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Abstract

The first chapter of the following research is a general concept of several hormones and its effects on Human behaviour. How hormones affect human behaviour has been shown in this chapter. The issues of hormone deficiency as well as the recommendations for hormonal balances have been discussed as well.

The second chapter is literature review where it has been found that the brain, skin, heart, and kidneys, as well as muscles that perform particular functions, are all cells in our body. All organs are guided by the endocrine system, which allows the body to operate smoothly and efficiently. Hormones are produced by the endocrine gland and tell each organ how to act. A healthy lifestyle encourages the hormone's proper functioning and is essential for the development of the Individual.

A brief research methodology has been sketched in the third chapters. Uses of several methods, thematic analysis using secondary sources like journals, books, and websites have been discussed widely.

The fourth chapter of this research has highlighted the thematic analysis regarding the effects of hormone on the human behaviours. Hence, the analysis has included the effects of chronic stress due to hormones on the human behaviours. Besides this, there is also analysis of the fact that hormones of human beings also remain responsible for the stress response and the vulnerability of the human being. However, women have also to face the mood change and anxiety related issues due to their hormonal changes during life phases. Therefore, it can be concluded that hormonal imbalance triggers human behaviours, and the same way human behaviours also plays its role on irregularities of hormone secretions.

Acknowledgement

I am extremely thankful to all individuals who have helped me to conclude this research study successfully. I have been able to develop my skills on *IMPACT OF HORMONES ON BEHAVIOUR* I would specially want to convey my deep gratitude to my professor who has guided me whenever I needed any help during the study.

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Chapter 1: Introduction

1.1 Introduction

Hormones are the chemical carrier that are secreted straight into the blood, the blood carries them to several body organs and tissues to exert their actions. The hormones are basically a class of signalling molecules as well as produced by the endocrine system. Usually the hormones switch the gene development and affect human behaviour. The following dissertation is actually a brief research on the relationship between hormones as well as human behaviour. Various influences of hormonal changes will be also discussed below. A brief study on hormones, its changing nature as well as its effect on human nature will be shared as well. Several positive as well negative aspects will be shared for a better understanding.

1.2 Background of the research

Human behaviour is influenced by many factors. Hormones commensurate physiology as well as behaviour of an individual by regulating, implementing as well as controlling body functions. Hormones affect behaviour in an innumerable as well as complex ways that are usually dependent on the situation (Carré, 2018). For example the testosterone hormone has been linked to antisocial or aggressive behaviour as well as competitiveness. In non-competitive state, on the other hand the same hormone has been confederated with protectiveness as well as pro social behaviour.

1.3 Research rationale

Several hormones and their changing nature affect human behaviour. Impact of hormones on human behavior has been noticeable in the area of respect as well as trustworthiness. It has been repeatedly observed that extreme oxytocin levels are strongly associated with the trustworthy behavior. In the development of preoptic area as well as hypothalamus, hormonal effects are again very potential. It endure for lifetime predetermined the adult behavioral as well as physiological response. On the other hand, hormonal effects have been broadly studied is the breast- feeding role in development. In order to produce research as well as to get potential outcomes regarding the concept of human behavior and how hormones have an effect on it the topic has been chosen.

1.4 Research problem

Hormone controlled behavior which includes aggression, parenting as well as mating. There are various hormones as well as hormonal behaviors as follows.

Oestrogen hormone appears to protect agents in the brain. This affects women's behavior as they feel worse in terms of their psychological conditions at the time of low- oestrogen period of the monthly cycle (Moyer *et al.* 2019). Consciousness in men, on the other hand just like in women, gonadal hormones influence the behavior as well as the mood of an individual man. Low levels of testosterone can lead an individual to andropause, an age- related state.

1.5 Aims and objectives

Aim

The main purpose of the research is to focus on several influences that are caused by Hormonal changes.

Objectives

Followings are the objectives have been considered for the research

- To introduce the basic terminologies as well as concepts of hormone behavioural interactions.
- To understand where as well as how the hormones function in the brain to modify human behaviour.
- To analyse the impacts of hormones in several human behaviours.
- To identify proper medication or treatment to mitigate issues of hormonal disorder

1.6 Indication of deficiency

One of the most common obstacles of hormone deficiency is Fatigue. Excess levels of progesterone can make an individual sleepy. Attained reasons of growth hormone imbalance include brain tumours, infections, injury, surgery as well as radiation to the head. There are so many cases also the causes can be identified (Elliott-Sale *et al.* 2018).

1.7 Significance of the study

The following research signifies the relationship between hormones as well as its impact on human behaviour. Endocrinology of behaviour is a scientific study of the relation as well as an interaction between hormones and human behaviour. This kind of interaction is bidirectional which means as the hormones affect the human behaviour as well as behaviour can feedback to dominate the hormone concentration (Marcinkowska *et al.* 2018). Hormones

are signalling messengers that are released from the endocrine gland. It influences the nervous system as well as the nervous system regulates the behaviour and physiology of an individual.

1.8 Research Questions

Followings are the research questions regarding the concept of hormones as well as its impact on human behaviour.

Q1.What are the basic terminologies and theories of hormonal behavioural interaction?

Q2. How the hormones function in the brain to modify human behaviour?

Q3. Analyse the impacts of hormones in several human behaviours?

Q4. What are the treatments to mitigate hormonal disorder issues?

Chapter 2: Literature Review

2.1 Introduction

In this following chapter several gaps of previous literature have been observed. With the help of this chapter the several gaps on the concept of hormones, its deficiency as well as its balance in the human body have been discussed in such a way of recommendation. Towards the end of the chapter, a thematic analysis has been widely sketched in order to better understand the above mentioned gaps. Along with the thematic analysis a brief summary of this chapter has been submitted as well.

2.2 Research gap

The previous chapter shows a number of gaps in the research topic. The research topic is mainly focused on the relationship between hormones as well as human behaviour. Impacts on hormone deficiency have been discussed in the research. Only the negative impacts have been described as well as its remedies. The positive impact of hormones and its relationship with human behaviour have not sketched as well. Comparison in research always puts the overall outcome in a better way. It helps to understand the actual subject more transparently.

2.3 Hormones and their effect on health

Every organ of our body from the brain, skin, heart, kidneys including muscles do some specific jobs. Every organ gets direction from the endocrine system that helps to run the body smoothly and get the work done. The endocrine gland releases hormones that tell every organ to work. A healthy lifestyle helps the hormone to run smoothly and is vital for the well-being of the human. The chemical messengers are the hormones that travel in the bloodstream of the tissues and help all the vital organs to do specific tasks. Due to excess Hormones or lack of the hormone, many processes in the human body differ which are the growth and development of the individual. It has been noticed that the overproduction of growth hormones causes excessive growth in the human body. However, at the same time, little production of growth hormone makes the Individual dwarf or short in the structure (Scheja and Heeren, 2019).

The metabolism of the body is highly dependent on growth hormone and through metabolism; our body gets the energy to run. In order to properly run sexual function hormones are necessary. The endocrine system affects bone health and may cause a

breakdown or decrease of bone mass. The endocrine system disrupts the chemicals or the hormones that help the abnormal function of the body. Heart health helps the cardiovascular system of the body. The health of the heart is also highly dependent on the hormones of the body. Hormones are the real factor of development when it comes to children and teen health. The hormones can affect the child's growth and development as well as health. Energy weight fertility and facial changes of grown males are dependent on hormones. The hormones have a very important effect on women's health as well the hormone impact the reproduction and sexuality of women (Nauck and Meier, 2018).

2.4 Behavioral changes due to hormone

The hormones directly do not cause behavioral changes rather influence these systems which bring the behavioral changes in humans. There are dozens of hormones that play a vital role in changing the mood or behavior of the person

Adrenaline hormone

The hormone is secreted through neurotransmitters and by the adrenal gland that is nearer to the kidney. The adrenaline hormone is realized typically when the individual is facing stressful circumstances, exciting situations, or highly emotional to the situation. The adrenaline increases the heart rate and the blood rate of the person. The blood quickly flows to the brain and helps the muscle react to the situation instantly (Steinert *et al.* 2017.)

Cortisol

The hormone is produced by the adrenal gland and regulated by the p; physical action which is blanched by the insulin and spurge inflammation. The cortisol helps the body to deal with stress levels. The hormone cortisol is being circulated through the body and at night the hormone stops releasing. Whenever Individuals are faced with a lot of stressful situations the human body automatically realizes cortisol which helps in preventing inflammation and also helps increase the glucose level of blood.

Dopamine

The hormone is released by the neurotransmitter of the brain and The hormone is released when the brain gets rewarded by joyful activities that could be eating, intimating, and

exercise. The hormone is popularly known as the feel-good hormone and contributed to feelings that are driven by the pleasure and motivation of individuals.

Estrogen

The hormone is known as the sex hormone and is presented in both sexes. However, the hormone is largely presented by the frame of sexual development and functioning of the body. The hormone helps in producing ovaries, and also helps in the menstrual cycle of the female. However, an increase of estrogen in the male body is considered bad and may increase obesity (Gobinath *et al.*2017)

Ghrelin

The hormone is produced by the gastrointestinal tract and helps in the regulation of the appetite. The hormone is also popularly known as "Hunger Hormone". The hormone is released in the timing of the meal or smells of delicious meals. The hormone can be affected by stress and poor sleep.

2.5 The effects of hormone disorders on mental illness

Female hormones such as estrogen and progesterone are the reason behind the mental illness. The hormones are a complex system and the level of hormones changes heat differently at different stages of life cycles. Estrogen is the good chemical receptor and brings good hormones into the brain and progesterone is the bad receptor and brings the bad hormone to the brain. The times when females experience high and low in their mood during the period of the menstrual cycle, the estrogen levels are high at that time women feel happy and delighted. Progesterone changes the mood in a bad manner and the women often react to small things. The progesterone levels started to rise in the second part of the cycle that occurs after ovulation (Gobinath *et al.* 2017)

The drop in estrogen and progesterone could affect the mental health of women. The effect could be largely seen at the time of Menopause. The effect could be sweat at night or hot flushes, the low mood of the person or getting anxiety or irritability. The vaginal changes are also common and pain at the time of intercourse. The libido level dropped drastically. The aches and pain in the joint and muscle. Hormones can lead itchy problem in the skin. Headache has also been noticed in that period. The feeling of tiredness and forgetfulness are the most common symptoms. Women also noticed low self-esteem and body image. Most

young females face relationship problems and go through frustration. Men are also affected by the changes in hormones. Testosterone is the root cause for general mood and the level of testosterone is in the age of 20 to 30. After 30 the testosterone levels gradually drop. The low testosterone level of the male makes them less confident and also decreases self-esteem which directly affects the mental health of the men (Misra and Mohanty, 2019).

2.6 Symptoms of Hormonal imbalance and its causes

The hormone in the body plays a very vital role in maintaining overall health. Various symptoms occur if the hormone is imbalanced. The signs or symptoms could depend upon the hormones or glands that are working properly. The symptoms of imbalance are sudden weight gain in the individual; the occurrence of a lump of fat in the shoulders; the occurrence of fatigue in the Individual. One of the major symptoms is the weakness of muscle. Symptoms also have muscle aches, tenderness, and stiffness. The hormonal imbalance could increase or decrease the heart rate. The major problem male can face because of hormonal imbalance is increased hunger, decrease in the sex drive of the individual. Infertility may happen to the individual, dry skin because of hormonal imbalance (Leaver, 2016).

In women, the hormonal imbalance can hit puberty. Due to hormonal imbalance in puberty which leads them to heavy, or irregular periods. Due to hormonal imbalance, the females have witnessed acne on the face or upper back. There can be several causes of hormonal imbalance which can be hormone therapy. Certain medicine is also found to be the cause of hormonal imbalance in the person. Chemotherapy treatment also creates imbalances the hormone in the body. The tumors that are cancerous or benign are found to be one of the recent causes of hormonal imbalance. The eating disorder of people may cause hormonal imbalance. The stress and poor sleep is also a common factor which leads to the hormonal imbalance. It has been noticed that injury or trauma of a person may cause hormonal imbalance. There is no certain disease such as diabetes, hypothyroidism, or Addison disease which are also leading factors of hormonal changes (Monteagudo *et al.* 2016).

2.7 Treatment of hormonal Imbalance

Hormones have rooted impacts on an individual's physiological, psychological as well as emotional health. These chemical carriers play a vital role in monitoring one's hunger, mood as well as weights. Generally the endocrine gland propagates the accurate amount of each hormone that is needed for several procedures in the human body (Parulkar *et al.*2018). Hormonal imbalance or hormonal deficiency becomes increasingly common with present

modern lifestyle. In addition to this certain hormone degeneration regarding age, as well as several individuals experience more arresting decrease than others.

Followings are the several ways to balance hormones.

Consuming sufficient amounts of protein in every meal is one of the vital ways to balance hormonal level. Dietetic protein provides necessary amino acids that the human body cannot make on its own as well as consumed every day to maintain bone, skin and muscle (Salem *et al.* 2017). Protein, on the other hand, influences the release of hormones which monitor appetite as well as food intake. Consuming sufficient protein triggers the accurate amounts of hormones which help an individual feel full. Approx 20-30 gm of protein is required for an individual daily.

Physical exercises can easily influence hormonal health. Benefits of regular physical exercise help to reduce insulin level as well as increase its sensitivity. Insulin allows cells to weigh sugar as well as amino acids from the bloodstream that is used for energy and maintaining muscle. Being active physically may help in boosting up muscle maintaining hormone levels which decline age (Im *et al.* 2019). Performing aerobics, strength training, walking as well as several physical operations help to modify hormone levels and reduce the risks of physical issues as well. Stress can ruin destruction on an individual's hormones. Engaging in stress-retrenchment behaviours such as yoga, meditation, massage as well as listening to soothing music affects an individual's stress hormone level (Kurepin *et al.* 2017). 10 -15 minutes of devoting to stress- reducing actions per day is required for a well maintained hormonal balance.

2.8 Summary

Every other cell in our body, including the brain, skin, heart, and kidneys, as well as muscles that perform specific functions. The endocrine system provides guidance to all organs, allowing the body to function smoothly and efficiently. The endocrine gland produces hormones that tell each organ how to function. A balanced lifestyle promotes the smooth functioning of the hormone and is essential for human health. Hormones do not actually cause behavioural changes in humans; rather, they affect the mechanisms that cause behavioural changes. There are hundreds of hormones that play a role in altering a person's mood or behaviour.

Chapter 3:Research methodology

3.1 Introduction

The following chapter discusses several research methods including several theories as well as recommendations. In this dissertation the usage of these methods will help to create systematic research works. The methodology reaches the research work in an efficient way. Finally a time frame has been provided to complete the research work.

3.2 Research philosophy

Philosophy used in research is regarded as a helping tool in the area of gathering information about a phenomenon that is strongly related to the topic. In this present research Interpretivist research philosophy has been exploited (Ryan, 2018). Interpretivism or Interpretivist research philosophy is an exercise as well as a framework which is invested in methodological as well as philosophical ways to understand social reality. The term interpretivism is considered as ideology or theories about how a research reaches to knowledge of the globe as well as which slowly rely on elaborating and the meaning that humans adjoin to their activities. Hence, with the acceptance of this kind of philosophy qualitative research bounds on the impact of hormones on human behaviour has been analysed.

3.3 Research Approach

In a research a research approach is used with a purpose of building a plan for the research work. Effective use of research approach can bring several thoughts as well as theories that ideally validate the research topic (Walter, 2019). In this following research an inductive research approach has been selected. An elementary understanding on the impact of hormones on human behavior has been created.

3.4 Research Design

A descriptive research design, in a research is aimed to an exact as well as a systematic description of a phenomenon related to the existing topic. It can answer what, when, where as well as how but why (Rahi, 2017). A descriptive research design can use a broad difference of research methods to investigate one or more than one variables. The descriptive research design in the present research has been used for a better outcome.

3.5 Data Collection

In this present research secondary data collection methods have been used. Several internet sites, PDF as well as web journals have been used to create this research work.

3.6 Literature search

Literature search is basically a very systematic as well as well- organized investigation from an already disclosed data to recognize an extension of good quality allusions on a given topic. A Literature search can be broken down into a sequence of alliteration moves (Martín-Martín *et al.*2018). The database of Google Scholar has been used to search literature. Key teams have been utilized to find out relevant sources.

3.7 Data Analysis

In order to analyse secondary data several data analysis methods are there including qualitative, quantitative as well as mixed research approach. The present research is under qualitative analysis technique.Thematic analysis is a technique of analyzing qualitative data (Richards, 2018). Generally it is applied to a group of texts. Researchers closely experiment the data to recognize usual themes, ideas, topics as well as patterns of meaning which come up continually.

3.8 Ethical Considerations

Ethical consideration is referred to as one of the most vital parts of a research. A researcher should not be subordinate to prejudice anyway. Respect for the importance of a researcher should be always prioritised. Only relevant literature used unethical sources avoiding accountability and reliability have been maintained.

3.9 Time Frame

(Refer to the Appendix)

3.10 Summary

Several research philosophy, research design, research approach, literature search, data collection methods, ethical consideration as well as data analysis have been explained in a detailed way with logical reasons for choosing these techniques for the mentioned research. Restrictions of the research have also been sketched as well.

Chapter 4: Evaluation

4.1 Theme 1: The chronic stress can affect the Human Brain from Neurotoxicity, to opportunity and vulnerability

Analysis:

Since the last few decades, science has already been trying to manage the delineation of mechanisms by which the stress hormone of humans can affect the human brain. The hormone can also affect the working of the brain and even their memory processing. Receptors for the glucocorticoids seem to be found in the frontal cortex, amygdala and hippocampus cortex. These can be considered as the three specific regions of brain which can be involved in the processing of memory and also in the emotional regulation. However, there is also clear evidence that chronic exposure to the stress can be related to the less volume of the hippocampus. Besides this, the chronic stress can also possess the power of modulating the volumes of both the frontal and amygdala cortex, which tends to suggest the neurotoxic impacts of stress hormones on the human brain.

Findings:

From the theme showcased here, this is evident that the exposure of the children or individuals to the early adversity and the social or familial stressors can work in increasing the vulnerability to the stress in the phase of adulthood. The concept of vulnerability might be the central to the theories of mental health in models of diathesis stress and vulnerability stress (Spini *et al.,* 2017). However, the development of early stress interventions might also act as contracting the impacts of the chronic stress on the brain. The theme above has also suggested that in case of chronic stress in the normal adult individuals, only a few reports have suggested an association between the exposure to this specific chronic stress and the minimised hippocampal volumes in human beings who are not suffering from any disorders of mental health (Lupien *et al.,* 2018).

4.2 Theme 2: Stress response can occur through Neural Innervation of target Organs

Analysis:

The main three neural axes are related to the neural stress response. These involve the parasympathetic, sympathetic and the neuromuscular nervous system. Hence, these three neural pathways can be considered as the first of all the stress response axes in order to become activated during the arousal of stress. However, this entire phenomenon is the basis

of the fact that the structure of these specific pathways, from the formation to target-organ innervation can be considered as fully neural and even rapid. Usually releasing the neurotransmitter norepinephrine from the sympathetic telodendria can be considered as accountable for the changes in activity of the end-organ (Everly and Lating, 2019).

Findings:

From the above thematic analysis, this is clear that the skeletal muscular can be a prime target for the immediate activation during the emotional arousal and stress. Hence, for every human being, the high levels of stress can be maintained with the activation of additional physiological stress axes. This specific axis refers to the fight-or-flight response axis. Thus, this study has highlighted that the stress levels of the human being can increase due to hormones. Furthermore, the hormonal output of the neuroendocrine stress response axis can be considered as the secretion of the adrenal medulla catecholamine. The concerned theme that has also showcased the fact that the most prolonged and chronic somatic response to stress can be the outcome of the endocrine axes. This is extensively documented that the stress hormones and stress influence GABAergic signalling in case of hippocampus (Csabai *et al.,* 2017).

4.3 Theme 3: Maternal hormonal milieu impact on the development of brain

Analysis:

An adverse maternal hormonal environment can be related to the abnormal growth of the brain during the phase of pregnancy. Thyroid hormones can be considered as the main requirements for the development of a normal brain. Hence, subtle transformations in the fetal development of the brain can be observed for the levels of maternal hormone levels. The exposure of intrauterine to stress might have molecular and structural effects on the development of the brain and increase the reactivity to stress along with anxiety. However, various animal studies have already highlighted the prenatal glucocorticoid promoted behaviours deficits.

Findings:

From the above analysis, this is clear that there are some fatal normal axes which can be susceptible to the effects of long term programming which can even persist through the entire life of the individuals. This can also result in altered behaviour, impaired growth of the brain and the growth of susceptibility to any types of chronic diseases, such as psychiatric and metabolic disease. However, the analysis also reflects the fact that the prenatal glucocorticoid

excess tends to have a connection with then increased vulnerability to the disorder due to post traumatic stress, learning difficulties, schizophrenia, disorder of hyperactivity and attention deficit, depression along with the antisocial behaviour of the individuals (Miranda and Sousa, 2018). In contrast to this, the long lasting social and emotional behaviours have been related to the profound minimisation in the mesolimbic dopaminergic transmission. Thus, the theme has showcased the brain development from the prenatal period is much important for every human being in developing their social and cognitive behaviours. However, changes in the thyroid functions tend to affect the behaviours, mood and also the cognitive functions of human beings. If a person has an overactive thyroid, the individual can experience an extreme level of unusual nervousness. Thyroid hormone also tends to regulate several pivotal psychological processes and development such as brain development (Carosa *et al.*, 2018).

4.4 Theme 4: Aggressive behaviours from a gender perspective shows most changes in women behaviour

Analysis:

Aggression cannot be just the domain of men. The hormone changes also tend to affect the mood and behaviour of the women in the society accordingly. In the sociological determinants theories, aggression can also be sought in the transformations of the hormonal system. In the case of women, the hormonal changes are mainly related to the menstrual syndrome. Besides this, the reason for the violent and aggressive behaviours in women can mainly be ascribed to all the biological factors. For instance, the temporal lobe epilepsy might cause an intermittent extreme disorder, which can be characterised by the incapability of controlling the mood change in behaviour and the anger accordingly (Gierczyk *et al.,* 2017). In combination with the deterioration of the levels of progesterone, this might result in the growth of adrenaline production in the human body. This might lead to the attacks of any unbridled human aggression.

Findings:

From the above thematic analysis, this is clear that the women also have to face the behavioral changing issues due to their hormonal changes. The balance of hormones of women can undergo intense changes through the phase of childbirth and pregnancy. Women at this time may remain more self-absorbed and even impulsive. Hence, their self defence mechanism can be found weaker. Besides this, the theme also highlights that hormonal changes can also occur from high levels of stress among the women that also may cause high

aggressivebehaviours among theme. The whole brain of the human being including both men and women is mainly acted upon the sex hormonesthroughboth non-nuclear and nuclear receptors, although this had been suggested by the myriad actions of the sex hormones on the mood, addition, cognitive functions, blood pressures, motor coordination, fine motor, pain and neuroprotection accordingly (McEwen and Milner, 2017).

4.5 Theme 5: Steroid hormones receptors has a crucial role in pathological and physical conditions of human being

Analysis:

The hypothalamic pituitary gonadal (HPG) axis can be considered as the major system by which the release of sex steroids is mainly regulated with its production. Hence, Positron emissions tomography (PET) can be considered as a beneficial technique for the research of steroid hormone. However, the oestrogen signalling tends to affect several aspects of the bring function as well as the human behaviours. However, high levels of the circulation of estrogens are related to the less ischemia induced injury of the brain. On the other hand, the most common role in inducing aggressive behaviour is played by androgens. Hyper or hyperandrogenism and anabolic abuse are also related to the changing of mood for every human being (Moraga-Amaro *et al.*, 2018).

Findings:

The above thematic analysis showcases the fact that the androgens tend to play a most vital role in the mood changes for both the women, for instance, during the hypogonadism in men and after the menopause in the women. Besides this, the testosterone levels' alterations tend to be related to an intense level of the psychosis and the mood disorder among the human being. However, the study has also highlighted the fact that the androgens tend to play an effective role in formation of synapse and this might help in the inducing of spine synapse formation. Tus, androgens also play a neuroprotective role to control the human behaviours in a most effective manner. Hence, this is to be stated that the administration of the artificial steroid hormones might result in violent and uncontrollable behaviour. Extreme exposure to the Glucocorticoids during the human's embryonic development might influence the behaviours and offspring psychology of human beings (Ahmed *et al.,* 2020).

4.5 Theme 6: Medical impacts of radioactive iodine on Thyroid imbalance patients

Analysis:

Hyperthyroidism is a medical condition observed in a human body, when the thyroid gland starts producing excessive thyroxine hormones. Excessive secretion of this hormone in the human body can cause an overweight, increase in heartbeat and excessive metabolism. Before prescribing any medicines doctors undergo several tests to settle into specific treatments. Radioactive iodine (RAI) treatment is considered as the best solution for thyroid imbalance. These drugs get absorbed by the thyroid glands directly that led to the shrinking of the gland. The treatment process takes months to show its results in the human body. Radioactive iodine consumption also leads to the cause of cancer in the human body due to thyroxine imbalance (Tulchinsky and Brill, 2019).

Findings:

From the above thematic analysis it can be understood that even though Radioactive Iodine (RAI) consumption is the best way of treating hyperthyroidism, excessive intake causes cancer in thyroid glands. RAI is considered as the primary treatment of hyperthyroidism along with thyroidectomy. Excess dosage of RAI for hyperthyroidism treatment can cause solid mortality of cancer. However the use of primary elements for long term treatment may risk the patient with other severe diagnosis (Kitahara et al. 2020). It is also observed in other medical diagnoses that the dose of radioactive iodine also increases the chance of infertility, insufficient salivary productions due to swollen salivary glands. Thus medical experts and doctors consider permanent hyperthyroidism in patients is the side effect of RAI. Therefore, in order to avoid this kind of situation among the patients, the doctors go through prior medical history to offer proper medical treatment. Due to the case of infertility doctors avoid prescribing RAI on pregnant women. At last it can be said that the dosage of RAI is very important for treating patients with hyperthyroidism or thyroid cancer. Thus according to the objective of this assignment it can be said that with proper identification and treatments hormonal imbalance cause disorders can be avoided.

4.6 Theme 7: Analysing the different medical treatments for oestrogen and testosterone hormonal imbalance

Analysis:

Hormonal imbalance is the medical condition when the secretion of hormones from different organs is irregular. With excess hormone secretion in a human body different disorders can

be observed like oestrogen in progesterone in women can cause mood swings, sexual disorientation, hair loss, irregularities in blood sugar level and others. Whereas, for males the imbalance of testosterone secretion can cause sexual disorientation, body structure changes and others. Thus doctors offer different treatments to maintain the hormonal balance in the human body. This hormonal imbalance can be due to ongoing hormone therapy, tumours in different glands, excessive medication, or due to chemotherapy for cancer treatments. Treatments prescribed by the patients for oestrogen imbalance is oestrogen therapy or vaginal estrogen. And excessive testosterone hormones in males are testosterone medications (Valdivielso et al. 2019). These hormonal imbalances can also cause kidney stones or cancer.

Findings:

Thus from this thematic analysis of medical treatments for oestrogen and testosterone hormonal imbalance is oestrogen therapy or vaginal oestrogen that helps the women's to have regular menstruation. In some cases it acts as receptors that help in recovering from breast cancer (Begam et al. 2017). Whereas for males the testosterone medications treatments are offered that help in reducing the symptoms of low level testosterone, delay puberty and hypogonadism (Pantea-Stoian et al. 2018). Excess testosterone hormone in both males and females can disturb a human's blood sugar levels. Every hormone has different impacts on the human body which in initial time may not show big symptoms but with proper treatments future medical crises can be avoided. Therefore, it can be said that by identifying proper treatments helps in mitigating the issues of different hormonal disorders due hormonal imbalance.

Conclusion

Thus, from the whole assessment it can be concluded that human hormones have an influence on human behaviors. Endocrine glands are the most important sources of hormone secretion in human beings and the behavioral disturbances. It can also be said that human behaviors can have equal influence on hormonal secretions. Like in females mood swings can affect the oestrogen secretion that is directly related to regular menstruation and others. Nervous systems and human neurology are the key source of controlling most of the endocrine glands secretions.

Thus the conclusion of this report can be categorised in few parts:

5.1 Problems

The problem that is observed from the assignment is that even though there are several impacts of human behaviours that can cause hormonal changes, hormonal changes can also have influence on human behaviors. There are various disorders and symptoms that are observed due to the irregularities of hormone secretion in the human body. The symptoms like weight loss, or weight gain, weakness, fatigue, body ache and others. Some other hormone secretions have influence on both males and females like oestrogen, insulin, cortisol, progesterone, testosterone and others. These hormones can cause severe health disorders that can be treated if identified in initial time. Regular medical check-ups will help the doctor and patients to understand the symptoms and prescribe proper treatments accordingly. Thus the problems that are observed from this assessment that can help in further assessment are the impacts and the initial symptoms that people should follow before going for medical check-ups.

5.2 Power of study

The power of this study is that this topic is a very vast subject which has several objectives and findings. From these findings different scholars can undergo different research related to the similar topic. Thus, from this assignment it can be concluded that the impact of human behaviors and endocrine gland secretion is bidirectional and both are interdependent to each other. Both of these factors have influence on each other and can have. Hormonal imbalance requires interference of endocrinologists that helps in hormonal balancing in natural means. They guide with the basic diet and medicine dosages that will help in diminishing the hormonal influence slowly and naturally.

5.3 Impact of findings

The finds from this assignment are huge and have influence on the researcher. This research helped to understand the basic influence of hormones in the human body and behaviors, similarly the way behavior of a patient has its impacts on the different endocrine glands.

Objective 1: To introduce the basic terminologies as well as concepts of hormone behavioral interactions.

This objective is linked with theme 1 and 2,. Theme 1 is linked from where the medical terms like chronic distress, neurotoxicity are discussed along with their influence on human vulnerability. However by theme 2 the response of stress on neural innervation targeting

different organs can be understood. From these two themes the basic terminologies and their impacts on the human body and behaviors are discussed.

Objective 2: To understand where as well as how the hormones function in the brain to modify human behavior.

For this objective theme 2 and theme 3 are linked. Both of these two themes discuss the hormonal influence on the cellular development of the brain. Like theme 3 discusses maternal hormones influence on delta development and theme 2 with the impacts of stress on human behaviours and organ systems.

Objective 3: To analyse the impacts of hormones in several human behaviors.

For this theme the researchers have developed themes 4 and 5, where the scholars have discussed change in women behaviours perspectives because of hormonal imbalance like signs of aggression. Steroid hormone receptors play a vital role in physical and emotional behaviours of a human being.

Objective 4: To identify proper medication or treatment to mitigate issues of hormonal disorder

For this objective theme 6 and 7 are developed that help to understand the impacts and importance of proper treatments to mitigate the hormonal caused disorders. Both the themes have discussed different treatments methods for different hormonal imbalance and how they have an influence on human beings.

Insulin hormone imbalance can cause diabetic issues in individuals, that further lead to irregular heartbeat and high blood pressure. These effects can cause severe other disorders like heart valve blockage, heart attack, paralysis, brain stroke, cancer, tumour and others. Several treatments are available that can minimise the impacts of these disorders slowly and naturally but with proper dosage of medicines and diets. These treatments also have side effects like irregular dosage; radioactive treatment can lead to irregularities in cell growth that can cause malignant tumours and later in cancer.

Therefore, it can be concluded that there are different treatments that can help in recovering hormonal imbalance, but only if the individual follows and checks the symptoms they are undergoing and visits doctors immediately. Avoiding self-medication in this kind of case will

be very beneficial regular health check-ups and basic exercises and proper diet can help an individual to live a healthy life.

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Appendix

Activities during research	1st Week	2nd Week	3rd Week	4th Week	5th Week	6th Week	7th Week
Developing problems							
Formulating aims and objectives							
Methodology followed in the research							
Literature search and review							
Collection of secondary data for research							
Thematic Analysis and interpretation							
Formulating conclusion and recommendations							
Final submission of the project plan							

Table 1: Gantt chart

(Source: Created by Self)