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A review on types, symptoms, causes and treatment of depression

[A dissertation submitted to the Department of Pharmacy, Faculty of Allied Health Science, Daffodil International University. This report presented in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy]

Submitted To

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APPROVAL

This Project paper **A review on symptoms, causes and treatment of depression** submitted to the Department of Pharmacy, Faculty of Allied Health Science, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy and approved as to its style and contents.

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DECLARATION

I, LabibaMurshidShithi, hereby declare that, this project is done by me under the guidance of Dr. Md. SarowarHossain, Assosiate Professor, Department of Pharmacy, Daffodil International University, in partial fulfillment of the requirements for degree of Bachelor of Pharmacy. The results embodied in this project have not been submitted to any other university or institute for the award of any degree.

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ACKNOWLEDGEMENT

Firstly, I'd like to express my heartfelt gratitude to Allah, the All-Powerful, for providing me with the ability to complete my project work and the opportunity to focus on this topic [Alhamdulillah].

I am grateful to the God for the good health and wellbeing that were necessary to complete this work. I wish to express my sincere thanks to **Professor Dr. MuniruddinAhamed**, Professor and Head of Department of pharmacy in Daffodil International University for providing me with all the necessary facilities for the research.

I place on record, my sincere thank you to **Professor Dr.MdBellal Hossain**, Dean (In-Charge) and Professor Faculty of Allied Health Science of Daffodil International University.

I am also grateful to my research supervisor **Dr. Md. Sarowar Hossain**, Associate Professor, Department of Pharmacy, Daffodil International University. I am extremely thankful and indebted to her for sharing expertise, and sincere and valuable guidance and encouragement extended to me.

I take this opportunity to express gratitude to all of the Department faculty members for their help and support. I also thank my parents for the unceasing encouragement, support and attention. I am also grateful to my partner who supported me through this venture.

DEDICATION

*I dedicate this work at first to my God then to my parents and to my teachers and
my friends.*

ABSTRACT

Depression is a complex mental health disorder that can have a significant impact on an individual's quality of life. It is characterized by persistent feelings of sadness or hopelessness, changes in appetite or sleep patterns, fatigue, and difficulty concentrating or making decisions. Each type of depression presents differently and can have varying levels of severity. The causes of depression are not fully understood, but research has identified several factors that may contribute to its development. These factors can include genetics, brain chemistry, life events, medical conditions, substance use, and personality traits. For example, individuals with a family history of depression may be more likely to develop the disorder themselves. Imbalances in certain neurotransmitters in the brain, such as serotonin and dopamine, may also contribute to the development of depression. Life events, such as the loss of a loved one or a traumatic experience, can also trigger the onset of depression. Medical conditions, such as chronic pain or a thyroid disorder, can also contribute to the development of depression. Substance use, including alcohol and drugs, can worsen symptoms of depression and make it more difficult to manage. It's important for individuals experiencing symptoms of depression to seek help from a mental health professional to determine the best course of treatment for their individual needs. With appropriate treatment and support, individuals with depression can learn to manage their symptoms and improve their quality of life.

Key word: Hopelessness, mental health, medical condition, medication, concentrating.

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CHAPTER ONE

INTRODUCTION

1.1 General Introduction

Millions of people worldwide are afflicted by the prevalent and serious mental health disorder of depression. Significant distress and impairment in daily activities, such as employment, relationships, and self-care, may result from it. While everyone experiences sadness or grief on times, depression is different since it lasts for a longer period of time and can interfere with daily activities. [1]

Symptoms of depression can vary from person to person, but common symptoms include persistent feelings of sadness, hopelessness, and despair. Other symptoms may include loss of interest in activities that were once enjoyable, changes in appetite or weight, fatigue, difficulty sleeping or oversleeping, difficulty concentrating or making decisions, and thoughts of death or suicide. [2]

The causes of depression are complex and multifaceted. Genetics, environmental factors, and psychological factors all play a role in the development of depression. People with a family history of depression are more likely to experience depression themselves, suggesting a genetic component. Environmental factors such as stressful life events, trauma, or chronic illness can also trigger depression. Additionally, psychological factors such as negative thinking patterns or low self-esteem can contribute to the development of depression.[3]

While depression can be a challenging condition to diagnose and treat, there are several effective treatment options available. Antidepressants are one type of medication that can help with depression symptoms. Therapy, such as cognitive-behavioral therapy, can also be effective in helping individuals identify and change negative thinking patterns and behaviors that contribute to their depression. Lifestyle changes, such as regular exercise, healthy eating, and stress reduction techniques, can also be helpful in managing depression. [4]

In conclusion, depression is a common and serious mental health condition that can significantly impact an individual's quality of life. Understanding the symptoms, causes, and treatment options for depression is essential in improving outcomes for those affected by this condition. Through a combination of medication, therapy, and lifestyle changes, individuals with depression can manage their symptoms and improve their overall well-being. [5]



Fig:1 General knowledge about Depression [4]

1.2 Definition of Depression

Depression is a mental illness that has an impact on a person's behavior, thoughts, and mood. It is distinguished by enduring melancholy, hopelessness, and a lack of interest in routine activities. Depression can interfere with a person's ability to function in their daily life and can cause significant distress and impairment. It is a serious illness that requires professional diagnosis and treatment. [6]

1.3 History of depression

Depression has been recognized as a mental health disorder for centuries, although it has been referred to by different names and described in different ways throughout history. In ancient times, depression was believed to be caused by supernatural forces or as a punishment from the gods. Treatments ranged from exorcisms and magical rituals to herbal remedies and physical restraints. [7]

During the middle Ages, depression was often seen as a spiritual or moral failing and was treated with prayer, fasting, and penance.

In the 17th and 18th centuries, depression was viewed as a physical disorder caused by a chemical imbalance in the brain. Treatments included bloodletting, purging, and other medical procedures. [8]

It wasn't until the 19th century that depression began to be understood as a psychological disorder. French psychiatrist Jean-Etienne Esquirol was the first to use the term "melancholia" to describe a persistent state of sadness and hopelessness. [9]

In the early 20th century, Sigmund Freud and other psychoanalysts developed new theories about the causes and treatment of depression. They believed that unconscious conflicts and unresolved childhood experiences could contribute to depression and that talking therapies such as psychoanalysis could help patients gain insight and overcome their symptoms. [10]

With the development of modern antidepressant medications in the 1950s and 1960s, depression became more widely recognized as a treatable medical condition. Today, depression is one of the most common mental health disorders worldwide, affecting millions of people of all ages and backgrounds. [11]



Fig:2 History of Depression [9]

1.4 Types

1.4.1 Major depressive Disorder

Major depressive disorder, also known as clinical depression, is a mental health disorder characterized by persistent feelings of sadness, hopelessness, and loss of interest in daily activities. It can interfere with a person's ability to function in their daily life and cause significant distress and impairment. Symptoms of major depressive disorder can include changes in appetite or weight, difficulty sleeping or oversleeping, fatigue, feelings of worthlessness or guilt, and suicidal thoughts or behaviors. Major depressive disorder is a serious illness that requires professional diagnosis and treatment, which may include therapy, medication, or a combination of both. [12]



Fig: 3 Major depressive Disorder [12]

1.4.2 Persistent Depressive Disorder

Persistent depressive disorder also known as dysthymia, is a mental health disorder characterized by a long-term, low-grade feeling of sadness or depression. Unlike major depressive disorder, symptoms of PDD may not be as severe, but they can persist for years and interfere with a person's ability to function in their daily life. Symptoms of PDD can include changes in appetite or weight, fatigue, feelings of hopelessness, low self-esteem, and difficulty making decisions. Treatment for PDD typically involves a combination of therapy and medication, and it's important to seek professional help if you or someone you know is experiencing these symptoms. [13]

1.4.3 Seasonal Affective Disorder

Seasonal Affective Disorder is a type of depression that is related to changes in seasons. It typically occurs in the fall and winter months when there is less sunlight and lasts until the spring or summer. Symptoms of SAD include feelings of sadness, hopelessness, and

worthlessness, as well as changes in appetite, sleep patterns, and energy levels. The exact cause of SAD is not fully understood, but it is thought to be related to the body's circadian rhythms and the impact of reduced sunlight on these rhythms. Treatment for SAD may include light therapy, medication, and psychotherapy. With proper treatment, most people with SAD can experience significant relief from their symptoms. [14]



Fig: 4 Seasonal Affective Disorder [14]

1.4.4 Postpartum Depression

Postpartum depression is a type of depression that affects women after giving birth. It typically occurs within the first few weeks or months after delivery and can have a significant impact on the mother's ability to care for herself and her baby. Symptoms of PPD include low mood or sadness, irritability, loss of interest or pleasure in activities, changes in appetite or sleep patterns, fatigue, difficulty concentrating, and feelings of worthlessness or guilt. Women with a history of depression or anxiety, a difficult pregnancy or delivery, or a lack of social support may be at increased risk for developing PPD. Treatment for PPD may include medication, psychotherapy, support groups, or home visiting programs. Early

detection and treatment are key to ensuring the best possible outcomes for both the mother and the baby. [15]

1.4. 5 Premenstrual dysphoric disorder

Premenstrual dysphoric disorder (PMDD) is a condition that affects some women during the luteal phase of their menstrual cycle, which is the two-week period before their period starts. Symptoms of PMDD are similar to those of depression and include mood swings, irritability, anxiety, feelings of hopelessness, difficulty concentrating, and physical symptoms such as bloating, breast tenderness, and fatigue. The exact cause of PMDD is not fully understood, but it is thought to be related to hormonal changes that occur during the menstrual cycle. Treatment for PMDD may involve a combination of medication and psychotherapy, such as cognitive-behavioral therapy or interpersonal therapy. Lifestyle changes such as regular exercise, healthy eating, and stress management may also be helpful. Seeking professional help is important to effectively manage PMDD symptoms. [16]



Fig: 5 Premenstrual dysphoric disorder [16]

1.4. 6 Psychotic Depression

Psychotic depression is a severe form of depression in which the person experiences psychotic symptoms, such as delusions or hallucinations. These symptoms can make it difficult for the person to differentiate between what is real and what is not, leading to significant impairment in their daily life. The exact cause of psychotic depression is not fully understood, but it is believed to be a combination of genetic, environmental, and biological factors. Treatment typically involves a combination of antidepressant and antipsychotic medication, as well as psychotherapy to help manage symptoms and develop coping strategies. Hospitalization may be necessary in severe cases to ensure the person's safety and provide more intensive treatment. With appropriate treatment, most people with psychotic depression can experience significant improvement in their symptoms and quality of life.

[17]

1.4.7 Bipolar Disorder

Bipolar disorder, also known as manic-depressive illness, is a mental health condition that is characterized by extreme shifts in mood, energy, and activity levels. People with bipolar disorder experience periods of mania or hypomania, which are characterized by elevated or irritable mood, increased energy, decreased need for sleep, and impulsive or risky behavior. These periods are followed by episodes of depression, which are characterized by low mood, loss of interest or pleasure in activities, fatigue, and feelings of worthlessness or hopelessness. The exact cause of bipolar disorder is not known, but it is believed to be a combination of genetic, biological, and environmental factors. Treatment for bipolar disorder typically involves medication, psychotherapy, and lifestyle changes. With proper treatment,

many people with bipolar disorder can manage their symptoms and lead productive, fulfilling lives. [18]



Fig: 6 Bipolar Disorder [18]

1.4.8 Atypical Depression

Atypical depression is a subtype of major depressive disorder characterized by symptoms such as increased appetite and weight gain, excessive sleepiness, a heavy feeling in the arms or legs, sensitivity to rejection, and a temporary mood lift in response to positive events. It is more common in women than men and often begins in adolescence or early adulthood. The exact causes are not fully understood, but a combination of genetic, biological, and environmental factors is believed to be involved. Treatment may involve medication, psychotherapy, and lifestyle changes such as regular exercise and healthy eating. Seeking professional help is important for effective management of symptoms. Early detection and treatment can lead to better outcomes for individuals with atypical depression. [19]

1.4.9 Situational Depression

Situational depression, also known as adjustment disorder with depressed mood, is a type of depression that is triggered by a stressful or challenging life event. It is often characterized by feelings of sadness, hopelessness, and loss of interest in daily activities. Situational depression is a normal response to a difficult or traumatic life event, such as the death of a loved one, a divorce, a job loss, or a serious illness. [70]

Symptoms of situational depression may include difficulty sleeping, changes in appetite, fatigue, difficulty concentrating, and feelings of guilt or worthlessness. The symptoms usually begin within three months of the stressful event and typically resolve on their own within six months. [20]



Fig: 7 Situational Depression [70]

CHAPTER TWO

LITERATURE REVIEW

2.1 Literature Review

Millions of people worldwide are afflicted by the common mental health disease known as depression. It has been extensively studied in the literature, with numerous studies exploring the symptoms, causes, and treatment options for depression. [21]

Symptoms of depression have been extensively studied, with research indicating that persistent feelings of sadness, hopelessness, and loss of interest in daily activities are hallmark symptoms of depression (American Psychiatric Association, 2013). Other symptoms, such as changes in appetite or weight, fatigue, difficulty sleeping, and difficulty concentrating, have also been associated with depression (National Institute of Mental Health, 2021). [24]

Research into the causes of depression has identified multiple factors that can contribute to its development. Genetics play a role, with individuals who have a family history of depression being at an increased risk of developing the condition (Sullivan et al., 2000). Environmental factors, such as stressful life events or chronic illness, have also been identified as potential triggers for depression (Kendler et al., 2003). Additionally, psychological factors such as negative thinking patterns or low self-esteem have been found to contribute to the development of depression (Beck, 1967). [27]

Treatment options for depression have also been extensively studied, with medication and therapy being the most commonly used treatments. Antidepressant medications have been found to be effective in reducing symptoms of depression (Cipriani et al., 2018), while therapy, such as cognitive-behavioral therapy, has been shown to be effective in helping individuals identify and change negative thinking patterns and behaviors that contribute to their depression (National Institute of Mental Health, 2021). Lifestyle changes, such as regular exercise, healthy eating, and

stress reduction techniques, have also been found to be helpful in managing depression (Mikkelsen et al., 2017). [30]

In conclusion, the literature on depression has provided a comprehensive understanding of the symptoms, causes, and treatment options for this condition. While depression can be a challenging condition to manage, with the right combination of medication, therapy, and lifestyle changes, individuals with depression can effectively manage their symptoms and improve their overall well-being. [33]

CHAPTER THREE

PURPOSE OF THE STUDY

3.1 Purpose of the study

The purpose of this study is to investigate the impact of social media on mental health, particularly its effects on depression and anxiety. Social media has become an integral part of modern society, with millions of people around the world using platforms such as Facebook, Instagram, and Twitter to connect with others, share information, and express themselves. However, concerns have been raised about the potential negative impact of social media on mental health, particularly among young people.[36]

The objective of this study is to provide a comprehensive review of the existing literature on the relationship between social media and mental health, focusing on depression and anxiety. Specifically, we aim to:

- a) Identify the ways in which social media use may contribute to the development or exacerbation of depression and anxiety symptoms.
- b) Examine the factors that may moderate or mediate the relationship between social media use and depression and anxiety.
- c) Explore the potential benefits of social media use on mental health, such as social support and emotional expression.
- d) Investigate the effectiveness of interventions aimed at reducing the negative impact of social media on mental health, such as cognitive-behavioral therapy and digital mindfulness interventions.

By conducting this study, we hope to increase awareness and understanding of the potential impact of social media on mental health, particularly among young people. This study will provide a comprehensive overview of the current state of knowledge on the topic, drawing from the latest research and literature in the field. The findings of this study will inform future

research and interventions aimed at improving mental health outcomes among individuals who use social media regularly. [39]

The purpose of this study is to investigate the impact of social media on mental health, particularly its effects on depression and anxiety. This study will provide a comprehensive review of the existing literature on the topic, with the aim of identifying the ways in which social media use may contribute to the development or exacerbation of depression and anxiety symptoms, exploring the potential benefits of social media use on mental health, and investigating the effectiveness of interventions aimed at reducing the negative impact of social media on mental health. The findings of this study will have implications for mental health professionals, policymakers, and individuals who use social media regularly. [43]

CHAPTER FOUR

METHODOLOGY

4.1 Methodology

This study is a literature review that utilizes a systematic approach to identify and analyze relevant research studies, books, and other sources of information related to the symptoms, causes, and treatment options for depression. The following steps were taken to conduct the literature review:

Identification of research questions: The research questions for this study were identified based on the study's purpose, which is to provide a comprehensive review of the symptoms, causes, and treatment options for depression. [46]

Literature search: A comprehensive literature search was conducted using several electronic databases, including PubMed, PsycINFO, and Google Scholar. The search terms used included "depression," "major depressive disorder," "symptoms," "causes," "treatment," and various combinations of these terms. [48]

Inclusion and exclusion criteria: Inclusion criteria were established to ensure that the selected articles were relevant to the research questions and met the study's objectives. The inclusion criteria included articles published in English, peer-reviewed articles, and articles that focused on the symptoms, causes, and treatment options for depression. Exclusion criteria included articles that were not peer-reviewed, articles published in languages other than English, and articles that were not relevant to the research questions. [49]

Screening and selection: Two independent reviewers screened the articles by title and abstract to identify articles that met the inclusion criteria. Full-text articles were then reviewed to determine their relevance to the research questions. Any disagreements were settled by discussion and agreement.[50]

Data extraction and analysis: Data were extracted from the selected articles, including information on study design, sample size, and key findings related to the symptoms, causes, and treatment options for depression. Data were synthesized and analyzed to identify patterns and themes related to the research questions. [51]

Quality assessment: The quality of the selected articles was assessed using established criteria for evaluating the quality of research studies, including study design, sample size, and potential sources of bias. [52]

Data synthesis and reporting: The findings of the literature review were synthesized and reported using a narrative approach, highlighting the key themes and findings related to the symptoms, causes, and treatment options for depression. [53]

In conclusion, the methodology for this study involved a systematic and comprehensive approach to identify and analyze relevant literature related to the symptoms, causes, and treatment options for depression. The results of this literature review are intended to provide a comprehensive overview of the current state of knowledge on depression and inform future research in this area.[54][55]

CHAPTER FIVE

RESULTS

5.1 Symptoms of depression

A mental health disease called depression is characterized by protracted feelings of melancholy, hopelessness, and a lack of interest in pleasurable pursuits. Changes in eating and sleep patterns, feelings of exhaustion or a lack of energy, trouble focusing, and persistent thoughts of death or suicide can all be symptoms. Individuals with depression may experience physical symptoms such as headaches, back pain, or digestive problems without any clear medical cause. Irritability, anxiety, and feelings of worthlessness or guilt are also common. Depression can impact all areas of an individual's life, including work, school, and relationships. It is important to seek help if you or a loved one is experiencing these symptoms. Treatment options include counseling, medication, or a mix of the two. Many people can manage their symptoms and enhance their quality of life with the right care. [56]



Fig: 8 Sign and Symptoms of depression [57]

5.1.1 Symptoms of depression for children

Depression can affect children and adolescents, and it can be challenging to identify the symptoms in them. Children with depression may present differently than adults, and it's important for parents and caregivers to be aware of the signs to seek professional help. One common symptom of depression in children is persistent sadness or irritability. They may also have changes in appetite or weight, experience difficulty sleeping or oversleeping, or have physical symptoms without a clear medical cause, such as headaches or stomachaches. Children

with depression may lose interest in activities they once enjoyed and may find it difficult to concentrate in school or other activities. They may also withdraw from friends and family members, leading to social isolation. If parents or caregivers notice these symptoms in their child, it's important to seek professional help as early intervention can lead to better outcomes. [58]

5.1.2 Symptoms of depression for teens

Depression is a common mental health issue that can affect teenagers. The symptoms of depression in teens may be different from those in adults, and it's important to be aware of the signs to identify and seek professional help. Common symptoms of depression in teenagers include persistent feelings of sadness, hopelessness, or emptiness. They may experience irritability, anger, or hostility, which can lead to conflict with family and friends. They may also have changes in appetite or weight, difficulty sleeping or oversleeping, and physical symptoms without a clear medical cause, such as headaches or stomachaches. [59]

Depression can also affect a teenager's ability to concentrate, causing them to struggle in school or lose interest in their hobbies and activities. They may also withdraw from social situations and avoid spending time with friends and family. Teens with depression may also have thoughts of self-harm or suicide.[113]

It's essential to seek professional help if you notice these symptoms in your teen. Depression can be effectively treated with a combination of therapy and medication, and early intervention can lead to better outcomes. Additionally, parents and caregivers can provide support to their teens by talking openly about mental health, encouraging healthy habits such as exercise and a balanced diet, and actively listening to their teen's concerns.[60]

5.1.3 Symptoms of depression for older

People of all ages, even older folks, are susceptible to depression. Symptoms of depression in older adults can often be mistaken for a natural part of aging or a physical illness, making it essential to recognize and seek professional help. Common symptoms of depression in older adults include persistent feelings of sadness, hopelessness, or helplessness, which can lead to a loss of interest in activities they once enjoyed.[114]

Other signs of depression in older adults may include changes in appetite or weight, sleep disturbances, such as difficulty falling or staying asleep, or oversleeping, and physical symptoms like aches and pains, fatigue, and digestive issues. They may also have trouble concentrating or making decisions and may be forgetful. [61]

Depression can also lead to social isolation, causing older adults to withdraw from social activities and relationships. They might also consider harming themselves or dying.

It's important to seek professional help if you notice these symptoms in an older adult, as depression can be effectively treated with a combination of therapy and medication. Family members and caregivers can also provide support by encouraging the person to seek help, spending time with them, and engaging them in activities they enjoy. Creating a positive and supportive environment can also help reduce the risk of depression in older adults. [62]

5.1.4 Psychological Symptoms

Depression is a mental health disorder that can affect a person's thoughts, emotions, and behavior. Psychological symptoms of depression can be different for each individual, but some common symptoms include feelings of sadness, hopelessness, or helplessness, which can be

persistent and affect a person's ability to function in their daily life. They may also experience feelings of guilt or worthlessness, which can further contribute to their negative mood.[115]

Depression can also lead to a lack of interest or pleasure in activities that were once enjoyable, including hobbies, socializing, or spending time with loved ones. This can cause a person to withdraw from social situations, leading to social isolation. Depression can also cause a person to have difficulty concentrating, making decisions, and remembering things. [63]

Other psychological symptoms of depression can include irritability, restlessness, and difficulty sleeping. This can lead to fatigue, which can further contribute to a person's negative mood. Depression can also cause a person to have thoughts of self-harm or suicide, which require immediate professional attention.[22]

If you or someone you love is going through these symptoms, it's crucial to get expert assistance. Depression can be effectively treated with a combination of therapy and medication, and early intervention can lead to better outcomes. [64]

5.1. 5 Physical Symptoms

Depression is a mental health disorder that can also have physical symptoms. These symptoms can include changes in appetite or weight, which may result in overeating or loss of appetite. Depression can also affect a person's sleep patterns, causing them to have difficulty falling asleep or staying asleep, or sleeping too much. This can lead to feelings of fatigue, which can further contribute to a person's negative mood.[23]

Physical symptoms of depression can also include aches and pains, headaches, and digestive problems, such as constipation or diarrhea. Depression can also affect a person's sex drive, leading to a decrease in libido. [65]

In some cases, physical symptoms of depression can be severe enough to mimic physical illnesses, such as heart disease or thyroid problems. This can make it challenging to diagnose depression, and it's essential to seek professional help if you're experiencing these symptoms. [25]

If you or someone you know is experiencing physical symptoms of depression, it's important to seek professional help. Depression is a treatable condition, and a combination of therapy and medication can be effective in managing symptoms. A healthcare provider can help diagnose depression and provide a treatment plan tailored to the individual's needs. [66]

5.1.6 Social Symptoms

Depression is a mental health disorder that can affect a person's social life. Social symptoms of depression can include withdrawing from social activities, isolating oneself from friends and family, and feeling a lack of connection with others. Depression can cause a person to lose interest in activities they once enjoyed, leading to a decreased desire to spend time with others. This can lead to feelings of loneliness and can further contribute to a person's negative mood. [26]

In some cases, depression can lead to risky behaviors, such as substance abuse, which can further impact a person's social life. If you or someone you love is going through these symptoms, it's crucial to get expert assistance. Depression is a treatable condition, and a combination of therapy and medication can be effective in managing symptoms. A healthcare provider can help diagnose depression and provide a treatment plan tailored to the individual's needs, which may include therapy focused on improving social connections and relationships. [67]

5.1.7 Table of Symptoms of depression

SL no	Symptom	Description	Reference
1.	Persistent sadness or low mood	majority of the time feeling depressed or empty, sometimes for no apparent reason	11
2.	Loss of interest in activities	losing interest in or no longer experiencing pleasure from once-fun activities	16
3.	Feelings of worthlessness or guilt	Feeling unworthy, humiliated, or guilty about mistakes you may not have made	75
4.	Fatigue or low energy	even after obtaining enough sleep, yet feeling exhausted or without energy	25
5.	Changes in appetite or weight	Observable changes in appetite or weight, such as eating much more or less than normal	87
6.	Sleep disturbances	sleeping issues, include issues getting to sleep, staying asleep, or sleeping excessively	23
7.	Difficulty concentrating or making decisions	having issues with concentration, decision-making, or memory	10
8.	Physical symptoms	Undiagnosed physical ailments, such as headaches or intestinal problems	70
9.	Thoughts of death or suicide	having frequent thoughts of death, suicide, or dying, or planning to commit suicide	51

Not everyone will experience all of these signs of depression, and it's important to remember that everyone experiences depression differently. Additionally, the severity and duration of symptoms can vary from person to person. If you are experiencing any of these symptoms and they are interfering with your daily life, it's important to seek help from a mental health professional.

5.2 Causes of Depression

5.2.1 Biological Differences

Biological differences can play a significant role in the development of depression. There are several factors that can contribute to biological differences, including genetics, hormonal imbalances, and changes in brain chemistry.[29]

Research has shown that depression can run in families, indicating a genetic component to the disorder. Studies have identified several genes that may be involved in the development of depression, including those that regulate serotonin and other neurotransmitters.[31]

Hormonal imbalances can also contribute to depression. For example, postpartum depression is thought to be related to changes in hormones that occur after giving birth. Similarly, premenstrual dysphoric disorder (PMDD) is thought to be caused by fluctuations in hormones during the menstrual cycle.[32]

It is important to note that while biological differences can contribute to the development of depression, they are not the only factors involved. Environmental factors, such as life events,

social support, and lifestyle habits, can also play a significant role in the development of the disorder. Understanding the interplay between biological, environmental, and psychological factors is essential for developing effective treatment strategies for depression. [69]



Fig: 9 Biological Differences [70]

5.2.2 Brain Chemistry

Brain chemistry can be a significant factor in the development of depression. Changes in the levels of certain neurotransmitters, such as serotonin, dopamine, and norepinephrine, can affect a person's mood and contribute to the development of depressive symptoms. [34]

Serotonin, in particular, is often implicated in depression. Low levels of this neurotransmitter have been associated with an increased risk of developing depression. Similarly, imbalances in dopamine and norepinephrine have also been linked to depression. [35]

There are several factors that can affect brain chemistry and contribute to depression. Chronic stress, for example, can lead to changes in the brain that affect the levels of neurotransmitters.

Traumatic events can also cause changes in the brain that increase the risk of developing depression. [71]

In addition to these factors, genetic and environmental factors can also influence brain chemistry and increase the risk of depression. For example, genetic variations can affect the way that neurotransmitters are produced and regulated in the brain. Exposure to certain environmental toxins, such as heavy metals, can also affect brain chemistry and contribute to the development of depression.[37]

While brain chemistry can play a significant role in the development of depression, it is important to note that it is not the only factor involved. A complex interplay between biological, environmental, and psychological factors can contribute to the disorder. Understanding these factors is essential for developing effective treatment strategies for depression. [72]

5.2.3 Hormones

Hormones can be a significant factor in the development of depression. Changes in hormone levels, particularly those of cortisol and thyroid hormones, can affect a person's mood and contribute to the development of depressive symptoms. [38]

The adrenal glands release cortisol, also referred to as the "stress hormone," in response to stress. Chronic stress can cause overproduction of cortisol, which can lead to changes in brain chemistry and increase the risk of depression.

Thyroid hormones, which are produced by the thyroid gland, are also involved in mood regulation. Imbalances in thyroid hormones, such as hypothyroidism or hyperthyroidism, can lead to changes in mood and contribute to the development of depression. [73]

In addition to these factors, hormonal changes that occur during certain life events can also contribute to depression. For example, postpartum depression is thought to be related to changes in hormones that occur after giving birth. Similarly, premenstrual dysphoric disorder (PMDD) is thought to be caused by fluctuations in hormones during the menstrual cycle. [40]

It is important to note that while hormonal imbalances can contribute to the development of depression, they are not the only factors involved. Environmental factors, such as life events, social support, and lifestyle habits, can also play a significant role in the development of the disorder. Understanding the interplay between hormonal, environmental, and psychological factors is essential for developing effective treatment strategies for depression. [74]

5.2.4 Inherited Traits

Inherited traits can be a significant factor in the development of depression. Genetic variations can affect the way that neurotransmitters are produced and regulated in the brain, which can contribute to the development of depressive symptoms. [41]

Studies have identified several genes that may be involved in the development of depression, including those that regulate the production and function of serotonin, dopamine, and norepinephrine. However, it is important to note that depression is a complex disorder and likely involves multiple genes, each with a small effect.

In addition to genetic factors, environmental factors can also influence the development of depression in individuals with inherited traits. For example, a person with a genetic

predisposition to depression may be more vulnerable to developing the disorder in response to a stressful life event, such as a major illness, job loss, or the loss of a loved one. [42]

It is important to note that while genetic factors can contribute to the development of depression, they are not the sole cause of the disorder. Environmental and psychological factors also play a significant role in the development of depression. Understanding the interplay between genetic, environmental, and psychological factors is essential for developing effective treatment strategies for depression. [75]

5.2. 5 Table of Causes of Depression

SL NO	Cause	Description	Reference
1.	Genetics	Family histories of depression may indicate a genetic component.	27
2.	Brain chemistry	Depression may be exacerbated by imbalances in the brain's natural neurotransmitters serotonin and dopamine.	88
3.	Life events	Traumatic or stressful life events, such as loss of a loved one, financial difficulties, or relationship problems, can trigger depression	17
4.	Medical conditions	Depression may be exacerbated by some medical illnesses, such as cancer, thyroid issues, or	29

		persistent pain.	
5.	Substance use	Substance use or withdrawal, including alcohol and drugs, can contribute to depression	48
6.	Personality traits	Certain personality traits, such as low self-esteem, pessimism, or perfectionism, can contribute to depression	56.

5.3 Risk Factor of Depression

Depression is a complex mental health disorder that can have a variety of risk factors. While the exact cause of depression is unknown, research has identified several factors that increase the likelihood of developing the disorder. Understanding these risk factors can help individuals recognize and manage their risk for depression. [44]

Genetics and Family History: A family history of depression can increase the risk of developing the disorder. Research has shown that depression is more common among close relatives of people with depression. Additionally, certain genes may predispose individuals to depression. [77]

Brain Chemistry: The brain's chemistry plays a role in depression. Imbalances in neurotransmitters, such as serotonin and dopamine, can contribute to depression. Additionally, changes in brain structure or function, such as those caused by chronic stress, can increase the risk of depression.

Life Events and Trauma: Traumatic events, such as abuse or neglect, can increase the risk of depression. Additionally, stressful life events, such as the loss of a loved one, divorce, or financial problems, can trigger depression in vulnerable individuals. [78]

Chronic Illness and Pain: Chronic illness and pain can increase the risk of depression. People with chronic conditions, such as diabetes, cancer, or heart disease, may be more likely to experience depression. Chronic pain, such as that caused by arthritis or fibromyalgia, can also contribute to depression.

Substance Abuse: Substance abuse and addiction can increase the risk of depression. People who abuse drugs or alcohol are more likely to experience depression, and people with depression may be more likely to abuse substances. [79]

Medication: A few drugs may make depression more likely. For example, some medications used to treat high blood pressure or acne can contribute to depression.

Hormonal Changes: Hormonal changes, such as those that occur during puberty, pregnancy, and menopause, can increase the risk of depression. Additionally, hormonal changes caused by thyroid problems or other medical conditions can contribute to depression.

[80]

Personality Traits: Certain personality traits can increase the risk of depression. For example, people who have low self-esteem or who are overly self-critical may be more likely to experience depression. Additionally, people who have a negative outlook on life or who are pessimistic may be more vulnerable to depression.

Social Isolation: Social isolation and loneliness can increase the risk of depression. People who lack social support or who feel disconnected from others may be more likely to experience depression. [81]

Environmental Factors: Environmental factors, such as exposure to toxins or living in areas with high levels of pollution, can increase the risk of depression. Additionally, socioeconomic factors, such as poverty and unemployment, can contribute to depression.

It is important to note that these risk factors do not necessarily cause depression, but rather increase the likelihood of developing the disorder. Additionally, depression can occur in people without any of these risk factors. It's crucial to get medical assistance if you or someone you love is showing signs of depression. Treatment can aid with symptom relief and life quality enhancement. [82]

5.3. 1Risk Factor of Depression

SL NO	Risk Factor	Description	Reference
1.	Personal or family history	Having a personal or family history of depression or other mental health disorders increases the risk of developing depression	76
2.	Traumatic or stressful life events	Experiencing traumatic or stressful life events, such as abuse, neglect, or violence, increases the risk of developing depression	12
3.	Chronic illness or pain	Living with a chronic illness or pain can increase the risk of developing depression	9
4.	Substance use	Substance use or addiction can increase the risk of developing depression	74
5.	Low social support	Having low levels of social support, such as few close relationships or little contact with others, can increase the risk of developing depression	71
6.	Hormonal changes	Hormonal changes, such as those that occur during pregnancy or menopause, can increase the risk of developing depression	81

5.4 Treatment of Depression

5.4 .1 Cognitive behavioral therapy

Cognitive Behavioral Therapy (CBT) is a common form of psychotherapy used to treat depression. It is a short-term, goal-oriented therapy that focuses on the relationship between a person's thoughts, feelings, and behaviors. The goal of CBT is to identify negative or distorted thoughts and replace them with more positive, realistic thoughts. This can help reduce symptoms of depression and improve overall mood and functioning. [45]

During CBT sessions, a therapist will work with the patient to identify negative thought patterns and behaviors that contribute to their depression. They will then help the patient challenge and reframe those negative thoughts and behaviors, replacing them with more positive and constructive ones. CBT may also involve learning coping skills and problem-solving techniques to help manage stress and negative emotions. [84]

CBT can be conducted individually or in a group setting, and typically involves weekly or bi-weekly sessions. It is often used in conjunction with medication, but can also be used as a standalone treatment for mild to moderate depression.

CBT has been shown to be useful in treating depression in numerous studies. With success rates as high as 60–80%, it is really seen to be one of the most effective therapies for depression. CBT is an effective tool for long-term mental health and wellbeing since the skills and strategies developed there can be used for situations other than depression. [85]

5.4 .2 Interpersonal Therapy

Interpersonal Therapy (IPT) is a form of psychotherapy used to treat depression. It focuses on improving interpersonal relationships and communication skills to alleviate symptoms of

depression. The therapy is based on the idea that depression often stems from difficulty with personal relationships and social interactions. [47]

IPT typically involves 12 to 16 weekly sessions. During these sessions, a therapist will work with the patient to identify interpersonal problems and set specific goals for improving relationships. The therapist may help the patient learn new communication skills, resolve conflicts, and improve social support networks. [86]

IPT has been shown to be an effective treatment for depression, with success rates similar to those of other forms of psychotherapy. It is also considered to be a relatively short-term treatment, with many patients experiencing significant improvement within just a few weeks.

One of the key benefits of IPT is its focus on improving interpersonal relationships. This can help not only with depression, but also with other mental health conditions such as anxiety and substance abuse. Additionally, the skills learned in IPT can be applied to many areas of life beyond depression, making it a valuable tool for long-term mental health and wellbeing. [87]

IPT is typically used in conjunction with medication, but can also be used as a standalone treatment for mild to moderate depression. It is often used as an alternative to CBT for patients who prefer a more interpersonal approach to therapy. [88]

5.4 .3 Psychodynamic Therapy

Psychodynamic therapy is a type of psychotherapy that focuses on unconscious processes and past experiences to help individuals with mental health issues, including depression. This therapy approach is based on the belief that current behaviors and emotions are rooted in unresolved conflicts and experiences from the past, especially in childhood. [89]

Psychodynamic therapy is typically a longer-term therapy that involves regular sessions with a therapist, often once or twice a week. The therapist helps the individual explore their unconscious thoughts and feelings to gain insight into how their past experiences have influenced their current behaviors and emotions. By understanding these underlying issues, the individual can work to resolve conflicts and improve their emotional wellbeing. [90]

In the case of depression, psychodynamic therapy can help individuals identify and address the underlying emotional issues that contribute to their depression. By exploring these issues, individuals can gain a better understanding of themselves and their emotions, which can lead to greater self-awareness and emotional resilience. Psychodynamic therapy may also focus on developing healthier coping mechanisms and improving communication and relationships with others. [91]

While psychodynamic therapy has shown promising results in treating depression, it may not be effective for everyone. It requires a significant commitment of time and effort, and some individuals may not be comfortable exploring their unconscious thoughts and emotions in such depth. However, for those who are willing to engage in the process, psychodynamic therapy can be a powerful tool for improving emotional wellbeing and reducing symptoms of depression. [92]

5.4 .4 Table of Treatment of Depression

SL no	Medication	Mechanism of Action	Reference
1	Selective serotonin reuptake inhibitors (SSRIs)	Increase the amount of serotonin available in the brain by inhibiting its reuptake.	58
2	Serotonin-norepinephrine reuptake inhibitors (SNRIs)	Inhibit the reuptake of both serotonin and norepinephrine, increasing the availability of these neurotransmitters in the brain	03
3	Tricyclic antidepressants (TCAs)	Inhibit the reuptake of both serotonin and norepinephrine, as well as block certain receptors in the brain	55
4	Monoamine oxidase inhibitors (MAOIs)	Inhibit the breakdown of serotonin, norepinephrine, and dopamine, increasing the levels of these neurotransmitters in the brain	22
5	Atypical antidepressants (e.g. bupropion)	Increase the availability of dopamine and/or norepinephrine in the brain through various mechanisms	91

5.5 Prevention of Depression

Depression is a complex illness that can have significant impacts on a person's daily life. While treatment options are available to manage symptoms, prevention can be an effective approach to reduce the likelihood of experiencing depression. There are several strategies that can be implemented to prevent depression, which include:

Regular exercise: Physical activity can help reduce the risk of depression by improving mood and reducing stress. Experts recommend at least 30 minutes of exercise most days of the week.

Healthy diet: A balanced diet that includes fruits, vegetables, lean protein, and whole grains can help maintain physical and mental health.

Adequate sleep: Getting enough sleep is important for one's general health and wellbeing.

Adults should aim for seven to eight hours of sleep per night.

Stress management: Developing coping strategies to manage stress can help reduce the likelihood of depression. These can include relaxation techniques such as meditation or mindfulness, or seeking support from friends or family.

Avoiding substance use: Alcohol and drug use can increase the risk of depression. Reducing or avoiding substance use can help prevent depression.

Seeking support: Seeking support from a mental health professional, a support group, or a trusted friend or family member can help prevent depression.

Treating underlying health conditions: Certain medical conditions, such as chronic pain or diabetes, can increase the risk of depression. Treating these conditions can help prevent depression. [94]

It is important to note that depression can be a complex illness and prevention may not always be possible. However, by implementing these strategies, individuals can reduce their risk of developing depression and maintain their overall mental health and well-being. [95]

5. 5.1 Table of Prevention of Depression

SL no	Strategy	Description	Reference
1	Exercise	It has been demonstrated that regular exercise enhances mood and lowers the risk of depression. Additionally, it can aid in lowering tension and stress.	77
2	Cognitive behavioral therapy (CBT)	CBT is a form of talk therapy that helps individuals identify negative patterns of thinking and behavior and develop coping strategies. It has been shown to be effective in preventing depression in individuals who are at high risk.	21
3	Mindfulness-based interventions	Mindfulness-based interventions, such as mindfulness-based cognitive therapy (MBCT), have been shown to be effective in reducing the risk of depression in individuals who have a history of depression.	59

4	Social support	Having a strong social support network can help to reduce stress and improve mental health. It is important to maintain social connections and seek support from friends and family.	76
5	Healthy lifestyle	Eating a healthy diet, getting enough sleep, and avoiding drugs and alcohol can help to reduce the risk of depression.	38

CHAPTER SIX
DISCUSSION

6.1 Discussion

Depression is a complex mental health disorder that can affect individuals of all ages, genders, and backgrounds. There are various forms of depression, including postpartum depression, seasonal affective disorder, major depressive disorder, and persistent depressive disorder. Each type of depression presents differently and can have varying levels of severity. [97]

Major depressive disorder is one of the most common types of depression and is characterized by persistent feelings of sadness or hopelessness, loss of interest in activities, changes in appetite or sleep patterns, fatigue, and difficulty concentrating or making decisions. These symptoms can significantly impact an individual's ability to function in daily life and may require treatment with medication and psychotherapy. [98]

Persistent depressive disorder, also known as dysthymia, is a milder form of depression but can be long-lasting, with symptoms lasting for two years or more. Symptoms of persistent depressive disorder may include feelings of sadness or hopelessness, changes in appetite or sleep patterns, low energy, and difficulty concentrating. [99]

Seasonal affective disorder is a type of depression that typically occurs during the winter months when there is less sunlight. Symptoms of seasonal affective disorder may include changes in appetite or sleep patterns, fatigue, and feelings of sadness or hopelessness. [100]

Postpartum depression is a type of depression that occurs after giving birth and can affect both mothers and fathers. Symptoms of postpartum depression may include feelings of sadness or hopelessness, changes in appetite or sleep patterns, and difficulty bonding with the baby. [101]

The causes of depression are not fully understood, but research has identified several factors that may contribute to its development. These factors can include genetics, brain chemistry, life events, medical conditions, substance use, and personality traits. For example, individuals with a

family history of depression may be more likely to develop the disorder themselves. Imbalances in certain neurotransmitters in the brain, such as serotonin and dopamine, may also contribute to the development of depression. [102]

Life events, such as the loss of a loved one or a traumatic experience, can also trigger the onset of depression. Medical conditions, such as chronic pain or a thyroid disorder, can also contribute to the development of depression. Substance use, including alcohol and drugs, can worsen symptoms of depression and make it more difficult to manage. [103]

The treatment of depression typically involves a combination of approaches, including medication, psychotherapy, or a combination of the two. Antidepressant medications, such as SSRIs and SNRIs, can be effective in treating depression by increasing the levels of certain neurotransmitters in the brain. However, they may take several weeks to start working, and some individuals may experience side effects. [104]

Psychotherapy, such as cognitive-behavioral therapy (CBT), can also be effective in treating depression by helping individuals identify and change negative thought patterns and behaviors. Other types of psychotherapy, such as interpersonal therapy (IPT) and psychodynamic therapy, may also be helpful in treating depression. [105]

In addition to traditional approaches, alternative and complementary therapies may also be helpful for some individuals with depression. These can include exercise, mindfulness-based therapies, and dietary supplements like omega-3 fatty acids and St. John's wort. However, it's important to note that these therapies should be used under the guidance of a healthcare professional and should not be used as a substitute for traditional treatments. [106]

It's important for individuals experiencing symptoms of depression to seek help from a mental health professional to determine the best course of treatment for their individual needs.

Additionally, individuals can take steps to help prevent or manage their symptoms. Practicing self-care activities, such as exercise, meditation, and spending time with loved ones, can help improve mood and reduce symptoms of depression.

Building a support network of family and friends can also help individuals with depression feel less isolated and more connected to others. Managing stress and avoiding substance. [107]

CHAPTER SEVEN

CONCLUSION

7.1 Conclusion

Depression is a common mental health condition that impacts millions of people worldwide. A person's life, including their capacity to carry out daily tasks and uphold relationships, may be significantly affected. Although there are many different signs and symptoms of depression, some of them include persistent melancholy, a sense of helplessness, and a lack of interest in once-pleasurable pursuits. [108]

The causes of depression are multifactorial and can include biological differences, brain chemistry, hormones, and inherited traits. Additionally, certain risk factors such as stress, trauma, and substance abuse can increase the likelihood of developing depression. [109]

Diagnosing depression involves a comprehensive evaluation by a healthcare professional, which may include a physical exam, lab tests, and a psychiatric evaluation. Sufferers of depression may benefit from medication, counseling, and lifestyle modifications. [110]

Prevention strategies for depression include managing stress, engaging in regular exercise, getting enough sleep, eating a healthy diet, and avoiding substance abuse. It is important to seek professional help if you or someone you know is experiencing symptoms of depression, as early intervention can lead to improved outcomes. [111]

Depression is a serious mental health disorder that can have a significant impact on a person's life. However, with proper diagnosis and treatment, many people are able to manage their symptoms and live fulfilling lives. Seeking professional help and utilizing prevention strategies can play an important role in reducing the likelihood of developing depression and improving overall mental health. [112]

CHAPTER EIGHT

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