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## Genetic Counselling and Logotherapy: Implications for Psychotherapists Interested In Genetic Disorders

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**Abstract** - This paper examines the relevance of genetic counseling and logotherapy in the management of somatogenic and noetic dimensions of psychopathologic disorders among individuals living with heritable disorders (such as diabetics, sickle cell disorders, cystic fibrosis, cancer, or down syndrome). Individuals with genetic disorders often experience meaninglessness, feelings of worthlessness, alienation, deep seated anxiety and depression due to recurrent painful crises and uncertainty of their ability to survive the next crisis. Such individuals often depend on drug therapy for the amelioration of their painful somatic condition without considering the option of psychotherapy. The study suggests that Frankl's logotherapy could be used to restore a sense of meaning to replace feelings of worthlessness and alienation, anxiety and depression in these individuals. It also suggests that genetic counseling could be used to determine how genetic conditions run in families and to help a person or family understand their risk for heritable conditions, educate the person or family about that disease, and assess the risk of passing those diseases on to their children. It also highlights some implications for psychotherapists.

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## 1. INTRODUCTION

Finding the cause, meaning and purpose of suffering and pain in life is the fundamental desire of humans and the basic driving force of life that may relieve them of their suffering and bring spiritual well-being (Frankl, 1963, 1988). This search for self-identity has left man in what Frankl calls an "existential vacuum" and emptiness (Psycho&Ex 19) which is the

mindset that everything in life is meaningless. It issues from man's two-fold loss : (1) the loss of instinctual security which guides an animal's life; and (2) the loss of those traditions which guided human life in pre-modern society.

**Existential vacuum** manifests itself mainly in a state of boredom. This explains why Schopenhauer said that mankind was apparently doomed to vacillate eternally between the two extremes of distress and boredom (Frankl, 1963, p. 169). In psychiatry, boredom causes problems such as neorosis. **Alfred Adler**, a **psychoanalyst**, defined the source of "existential vacuum" or neurosis as a sense of worthlessness that most patients suffered (in Frankl, 1963, p. 169).

Individuals living with genetic disorders such as diabetics, sickle cell disorders, cystic fibrosis, cancer, or down syndrome do experience existential vacuum and emptiness (physical and psychological stresses) which may prevent them from overcoming fluctuation of mood, despair, depression, and pain. It may be hard for them to develop self-identity and find purpose in life. Hope and meaningful lives may seem impossibly distant to them (Choi, 2000). Therefore, existential vacuum and emptiness in individuals with genetic disorders in itself is not psychopathologic, but it may lead to psychopathologic disorder.

*What then is genetic disorder?*

Genetic disorders or conditions are heritable diseases caused by abnormalities in a person's genome. Such abnormalities may be a different form of a gene called a variation, or an alteration of a gene called a mutation. They are caused by a mutation in a gene or group of genes in a person's cells. These mutations can occur randomly or because of an environmental exposure such as cigarette smoke. Some types of genetic inheritance are single inheritance (for example, cystic fibrosis, sickle cell anemia, Marfan syndrome, and hemochromatosis), multifactoral inheritance (for example, high blood pressure, Alzheimer's disease, cancer, arthritis, and diabetes), chromosome abnormalities (for example, Turner syndrome, and Klinefelter syndrome), and mitochondrial inheritance (for example, epilepsy and dementia). Some genetic disorders are inherited when a mutated gene is passed down through a family and each generation of

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children can inherit the gene that causes the disease. Still other genetic disorders are due to problems with the number of packages of genes called chromosomes. In Down syndrome, for example, there is an extra copy of chromosome 21. Therefore **genetic disorders** may be caused by P - **Point mutation**, or any insertion/deletion entirely inside one **gene**; D - **Deletion** of a gene or genes; C - Whole chromosome extra, missing, or both - see **chromosomal aberrations**; and T - **Trinucleotide repeat disorders** - gene is extended in length.

## II. GENETIC DISORDERS, PSYCHOPATHOLOGY AND NOETIC DIMENSION

Brallier (1992) stated that if individuals with genetic disorders realize the meaning of their suffering, they can alleviate their pain. Frankl (1988) stated that if people lose their meaning and purpose of life, they may experience existential emptiness, which is the status of complete loss of the meaning of life, in combination with negligence, helplessness, emptiness, and despair. All of which is psychopathologic in nature.

Psychopathologies are disorders which denote behaviours or experiences which causes impairment, distress or disability particularly if it is thought to arise from a functional breakdown in either the cognitive and neuro-cognitive systems in the brain and are indicative of mental illness or disordered mind, even if they do not constitute a formal diagnosis. Some of the common psychopathologies seen in individuals with genetic disorders include depression (mood or affective disorders), anxiety disorders and personality disorders.

Psychopathologic conditions among individuals living with heritable disorders are psychogenic disorders which are precipitated by the somatogenic factors and sustained by the noetic state of such individuals. This implies that there are three basic dimensions to psychopathologic manifestations among individuals with genetic disorders: somatogenic, psychogenic and noetic dimensions (see Figure 1). This is supported by the Biblical theory (1 Thessalonians 5:23) which holds that man is a spirit (noogenic) who has a soul (mental state) and lives in a body (soma). Frankl's noted that human being is an entity consisting of three-dimensions: body (soma), Mind (psyche) and Spirit (noetic core) (Frankl 1985, 134ff).

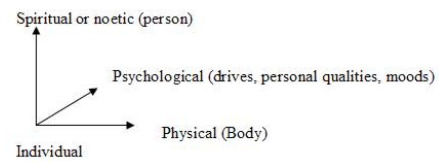


Figure 1 : Man lives in three modes that form an indivisible unity within him, but at the same time

constitute three distinct ways of being body, mind and spirit. (Source)<sup>3</sup>

As individuals with genetic disorders strive to maintain their body in good health, it is regulated by their physical needs for sleep, food, drink, sexuality and exercise etc. On a psychological level, they are usually concerned with the psychic forces (such as drives, needs and moods) and feeling of well-being within the body. They usually strive for pleasant feelings and freedom from tensions. Anyone who succeeds may experience pleasure; those who fail may feel annoyance, tension and frustration. As a *spiritual* being (person), individuals with genetic disorders look for meaning and value in life, for support, faith, true love; values, justice, freedom, responsibility etc.

The psychogenic dimension (psyche) often experienced by individuals with genetic disorders includes changing moods, a feeling of exhaustion, fear-reactivity, attention span and memory problems, a sense of weariness and fatigue, difficulties with relaxation and speech fluency, problems with sleeping (and dreams), suicidal thoughts, sexual problems, various kinds of hyper anxiety and emotional hypersensitivity (psychological dysfunction syndrome). Frankl limited the content of the psychic dimension to the forces that express themselves in drives and emotions. These are not subject to free will, but follow their own rules and regularities.

All information from the physical and from the spiritual dimensions about the world and about their own state enter the psychic dimension, where it is screened and evaluated according to its significance for survival. With the psychodynamics process, this information is close to the physical dimension in the form of affects, moods and emotions.

The somatogenic dimension of psychopathology in individuals with genetic conditions holds that abnormal behaviour result from biological disorders in the brain. This dimension includes a feeling of general nervous tension, heart rhythm disorders, stomach ache, toothache, sore throat, oral or pharyngeal dryness, lack of appetite or excessive appetite (somatoform disorders).

The "noetic quality of abnormal mental states" refers to non-ordinary states as a source of higher visionary knowledge than the facts garnered from the senses. The noetic dimension of psychopathology in individuals with genetic disorders includes a deep

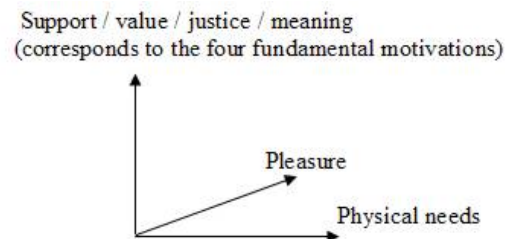
<sup>3</sup>Retrieved from Alfried Längle. EXISTENTIAL ANALYSIS - The search for an approval of life. <http://www.existenti-al-analysis.org/introduction-to-EA-L.240.0.html>

feeling of boredom, unhappiness and resignation, helplessness, uncertainty, depression, despondency, frustration, fading motivation to live and act, lack of self-confidence, and experiencing being lost in life (decreased noetic activity syndrome). The "noëtic" or "spiritual" dimension (Greek "nous" signifies "spirit" or "mind") (Frankl 1985, 79) of psychopathology individuals with genetic conditions touches the innermost core of their person. This inner person is what makes man truly human and distinguishes him from animals. By manifesting his noetic dimension, man manifests humanness. Only in this sense did Frankl speak of logotherapy as "Height Psychology" which he said was supplementing, rather than supplanting, the psychoanalytic "Depth Psychology".

According to Freud, human's have a will to pleasure and Adler the will to power. But Frankl noted that human's have a will to meaning. If it is frustrated, spiritual (noogenic) neuroses result. Frankl argued that the spiritual (noetic) dimension of man should be added to the physical and psychological dimensions. For Frankl, ultimate meaning does exist and is unique to each person and each situation. Each moment offers 'a sequence of unrepeatable situations each of which offers a specific meaning to be recognised and fulfilled'. Meaning cannot be invented but must be discovered. Therefore, a noogenic neurosis is not the result of instinctual conflicts, not the outcome of individual psychodynamics in terms of clashes between the strivings of ego, id, and superego; rather it is the result of existential frustration, leading to Noogenic depression and anxiety.

Frankl's three dimensions are not clearly separated from each other but interact, since man forms a unity (see Figure 2). Deficiencies in the existential dimension may have somatic effects, e.g. in muscular tension in the case of conflicts of conscience. The different dimensions may also find themselves in contradiction with each other and force the person to make a decision. Thus, the same thing can simultaneously procure pleasure and be experienced as wrong or inappropriate. But even if these dimensions influence each other, they do not merge. The physical and psychic correlate strongly, and both are determined, which means that they follow certain rules and evade conscious control. This is why they are analysed with scientific methods. In existential analysis

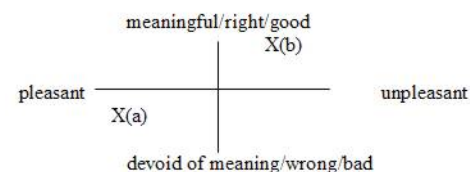
their relation is described as in a psychophysical parallelism. For example, there is no anxiety originating in the psychic dimension without any physiological or somatic symptoms as a consequence. Vice versa, palpitations may cause anxiety if they are not dealt with properly in the noetic dimension.



**Figure 2 :** the dynamics of man on the different anthropological levels - a model depicting the possible divergence of the motivations, which may lead to tensions and motivational conflicts. (Source)<sup>4</sup>

In contrast, the noetic or personal dimension is free as far as its nature is concerned. For this reason, Frankl postulates a hiatus, a fundamental distance between the psychophysical parallelism and the noetic dimension. According to Frankl, the noetic dimension resonates through the whole of man, and man is most himself where the three dimensions join. It is man's lifelong task to balance and harmonise his diverging aspirations. It is in this struggle that Frankl sees the dominant role of the third dimension because of its meaning for the individual's relation to the outer world. At the same time he thought that it was exactly there where modern man suffers the greatest deficits, which result in feelings of meaninglessness, of disorientation and lack of fulfillment.

The noetic dimension is the best of the human spirit. Something may be pleasant and agreeable on the physical level, but not necessarily "meaningful, right or good" on the spiritual level:



**Figure 3 :** the psychological and personal ( noetic) experiences take place in different dimensions. Their contents are therefore not to be mixed up - something pleasant need not be right (a) (Frankl, 1983) (source)<sup>5</sup>

The display of neuroses can generally be called a steady loss of spiritual peace. These **neuroses** are called **noogenic** because they come from the **noetic** realm, rather than, the psychic one. As a result, neuroses can be identified as stemming from lack of meaning rather than a psychological impulse or breakdown.

<sup>4</sup>Retrieved from Alfried Längle. EXISTENTIAL ANALYSIS - The search for an approval of life. <http://www.existential-analysis.org/introduction-to-EA-L.240.0.html>

<sup>5</sup>Retrieved from Alfried Längle. EXISTENTIAL ANALYSIS - The search for an approval of life. <http://www.existential-analysis.org/introduction-to-EA-L.240.0.html>

Someone psychologically ill will look for pleasant experiences (e.g. something to alleviate his anxiety or to ease his tensions) however meaningful or not (Frankl, 1997b & c). The psychologically healthy person will put the emphasis on the meaningful. Something may be right and meaningful in spite of being unpleasant (eg. to discuss a conflict). This schema might be called "the existential-analytical principle of pleasure and reality."

In this dimension the search for meaning is grounded. Although one can experience sickness in the body and the psyche, the human spirit, the noetic core, remains healthy; it cannot become ill because the spiritual dimension depends on meaning. However, access to that healthy core can be blocked. Attributes of the noetic dimension are responsibility (not from, but responsibility to), authenticity and creativity, choices, values, self-transcendence, will to meaning, love, conscience, ideals and ideas, etc.

Currently, there is growing recognition in medicine that patients with genetic disorders do present themselves as integrated beings whose physical, emotional and spiritual welfare are entwined (Cohen, Wheeler, Scott, Springer & Lusk, 2000). However, in the field of mental health, little attention is been given to the psychotherapeutic management of the psychogenic and the noetic states of psychopathologic behaviour among individuals with genetic disorders. Chemotherapy has for long been the sole means of treatment, reduction and amelioration of painful crisis among such individuals.

Popielski (1999) also noted that theoretical analyses and psychotherapeutic practice have not sufficiently emphasized the subjective-personal views on existence, i.e. the existential-intellectual, moral, or noetic dimension of personality. Ignoring the value dimension while studying personality and choosing psychological therapy, researchers and therapists fail to recognize basic values in an individual's subjective-personal life and experience. A person, who creates oneself mainly in reference to the world of material values, deprives himself of realizing his own humanity (Ryś, Mausch 2006a; Ryś, Mausch 2007). Values shape and guide existence and the world of values and sense guides man in his/her existential being and becoming. A failure to develop a system of values and the ability to appreciate value, or its underdevelopment, result in distorted existence, which is in existential frustration, the feeling of unfulfillment and not using one's potential. Consequences of such a condition are existential vacuum and noogenic neurosis, described by V. Frankl. Popielski attributes noopsychosomatic disorders to noogenic neurosis.

Thus, it is essential to help individuals with genetic disorders continue their search for the meaning of their life and to overcome this most challenging hurdle. This could be done through the application of Frankl's (1963) logotherapy and genetic counselling.

### III. LOGOTHERAPY

Logotherapy is a psychological, therapeutic treatment comprising a spiritual approach to the root of the problem, which helps people appreciate their responsibility for existence, gain liberty out of emotional distress, and find the meaning and purpose of their life. It is based on the assumption that one can will, search, and discover meaning in human existence, even in the most miserable circumstances. Logotherapy aspires to heighten psychology which is the noetic dimension of human ontology. This means that humans can exercise conscience, choices, goodness, freedom and responsibility, and self-transcendence in the existential encounters that society offers.

Viktor Frankl's logotherapy, is a type of a humanistic treatment approach that was first developed in 1938. Logotherapy means 'therapy through meaning'. The "logo" means "meaning" in Greek. It is a **person-centered therapy** that focuses on the **future**, and is truly a modern therapeutic model for a modern audience (Man's Search, 104).

Logotherapy is an active-directive therapy aimed at helping people specifically with meaning crises, which manifest themselves either in a feeling of aimlessness or indirectly through addiction, alcoholism or depression. There is a hidden despair (Cry for Meaning, 21) in man which is centered on **identity**.

Logotherapy is usually called the "third school of Viennese psychotherapy" after **Freud's psychoanalysis** (the first school) which held that all neuroses could be linked back to the warring parts of the self called the **id**, **ego**, and **superego** and **Adler's individual psychology** (the second school). **Freud's** **Freud** had insight on the **human condition**, but **Freud's** lessons were simply not suitable for his time period. He had to make his ideas too objective (in **Frankl's** opinion) for use in practical **therapeutic situations**, where **spirituality** was an issue; and as a result his theory came to make "the human person into an object," by analyzing spiritual concerns rather than dealing with them directly. It was this dehumanizing of the patient that drove **Frankl** to rework the **psychoanalytic** model. In **Frankl's** mind, what good was having your inner sexual being settled, when there was still a crisis of meaning in your heart. **Frankl** felt that man's search for meaning was a primary response, not a **rationalization** as **Freud** and others would claim. To **Frankl** the search for meaning held a deep significance. If meaning was just a reaction he felt it would be terrible: "I would not be willing to live merely for the sake of my 'defense mechanisms,' nor would I be willing to die merely for the sake of my 'reaction formations' (Man's Search 104)."

Logotherapy is very useful in dealing with persons living with heritable disorders because they often feel that life is meaningless. It can be used to restore a sense of meaning to replace feelings of worthlessness and alienation common in such people.

With logotherapy, Frankl asserts that each person's life has a unique meaning even when the person is confronted with heritable disorders over which he/she seemingly has little control. It is the role of the logotherapist to help the person to discover that unique meaning within himself/herself. The logotherapist does not provide the meaning, but rather assists the person in discovering his/her own meaning.

Logotherapy struggles to understand the complete person, **spiritually** as well as psychologically. This allow therapists to treat spiritual issues rather than just to treat them as another layer of the person to be broken down and analyzed. While logotherapy is not as "objective" as **Freud's psychoanalytic** process, it is still a very good tool for a therapist to utilize in treatment.

#### IV. TECHNIQUES OF LOGOTHERAPY

Logotherapy is assistance in the quest for meaning. The Basic assumptions of logotherapy are a) life has meaning under all circumstances; b) People have a will to meaning; and c) People has freedom under all circumstances to activate the will to meaning and to find meaning.

Logotherapy also holds onto **existentialism** as one of its core tenets, yet at the same time also embraces **religion** (Logotherapy). It is an active-directive therapy aimed at helping people specifically with meaning crises, which manifest themselves either in a feeling of aimlessness or indirectly through addiction, alcoholism or depression. It employs techniques useful for phobias, anxiety, obsessive-compulsive disorders and medical ministry. Other applications include working with juvenile delinquents and career counselling aimed at helping people to find more meaning in life.

The therapy asks **therapists** to be aware of their client's **spiritual** self, as well as the **baser instincts** first identified by **Freud** and reinterpreted by **Adler**. The **therapeutic relationship** in logotherapy involves having a good trustful **dynamic** between the client and the **therapist** is essential. Therefore, logotherapy is not something a therapist should employ early in the counseling relationship. This criteria stems from the nature of the **therapy** itself. It is easier to discuss things in a **cognitive behavioral therapy** session, but for logotherapy, this is more difficult because **religious/spiritual** feelings are usually guarded jealously.

There are specific ways a therapist can try to push a client towards finding meaning in life. The first is by creating something or doing something else for others. By taking an active role in life, by being a creator, or by having a relationship with someone else meaning can be found in doing something greater than (or at least not exclusive to) oneself.

The second way meaning can be found is through **love**. In this case a **therapist** can try to reinvigorate or direct a client to past relationships that were important to them. In addition the therapist could

suggest trying to develop new relationships. It should be noted that **Frankl** makes clear that in order to have meaning in these relationships there needs to be love. The love he describes is not the type of unconditional love that is represented in **Rogarian, Person-Centered therapy**. It is **intimate** love (though not always physical) that therapists should avoid in order to remain objective.

The third way to help clients living with genetic disorders find **meaning** relies heavily on **existential choice**, as it is to face suffering head-on and experience it. This idea states that no matter what the situation is, fundamentally, everyone has control over themselves, and has a choice to make. Some people may have better choices (cosmetically) than others; however, the choice is there just the same. The idea of **existential choice** works well with depressed patients. Giving them **existential choice** allows them to take ownership of their own situation, while at the same time allowing them to find support through their existential search. In that case, logotherapy would help the client navigate the **psychological stages of genetic disorders**. The second type of client that could find meaning through suffering is the families of those living with genetic disorders. In this case, logotherapy would be beneficial because it takes into consideration the confusing spiritual dimension that is left in the wake of having a loved one die or go through unending circles of painful crises (Man's Search 115-19).

Next is the never-ending search or battle for survival. *"The search is what anyone would undertake if he were not sunk in the everydayness of his own life.... To become aware of the possibility of the search is to be on to something. Not to be onto something is to be in despair."* Not to be onto something is to be in despair (Percy, 1961,13). While he is optimistic **Viktor Frankl**, cautions that **existential choice** and reflection is not a **panacea** for humanity. In fact he claims that there is a **tension** that is needed. The most important part of logotherapy, once a **patient** understands existential choice, is the understanding of how each of us has an **existential burden**. A healthy person has both **stress** and **relaxation**. The ideal state is somewhere in between the two states. When a patient goes too far over to one side, **Frankl** wrote, the **noodynamic** falls apart. Patients who move too far either way develop **noogenic neuroses**. Patients with noogenic diagnosis could find help in logotherapy (Psych & ex 43). While it is the responsibility of the therapist not to over-burden the client, it is still the client's job to process these feelings and find meaning in them where they can (Psych & ex 21).

One of the key ideas in **Frankl's** therapy is that the world is always changing and every individual has the opportunity to change with it, or remain the same. **Frankl** argues that throughout a man's live he is always on the journey of meaning and each of the different developmental stages a different kind of meaning is needed. For example, a child finds meaning in his **family**

and **place in the world**. His family might introduce **God** into his vocabulary of meaning. However, as time goes by, he knows that there is more information out there and looks to his parents for guidance in reconciling the different forces at work. The same child as a teenager now knows much more about the world than his former self. The teenager looks outside the family for meaning, while at the same time still trying to find out who he is as a person. The next step for the teenager who is now in his twenties in the search for **meaning** is trying to reconcile the **individual identity** he developed as a teenager, with the feelings he is having about **starting his own family**. In contrast to his **teenager** self, he looks back to his family of origin for assistance in settling into his new position as **husband** or **father**.

The next step would be for the child, now at **middle age**, is to come to grips with his first thoughts of his own **mortality**. He looks to his wife and family for support, as the new meaning in his search has for the first time pointed towards **death**. This feeling is also compounded by the death of his **parents** or other family members. In his previous life from his teenage years until middle age mortality was not an issue, but now he needs to make death, or at least thinking about it, part of his meaning or identity.

The final step for the person who is at middle age, but is now at the end of his life is to reflect on what he did and did not do. In addition, he will look towards **religion** more if he was not very faithful in his earlier years. It is this great search for meaning throughout life that logotherapy is primarily concerned with. If a person can successfully find meaning in each of these stages than they are functioning well. Those who stall at a point would be good candidates for logotherapeutic therapy.

## V. GENETIC COUNSELLING

Genetic counselling is the process by which patients or relatives, at risk of an inherited disorder, are advised of the consequences and nature of the disorder, the probability of developing or transmitting it, and the options open to them in management and **family planning** in order to prevent, avoid or ameliorate it. This complex process can be seen from diagnostic (the actual estimation of risk) and supportive aspects (Sequeiros and Guimarães, 2008). Genetic counselling can occur before conception (i.e. when one or two of the parents are carriers of a certain trait) through to adulthood (for adult onset genetic conditions such as **Huntington's disease** or hereditary **cancer** syndromes).

Genetic counsellors provide information and supportive counselling to families who have members with **birth defects** or **genetic disorders**, and to families who may be at risk for a variety of inherited conditions. They work as members of a health care team and act as a patient advocate as well as a genetic resource to physicians. They refer individuals and families to community or state support services. They identify

families at risk, investigate the problems present in the family, interpret information about the disorder, analyze inheritance patterns and risks of recurrence and review available testing options with the family.

## VI. IMPLICATIONS OF PSYCHOTHERAPY

Genetic counseling and logotherapy have fundamental implications for psychotherapists and anyone interested in learning more about the intersections between heritable disorders and spirituality. These fundamental implications can be viewed on varying angles.

First are the implications for psychotherapy training and practice in psychology. Psychotherapy training involves themes such as outcome findings, common factors, empirical support, patient treatment matches, therapy manuals and practice guidelines, usage as brief therapy and group therapy techniques. To assist trainees in becoming well-informed genetic counselors and logotherapists, themes such as these should be covered as part of their introduction to learning about genetic counseling and logotherapy.

At the centre of this implications are three groups of people. First are administrators responsible for developing and approving psychotherapy training programs. This group includes psychotherapists in universities and members of curriculum committees. Second are teachers and supervisors who directly provide psychotherapy training. Third are the consumers; that is, those who receive psychotherapy training and provide psychotherapy to patients. Learning to be skillful genetic counselor and logotherapist is a challenging task that takes time, effort, and hard work, even when trainees feel confident about the usefulness of psychotherapy.

The practical implication of these therapies for psychotherapists hinges on cultural sensitivity. Kress, Eriksen, Rayle, and Ford (2005) point out that the DSM provides psychotherapists with a general outline for evaluating a client's cultural context, including (1) the client's cultural background, (2) issues related to the client's culture, (3) socio-cultural issues related to the client's environment, (4) factors involved in the therapeutic alliance, and (5) the overall cultural evaluation. Understanding this cultural framework may help psychotherapists be more culturally sensitive in diagnosing an individual on the basis of the noetic dimension. Furthermore, according to Kress et al. psychotherapists need to promote cultural sensitivity. In particular, these authors provide concrete information about how to reduce bias in clinical practice, including assessing the client's worldview, the client's cultural identity, and sources of cultural information pertinent to the client; delving into the cultural meaning of a client's problem and the impact on family, work, and community; and understanding culturally based stigma associated with the presenting problem. Assessing the

client's worldview includes taking into account the client's own values, beliefs, and assumptions about the world. Grieger and Ponterotto (1995) report that asking about a client's worldview is the most important question for assessment in cross-cultural psychotherapy. The client's identity is assessed by gathering data about the client's language, religious beliefs, and employment so the psychotherapist understands who clients are in relation to their environment. Helpful professional development activities in this regard may include reading relevant books about support systems, cultural history, and spirituality, which help to provide cultural information relevant to the client's life. Thus, before a diagnosis can be made it is important to understand the client in his or her cultural context. Addressing these ongoing issues can help provide psychotherapists with more objective diagnostic awareness.

An accurate diagnosis of mental health symptoms in genetic disorders is another implication of genetic counseling and logotherapy for psychotherapists. Accurate diagnosis is difficult but extremely important in the clinical decision-making process. On some occasions, psychotherapists may not diagnose mental health disorders accurately (Bell & Mehta, 1980). The DSM-IV-TR is a classification system of mental health disorders that was developed for use in clinical, educational, and research settings (American Psychiatric Association [APA], 2000). The diagnostic criteria included in the DSM-IV-TR are meant to serve as a guide or a framework to be informed by clinical judgment on behalf of the psychotherapist. However, clinical judgment is involved in the clinical decision-making process and takes clinical experience and expertise. Therefore, incorrect diagnoses can lead to negative consequences for clients, the professional image of psychotherapy, and society in general. One potential pitfall of misdiagnosis is client stigma.

Failing to provide or disseminate genetic counseling and logotherapy from research settings to clinical practitioners interested in noetic dimension of heritable disorders would result in the lack of availability of these treatments techniques in mental health system in Nigeria and Africa as a whole. This may ultimately have a disastrous impact on the viability of psychotherapy in Africa.

Another implication is logotherapy in practice. Logotherapy is generally utilized in practice with another form of therapy such as genetic counselling and **cognitive therapy**. A therapist using logotherapy should be careful not to push too hard or not enough when discussing spiritual matters; as with other therapy the least restrictive means necessary is the path to take. As Frankl himself put it in *Man's Search for Meaning*: "*Logotherapy is neither teaching or preaching. The logotherapist's role consists of widening and broadening the visual field of the patient so that the whole spectrum of potential meaning becomes conscious and visible to him (115).*

## VII. CONCLUSION

Genetic counseling and logotherapy are highly relevant in the management of somatogenic and noetic dimensions of psychopathologic disorders among individuals living with heritable disorders (such as diabetics, sickle cell disorders, cystic fibrosis, cancer, or down syndrome). Individuals with genetic disorders often experience meaninglessness, feelings of worthlessness, alienation, deep sited anxiety and depression due to recurrent painful crises and uncertainty of their ability to survive the next crisis.

Logotherapy is a psychotherapeutic method, which works primarily through verbally induced processes. Logotherapy centred around the intellectual and spiritual side of man which manifests itself in his search for meaning. Frankl's logotherapy deals with the noogenic state, cognitive behavior therapy deals with the cognition or mental state while genetic counseling is concerned with the somatic state.

Genetic counselling is the process by which patients or relatives, at risk of an inherited disorder, are advised of the consequences and nature of the disorder, the probability of developing or transmitting it, and the options open to them in management and **family planning** in order to prevent, avoid or ameliorate it.

There is the need to train psychotherapists in the usage of genetic counseling and logotherapy for the management of trauma arising from genetic disorder.

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