infection in which other organs can become involved and may lead to sepsis [13].

Symptoms

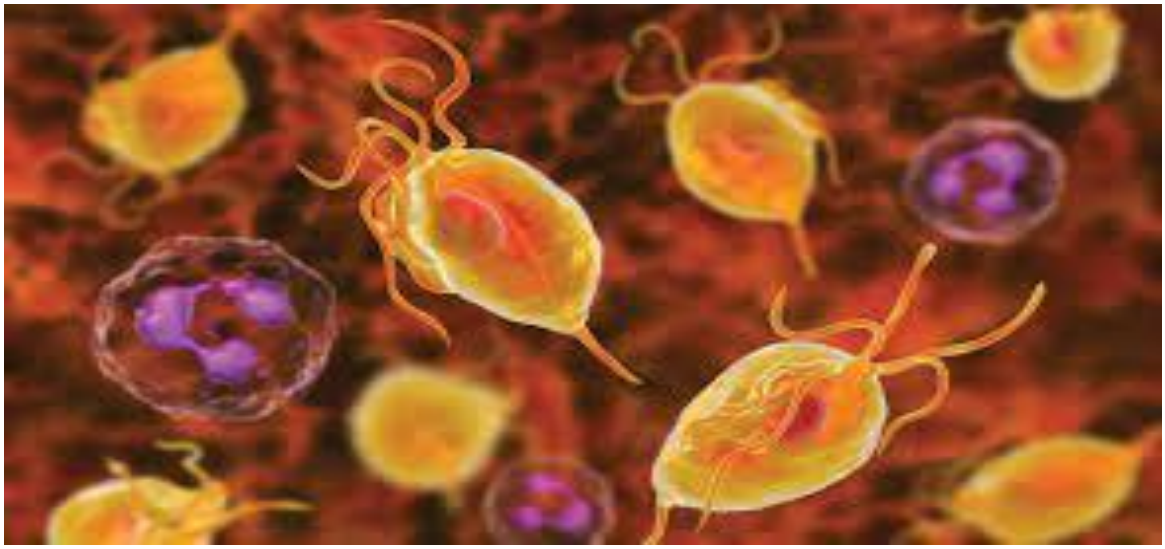
Vaginal candidiasis presents with genital itching, burning, and a white "cottage cheese-like" discharge from the vagina. The penis is less commonly affected by a yeast infection and may present with an itchy rash. Yeast infections may spread to other parts of the body resulting in fevers along with other symptoms. Oral candidiasis is one of the most common fungal infections, affecting the oral mucosa usually shown as white plaque.

Trichomonas vaginalis

The transmission

The prevalence of Trichomonas vaginalis in the United States is 2.1% among women ages 14-59, and 0.5% among men based on a nationally representative sample of people who participated in NHANES 2013-2016 [14]. It is transmitted by ***Trichomonas vaginalis*** (a protozoan parasite) in sexually active people who are having sex without a condom with a partner who has trich (trichomonas).



Symptoms

About 70% of people with the infection do not have any signs or symptoms. When it does cause symptoms, they can range from mild irritation to severe inflammation. Some people may get symptoms within 5 to 28 days after getting the infection. Others do not develop symptoms until much later whist the rest might have temporary almost one manifestation.

Infected men may experience itching or irritation inside the penis, burning after peeing or ejaculating; and discharge from the penis. Infected women may notice itchiness, burning, redness or soreness of the genitals, discomfort when peeing; and A clear, white, yellowish, or greenish vaginal discharge (thin discharge or increased volume) with a fishy smell [15].

The only way to avoid STDs is to not have vaginal, anal, or oral sex. However, the most important precaution is, to know the background of the partner and practice safe. Many studies have revealed the chance of getting STDs is highly likely due to changing partner that is not regarded as legal marriage, therefore cases are more often amongst MSM.

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CHAPTER 5: TRANSGENDER WOMEN AND CANCER

Cancer in Transgender People

Persons who identify or express as transgender are a diverse collection of people whose gender identification or expression is different from that which was initially assigned to them at birth (1). Some transgender people, but not all, choose to undergo medical gender affirmation, which may entail transgender hormone therapy and/or surgical genital and other sex-specific alterations.

The carcinogenicity of hormonal therapy in transgender people is a major worry because cross-sex hormones used for gender affirmation can be given at large doses and for years at a time. Additionally, sexual transmitted diseases (STD), greater exposure to well-known risk factors like smoking and alcohol use, and inadequate access to screening have all been connected to worries about cancer risk in transgender patients.

Cancer risks in transgender population

The current literature indicates that transgender people face a disproportional burden of adverse health outcomes (2). Although the amount of literature addressing transgender health issues has been rising exponentially, the majority of research that are now available have mostly concentrated on substance misuse, sexual health, and STDs, and to a lesser extent, mental health issues (3). On the other hand, little information is available regarding the prevalence of age-related chronic illnesses, such as cancer.

Although research on cancer in transgender persons is prioritised, the majority of worries about the incidence and prognosis of malignant tumours in this population are based on anecdotal data or on broad analyses of potential disease processes (4–9). In view of limited amount of comprehensive prospective studies for this population, there aren't enough high-quality empirical data evaluating cancer incidence and death among transgender people (10). In this chapter, we first review the possible risk factors that may differentially affect cancer risk in transgender people and recognised some of the common types of cancer among transgender community focusing on transgender women.

Risk factors of cancer in transgender women

Possible effects of cross-sex hormones

The aim of typical hormonal treatment for transwomen is to decrease blood testosterone to physiological female concentrations (30–100 ng/dL) through antiandrogens (or surgical castration) and to achieve normal female but not supraphysiological levels (<400 pg/mL) of estradiol through estrogen therapy (11).

Few studies have highlighted possibility of presumably hormone-related malignancies in transwomen diagnosed after the initiation of medical or surgical gender affirmation include carcinomas of the breast and prostate, prolactinomas, and meningiomas (12). In the next few sections, we will review some common cancers among transgender patients who underwent hormonal or surgical gender affirmation.

Breast augmentation using silicone and breast implant

Breast implants can be used for mastectomy reconstruction or for cosmetic reasons. Breast augmentation has grown to be the most popular procedure in cosmetic surgery since Cronin and Gerow introduced silicone gel prosthesis in 1962 .

Materials used as implants were developed with the purpose to be chemically inert, exhibit temperature stability, resistance to oxidation, microorganisms, mechanical strain, and body fluids. Additionally they are to cause no inflammation or hypersensitivity, maintain their shape, be amenable to sterilization, and should not be carcinogenic. A wide range of medical devices, such as breast and larynx implants, hydrocepahalus shunts, implantable infusion pumps and ports, intraocular lenses, pacemaker and defibrillation devices, penile and testicular prostheses, contain silicone at the moment.

The multiple factors that have been suggested to promote autoimmune disease development and tolerance breakdown in females as well as genetic and epigenetic vulnerability must also be taken into consideration when analysing silicone's impact on chronic inflammation (48).

The implants, specifically those used in the past, elicit chronic stimulation of the immune system against the prosthetic material. This is particularly the case in genetically susceptible hosts. Studies suggest that polyclonal activation may result in monoclonality in those at risk hosts, ultimately leading to lymphoma (49).

Human papillomavirus infections

Human papillomavirus (HPV) have been linked to several types of cancer involving transgender population. Among over 40 types of HPV, at least 13 are considered high risk with respect to their carcinogenic potential (13). A number of studies have shown strong correlation between incidence of HPV-related lesions with human immunodeficiency virus infected person.

Other cancer risk factors

Although large-scale nationally representative data are lacking, there is evidence that transgender people are disproportionately exposed to common modifiable cancer risk factors including smoking, obesity, and lack of or inadequate cancer screening.

Common types of cancer among transgender community

Human papillomavirus related cancer

Studies have shown strong correlation between Human papillomavirus (HPV) with anal, oropharyngeal, and penile cancers in non-transgender men and cervical, anal, vulvar, and vaginal cancers in non-transgender women (14).

The case reports of presumably or potentially HPV-related malignancies in transgender patients who received gender affirmation therapy include anal and neovaginal cancers in transwomen and cervical and vaginal cancers in transmen (12). Of special consideration with respect to neovaginal cancers is the use of heterotopic penile skin, which may be at higher risk for HPV-induced squamous cell carcinoma.

In a recent study, neovaginal swabs from 54 transwomen who had vaginoplasty and were monitored at a clinic in Amsterdam were tested for the presence of high-risk HPV DNA. Six (20%) of the study's 28 sexually active individuals tested positive for neovaginal high-risk HPV (15). It has been hypothesised that vaginoplasty consequences such chronic laceration and inflammation may raise the risk of cancer in this population (16).

Human immunodeficiency virus (HIV)-infected people are more likely to develop HPV and HPV-related anal squamous intraepithelial lesions, according to several studies of transgender and non-transgender people (13, 17, 18). Transgender people frequently contract HIV infections, especially transwomen who have some of the highest laboratory-confirmed prevalence rates in the world (19). For all of the above reasons, HPV-related cancers are expected to occur more frequently in transgender people than in the general population (20).

Prostate cancer in transwomen.

In the course of gender confirmation surgery, the prostate is not removed. The role of exogenous oestrogen and its effect on oestrogen receptors and also needs to be taken into account, even if it is believed that androgen deprivation by the use of antiandrogens or orchiectomy will protect against prostate cancer (21). Although studies reveal that distinct oestrogen receptor isoforms may have diverse and often contradictory modes of action, recent literature suggests that oestrogen receptor accelerates prostate carcinogenesis whereas oestrogen receptor appears to exert antineoplastic effects (22-24). It has been demonstrated that 17-estradiol can bind to androgen receptors with the help of coactivators or androgen receptor mutations that cause 17-estradiol hypersensitivity. Estrogen does not only act on oestrogen receptors (25, 26). It's likely that transwomen's prostate cancers are more aggressive because they develop despite having low testosterone and high oestrogen levels (27).

All reported cases of prostate cancer among transwomen who underwent gender affirmation had orchidectomy, and all were receiving hormonal therapy. Except for one of those cases, all of them were treated with hormones for at least ten years before diagnosis (12). Although high PSA levels, a sign of an aggressive disease, were found in the majority of reported instances of prostate cancer in transwomen, it should be remembered that almost all of these individuals were symptomatic or at least had a palpable prostate lesion at the time of diagnosis. It is, therefore, expected that PSA levels in these cases were higher than the levels typically observed in the general population of prostate cancer patients (28).

Breast cancer in transwomen.

Breast lobules, ducts, and acini that are histologically identical to those of biological females are stimulated to form when high doses of exogenous cross-sex estrogens and androgen antagonists are administered (28). Exogenous oestrogen binds to the oestrogen receptor in the breast tissue and is thought to promote the development of cancer by promoting cell growth, reducing apoptosis, and upregulating the synthesis of oxidative metabolites that cause DNA damage (29,30). The idea that transwomen may have an elevated risk of breast cancer because of hormone therapy has been supported by the finding that greater serum levels of endogenous estradiol are linked to a higher breast cancer risk in non-transgender natal males (31).

Risk associated with progesterone use may require particular attention. Data from several studies indicate that the risk of breast cancer in postmenopausal women receiving hormone replacement therapy may differ depending on inclusion of progesterone in the hormone replacement formulations (12).

Low testosterone levels may also influence transwomen's chance of developing breast cancer. Several data shows that testosterone restricts breast epithelial growth and promotes apoptosis (33, 34). The Women's Health Initiative study's observational data analyses also revealed an inverse relationship between the prevalence of oestrogen receptor-negative breast cancer and blood testosterone levels (35). Due to these factors, anti-androgen medication in transwomen may actually increase the risk of breast cancer, especially in cases of oestrogen receptor-negative illness.

Breast-implant associated Anaplastic Large Cell Lymphoma (ALCL)

Epidemiologic studies have been reassuring that breast implants are not associated with breast cancer; however, there are reports of an increase in anaplastic large cell lymphoma among patients with some implants. Breast implant–associated anaplastic large cell lymphoma is a type of non-Hodgkin's T-cell lymphoma. However, the number of reported cases remains small, and the exact number of cases worldwide has not been established (50). These data however are quite debatable.

Based on one of the largest population-based study conducted thus far, with nationwide coverage of breast-ALCL cases in the period from 1990 to 2016 in United States, have shown that implants strongly increase the risk of this rare type of lymphoma (49). Breast implant–associated anaplastic large cell lymphoma (ALCL) is a distinctive type of T-cell lymphoma that arises around breast implants. This study demonstrates a statistically significant association between textured breast implants and breast implant–associated ALCL. Although women with a textured breast implant have a low risk of developing breast implant–associated ALCL, the current U.S. incidence is significantly higher than that of primary ALCL of the breast in the general population (47).

Specifically, a local inflammatory response, elicited by silicone-derived products or specific bacterial species adherent to the prosthesis surface (biofilm) may play a role, possibly via an auto-immune response. Silicone implants are associated with mild to severe scarring of the surrounding tissue, ultimately leading to development of a capsule. In rare circumstances, inflammation may persist and finally result in the activation of polyclonal and perhaps monoclonal lymphocytic cells. According to studies, there are local and systemic immunological reactions to silicone (49).

Toxic products related to the production of breast implants have been implicated as direct mutagens. Whether certain groups of women have a genetically determined increased risk to develop lymphoma when exposed to breast implants, eg, via a genetically determined altered or exaggerated local immunological response, remains hypothetical (48).

Meningioma in transwomen.

Female sex hormones may also play a role in the pathogenesis of meningiomas. This hypothesis is based on the observations that meningiomas are more common in women than in men, appear to change in size during the luteal phase of the menstrual cycle and pregnancy, are associated with the use of oral contraceptives and hormone replacement therapy, and tend to co-occur with breast cancer (36,37). Progesterone receptors are expressed by the majority of meningiomas, whereas oestrogen receptors are present in only one-third of tumours. Because of this, it has been proposed that progesterone, especially in high dosages, may play a role in the development of transgender women's meningiomas (38). The usage of the chemical cyproterone acetate, which functions as both a progesterone agonist and an antiandrogen, in these instances is of particular interest (39).

Prolactinoma in transwomen.

Prolactinomas are the most common pituitary tumors that tend to be relatively small, slow growing, and diagnosed predominantly in women (40, 41). Estrogens have been reported to induce prolactin synthesis and release, and their use has been linked to both hyperprolactinemia and prolactinoma risk (42). Progesterone is also thought to play a role in prolactinoma development as indicated by the evidence that these tumors express both estrogen and progesterone receptors; however, the latter pathway is not well understood (47).

Cancer screening and awareness among transgender community

Due to discrimination as well as specific health needs, transgender people are particularly at risk when it comes to medical care. Cancers of the reproductive systems no longer correspond to the gender of transgender men and women still exist. For instance, transwomen might not be aware of the prostate cancer risk that continues to exist. Due to the remaining tissue that develops

following surgery, those who have undergone sex reassignment surgery might not be aware of the ongoing risk of reproductive malignancies. The fact that transgender people may choose not to have cancer screenings and exams due to emotional or physical anguish brought on by the discrepancy between their gender identity and their natal genitalia can complicate matters. The lack of knowledge among medical personnel about transgender health conditions may also be a barrier to receiving medical care. Any reason for disengagement from gender-specific healthcare leads in missed opportunities for cancer screening and diagnosis and probably plays a role in the increase number of cancer incidence in this population.

Cancer risk is considered an area of priority in transgender research. Important areas of uncertainty include the risk of breast neoplasms and the need for breast cancer screening in transwomen receiving estrogens (48). Other relevant research questions of primary importance include optimal screening protocols for breast cancer in persons exposed to estrogens, estrogen-related prolactinoma incidence and progression, and PSA levels as well as both risk and prognosis of prostate cancer after estrogen exposure and/or orchiectomy (49, 50).

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CHAPTER 6: ORAL HEALTH OF TRANSGENDER WOMEN

Oral health is crucial for everyone. The first thing in any conversation is self-confidence. People gained confidence through perfect smile and this is the mirror of your oral health. Women are more likely to be conscious about their appearance especially the face and oral health.

Transgender women are passionate over their looks. This includes the appearance of their teeth. Many of them have had front teeth veneers done either locally or internationally.[1] A local study found that majority of TGW had anterior teeth veneers done in Thailand as the cost was cheaper compared to Malaysian dental practice.[2]

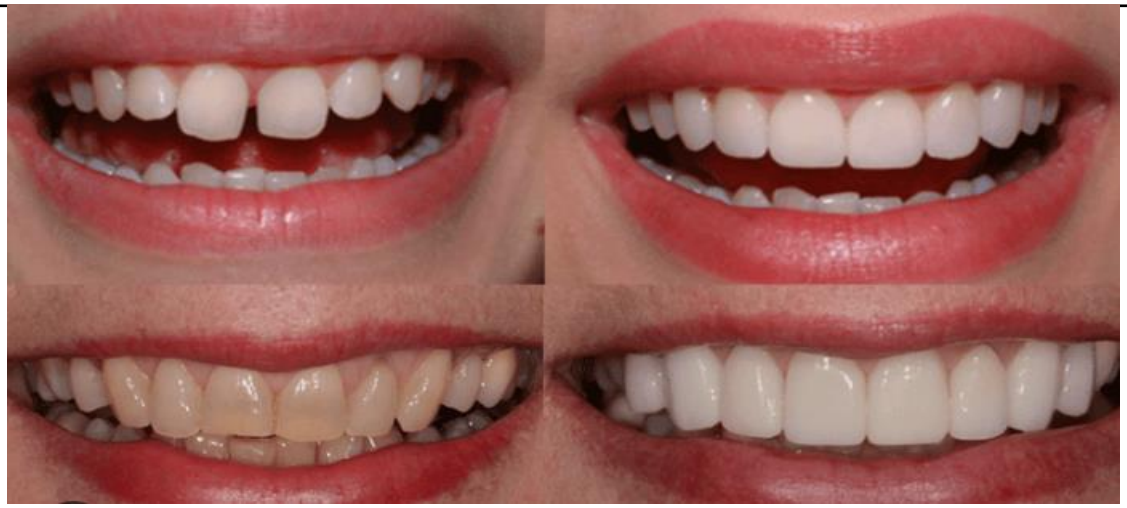

Figure 1: Before and after issuance of dental veneers

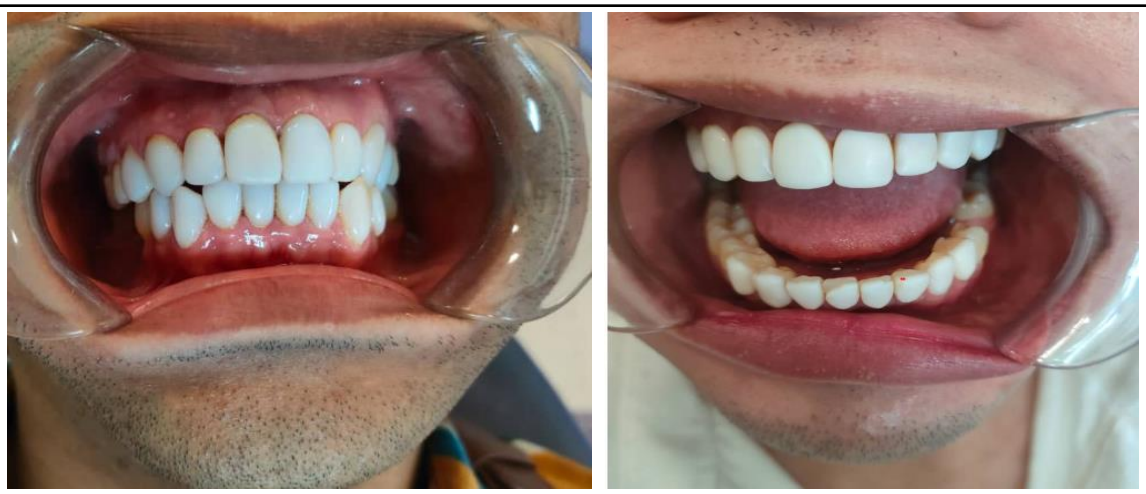

Figure 2: Examples of fake veneers by fake dentists

From the recent local study on this group, they found that majority of TGW have moderate oral hygiene with only small amount having poor oral hygiene.2 The study also revealed that their quality of health is affected by their oral health.[2]

Caries or tooth decay is the main culprit for oral disease worldwide. In Malaysia, it shows the caries prevalence for adult is decreasing as reported by National Oral Health Survey for the past 4 decades, with periodontal disease remained high.[3] The declining pattern could be resulted from oral health promotion through social media and mass media. On the other hand, researchers

found that oral health for transgenders were poorer compared to cisgenders with higher incidence of decayed teeth.[4]

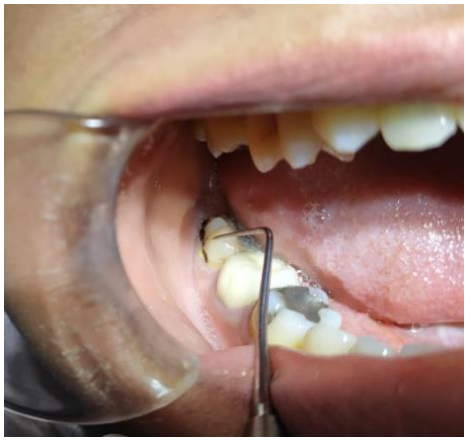

Figure 3: Example of caries/decay

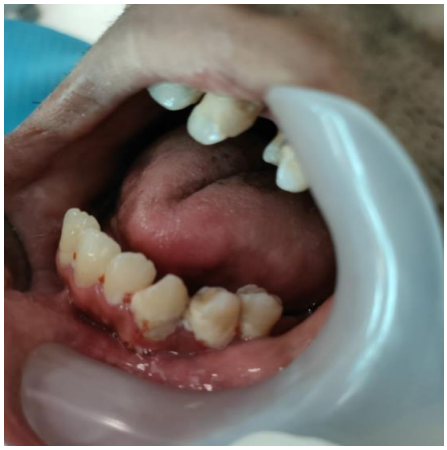

Figure 4: Example of periodontal disease

Some transgenders have smoking habit, consumption of alcohol and drug misuse.2 These may lead to occurrence of oral mucosal lesions. The lesions such as ulcers, red and/or white patches are found higher occurrence rate in transgenders compared to cisgenders. Some of the commonest oral mucosal lesions are leukoplakia, nicotine stomatitis and oral cancer.

Leukoplakia is a *"essentially an oral mucosal white lesion that cannot be considered as any other definable lesion."* It is known to be strongly linked to smoking and any form of tobacco use. Other synergistic risk factors include alcohol consumption, chronic irritation, fungal infections such as candidiasis, oral galvanism due to restorations, bacterial infections, sexually transmitted lesions like syphilis, combined micronutrient deficiency, viral infections, hormonal disturbances, and ultraviolet exposure.[5]

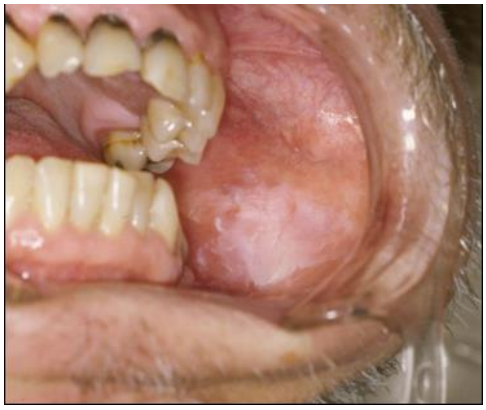

Figure 5: Oral leukoplakia on buccal mucosa

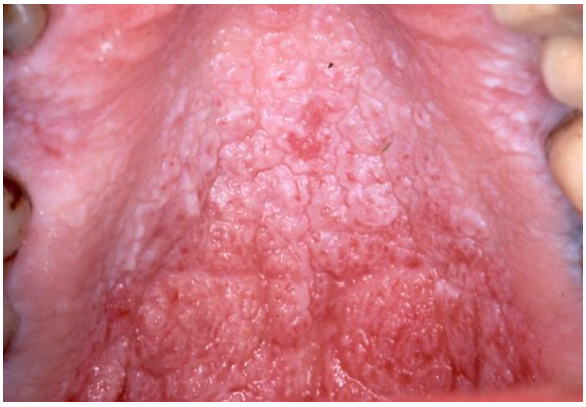

Figure 6: Nicotine stomatitis

Nicotine stomatitis normally occur on the palate and or soft palate.[6] As its name, the main cause for this lesion is tobacco use and the risk is higher for those has habitual reverse smoking.It appears as raised red dots on the hard and/or soft palate as the result of inflamed minor salivary glands on this area due to "cooked palate".

The most devastating oral lesion is oral cancer. In general, it is the 11th most common cancer worldwide with South and South east Asia showed the highest incidence.[7] The risk factors for oral cancer are tobacco and/or alcohol consumption, chronic irritation, betel quid chewing, micronutrient deficiencies and infections.[8] Infections to oral mucosa for TGW can be due to the high risk behaviour such as oral sex.

Oral health is a mirror of our general health. Poor oral health may affect the quality of life. This can be illustrated when a person having tooth decay; this might affect eating pattern, sleep disturbance, work and or study performances. World Health Organization(WHO) had recognized oral health related quality of life (OHRQoL) is a part of important segment of Global Oral Health Program since 2003. OHRQoL of TGW was considered high in comparison to adult population in Malaysia. Higher score in the OHrQoL study showed that their oral health give impact to their quality of life in general.

A local study also found that majority of TGW in Malaysia had dental anxiety with one fifth had dental phobia especially towards drills and local anesthetic injections.[9] There are few factors contributing to having dental anxiety such as bad experience, lack of awareness pertaining to family or parents and lastly lack of dental needs by the person himself. Majority of adults in Malaysia have dental anxiety as they claimed they had bad experience during dental visits at their schools. Apart from this, roles of parents also salient in shaping the mindset of a child's oral health. For instance, some parents would say "*I will bring you to see a dentist and you will get a shot*" to make their children behave.

Braces has becoming a trend nowadays not to mention among TGW as they wanted to have a perfect "Hollywood" smile. However, many of TGW in Malaysia had their fake braces fixed by fake dentists. Fake dentists in Malaysia practice dentistry in their home or in hotels where their customers came after they have set up their meetings via social media such as Whatsapp®, Facebook® and Instagram®. The main reasons they have customers looking for fake dentists are cheaper in costs, customers' lack of knowledge on differences between registered dentists and fake dentists and lastly negligence. The work of fake dentists is irresponsible and negligence of Dental Act 2018 and Private Healthcare Facilities and Services Act 1998 under the Laws of Malaysia (Act 586). The side effect of having braces from fake dentists are such as destruction of tooth structure due to fixation of the fake braces with no proper follow ups and no knowledge on proper oral healthcare by both parties.

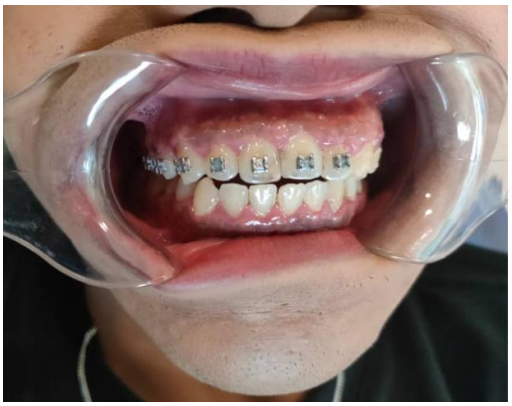

Figure 7: Fake braces by fake dentist

Oral health care practice

In general, oral health practice as recommended by Oral health Division, Ministry of health Malaysia is in accordance with NICE guideline. The 'gold standard' for oral health practice are as follows:

1. Tooth brushing with soft bristle toothbrush twice daily
2. Brushing with a pea sized fluoridated toothpaste
3. Toothbrushing time is at least 2 minutes; to count until 10 for each side
4. Dental check-ups with registered dentist at least once a year as according the Oral Health slogan: "Ingat hari jadi, Ingat gigi"
5. Using interdental devices or floss at least once daily for removing the plaque in between the teeth.
6. Never forget to brush your tongue as it is the major site for plaque retention that can cause bad breath.

In a nutshell, TGW has higher risk of oral health problems as the factors discussed earlier.

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CHAPTER 7: MY STORY DEALING WITH LGBT

It started when I went to perform Hajj in 2010, met a ustaz who complained that majority of Dr had no time to help him during aborigine health workshop. They were busy with locum and etc. So, I felt guilty and volunteer to help this ust . Upon returning to Kuantan, he called me for a meeting, but the members of the meeting that turned up were 5 transgenders led by Kak June. I was surprised and asked the ustaz, he said Jakim wanted to brief us about LGBT mukayyam programme. I was quite frustrated because my expectation was wrong. Kak June was very talkative and gave a lot of suggestions to make the mukayyam impactful. A few of them a bit outspoken during the meeting.

The committee decided to run one mukayyam in Kuantan, I was given a task to present a topic on stress management in May 2011 in Agro Semuji Gambang Kuantan. After the event the ustaz told me, that he was going to retire, so he hopes I can continue. I just said insyallah but deep inside, I was not ready or not my area of interest actually.

Then during Syawal 2011, I met an old friend from Pakistan in Masjid Negeri after isyak in Kuantan seeking for donation for his maahad, while waiting for my Pakistani friend suddenly Kak June called me and invited me to join their syawal gathering. Around 30 maknyah already there and there was tazkirah given by my old friend Ust Yusof who was good at Tasawuf. I felt like, I can't run away from this responsibility, in addition not many NGOs or institution interested on LGBT issues.

In 2012, there was order from Kulliyyah of Medicine that every department must conduct an event/workshop or seminar. So, this is the turning point, so far, I was invited by Ust to give a talk. Now I become the host, so the first programme done was mandi jenazah or management of dead body on 12 April 2012 in Banquet Hall Office of Campus Director Kuantan.

And after that 1st event;

Kak June adviced me if you want the LGBT community to attend the management of dead body programme, why don't IIUM doing street dakwah or 'temuseru'. Majority of transgenders are sex workers, so they will feel shy to attend this type of event. So during weekend, my team Dr Mohd Ibrahim (Deputy Director Masjid SAS) and Dr Mohd Lokman Isa from KON did the street dakwah together with 15 medical students .

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We were surprised and it was new experiences for us because Kuantan was full of transgender after midnight. Almost every corner in Jalan Pasar, Jalan Wong AH Jang and etc many transgenders were doing business seeking for clients.

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Almost 95% Transgender were Muslim, remaining 5% were Thais, however their clients were 100% Muslim. They wore cross-dressing, full of make-up, perfume and etc. We finished Subuh prayer. I got insomnia after the street dakwah. I felt guilty, shame and many other feelings, my Muslim brothers become prostitute just to earn about RM50 per session and they are vulnerable for HIV/ Aids plus sexually transmitted diseases. However, I did nothing to help this community, so far, I just treated HIV but the root of the problem, actually I took no action to treat the LGBT. Since then, I always done street dakwah every 2 months until Covid 19.

There was an incident, we visited a transgender at his room at 3am, with diarrhoea and high-grade fever. He was lying on the bed, very ill looking, dehydrated and thin but still conscious. I advised him to go to IIUM clinic for further management. The next morning, he came with a friend. A rapid test done, and he got Retroviral disease. He accepted the diagnosis because he understood the complications. He asked politely if I can arrange his returned trip to Indonesia. He just wanted to go back and asked forgiveness from parents, siblings and relative. He cried and promised to start new life. It was difficult for me because he had no personnel documents like passport and etc. I don't know how to help him, afraid too if Immigration thought that I was protecting immigrant. At the same time, we started treatment, everything was free of charge. I manage to get an appointment with Immigration in Indera Mahkota, I explained everything, Alhamdulilah. The officer in charge responded by saying, if you sacrificed to help this transgender until he is insaf, we felt guilty and shame if we don't do something similar. We also want reward (pahala). So, he approved special pass and allowed to go back based on humanity reason. 3 weeks later, the transgender passed away with good ending. Until today my relationship with Immigration still good. Thank you Immigration, really appreciate your support .

The management of dead body programme running smoothly on 12 April 2012, majority of them came, one of them even converted to Islam after the event. He gave the reason was this is the right time as IIUM set nice platform for him to start new life. Now, I had to do second programme, to organise Solat workshop.

Their comment, we don't know how to solat, so this second workshop not only teaching the mualaf but to teach the rest too. Other than solat workshop, Quranic class also run together. It was initially started by Ust Nasarudin from Jaip until today. We don't stop there, Mukayyam or Ibadah camp also was planned in Tanah Rata Cameron Highland. The first programme was in 22nd-24 th September 2012

Now it become an annual programme. These were the schedule for the programme, basically run by our medical students and Ngos.

The ibadah camp generally to focus on:

- Fardhu Ain such as practical on solat and wudhu as well as Qiyamullail
- Medical camp including HIV screening, Hypertension and Diabetes mellitus screening as well as physical examination particularly Cardiovascular system, health quiz and etc
- Kuliah Maghrib and Subuh given by religious scholar.
- Explorace with at least 5 pit stops to assess their understanding about Fardhu Ain, medical camp as well as Kulliyyah .
- The winner of ibadah camp based on team that follow the schedule with full attendance and give full cooperation particularly prayer on time all the times. The winner will receive RM6500 for champion, RM6000 for runner-up, third RM5500, fouth place RM5000 and fifth position RM4500. Normally each team consists of 25 members. So, the cash money they will divide among them.

Initially when we did the ibadah camp, I remembered once incident in 2015 in Tanah Rata Cameron Highland. At that time, we rented Marina Chalet, the lady owner was so friendly and tawadhu'. She advised the transgenders to join the Qiam, they just laughing and

ignored her advice. During maghrib prayer, the owner passed away during sujud, all of us were surprised because the auntie had showed no sign of death at all. That night our surau was full house up to the brim for Qiam, the transgender really gave full cooperation. Since then and until now, every time we conduct Qiam, the surau always full, the community really give full support.

Another incident in 2018, we had one participant by name of Dayang (photo below). He was a transgender from Indonesia, he gave full cooperation every time we conducted programme in Kuantan. However, the only programme he a bit reluctant to join was Ibadah Camp because he needed to leave Kuantan for many days. That mean the "business" was running at lost. The maknyah leader threated him, if you didn't attend the ibadah camp, if anything happened to you, we won't help. Afraid of the warning, so finally he joined. On last day during closing ceremony, I asked him who is the intelligent person. His answered was really shocked the whole audience, he said confidently the smartest and cleverest not a Dr, not a Professor but a person who remember death and make a preparation for it. I was so surprised because Dayang was a sex worker, but his answer showed that he knew that one day he is leaving. True enough, one month later (17th September 2018) he passed away. He was hospitalised for 2 weeks because of STD due to high risk behaviour. Alhamdulilah, his death was easier, and the hospital administration gave free treatment even though Dayang was non-Malaysian patient. His death gave really great impact to me despite being sex worker, he managed to U-turn before death. That why we need to give people second chance and we shouldn't judge them because we don't know their ending. Maybe they much better than us.

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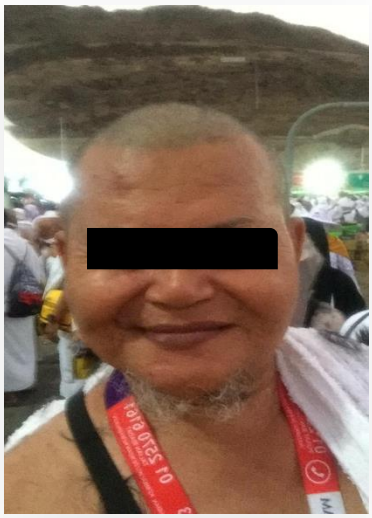
  - The latest incident ibadah camp was 2022, Ida or Ismail was diagnosed with heart disorder secondary to sexually transmitted illness since 2021. He came from Indonesia too, had settled done in Kuantan for many years. After the ibadah camp in Kerdau Temerloh Pahang 28 Oct till 30 Oct 2022, his health status was getting worst. The heart was in failure, he refused admission as had no money to pay the medical bill. However, his friends pushed for admission, they don't know what to do at home. He finally agreed for admission, two months later passed away in CCU, SASMEC because of heart failure. His last will to me, please pay remaining RM10,000 medical bill. Ismail paid RM5,000 before his death. Unofficial information I got, Sasmec will give free of charge the remaining bill. He was quite active with any programme done by IIUM Kuantan since 2011.He had never missed. Always encouraged others transgender to participate IIUM programme until his last day. Even he died after joined our programme. That was beautiful memory or 'kenangan terindah'.

We give best treatment to LGBT community regardless of race, nationality and religion. It is unfair to say we discriminate them in term of treatment.
However, during Covid, we withhold the street dakwah. This was the times the LGBT was really affected. Their 'business' were closed. Majority of them contacted me asking for financial aids. I contacted a few NGO and government agencies. Some of them missed lunch for many days. Covid taught them the importance of EPF. We helped them every 2 weeks like rice,cooking oil and many others.
Those who show positive sign for example like start new life, stop working as a sex worker, we will sponsor for Umrah and Hajj (pending quota). The first candidates were Kak June and Amir

Kak June after returning from Umrah, he become totally different, from a ibu ayam he started selling nasi ayam, then in 2019, we got a quota for Hajj 28 July – 3 Sept 2019.The quota was really big surprised to us, I didn't expect it at all, the offer coming from a Deputy Minister Religious Affair YB Fuziah Salleh. She came to Kuantan for short visit to our NGO Persatuan Insaf Pahang house in Bukit Goh. I asked her, is it possible to get one quota for Hajj? She agreed instantly because she also planned for Hajj this year 2019.However we need to do fund raising, I immediately made an announcement in Facebook, Whatsap and etc. By hook or by crook we must get at least RM10,000. Beyond our expectation ,donation came all over Malaysia within 1 week, we managed to get RM17,000. Allah keep his words based on Surah Muhd verse 7, if you help HIM, He for sure will help you back.



After Hajj, he helped his friend to convert from Kristian to Islam, we noticed the impact was so significant every trip for umrah and Hajj. Since then we always, sponsor for umrah despite the increasing cost. These programmes gave significant impact to LGBT communities, one of them claimed initially he thought he maybe couldn't see Kaabah because of major sin in the past. He felt quite frighten, being a sex worker in the past maybe Allah won't accept him as a guest. However, he saw Kaabah clearly and the rest of ibadah was running smoothly. When he was in Madinah, one Arab brother even sat beside him, as if he is welcoming him.

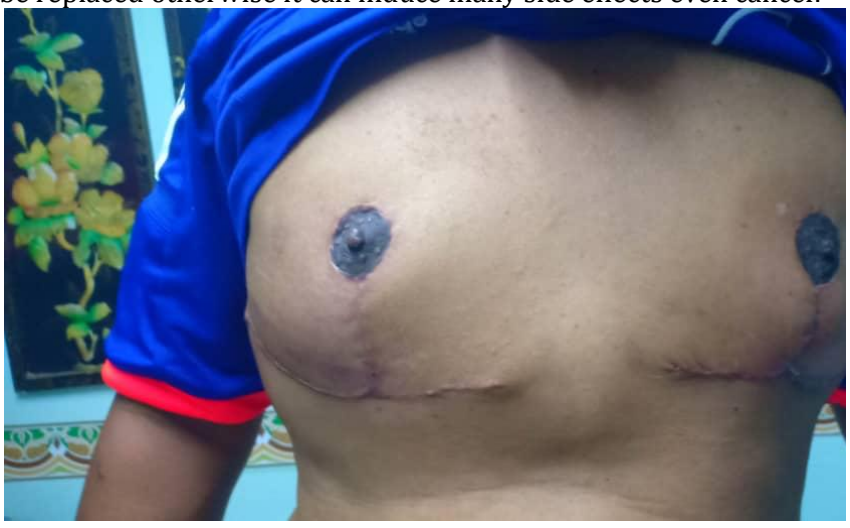
Indirectly in Kuantan, transgenders community started talking about umrah and Hajj, who next and how long we need to live as transgender? So far almost 10 maknyah had been sponsored for umrah. So, far we have closed 9 prostitution centres out of 10 in Kuantan.

We also manage their funeral; it is free of charge with the help from Drug intervention in Community. This activity really gives big impact to LGBT community, because one day their turn will come. During the bathing, they realize the body had no “anu”, full of implants like breast, chin, hip and forehead. How are they going to face Him? They always talk about their right, when they are dead, now we talk about Allah’s right.

- The LGBT community before this, never regards Islam as way of life, even a few of them against Islam, because Allah prohibit their anal sex and curse their way of life. In addition to that, our local community pretty judgemental and not keen to give second chance. However, since we started the rehabilitation programme and set up Persatuan Insaf Pahang in 2013, their way of life more systematic and Islamic. The role of leadership is so much significant when Tan Sri Zulkifli Abd Razak allowed transgenders to work as a cleaner in IIUM Kuantan, previously it was banned. Almost 15 transgenders started a new life from sex workers to a cleaner. So more and more transgender managed to be salvaged from getting HIV and spread the disease to others including sexually transmitted illness. A few transgender got also married and have their own children. Mohd or purple, picture below was so special because he practices polygamy. His first marriage he had 4 children; his second wedding was 13 Jan 2023.

Marriage is actually the best solution; LGBT basically is due to strong desire. Majority have problem to handle their strong desire, this syahwat can't be handled by using medication. That why you need spiritual therapy or conversion therapy. However, Western claimed this therapy was dangerous, unethical and harmful. Full of side effects like anxiety, depression, suicidal, social isolation and etc. From our observation, spiritual therapy is saved, so far nothing happens to our ex transgender who started a new life, even one of them started polygamy which normal people like me afraid to do it.

I never give up, we still keep on giving nasihat, so far 20 transgenders have gone breast implant removal, nose implant and chin in Sasmec (Sultan Hj Ahmad Shah medical centre) since 2019 until now. Breast implant used for more than 20 years by these transgenders. It is dangerous because it can rupture, malposition and etc. Normally after 7 years, it should be replaced otherwise it can induce many side effects even cancer.



- What is my concerned now is about PREP (pre exposure prophylaxis), this medication will be given free to homosexual couples. Indirectly, the Ministry of Health is encouraging LGBT community particularly men sex men (MSM) to do anal sex. The first 2 years, medication will be sponsored by Global fund, this is their initiative maybe to normalise LGBT lifestyle. The services will be provided by selective health clinics all over Malaysia (Ministry of Health) as their pilot project, after 2 years then it will be reviewed either to continue or not. These MSM, they actually are not patients, by giving them Prep, it is not following Maqasid Syariah. For husband and wife (sero-discordant couple), giving prep to the wife

basically to prevent HIV transmission to the wife. This is following maqasid Syariah because you want to protect life especially wife and baby. However, giving Prep to MSM, this is not according to Islamic teaching and against the Maqasid Syariah. A few religious scholar (Mufti) from Selangor and Penang Sabah, declared Haram giving prep to MSM community because they are not patients but homosexual couple.

Lagi mufti tolak pemberian ubat cegah HIV kepada LGBT

'Ainin Wan Salleh - January 20, 2023 11:28 PM

374 Shares 288 81

Mufti Pulau Pinang, Wan Salim Wan Mohd Noor berkata, pemberian ubat itu perlu dibatasi hanya kepada individu yang sering berhubungan secara fizikal dengan pesakit HIV, contohnya isteri penagih dadah. (Gambar Bernama)

THE MERDEKA TIMES Haram beri PrEP pada pasangan homoseksual – Mufti Sabah

Haram beri PrEP pada pasangan homoseksual – Mufti Sabah

Mufti Negeri Sabah, Datuk Bungsu @ Aziz Jaafar berpandangan haram ubat PrEP diberikan kepada pengamal homoseksual yang negatif HIV..

Published 5 days ago on January 21, 2023
By Hidayah Sani

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18.1 Persons Recommended for PrEP[4]

18.1.1 PrEP should be considered in HIV-negative individuals who are:

1. MSM and are sexually active within the last 6 months, with any of the following:
   - a partner who is HIV positive (see 18.1.2).
   - inconsistent use of condoms (for either insertive or receptive anal sex).
   - an STI (syphilis, gonorrhoea or chlamydia) in the last 6 months.
   - individuals requesting PrEP.

2. Heterosexual (men or women) and are sexually active within the last 6 months, with any of the following:
   - a partner who is HIV positive (see 18.1.2).
   - inconsistent use of condoms with partners of **unknown status from high risk groups** (MSM, IDU, Sexual Worker, Transgender)
   - an STI (syphilis, gonorrhoea or chlamydia) in the last 6 months.

3. People who inject drugs (PWID) with any of the following:
   - the use of shared drug injecting equipment.
   - at risk of HIV acquisition from sex.

4. Transgender (men or women) and are sexually active within the last 6 months, with any of the following:
   - a partner who is HIV positive (see 18.1.2).
   - inconsistent use of condoms with partners of unknown status (for either insertive or receptive anal sex).
   - an STI (syphilis, gonorrhoea or chlamydia) in the last 6 months.

5. Consider PrEP in any person engaged in transactional sex and any person practicing chemsex* that is unprotected.

*Chemsex is sexual activity while under the influence of stimulant drugs such as methamphetamine or mephedrone.

*HIV consensus guidelines 2022 (page 94)

As you can see 18.1.1, prep can be given to anybody request it, I m worried about the assessment. If, no assessment done properly, even young people also will be interested to try it. Particularly adolescents those below 16 years old. A few clinics already started giving prep in Selangor even though Majlis Muzakarah Mufti haven't decided yet about the hukum. Many of my colleagues felt very uncomfortable to start Prep, they don't want to share the sinful activity. It is just like selling a bunch of grapes to someone who will process it to make it alcohol or arak. For sure the transaction is prohibited according to Islam. However, my colleagues have to follow order otherwise disciplinary action will be taken

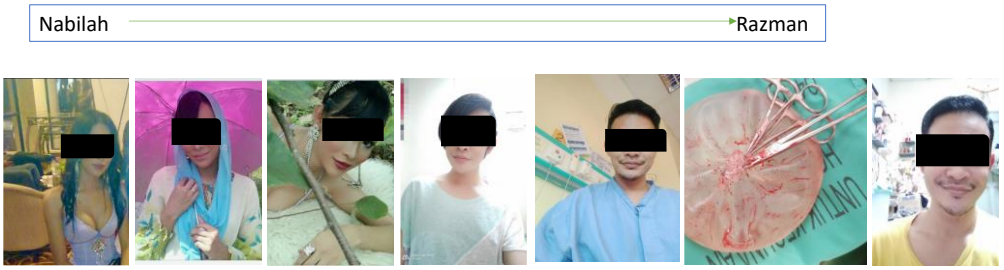
against them. They are in dilemma. The religious scholar or Mufti still debating the prep issues. We hope the highest religious body will give the hukum as soon as possible. I have no objection giving Prep to sero-discordant couple, we understand the indication of it but giving Prep to homosexual couple with negative HIV status is big NO.
Recently I received a call from a mother, sharing her concern about Prep. She felt quite depressed because her husband was bisexual and using Prep. She wanted to divorce the husband because she couldn't tolerate anymore. However, every time she sees her children, she felt very hopelessness because the children will suffer a lot. The husband loves the partner more than his wife. Birthday gift always special for the partner but not for the wife, even the husband always forgets his wife birthday. How long can she cope? Is it after she get HIV then asking for divorce? I don't know how to answer the questions.

What are some of the achievements?
Alhamdulilah, our achievements after 12 years ,9 prostitution centres out of 10 led by transgenders already closed in Kuantan Pahang. Many transgenders started new life:
1) 20 transgenders have gone breast implant removal surgery in Sultan Hj Ahmad Shah Medical Centre

Case study 1
Narinnat Napalen @Adik@Syukur , Thailand. 2012 to 2022

2) Nariinat Napalen from Saturn Thailand, nobody gave him chance. We started to do conversion therapy or spiritual therapy in 2012. Alhamdulilah, he changed slowly as you can see from his photo, now started a new life in his hometown. Currently doing study on childhood education and planning in future to start his own kindergarden. His intention to prevent LGBT lifestyle in future generation Insyallah.

Case study 2



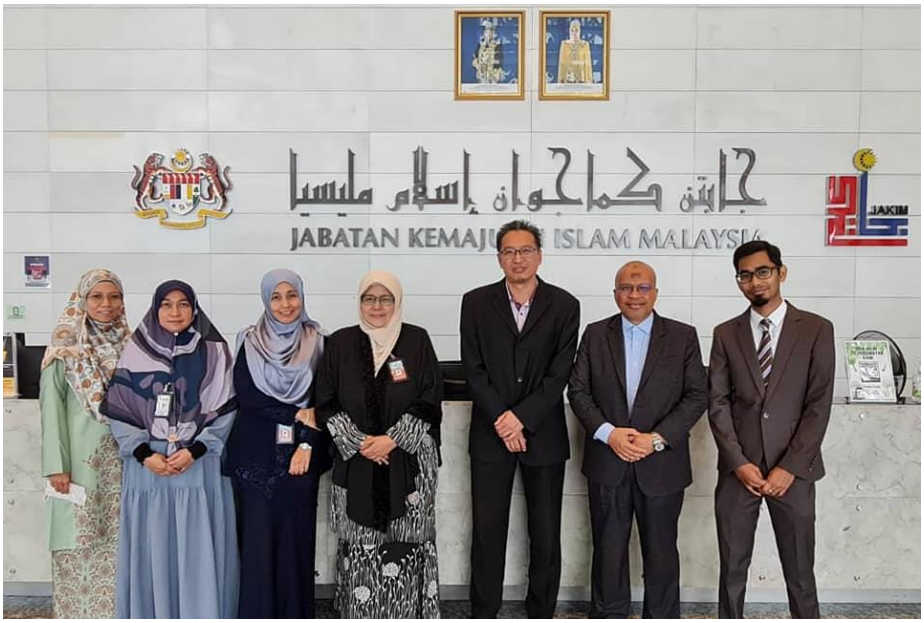
3) This is Razman, previously he was working in Mentakab, he never attended my dakwah programme in Kuantan. However, he knew it through his friends who attended the programme. Alhamdulilah, he changed much faster than his friends. Currently settled down in Kuala Lumpur, doing business on pets like cat and etc.What I noticed, hidayah is belong to Him, sometimes the person that we expect to change remain the same, but hidayah Allah gives to whom He likes even though the person didn't attend the programme. Nobody pushed Razman to changed, he himself contacted me asking to remove the breast implant.
4) 10 transgenders gone for umrah since 2013. 1 gone for Hajj in 2019
5) 5 transgenders already got married and have their own children.
6) I managed to set up Gender dysphoria flagship under Kulliyyah of Medicine since 2019 under OSIC supervision.
7) I have won 4 consecutive years for Takrim Day starting 2019,2020,2021 and 2022 under Community Engagement category.

Our hope for the future in relation to this activity

I am getting old, sooner or later insyallah I will go to Alam Barzakh. However, nobody knows, when the time will come. I really hope my students will continue this struggle, it is not easy, full of obstacle and responsibility. It involves a lot of times, huge budget, family support and many others. Lesbian Gay Bisexsual Transgender (LGBT) they can be cured. American Psychological Association maybe disagree with me, they said Homosexuality is not a mental illness, so there is no cure. I however found something else, the only thing that can't be cured is death. I noticed so far only IIUM really serious enough working at the grassroot level towards this community. I hope in future many others university will get involve too.

Recently 11 March 2023, a few staff for example Prof Rafidah Hanim Mokhtar from University Sains Islam Malaysia and Prof Dr Anis Safura Ramli University Teknology Mara Sg Buluh (Uitm), Ustazah Siti Fatahiyah and her family also Uitm came to Kuantan to visit them and gave tazkirah for Pre Ramadhan preparation.28 transexuals from Kuantan and Indonesia joined the programme, we divided into 3 groups for sharing moments. Majority of them wanted to start new life. However, they were stuck because of many reasons among them, will the community give them second chance. How about family members? Even one of the transexuals was a Christian, we didn't realize it, he is planning to revert to Islam but waiting for the right moment. This type of programme really triggers him to revert more seriously because now he realized that a few people still gave him chance and platform to start new life. Before closing we gave token of appreciation RM100 each, not much at least they have something for meals and other commitments. Their last words to us, please come again for more sharing sessions. They are looking for tazkirah, advice and support. If they go to masjid, sometimes public feel uncomfortable. Public might feel this will affect young generations especially children.

Tan Sri Rector has mentioned many times, no point being top 10 ranking in the world, but your neighbour is a prostitute. What have you done to help them? So, university must participate and involve in giving back to the society. What I have done basically was bottom up direction, we need top down approach, that mean government must play a big role if they want to curb this lifestyle from penetrating into young generation. Malaysia is squeezed by Thailand at the top and Singapore from bottom. Thailand already recognised LGBT and legalised the activity. While Singapore recently acknowledged LGBT activity during National Independence Day by decriminalised it. It was announced by Lee Hsien Loong Prime Minister of Singapore.

- 

We went to Jakim on 26 January 2023 to present our proposal related to Pre exposure prophylaxis (Prep.) Prof Dr.Rafidah Hanim representative from University Sains Islam Malaysia (USIM), Prof Dr Anis Safura Ramli and Dato Khalid from University Teknology Mara (Uitm), Prof Dr Rosediani Mohd from University Sains Malaysia (USM) and the rest from Non-Governmental Organisation (Papisma). We were really concerned; LGBT lifestyle shouldn't be encouraged. By giving Prep, we directly or indirectly endorsing their lifestyle. Anal sex will be safe because prep protect them from HIV. In reality actually protection against HIV was not 100%, even they are more vulnerable for other sexually transmitted illness like gonorrhoea, syphilis and others. However, we have no objection for serodiscordant couple.