SYSTEMATIC REVIEW OF PSYCHOLOGICAL PROBLEMS THAT ACCOMPANY DIABETES MELLITUS AFTER DIAGNOSIS

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ABSTRACT

The study investigated the psychological problems that occurred after diabetes diagnoses. Available literature reviewed has confirmed that less than one-fifth of the people in the world who are diagnosed of diabetes mellitus received only some level of care required in maintaining optimal health and quality of their life but other aspect of care (psychosocial) are either neglected or are not given serious attention in the treatment plan which can at the end hinder the success of the entire treatment, this include effective national and international guidelines on the treatment of diabetics which only few individual achieved the appropriate levels of care.

INTRODUCTION:

Diabetes is a group of metabolic diseases characterized by hyperglycemia resulting from defects in insulin secretion, insulin action, or both. The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction, and failure of different organs, especially the eyes, kidneys, nerves, heart, and blood vessels. Several pathogenic processes are involved in the development of diabetes. These range from autoimmune destruction of the b-cells of the pancreas with consequent insulin deficiency to abnormalities that result in resistance to insulin action. The basis of the abnormalities in carbohydrate, fat, and protein metabolism in diabetes is deficient action of insulin on target tissues. Deficient insulin action results from inadequate insulin secretion and/or diminished tissue responses to insulin at one or more points in the complex pathways of hormone action.

It has been reported by “Centers for Disease Control and Prevention” that, about 151,000 people below the age of 20 have diabetes (Hirsch horn, 2003). Of this population, Nigeria children are inclusive. Nigeria which is estimated to have population of 158 million people and consider one the most populous country in Africa has accounts for one sixth of Africa’s population on high rate of diabetes mellitus. In fact, view of attempt to document the present and past data on diabetes mellitus in Nigeria, it has not been fully successful. Studies that were conducted over the four decades from 1980 to 2018 showed generally high prevalence rates (32%) for diabetes in Nigeria (Dorman, LaPorte, & Songer, 2003). Only two studies that were conducted in 1983 and 1991 which reported diabetes prevalence rate of less than 15% in Nigeria. The prevalence increased to 26% to 28% in several studies that were conducted from 1993 to 2001 with most patients having non-insulin dependent (type 2) diabetes. These studies were limited to particular population groups in Nigeria except one which was part of a national survey that assessed the prevalence of chronic diseases in the entire Nigerian population.

UNDERSTANDING THE VAST MAJORITY OF CASES OF DIABETES AND THEIR CATEGORIZATION AS CHRONIC PROBLEM

Type 1 diabetes mellitus

Type 1 diabetes is traditionally diagnosed during childhood and has been historically referred to as juvenile-onset diabetes. It accounts for five to 10 percent of all diagnosed cases of diabetes and is the leading cause of diabetes in children, particularly children under 10 years of age, Type

1 diabetes accounts for almost all diagnoses of diabetes. Type 1 diabetes is considered an autoimmune disease. For this reason, it is believed some children may be genetically predisposed, and the onset of symptoms can often be linked with a precipitating event, such as a response to a viral infection.

Development of Type 1 diabetes begins years before recognizable symptoms surface. By the time symptoms become apparent, most of the beta-cell has been destroyed. Once this occurs, symptoms develop over a relatively short period of time. Early symptoms include those commonly associated with hyperglycemia: increased thirst and urination, constant hunger with weight loss and blurred vision. Some children may experience extreme fatigue. Eventually, as insulin deficiency increases, ketoacids, the by-product of fat metabolism, build up in the blood and are excreted through urine and breath. Dehydration worsens and this build-up of ketoacids causes the patient to experience a feeling of shortness of breath, abdominal pain and vomiting. Diabetic ketoacidosis (DKA), a condition of elevated blood glucose and dehydration can develop into a life-threatening diabetic coma if diabetes is not diagnosed and treated with insulin at this point. Vomiting in children is often attributed to gastroenteritis. However, new-onset diabetes can be indicated by vomiting accompanied by frequent urination, as opposed to decrease. Individuals at increased risk of developing this type of diabetes can often be identified by serological evidence of an autoimmune pathologic process occurring in the pancreatic islets and by genetic markers.

Type 2 diabetes mellitus

The type 2 diabetes, the cause is a combination of resistance to insulin action and an inadequate compensatory insulin secretory response. Type 2 diabetes was commonly associated only with adults and was in fact referred to as “adult onset diabetes.” It accounts for about 90 to 95 percent of all cases of diabetes and has been reported among children and adolescents in the whole world with increasing frequency over the past two decades. Currently, nearly half of all new cases of diabetes mellitus in children have elements most consistent with Type 2 diabetes. Type 2 diabetes is a condition where the body continues to produce insulin, but the cells are “resistant;” thus, Type 2 diabetes is often referred to as “insulin resistant” diabetes. Children diagnosed with Type 2 diabetes are commonly older than 10 years of age and/ or are experiencing puberty, are overweight and may have a family member with Type 2 diabetes. Other risk factors may include a genetic predisposition, and there is a higher incidence of Type 2 diabetes in children of Native American, African American, Hispanic/ Latino American and some Asian and Pacific Islander American descents. It increased risk and occurrence has been directly attributed to what is being called an obesity epidemic and has become a serious public health problem. Diet and exercise are two of the most important lifestyle changes that can be made for children who are predisposed or already have Type 2 diabetes.

STATEMENT OF THE PROBLEM

The burden of chronic disease such as diabetes is already straining the financial and personnel resources of health services accounting for one of the globally world infectious disease that is claiming the life of people every day. There is need for policy and health decision makers to give current evidence about the impact of diabetes and some of the comorbidity of the disease that accompany aftermath of the diagnoses of the diabetes. This which has accounted for many problems including shortened life expectancy of the infected person, higher disability, decreased productivity and insufficient treatment. Health systems and polices are not aligned to accommodate diagnosis and long-term care as well as primary and secondary prevention of diabetes, as result yielding into incomplete treatment. Issues that need to be addressed may include timely diagnosis of diabetes, availability of diabetes care, access to long-term, regular diabetes care, inclusion of psychosocial treatment and preventive techniques as well as following the recommended patterns of care as described in diabetes management guidelines.

Personal Experience of a friend

May be the report of personal experience of Mrs. H will give us a clue on how generally treatment of diabetes neglect psychosocial aspect of the treatment. Mrs. H, was diagnosed with Type 2 diabetes mellitus. A senior student of keffi-south secondary school, she leads an active life, and was eating her proper foods until when she was diagnosed of her present condition of been diabetic, which she narrated as added burden of her daily life with the use of daily glucose monitoring and insulin injections. She shared with me how this disease has affected her life, and how she copes with its demands and limitations. She said becoming diabetic has completely changed her life. Part of her school bag items now is insulin machine she used to test her blood sugar at least three to four times a day by poking finger and putting blood on a test strip, to enable her adjust the required insulin and food to eat. That she was forced to eat a healthy balanced meal regularly about six times every day. That, with her parent advice, she try not to have a negative attitude because she has realize just how lucky she is. That she does not know what would have happen to her if she did not have her caring parent who bought a machine for her or provide all the sugar-free foods available to her. She emphasized that diabetes did not just change her physical life, but it also altered her mental life as well. It has helped her to look at her life and realize what was important to her. Some of my other kids wondered why I had to use needles and couldn't eat the same things they eat. She told me how her parents are very too good for her and even her younger Sister that play with her when she knows that she is having a bad day, in fact they provide her with the needed social support to cope with her condition. So, the question now is that, imaging if she come from the family that she could not get all this support? It would have been a serious case, because it will progress from physiological problem to physiopsychological problem.

Again, another case study

Miss N is a Ten-year-old child diagnosed with Type 1 diabetes. She was found unconscious by her mother who rushes her to the hospital, upon arrival, she informs the Doctor that she finds Miss N lying on her bedroom floor, unconscious. The Doctor conducts a primary assessment, and establishes that Miss N has a patent airway and adequate breathing. And the Nurses obtain a set of vital signs from pertinent medical history of Miss N file. It was observed that, the cause of Miss N problems was an alteration of her mental status. It did not stop there as Miss N began to display some strange behaviors as a result of her diagnoses, such as refusing to take her drugs, always in door, complain of other peers making jest of her when she takes special meals in schools for lunch, insisting on some foods that are not good for her condition, threatening to stop school, and avoiding friends which are not common with her. This was noticed according to her Mother after two weeks of her discharge from the hospital. Until my interaction with the family, Miss N case was referred to psychologist.

PSYCHOLOGICAL PROBLEMS THAT FOLLOWED AFTER DIABETES DIAGNOSIS

Affective and anxiety disorders: These are the most common diagnoses and it occur significantly more often in patients with diabetes than in the general population. These disorders can lead to poor glycemic control through alterations in neurohormonal and neurotransmitter functioning and through disruption in diabetes self-care.

Major depression: This has also affected approximately one of every five patients with diabetes and severely impairs quality of life and all aspects of functioning. It has added importance in diabetes because of its association with treatment nonadherence, poor glycemic control, and increased risk for micro- and macrovascular disease complications. Depression remains unrecognized and untreated in the majority of cases despite its specific relevance to diabetes.

Another area of concern is the growing number of documented cases of ***eating disorders*** among individuals with diabetes. Whether these problems are more, less, or equal, they are prevalent in

diabetes compared to the general population. Eating disorders are clinically important because of their association with poor glycemic control too and an increased risk for retinopathy. Eating disorders can be effectively treated with psychotherapy. However, both eating disorders and depression tend to be recurrent and to require repeated treatment.

Denial: People who find out that they have diabetes infections often deal with the news by denying that it is not true. They may believe that the diabetes test was not accurate or that there was a mix-up with the result, even after confirmatory testing shows that it is true. Though is natural and normal as first reaction. At first, this denial may even be helpful, because it can give individual time to get used to the idea of infection. However, if not dealt with, denial can be dangerous; you may fail to take certain precautions or reach out for the necessary help and medical support. It is important that you talk out your feelings with your doctor, a therapist, or someone you trust. It is important to do this so that you can begin to receive the care and support you need.

Anger: Anger is another common and natural feeling related to being diagnosed with diabetes. Many people are upset about how they got the infected or angry that they didn't know they had it.

Sadness: Sadness, though still symptoms of depression can include the following, especially if they last for more than 2 weeks in diabetic patient: Feeling sad, anxious, irritable, or hopeless, Gaining or losing weight, Sleeping more or less than usual, Moving slower than usual or finding it hard to sit still, Losing interest in the things you usually enjoy, Feeling tired all the time, Feeling worthless or guilty, Having a hard time concentrating, Thinking about death or giving up, Persistent loss of libido or even interest in sex.

Fear: Fear and anxiety may be caused as result of not knowing what are the challenges of life after been diagnosed with dangerous illness like diabetes, or by not knowing how others will treat you when they find out you have deathly illness. You also may be afraid of telling friends, and some family members. This fear can make your heart beat faster or make it hard for you to sleep. Anxiety also can make you feel nervous or agitated. Fear and anxiety might make you sweat, feel dizzy, or feel short of breath.

Stress: This has also been found to be common with diabetic patient when they are diagnosed of their condition, patient and his/her loved ones constantly have to deal with stress because of the demand and limitation of illness. Stress has effect of increasing sugar level in the blood. It has been established that chronically high levels of blood sugar brought about by chronic stress will diminish the ability of the pancreas to develop adequate insulin needed to metabolise the sugar (glucose) level. We all know that stress is unique and personal to each of us. When stress occur, it is important to recognize the fact and deal with it. As you gain more understanding about how stress affects you, you will come up with your own ideas for coping with stress.
Stress hyperglycaemia has been reported in up to 5% of children presenting to an emergency department. Acute illness or injury; traumatic injuries, febrile seizures and elevated body temperature (> 39oC) were identified as the most common associated features. The reported incidence of progression to overt diabetes varies from 0% to 32%. Children with incidental hyperglycaemia without a serious concomitant illness were more likely to develop diabetes than those with a serious illness. Islet cell antibodies and insulin autoantibody testing had a high positive and negative predictive value for type 1 diabetes in children with stress hyperglycaemia.

POSSIBLE PSYCHOLOGICAL INTERVENTION OF DIABETES MELLITUS
Below are general approaches of the treatment that can be achieved in treating children with psychological problems:

Biological Treatments: to this theory**,** Glucose is the body's preferred currency for energy. So insulin is released from the pancreas to signal cells to take up glucose when the blood glucose is high (hyperglycemia), this results in a lower blood glucose. Glucagon is another hormone released from the pancreas to cause the liver to free stored glucose in response to low blood glucose (hypoglycemia). Now it become a disorder when there is not enough insulin made or when the body does not appropriately react to the insulin that is produced.

That, this is what happens with Type 1 diabetes; in Type 1 diabetes the body does not make enough insulin. The cause of Type 1 diabetes is unknown, but in many people with the disease it appears when the body's immune system attacks the insulin-producing cells in the pancreas. Type 1 diabetes may also be known as "juvenile diabetes" because it usually begins in children and young adults, though it can start at any age. For Type 2 diabetes is caused by not enough insulin being produced, the body not responding appropriately to the insulin that is produced, or both. This type is much more common than Type 1 diabetes. Type 2 diabetes is also known as "adult-onset diabetes" or "non-insulin-dependent diabetes." It is not thought to have a single cause, though obesity and older age do increase the chance of acquiring it. Hyperglycemia can also cause an emergency situation known as "diabetic ketoacidosis," which involves dehydration from having so much glucose in the blood and acidic blood partly from the ketone bodies being produced from fat. This is more common with Type 1 and requires going to a hospital to get hydrated and receive insulin. Taking too much insulin could result in hypoglycemia, which could make a person lose consciousness.

In Nikki's case, she can be advice to always replace the missing insulin with insulin injections, which has to be done for the person's lifetime. Many people with Type 2 diabetes will be able to control their blood glucose with diet and exercise, though some will need medications that might include insulin. We need to also know that blood glucose levels is important to our health effects, reason why it is important for people with diabetes to control their blood glucose.

Treatments can also involve management of her diet, exercise, oral anti-diabetes medications to enhance insulin secretion or insulin therapy. However, due to body changes and metabolism demands as children grow, as well as increased levels of activities such as sports, treatment strategies will monitor and adjust on her ongoing basis. There is no single method to manage diabetes in all children.

Psychodynamic Treatments

Psychodynamic approaches view child psychopathology as determined by underlying unconscious and conscious conflicts. Therefore, the focus of the therapy is on helping the child develop an awareness of unconscious factors that may be contributing to his or her problems. With younger children, this awareness can occur through play therapy with older children, it occurs through verbal interactions with the therapist. As underlying conflicts are revealed, the therapist helps the child resolve the conflicts and develop more adaptive ways of coping.

In Nikki's case, i will help her gain insight into her problem through an intensive process of psychotherapy which may last for months or even years. I might explore her earliest memories of her relationship with her parents by having her recall positive and negative memories and explore how she constructs her childhood memories and relationships. The assumption here is that once she resolves the underlying problems, such as insecure attachment to her mother, Nikki's overt symptoms of depression, refusal to take drugs, social withdrawal, school refusal, and physical complaints will be alleviated.

Behavioral Treatments

Behavioral approaches assume that many abnormal child behaviors are learned. Therefore, the focus of treatment is on re-educating the Nikki's case, by using procedures derived from theories of learning or from research. Such procedures include positive reinforcement or time-out,

modeling, and systematic desensitization. Behavioral treatments often focus on changing the child's environment by working with parents and teachers.
In Nikki's case, I may try to decrease her school refusal by instructing her parents to not let her stay at home when she protests, and by rewarding her for going to school with praise or a preferred activity. In addition, I may use modeling and practice to help Nikki learn more effective social skills.

Cognitive Treatments
Cognitive approaches view abnormal child behavior as the result of deficits and/or distortions in the child's thinking, including perceptual biases, irrational beliefs, and faulty interpretations. For example, for an attractive girl who gets A grades but thinks because she is diabetic, she is going to fail in school, the emphasis in treatment is on changing these faulty cognitions. As cognitions change, the child's behaviors and feelings are also expected to change.
In Nikki's case, she may be convinced that she can't concentrate in school or that if she goes to school others students will make jest of her. Changing these negative views by challenging them, and by helping Nikki develop more rational and more adaptive forms of thinking, should lead to changes in her behavior.

Cognitive–Behavioral Treatments
Cognitive–behavioral approaches view psychological disturbances as partly the result of faulty thought patterns, and partly the result of faulty learning and environmental experiences. These approaches begin with the basic premise that the way children and parents think about their environment determines how they will react to it. Combining elements of both the behavioral and cognitive models, the cognitive – behavioral approach grew rapidly as behavior therapists began to focus on the important role of cognition in treatment for both the child and family.
Faulty thought patterns that are the targets of change include distortions in both cognitive content (e.g., erroneous beliefs) and cognitive process (e.g., irrational thinking and faulty problem solving). As you will learn, cognitive distortions and biases have been identified in children with a variety of problems, including depression, conduct disorder, and anxiety disorders. The major goals of cognitive–behavioral treatment is to identify maladaptive cognitions and replace them with more adaptive ones, to teach the child to use both cognitive and behavioral coping strategies in specific situations, and to help the child learn to regulate his or her own behavior. Treatment may also involve how others respond to the child's maladaptive behavior. Using a cognitive–behavioral approach, I would help Nikki learn to think more positively and use more effective social skills and coping strategies to safety her life.

Client-Centered Treatments
Client-centered approaches view child psychopathology as the result of social or environmental circumstances that are imposed on the child and who interfere with child basic capacity for personal growth and adaptive functioning. The interference may cause the child to experience a loss or impairment in self-esteem and emotional wellbeing, resulting in even further problems. As a clinician, I will relate the child in an empathic way, providing unconditional, nonjudgmental, and genuine acceptance of the child as an individual, often through the use of play activities with younger children and verbal interaction with older youngsters. I will respect the child's capacity to achieve his or her goals without me serving as a major adviser or coach—to respects the child's positive self- directing abilities.
In Nikki's case, being babied by her parents, who viewed her as having a chronic illness, may have led to interference in her adaptive functioning and to low self-esteem. In treatment, I will comment on what Nikki is saying and feeling to help her understand her feelings, and to increase the congruence between her feelings and behavior. In this case, Nikki will lead the way while I follow.

Family Treatments

Family models challenge the view of psychopathology as residing only within the individual but instead, view child psychopathology as determined by variables operating in the larger family system. Like other approaches, the many varieties of family therapy differ widely in their underlying assumptions and approach to treatment. However, all of the approaches view individual child disorders as manifestations of disturbances in family relations. Treatment involves a therapist and sometimes a co-therapist who interact with the entire family or a select subset of family members, such as the parents and child or the husband and wife. So here I will typically focus on the family issues underlying problem behaviors, with emphasis on family interaction, communication, dynamics, contingencies, boundaries, or alliances. It is also essential to adapt family interventions to the cultural context of the family.

In Nikki's case, her overall helplessness, worries and other symptoms may be serving to maintain her role as the baby in the family, or may be serving as the parents' way of avoiding their own marital difficulties by focusing the problem on Nikki. I will assist Nikki and her family in identifying and changing this and other dysfunctional ways in which family members relate to one another.

Combined Treatments

Combined treatments refer to the use of two or more interventions, each of which can stand on its own as a treatment strategy. In some instances, combinations of stand-alone interventions may cross conceptual approaches—using cognitive–behavioral and pharmacological treatments, or using cognitive–behavioral treatment and family therapy in combination. In other instances, combined treatments may be derived from the same overall conceptual approach—using social skills training and cognitive restructuring in a group treatment program for adolescents with a social phobia, or using individual behavior management and family behavior therapy in the treatment of children with oppositional disorders. More communities are now implementing comprehensive mental health programs for children, oft en delivered through schools to reach the most children and their families.

In Nikki's case, we used a combined treatment approach that included cognitive–behavioral treatment for depression, behavioral treatment for school refusal, and social skills training for coping strategies.

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