

A Holistic Approach to Preventing and Treating Depression

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ABSTRACT:

This article provides an overview on a holistic approach to prevent and treat depression based on recently published articles and books. In addition to traditional prescription for treatment, a holistic approach addresses patient's total need, which involves psychological, physical, social and environmental aspects. The goal of this article is to educate patient, their immediate family and friends, and healthcare professionals, and to promote public awareness. Depression is a major health problem worldwide. Human beings need to have good awareness of causes leading to depression and adopt healthy lifestyle to reduce the risks. Prevention, early detection and intervention are crucial, particularly with support from family and friends. In addition to antidepressants, there are many complementary and self-help treatments available, such as herbs, exercise, dietary supplements, spiritual enrichment, massage, acupuncture, and light therapies. The different preventive interventions and treatment therapies are discussed in this article. Most depression symptoms can be cured, with the help of healthcare professionals, family and friends.

Key words: Depression, Prevention, Treatment, Awareness, Support, Antidepressant, Herbs, Diet, Lifestyle

INTRODUCTION

Depression has emerged as the 4th leading cause of health problem worldwide affecting approximately 121 million people, which will climb to the 2nd place in the year 2020 [1, 2]. Depression affects people in all ages, races, cultures and social classes, it makes a person feel sad, helpless, hopeless, as well as low self-esteem and lack of interest.

Depression is a whole-body illness, affecting not only moods, thoughts, and behavior, but also body function and life habits. It carries high personal, social, and financial costs [2]. This requires a holistic approach to prevent and cure the disease. A holistic approach takes into consideration of all aspects of patient's needs, psychological, physical, social and environmental, as a whole in order to achieve complete healing.

Most people, especially men, with depression are not aware of the disease and never seek help. Human beings need to have good awareness of causes leading to depression and adopt healthy lifestyle to cope with different types of stress. Prevention, early detection and intervention are critical.

There are many options to treat depression, such as antidepressants, psychotherapy, support therapy, light therapy, etc. In addition, there are many complementary treatments available, including herbs, dietary supplements, exercise, massage, acupuncture, etc. However, the more important thing is up to patients to be aware of and cope with the disease by adapting balanced diet and healthy life style. The different preventive interventions and treatment

therapies are evaluated for their effectiveness and side effects. The goal of this article is to educate patients, their family and friends, healthcare professionals, and to promote public awareness.

Depression may start from childhood, especially for children with family histories and family problems. It may develop from negative thinking, fear of failure, anxiety, or a traumatic event.

The symptoms of depressive feelings vary in frequency, duration, and severity. Some of the signs and symptoms include: anger, irritability, feeling of emptiness, sadness, anxiety, changes in sleep patterns, loss of interest in daily activities, change of appetite, fatigue, fear of failure, problems in concentration, fear of failure, repetition in speech, frequent thoughts of suicide or death, compulsive-obsessive disorders, inability to control spending or eating, feeling of worthless or ignored, etc.

Table 1 summarized the different levels of depression and their typical symptoms and causes. The types of depression include: major depression (or clinical depression), dysthymia (or chronic depression), seasonal affective disorder (SAD), postpartum disorder, bipolar disorder (or manic depression), and atypical depression [3-5].

Severe depression not only disables the patient to carry out duties at work or at home, but also has social impact, since it could result in problems such as disability, suicide, substance abuse, and isolation.

Table 1. Main Types of Depression

Depression Type	Level	Symptoms	Cause	Treatment
Major Depression (Clinical Depression)	Severe, disabling, may have social impact	-Overwhelming feelings of sadness and grief -Cry for no apparent reason -Loss of interest or pleasure in activities that are normally pleasurable -Feeling worthlessness or guilt -Physical ailments: insomnia, headache, backache, appetite change, fatigue, difficulty concentrating -Constantly thinking of death and suicide	-Complex disorder, causes are not well understood -Grief or stressful event(s) such as loss of loved ones or loss of job -Interpersonal problems -Physical or emotional abuse -Family history -Medical conditions	-Antidepressant -Psychotherapy -Shock therapy -May need hospitalization
Dysthymia (Chronic Depression)	Mild, not disabling, less severe but chronic, may last longer than 2 years or more	-Feeling tired, restlessness, loneliness -Difficulty in sleeping -Loss of interest in daily activities -Want to be left alone -At increased risk of major depression	-Cause not well known -Serotonin level change -Stressful event(s) or situation(s) -Chronic illness -Medication -Tension in relationship -Work problem(s)	-Self education and self care -Changes of lifestyle, such as exercise, spiritual enrichment -Psychotherapy -Social support -Herbs and other dietary supplements
Seasonal Affective Disorder (SAD)	Mild to severe, recur in certain seasons	-Major depressive disorder symptoms	-Reduced exposure to sunlight due to season change or relocation -Hormonal changes	-Gain more exposure to sunlight -Light therapy -Antidepressants
Postpartum Depression	Mild to severe	-Major depressive disorder symptoms	-Hormonal changes after giving birth	-Antidepressants -Anxiety medicines -Social support -May need hospitalization
Bipolar Depression (or Manic-depressive Disorder)	Moderate, occasionally disabling	-Symptoms include recurring episodes of depression and mania (elation) or hypomania -Signs of mania include markedly increased energy, racing thoughts, and excessive risk taking	-Genetic problems, run in families	-Antidepressants -Mood stabilizers -Lithium -Stimulants
Atypical Depression	Mild, not disabling	-Excessive sleep (hypersomnia) -Excessive eating (hyperphagia) -Sensitive to rejection -Feeling of being paralyzed	-Chemical imbalance in brain -Thyroid problems -Hormonal problems -Family history -Stressful event(s) or situation(s) -Isolation or tension	-Antidepressants (MAOIs and SSRIs, not TCAs) -Hormone treatment -Anxiety medicines

Prepared based on [3-5]

To date, the causes of depression are still not well understood, but it is believed that many causes contribute to depression, which include not only psychological causes, such as negative thinking, despair, and anger, but also physical changes in brain, such as imbalance of neurotransmitters. Other causes leading to depression include family history/heredity, trauma and stress, pessimistic personality, sleep disturbance, physical conditions (such as malnutrition, hormone level, diseases), and other psychological disorders [4]. Gender may be another factor contributing to depression. More women are reported to have depression than in men, with the ratio of roughly two to one [6]. Depression is the main cause of disability in women. One in every eight women experiences an episode of major depression at some time in her life.

PREVENTIVE INTERVENTIONS

While preventing depression from occurring is not always possible, preventive measures, such as self-education, healthy lifestyle (such as ample sleep, balanced diet, exercise, and work-life balance, etc.),

emotion control, social support, and spiritual wellness, may help to reduce the risk factors leading to depression. Prevention refers to the interventions not only before the occurrence of clinically diagnosable symptoms, but also after diagnosis to prevent from recurring or worsening. Recently there are more reports on interventions designed to prevent depression, and different depression prevention programs have been developed since the 1980s [7, 8]. Depending on the target group, the programs are classified into three categories: universal prevention program that targets the whole population; selective prevention program that targets the low risk subgroup; and indicated prevention program that targets the high risk persons but yet to meet the DSM-IV criteria for depression. The intervention methods used by these programs include behavioral, cognitive, and educational methods adapted from cognitive-behavior therapy (CBT), family and social support, spiritual wellness, as well as balanced diet and physical exercise.

CBT is an effective treatment for depression for adults and adolescents, which teaches patients skills to manage stress and emotion. Patients could use the learned skills to cope with stressful events or painful emotions, which helps to prevent depressive symptoms [8]. Emotional support from family and friends are important in preventing depression development [9], especially in times of crisis. However, often early signs are ignored, and patients are reluctant to seek help. Spiritual wellness is reflected in a sense of meaning in life, a transcendence perspective, an intrinsic value, and a sense of belonging to a community of shared value and support, which helps to manage stress/anxiety, improve self-esteem, and increase social interaction, thus helps to prevent depression [10]. Recent studies showed promising evidence that prevention programs help to prevent depression. For example, Jane-LLopis et al. [11] performed a meta analysis on 69 depression prevention programs and concluded that these programs made about 11% improvement in the intervention groups compared with the control groups.

Since depression is also a physiological disorder, prevention should also come from healthy lifestyle, such as balanced diet, ample sleep, and exercise. It is known that balanced diet will help production of neurotransmitters and maintain lipid balance in brain needed for normal brain function [12]. For example, imbalance of omega-6 and omega-3 fatty acids in modern North American and Western European diet is linked to increased depression occurrence [13, 14]. Diet in these countries contains predominately omega-6 fatty acids, compared to other countries such as Japan. Since the two fatty acids have opposing physiological effects, imbalance between them would result in lipid imbalance in brain, which could be a cause for mood disorders. Human body cannot synthesize omega-3 fatty acids, which has to be ingested from food. Therefore, taking omega-3 rich food (such as cold water fish) or supplements (such as fish oil or flaxseed oil) could help depression prevention and treatment.

In addition, like CBT, a number of complementary treatment activities, such as exercise, relaxation, yoga, and massage, can be adapted and used in the first place as preventive measures as well. These activities may help to interrupt dysfunctional thoughts, increase social interaction, thus help to prevent depression. Unfortunately, these measures are often underused, due to lack of awareness and resistance from patients. Often patients with depressive symptoms, such as fatigue, lack of energy, feeling of hopelessness and

isolation, do not have desire for these activities at all [15].

DIAGNOSING DEPRESSION

Depression is diagnosed based on occurrence of at least five of the nine symptoms listed in DSM-IV manual [16] for more than one week (children) to two weeks (adults). Depressive symptoms include depressed mood or feeling, loss of energy/weight, irregular sleep patterns, difficulty in concentrating/deciding, destructive thoughts, loss of interest, social withdrawal, and agitation. There are a number of scales used to evaluate the severity of depression, such as the Hamilton Rating Scale for Depression (HAM-D), Montgomery-Asberg scale, Center for Epidemiologic Studies Depression Scale (CES-D), the Symptom Checklist-20 (SCL-20). While depression should be diagnosed by healthcare professionals, there are a number of self-assessing tools. The examples are Beck Depression Inventory, Zung Self-Rating Depression Scale, Quick Inventory of Depressive Symptomatology (Self-Report) (QIDS-SR), and the Patient Health Questionnaire 9-Item (PHQ-9) Depression Scale. Using the 9 diagnostic criteria for DSM-IV depressive disorders, the PHQ-9 scores [17] help not only to diagnose depression but also to evaluate its severity and to propose treatment actions. Healthcare professionals need to work closely with patients on the diagnosing results to determine intervention measures.

TREATING DEPRESSION

As a traditional prescription, antidepressants are widely used to treat depressive symptoms. The antidepressants are summarized in Table 2. The major categories of antidepressants include monoamine oxidase inhibitors (MAOIs), tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), and serotonin-norepinephrine reuptake inhibitors (SNRIs). Among them, SSRIs are currently used as standard treatment, while MAOIs and TCAs are less commonly used due to severe even fatal side effects and interactions. SNRIs are the newer class of antidepressant with more specific target and less side effect. Augment drugs are sometimes prescribed along with the antidepressants to enhance the treatment. The commonly used augment drugs are summarized in Table 3. Cautions should be taken to determine the dose, duration, sequence of treatment for each patient. It is important to be aware of the interactions between antidepressants and augment drugs. Combining antidepressants showed limited evidence supporting the efficacy on depression treatment [18], but with increased risk of serotonin toxicity [8].

Table 2. Antidepressant Drugs used in Standard Treatment

Category	Name	Rationale	Side Effect
MAOI	Isocarboxazid (Marplan) Moclobemide (Aurorix, Manerix) Phenelzine (Nardil) Selegiline (Eldepryl, Emsam) Tranylcypromine (Parnate)	Inhibits monoamine oxidase in the brain, thus preventing neurotransmitter breakdown	Potentially fatal interactions with other drugs and foods (such as red wine)
TCA	Amitriptyline (Elavil, Endep) Clomipramine (Anafranil) Doxepin (Adapin, Sinequan) Imipramine (Tofranil) Trimipramine (Surmontil) Desipramine (Norpramin) Nortriptyline (Pamelor, Aventyl) Protriptyline (Vivactil)	Blocks the reuptake of norepinephrine and serotonin	Risk of cognitive and sexual dysfunction, withdrawal syndrome on discontinuation. Increased heart rate, drowsiness, constipation, dizziness
SSRI	Citalopram (Celexa) Escitalopram (Lexapro, Cipralex) Fluoxetine (Prozac) Fluvoxamine (Luvox) Paroxetine (Paxil) Sertraline (Zoloft)	Blocks the reuptake of serotonin	Nausea, anxiety, insomnia, headache, agitation, diarrhea, sexual dysfunction
SNRI	Desvenlafaxine (Pristiq) Duloxetine (Cymbalta) Milnacipram (Ixel) Venlafaxine (Effexor)	Blocks the reuptake of both norepinephrine and serotonin	Similar side effects to the SSRIs, may have withdrawal syndrome on discontinuation

MAOI: monoamine oxidase inhibitor; TCA: tricyclic antidepressant; SSRI: selective serotonin reuptake inhibitor; SNRI: serotonin-norepinephrine reuptake inhibitor; Prepared based on [1, 22]

Table 3. Augmenting Agents used in Depression Treatment

Augmenting Agent	Rationale	Evidence
Lithium	Enhance serotonin transmission, influence the hypothalamic-pituitary-adrenocortical neuroendocrine axis	Supported by most evidence for treating bipolar disorder and for augmenting TCA treatment
Triiodothyroxine (T3)	Thyroid diseases are often associated with mood disorders. Thyroid hormones may therefore affect in neurotransmission	Supported by several controlled studies
Pindolol	A non-selective beta blocker and 5-HT _{1A} receptor antagonist, accelerates the effects of serotonergic antidepressants	Extensively tested with mixed results
Psychostimulants (Bupirone, Methylphenidate, Dextroamphetamine)	Affect serotonin and dopamine transmission, thus augment TCAs, MAOIs, SSRIs, and SNRIs	Bupirone is extensively tested for augmenting SSRIs with mixed results
Antipsychotics, Anticonvulsants, Tranquillizers/Sedatives	Stabilize mood, ease anxiety	No controlled studies for use as augmenting agents

Prepared based on [33]

In addition to anti-depressants, there are a number of herbal and alternative therapies, either used independently or as complementary treatment to augment anti-depressant therapy.

These therapies treat depression based on herbs (St. John's Wort), psychosocial treatments (relaxation and CBT), physical activities (exercise and Yoga), dietary supplements (folate, omega-3 fatty acids, and SAME), physical conditions (light therapy, air ionization), as well as oriental medicine techniques (massage, acupuncture, etc.). The rationale, evidence, and side effects of these therapies are summarized in Table 4.

The most widely-used herb in treating mild to moderate depression is St. John's Wort (extract of *Hypericum perforatum*), which is thought to block the

reuptake of serotonin, norepinephrine, and dopamine. Studies showed that St. John's Wort is as effective as antidepressants such as TCAs and SSRIs, but with less side effects [19, 20]. Ulbricht et al. [21] gave a thorough review on the safety profile of this herb, including safety summary, adverse effects, precautions, contraindications, interaction with other drugs.

Significant interactions were found with therapies involved in cytochrome P450 metabolism, such as protease inhibitors and non-nucleoside reverse transcriptase inhibitors used in treating HIV/AIDS patients, cyclosporine used in immunosuppressive therapy, warfarin (blood thinner), digoxin, anticonvulsants, oral contraceptives, SSRIs and related drugs.

Table 4. Alternative and Complementary Treatment for Depression

Therapy	Rationale	Evidence	Side Effect
St. John's Wort (<i>Hypericum perforatum</i>)	Mechanism of action is not fully understood, appears to block reuptake of serotonin, norepinephrine, and dopamine	Supported by most of available evidence	Less side effects than antidepressants, interacts with HIV/AIDS drugs (protease inhibitors or non-nucleoside reverse transcriptase inhibitors), immunosuppressive drugs (cyclosporine), oral contraceptives, blood thinner (warfarin), cardiac drugs (digoxin), headache drugs (triptan), anticonvulsants, and antidepressants (SSRIs) [21]
Cognitive Behavior Therapy (CBT)	Professional therapist teaches patient strategies for controlling negative emotion in daily life	Supported by promising evidence, but need further studies	Effects may have gender difference, may have detrimental effects for certain group of patients [2]
Exercise	Helps to enhance the sense of self-control, discharge frustration and anger, increase social interaction, may increase levels of monoamine neurotransmitters [15, 30]	Supported by promising evidence, further studies are needed.	Risk of mechanical injury
Light Therapy	Used to treat SAD. Reduced sunlight exposure likely to cause a phase delay in the circadian rhythm. Exposure to light produces a phase advance and relieves the depression	Effective for SAD, might be helpful for non-seasonal depression	Headache, eyestrain, nausea [23]
Omega-3 Fatty Acids	Omega-3 fatty acids may change the fluidity and function of membranes of neuron cells and thus affect neurotransmission.	Supported by promising evidence, further studies needed [13, 28]	Gastrointestinal disturbances, nausea [24]
Folate	Folate may facilitate monoamine neurotransmitter synthesis	Supported by promising evidence	Virtually no side effect [25]
SAME	SAME is a methyl group donor in metabolism, which may help neurotransmitter production and receptor function	Promising, but needs further studies	May cause nausea, digestive disturbance, hypomania and mania, may interact with Levodopa
Air Ionization	Negative air ions may help increase serotonin levels in brain.	Supported by promising evidence for SAD	Virtually no side effect [23]
Yoga	Helps to reduce stress and anxiety	Supported by limited evidence	Virtually no side effect [26]
Massage	Massage helps to relax and stabilize mood.	Supported by limited evidence for short term improvement	Risk of mechanical injury and contact dermatitis
Acupuncture	A traditional Chinese medicine treatment that may help the synthesis and release of neurotransmitters.	Insufficient evidence [29]	Risk of mechanical injury and infectious complications [27]
Relaxation	Helps to reduce stress and anxiety	Looks promising	Virtually no side effect
Botulinum Toxin Injection	The cosmetic treatment helps mood improvement [31, 32]	Looks promising, but needs further studies	Risk of side effects associated with botulinum toxin injection

Prepared based mainly on [19, 20]

Exercise have both psychological and physiologic benefits. Psychologically, it helps to enhance the sense of self-control and stay healthy, discharge the feeling of frustration and anger, and increase social interaction. Physiologically, exercise enhances body metabolism and increase neurotransmission. All of these effects helps to improve depressive symptoms. It is suggested that exercise is as effective as antidepressants, which should be used as a preventive measure in the first place, but is often underused [15, 19].

Among the numerous treatment options, qualified healthcare professionals should work closely with patients on deciding the therapies based on clinical experience, related reports, and patient's specific situation in order to obtain the best outcome [6]. The patients should be consulted on the different treatment options, their benefits and risks. The side effects, and even the gender and cultural issues, should be taken into consideration. Finally, as in depression prevention, support from family and friends plays important roles in patients' recovery.

CONCLUSION

Depression has emerged as a major health problem worldwide, which brings significant personal, social,

and financial burden. A holistic approach should be adopted in preventing and treating depression. Though most depression symptoms can be cured, prevention and intervention at early stage are essential to reduce the risk factors of major epidemic, with the help of healthcare professionals, family and friends, and self effort. There are many preventive and treatment options available, however, adopting a healthy lifestyle, develop stress handling techniques, balanced diet, and social harmony and support are important, in addition to antidepressant treatment. Qualified healthcare professionals should work closely with the patients on deciding the therapies based on patient's specific situation in order to obtain the best outcome.

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