UNIT 4 : ENDOCRINE GLANDS AND THE REPRODUCTIVE SYSTEM

UNIT STRUCTURE

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4.1 LEARNING OBJECTIVES

After going through this unit, you will able to-

- know about the various glands of human body
- know about the significance of the glands
- describe the functional principles of the glands
- describe the reproductive system
- know about the male and female reproductive system.

4.2 INTRODUCTION

We have already discussed about the organ systems of human body in the previous three units. In this unit we will study about the endocrine glands along with the reproductive system of human body. At the begining

of the unit you will get introduced with the endocrine glands and the thyroid gland. Thereafter, discussion will be made on adrenal and pancrease glands along with sex gland and minute endocrine gland.

It is the fourth chapter of the course on 'science of the human body, physiology and food'. Here we have focused on the endocrine glands system with male & female reproductive systems.

4.3 ENDOCRINE GLANDS SYSTEM

There are two types of glands in human body. One of them produce and secretion substances by way of duct. The other do not require any duct for secretion. The substances secreted by the ductless gland directly move to the target cell through blood. Substances secreted from liver, pancrease etc. move to the target area by the way of duct. Endocrine glands play an important role in the control of various physical activities. Substances secreted by the endocrine glands are termed as hormones. Endocrine glands are also called as ductless glands.

Endocrine glands of human body : The main endocrine glands of human body are–

1) Pituitary, 2) Thyroid gland, 3) Parathyroid gland, 4) Adrenal gland, 5) Pancrease gland, 6) Gonadal gland, 7) Peneal gland, 8) Thymus gland, 9) Placental gland. Modern science has discovered that over and above these, there are some more organs which secrel hormone.

1. **Pituitary gland :** Pituitary gland is located in a definite area of the brain. It is the master gland of all endocrine glands. It controls the other endocrine glands.

Main hormone secreted by pituitary gland :

1. **Growth Hormone :** It is the principal hormone out of all the hormones secreted by this gland. Physical growth occure due to this hormones. It produces protein in the body. Body growth fluctuate due to the abnormal secretion of this hormone. Inadaquate secretion of growth hormone makes a man dwarf and over-secretion makes gigantic.
2. **Thyroid stimulating hormone (TSH) :** Thyroid gland is stimulated by the TSH of pituitary gland. Abnormal secretion of this hormone

lead various disorders.

3. **Adrenocorticotrophic hormone (ACTH) :** This hormone secreted from the pituitary controls the secretion of adrenal gland.
4. **Gonadotropin stimulating hormone (GTA) :** This hormone stimulate the gonads at definite time for their secretion. This hormone stimulate the female gonad-ovaries and male gonad-testes at specific time. In addition to GTH, pituitary also secrete the follicle stimulating hormone (FSH) to stimulate the follicle of gonads for reproductive process. Various other hormones are also secreted by pituitary gland to help the reproductive process which are– Luteinizing hormone (LH), Prolactin (Pnl), Sex-cell stimulating hormone, Moreover, pituitary secretes some specific hormones too.

4.4 THYROID GLAND

The thyroid gland is the largest one out of the all endocrine glands of human body. It is located in our throat lying by the two sides of voice box.

Thyroid secretes the hormone called thyroxin. Thyroxin controls the normal growth of human body. It control the general metabolism as well as calcium and phosphorus metabolism of the body. This hormone also helps in the formation of haemoglobin and blood corpuscles. It also plays important rule in carbohydrate metabolism. Human beings acquire various disease due to decrease in the secretion of this hormone. Deficiency of this hormone in child results in retardation of mental development.

In case of adults, insufficient secretion of this hormone causes a different kind of disorders where there is swelling of hands and face. Overactive thyroid causes goitre. Food with little iodine inhibit the formation of thyroxin which also results in the disease goitre.

Parathyroid gland : There are four minute glands embedded on the thyroid gland. These glands are called parathyroid glands. Parathormone and calcitonin hormones are secreted by this gland.

Parathormone secreted from parathyroid gland increases the level of calcium and plasma by acting on kidney and alimentary canal. This

hormone reduces the level of calcium and increases the level of phosphorus in urine. This hormone activates vitamin D. As a result of over secretion of parathyroid hormone the bones of human body calcium free which makes the banes weak and flexible. Thus, deficiency of this hormone also may cause osteoporosis.

Calcium level in blood reduces when parath yroid hormone decreases. As a result abnormal stimulation is created in the nervous system resulting in weakness of muscle of the body. Calcitonin hormone inhibit the process of transferring of calcium and phosphorus from bones.



CHECK YOUR PROGRESS

Q 1: What is horm one?

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Q 2: Where does pituitary gland in located?

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Q 3: Which is the target gland of human body?

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4.5 ADRENAL GLAND

There are two triangule-shaped glands situated above the two kidneys of the human body. These glands are named as adrenal gland. Weight of the gland is 5-10g in adults. The gland is devided into two parts. The inner part is called medulla and the outer part cortex. Various important hormones are released by this gland. Hormones secreted by the adrenal cortex along with their functions are mentioned below.

Glucocorticoid Hormone : This hormone increases the level of glucose, fatty acid and amino acid in blood. This hormone helps in the inhibition of allergy. Excessive secretion of this hormone causes cushing syndrome, common symptoms of the disease are deposition of fats in face, hands and neck, increase in blood sugar and urine sugar level.

Mineralocorticoid Hormone : This hormone regulates the balance of water and electrolytes in our body, arranges reabsorption of salts from renal tubules. This hormone regulate the balance of sodium in blood and reduces the level of potessium. It is one type of life saving hormone. Excessive secretion of this hormone increases blood pressure and instability of nerves.

Androgen Hormone : This hormones helps in the expression of sexual characters in human body. Excessive secretion may lead to expression of the bisexual character. As a result of excessive secretion of this hormone, male sextual charactenshes become distinct in females.

Less secretion of adrenal corticoid causes a disease called Adinson Symptom of the disease are- change in skin complexion, increase sodium in urine, low blood sugar level, weak nerve, low blood pressure & disorder of stomach condition.

Homones secreted by adrenal medulla also play some important role in human body. Adrenaline secreted from this part increases blood pressure, increases oxidation of food, increases the process of production of glucose from glycogen in liver. As a result, gloucose increases in blood. This hormone helps in the contraction and relaxation of urinary bladder, alimentary canal and eye muscle. This hormone prepares our body to adjust in any kind of stress and emergency like heat, cold, fear, anger, injury etc.

Another hormone secreted by adrenal gland is nor-adrenalin. Function of this hormone is something opposite. For example, adrenal hormone increases the systolic pressure of blood, whereas nor-adrenalin increases both systolic and diastolic pressure of blood. This hormone increases blood pressure, sweating and movement of alimentary canal.

4.6 PANCREASE GLAND

Pancrease gland is functionally of two types. The main gland is exocrine. There are some special types of cellular islets situated inside the gland. These are termed as islets of langerhans. This part of the gland is endocrine ie. ductless. From this part of the body a special kind of hormone is secreted which is known as insulin. In addition to insulin, another

hormone, called glucagon, is secreted from this gland. There are three types of cells in islets of langerhans. Those are – Alfa cells, beta cell and gama cell. Out of these the highest part is covered by beta cells (70-80%). Beta cells secrete insulin. 15-20% are covered by α -cells. α -cells secrete glucagon. The lowest part (5%) are gama cells which inhibit the secretion of both of the hormones.

Insulin hormone : The main function of insulin is to control the level of blood sugar. Due to insulin, glucose level of blood get reduced and glucose is produced in the body is transferred to different organs required rate by blood. Using or special procedure insulin converts excess deposit of gloucose deperited in liver and muscles into glycogen. Insulin also inhibit the conversion of excess amino acid into glucose. Insulin increases the synthesis of felly acid. Its role in protein synthesis is also significant.

Man suffers from diabetes mellitus due to high blood sugar level. Diabetes increase the blood sugar level. Excess sugar present in blood released out body through urine. Body become very weak due to continuous excretion of glucose. Diabetic patients loss weight and increase thirst. Insufficient secretion of insulin from pancrease is the only reason for diabetes. When sufficient amount of insulin is not secveted, amount of sugar in blood increases and as a result the person suffer from diabetes. The only treatment in modern medical secance to control this disease is to prescribe the use of artifically manufachured insulin orally or through injection. In yugertherapy, it is possible to control this disease by yogic exercises.

Another hormone secreted by pancrease gland is glucagon. This hormone is opposite in nature to insulin. Insulin decreases blood sugar level whereas glucagon increases the same. The main function of glucagon is to provide sugar to the body cell continuously.

4.7 SEX GLAND

Both male and female sex glands secrets some hormones. Hormones secreted by the sex glands are called as sex hormones. Sex hormone helps in regulating the sex activities in human beings.

Male sex hormone : Some specific sex hormones are secreted by male sex gland or testes. Hormones secreted by testes are known as androgens. Androgens are of different types. The principal androgens are– testosterone, androsterone, ependrosteron and dehydrosteron. Male sex hormones influence the development of the male sex glands. Secondary sex characters in male, such as hair on chest, mustache and beards growth, dense tough muscle, deep voice etc. are developed due to the influence of these hormones. Fertility depends upon these hormones. Male gametes ie. sperms are produced in testes by the hormone, testosterone. In absence of this hormone production of spermcells is inhibited.

Female sex hormone : Female sex hormones are released from female sex glands. The principal sex glands in female body are the ovaries. Ovaries secrete sex hormones. The main sex hormone of female is estrogen. Moreover various female sex hormones are secreted. The main functions of estrogen are to develop ovaries and maturiting of sexual organs. Estrogen has its influence in the growth of secondary sexual characters in female body. Uterus get matured to receive ovum by the act of estrogen hormone. Ovum production and ovulation occure due to this hormone. Soft skin, developement of mammary gland, broad hips are the effects of estrogen.

Another important sex hormone of female body is progesterone. Progesterone helps female to conceive. This hormone increase the power of implantation. Females cann't give birth without this hormones. From the time of conceive to parturition progesterone get involved in every step.

4.8 MINUTE ENDOCRINE GLANDS

In addition to the principal enocrine glands, there are some micro-endocrine glands in the human body. These glands also secret some important hormones which perform some very important functions.

Pineal gland : It is located in the lower part of the hindbrain. This gland secretes the hormone called Triptophan & Melatonin. These two hormones influence the reproduction process, particularly in the functioning of the ovaries and produces a chemical which keeps the skin dark.

Thymus gland : The two minute glands located in the upper chest cavity are called thymus gland. These two lobular glands are connected with each other by connective tissue. Weight of the gland increases during youth adulthood & decrease in old age. Thymosin hormone is secreted by these glands. Thymosin helps in immunity of human being. This hormone also helps in growth of body during childhood and adolescent stage.

Placental gland : During pregnancy an organ called placenta is formed to hold the embryo. Placenta hold the foetus from the embrionic stage to the stage of delivery. Some sex hormones secreted by this gland control the normal growth and developement of the foetus. This hormone helps both in conception and delivery process.

Intestinal gland : It has been come to know that some hormones are secreted from the intestine of the human body also. These hormones also help the human body in performing different important functions.

Stomach secretes a hormone called gastrin. This hormone helps to form digestive juice in stomach. Duodenum also secretes a hormone called pancreozymin. It's presence causes the release of pancreatic bezymes. Cholecystokinin is another hormone secreted from the wall of duodenum which helps in the contraction of gall bladder.

Secretin is another hormone released from the duodenum network. This hormone causes the formation of liver & pancreatic juice. Mucous layer of duodenum secretes the hormone called enterogastrin. This hormone inhibit the excess secretion from stomach. Intestinal hormone called villikinin helps in the movement and expansion of villi. Its presence increases digestion & absorption process.

Hormones secreted from endocrine glands and their function.

Gland	Hormone	Function	Effect of over secretion	Effect of hyporecretion
Pituitary	1. Growth hormone (STH)	Control of growth	Gigantism & Acromegali in old age.	Dwarfism
	2. Thyroid stimulating	Developement of thyroid gland	Graves or goitre	Stunted growth of thyroid

	hormone. (TSH) 3. Adrenoc-oticotrophic hormone.	& its secretion & control. Developement of the cortex region of adrenal gland, secretion and control of its function.		gland.
	4. Gonado-tropin hormone. a) Follicle stimutaling Hormone (FSH) b) Leuteni-zing Hormone (LH)	Control of the growth and function of gonads.		
	5. Prolactin	Growth of the mamonary gland in mother body & milk secretion.		
	6. Malonop-hore stimulating Hormone (MSH)	Causes the distribution of melanocyte cell and control the skin complextion.		
	7. Vessopr-essin(ADH)	Reabscerption of water from renal tubule and increase the	Urine become more concentr-ated (less water in urine).	Diabetes insip-idus. (Excess water in urine)

	8. Oxitocin	blood pressure on the capillaries and causes constriction of the capillaries. Uterus constriction during particrition.		
Thyroid gland	Thyroxin	Helps in the growth and metabolism of human body.	Graves or goitre	● Critinism in child. ● Myxodema in oldage. ● Lack of Iodine in food reduces the secretion of thyroxin.
Parathyroid gland	1. Parathormone.	● Regulate the metabolism of calcium and phosphorus.	Osteoporosis	Causes tetany.
	2. Calcitonun	● Reduce calcium level in blood plasma.		
Adrenal gland	1. Glucocorticoid.	● Metabolism of sugar.	Regulate cushing's syndrom.	● Avinson disease.
	2. Mineralocorticoid.	● Regulate the metabolism of minerals.	Odima.	
Gland	Hormone	Function	Effect of excess secretion	Effect of less secretion
Pancrease gland	1. Insulin	● Control blood sugar level. ● Helps in glycogenesis.	Insulin shock	Diabetes mellitus

	2.Glucagon	● Increase the sugar level in blood. ● Convert glyc-ogen to glucose		
Gonadal gland				
Testes	1.Androgen	● Helps in the expression of sexual characters.		Hidden bisexuality.
	2.Testosteron	● Developement of the secondary sexual organs.		● Stunted developement of secondary sex organs.
	3. Androst-egen	Expression of secondary sexual characters		
Ovaries	1.Oestrogen	Helps to express various sexual charactirs in female body, regulates the menstrual cycle		Sexual character don't get exprssed in female body and menstrual cycle never begins.
	2. Progest-eron	● Control the uterus, ovaries, embryo, placenta etc.		● Ovulation do not occure take place.
	3. Relaxin	● Helps in delivery		
Pineal gland	Melatonin	● Control the distribution of melenophore in skin. ● Plays important		

		role in reproduction.		
Thymus gland	Thymosin	Helps in immunity and growth of body.		



CHECK YOUR PROGRESS

Q 4: What is the function of the hormone Glucocoorticoid.

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Q 5: What is Insulin?

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Q 6: What are the main androgen hormones?

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Q 7: Where does gastrin form?

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4.9 REPRODUCTIVE SYSTEM

The organs which perform the reproductive function of human hody are called as genital organs or reproductive organ. The system which co-ordinate the reproductive function to complete the reproduction is called reproductive system. Like other higher organisms, human beings are also unisexual organisms. There are sexual difference in human beings. Human beings are devided into male and female sex. The reproductive system found in male body is called male reproductive system and the same found in female body is called female reproductive system. The structure and function of male and female reproductive systems are completely different.

4.10 MALE REPRODUCTIVE SYSTEM

The male reproductive system is comprised of various organs. These organs are– Testes, Epididymis, Vas deferens, Ejaculatory duct, Urethra, penis. Mainly these organs compose the male reproductive system. There are some thsid secreting glands in male reproductive system. The role of these glands are undespensable in reproduction. Glands those mainly help in male reproduction are– Seminal vescicles, Prostate gland and cowper's gland.

Testes : The organ in which sperm or semen is produced is called testes. Male reproductive organs are situated between the two legs below waist on the front side of lower abdomen. Penis and testes hang outside the body. Testes are paired and oval in shape. Testes are contained in a sac of thin skin outside the stomach cavity. The sac which contain the testes is called scrotum. Testes is formed of some sperm-producing tubules. Human sperms or semen are formed in these tubules. There is a complex process of sperm formation called spermatogenesis. Sperm formation occure by the effect of a special hormonal function.

Epididymis : A mess of network made up of testicular (seminiferous) tubules coming out from testes is known as epididymes. Total length of the epididymes is 6 mitre. Sperms get matured and temporarily stored in these long tubulah network. Sperms can be stored upto 18-24 hrs in spididymes.

Vas deference : A long sperm collecting tubule comes out from the ending of epididymes network. The tubule is neary 30 cm long. This tubules enter to the abdominal cavity and passes over the urinary badder to be connected with ejaculatory duct. The main function of the tubule is to carry the sperms from testes to penis.

Ejaculatory Duct : It is a very short tubule nearly 2 cm long. This short tubule starts from the ending of vas deference and runs to the urethra. The principal function of the tubule is ejaculation of sperm.

Urethra : Urethra originates from urinary bladder. This duct fused to the ejaculatory duct and form another common duct called urinogenital duct. This duct passes through the penis and opens outside the body.

Urinogenital duct carries sperms, urine, seminal fluid, prostate fluid and fluid from cowper's gland.

Penis : Penis is the main copulatory organ of male. It is the genital organ which remain ourside the male body. It can contract and get relaxed. Penis copulate with the female genital organ during copulation.



CHECK YOUR PROGRESS

Q 8: Write the name of the glands those help in the male reproductive function.

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Q 9: What is testes?

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Q 10: What is epididymes?

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4.11 FEMALE REPRODUCTIVE SYSTEM

The system which perform the reproductive function in female is called female reproductive system. It is comprise of various organs. The main organs of female reproductive system are - a pair of ovaries, one pair fallopian tube, Uterus, Vagina. There are a few glands to help in female reproduction. Those are - Breast, Bartholin's gland etc. The function of mammary gland is to produce milk for baby. Bartholin gland secrete a sexual mucus during sexual arousal.

Ovaries : Female have a pair of ovaries beside the uterus on each side of the lower abdomen. In matured stage ovaries are like a large pea seed. Ovaries are of two layered. Internal part is termed as stroma. Various minute ovarian ducts spread over the stroma. Each month one of the ovarian sac become matured under the effect of stimulating hormone. At this stage the ovarian follicle is termed as graffin follicle. Ova get produced here. One matured ova is produced per month and the ova comes out of the

graffin follicle after it become fully matured. This process is called ovulation. The process of reproduction proceed if the ovum gets fextilized by semen (sperm). It not fertilized, the ova get destroyed. Along with the synthesis of sexual hormone, avaries produce one egg in each month.

Fallopian tube : From each ovary, nearly 10 cm long muscular fallopian tube originates and enters to the uterus. Fallopian tube carry the ova from the ovary to uterus.

Uterus : Uterus is situated at the middle of urinary bladder and rectum in lower abdomen of female body. Uterus is a musclular, hollow and triangular shape large organ. Its length is nearly 5 cm. Implantation and divelopement of the embryo is the main function of uterus. Foetal developement from membryo to a baby takes place inside the uterus.

Vagina : Vagina is external female reproductive organ. The vagina is located in front of rectum which is of nearly 7 cm long. It is the copulatory organ of female body. Coitus takes place when male penis enter the vaginal path. Vagina comprises of four minute organelles. The external opening of the vagina is called Vulva. Valva is formed of two muscular skins. Quter part of the two skin fold is known as labia major whereas the inner one is known as labia minon. A small muscular organ namely clitoris is articulate from the joining of these two labias. Clitoris is the principal sexual slimulatory organ of female body.

There is a pair of mucus gland called Bartholin gland behind the labia minor. These gland secrete a sex fluid which lubricate the copulatory path during coitus.

Another principal external reproductive organ of female body is the mammary gland. Mammary gland produce and secrete milk after delivery of child under the effect of a hormone called prolactin.

Female genital organs may be infected by various disorders. Each month female body has to synthesie one ova which is a very complex process. Thus female genital organs are succeptible to various diseases. In case of many women irregular menstrual cycle is seen to be common. Various infections may occur in the extunal genital organ i.e., vagina. There may be various disorders which affect the female after menopause. Various

disorders may occure in uterus and fallopian tube also.

Age of various disease : Age for probability of occurring diseases.

1. There may be a chance of breast cancer is more at the age of above 40 yrs.
2. Chances of uterus cancer at the age of above 50 yrs.
3. Sexually over-active female may acquire cervical cancer.
4. Different types of sexual disorder may be seen in obesed female.

Symptoms of disorders in female sexual organs :

1. Abdominal pain.
2. Disease of vagina.
3. Problems of menstrual cycle.

Different diseases of female reproductive system :

Antiparton, Heragerag, Cyst and Abscess, Breast Abscess, Breast enlargement, Breast cancer, Cervical cancer, Ectopic pregnaney, Endo metriosis, Fibro Adenoma of the breast, Gonorrhoea, Menapaus, Nipple creked, Ovarian cyst, Premen strual tension, Syphilis, Tampon, Retained Uterus, Uterus cancer, Vulva cancer etc.



CHECK YOUR PROGRESS

Q 11: What is the function of mammary gland?

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Q 12: What is the approximate length of fellopian tube.

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Q 13: What are the symptoms of the disease of female genital organs.

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4.12 LET US SUM UP

- Fluids secreted by the endocrine glands are called as Hormone. Endocrine glands are also known as ductless glands.
- Pituitary gland is located in a definite area of brain. It is called the master gland as it controls the other endocrine glands.
- Thyroid gland is the largest one out of the all human endocrine glands. It is located in our throat lying by the two side of the voice box. Thyroid secretes the hormone thyroxin. Thyroxin control the general growth of human body.
- Parathormone from parathyroid gland act on the alimentary and renal tubule to increase the calcium level in plasma. This hormone increases the phosphorus level and decreases calcium level in urine. This hormone activate vit-D. Excess secretion of this hormone release more calcium from bones and hence bones become weak and slender. That means lack of this hormone causes osteoporosis.
- Glucocorticoid hormone increases the level of glucose, amino acid and fatty acid in blood. This hormone helps in inhibiting allergy.
- Less secretion of adrinal corticoid hormone causes the disease, called Adison. Due to the disease complex in of skin changes, sodium level gets increased in urine, blood glucose becomes low, nerves becomes blood pressure gets lowered down and stomach disorders appear.
- Punctionally the pancrease is of two types. The main pancrease gland is a duct gland. There are some special types of cellular islets situated inside the gland. These are termed as Islets of langerhan's. This part of the gland is endocrine. This part secrete a very important hormone of the human body, called Insulin.
- Another hormone secreted by panerease gland is glucagon. This hormone is opposite in nature from insulin. Insuline reduce blood sugar level whereas glucagon increases the same. The main function of glucagon is to supply sugar to the body cells continuously.

- Both male and female genital organs secrete some hormones. These hormones are called sex hormones. These hormones control the sexual functions of human body.
- A kind of hormone called gastrine is produced in the stomach. This hormone helps in the production of stomach juice. From duodenum also a kind of hormone called pancreozymin in secreted. This hormone helps in the formation of pancreatic juice. The wall of the duodenum secrete another hormone called cholecystokinin. This hormone helps in the contraction of gall bladder.
- The organs which perform the reproduction in human body are known as reproductive or genital organs. Human beings are devided into male and female sex. Reproductive systems in male and female bodies are known as male and female reproductive systems respectively.
- The organ which produce sperm or semen is called testes. Male genital organs are situated between the two legs on the front side of lower abdomen. Penis and testes hang outside the body, Testes are paired and oval in shape. Testes are contained in a sac of thin skin called scrotum hang outside the abdomen cavity.
- A mess network of seminiferous tubules coming out of the testes is known as epididymes. Its total length is approximately 6 mitres.
- Urethra originates from urinary bladder. This duct fuse with the gaculatory duct and form another common duct called urinogenital duct. This duct passes through the penis and opens outside the body.
- The system which perform reproduction in female body is called female reproductive system. The system is comprises of various organs. The principal organs of the system are– a pair of ovaries, one pair of follopian tube, Uterus, Vagina.
- Uterus is situated at the middle of urinary bladder and rectum in the lower abdomen of female body. It is a muscular, follow, triangular large organ. Length of the utorus is nearly 5 cm. Implantation and developement of embryo is the main function of uterus.
- Another principal external organ reproductive organ of female body

is the mammary gland. Mammary gland produce and secrete milk after delivery of child by the act of a hormone called prolactin.

- Various disorders of female reproductive system are– Antiportom, Heragerag, Cyst and Abscess, Breast Abscess, Breast enlargement, Breast cancer, Cervical cancer, Ectopic pregnancy, Endo Metriosis, Fibro Adenoma of breast Gonorrhoea, Menapause, Nipple craked, Ovarcan cyst, premenstrual tension, syphilies, Tampon, Retained Uterus, Uterus cancer, Vulva cancer etc.



4.13 FURTHER READINGS

1) 'Nesvous System - Human body. Pegasus.

2) 'Glenco Science - Human body System, Mc Graw-Hill/Glenco.



4.14 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q No 1: The fluids released from the endocrine glands are called hormones.

Ans to Q No 2: Pituitary gland is located in human brain.

Ans to Q No 3: Thyroid gland.

Ans to Q No 4: This hormone increase the level of glucose, fally acid and amixo acid in blood.

Ans to Q No 5: Pancrease gland secretes a special hormone named as Insulin.

Ans to Q No 6: Principal androgen hormones are – Testosteron, Androsteron, Apeandrosteron, dehydrosteron.

Ans to Q No 7: Gastrin hormone is formed in human stomach.

Ans to Q No 8: Testes, prostate gland and cowper's fand.

Ans to Q No 9: The organ which synthesis sperm or semen is called testes.

Ans to Q No 10: Epididymis is a network of seminifrous tubules coming out of the testes.

Ans to Q No 11: Mammary gland produce milk for baby.

Ans to Q No 12: Abdominal pain, disease of genital organ, menstrual problems.

Ans to Q No 13: 1



4.15 MODEL QUESTIONS

A. Objective type question :

Q 1: Define endocrine gland.

Q 2: How many endocrine glands are there in human body ?

B. Short Question "

Q 1: Write short note on–

(a) Pituitary (b) Thyroid gland (c) Adrenal (d) Sex gland.

Q 2: What is hormone ?

Q 3: What is the function of hormone ?

Q 4: Write the functions of the following hormones–

(i) Thyroxin (ii) Gonadotropin (iii) Insulin

(iv) Anduogen (v) Testosteron.

Q 5: What do you mean by reproductive system ?

Q 6: How many types of reproductive system are here ?

C. Essay type question :

Q 1: Describe with diagram–

(a) Male reproductive system.

(b) Female reproductive system.

Q 2: Write short note–

(i) Testes (ii) Fallopian tube (iii) Penis (iv) Uterus.

Q 3: Write a few names of genital disorders.

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