



ISSN: 2231-3354
Received on: 04-07-2011
Revised on: 07-07-2011
Accepted on: 11-07-2011

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Prophylactic therapy use to cure patients suffer from depression: a holistic approach for health benefit

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ABSTRACT

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 (Balch, 2006). It 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. It is a whole-body illness, affecting not only moods, thoughts, and behaviour, but also body function and life habits. It carries high personal, social, and financial costs (Gilham et al., 2000). Depression is one of the most common psychological problems, affecting nearly everyone through either personal experience or through depression in a family member. Each year over 17 million American adults experience a period of clinical depression. The cost in human suffering cannot be estimated. Depression can interfere with normal functioning, and frequently causes problems with work, social and family adjustment. It causes pain and suffering not only to those who have a disorder, but also to those who care about them. Serious depression can destroy family life as well as the life of the depressed person.

IMPACT OF DEPRESSION

1. Causes tremendous emotional pain
2. Disrupts the lives of millions of people
3. Adversely affects the lives of families and friends
4. Reduces work productivity and absenteeism.

Bipolar disorder was formerly called manic-depressive disorder. It is a type of depression, and it is characterized by the presence of mood swings, especially "manic highs" that

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often result in high risk, self-damaging behaviour. Most individuals with bipolar disorder have both depressive episodes and hypomanic episodes (Tarman et al., 2005). Depression is a psychological condition that changes how you think and feel, and also affects your social behaviour and sense of physical well-being. We have all felt sad at one time or another, but that is not depression. Sometimes we feel tired from working hard, or discouraged when faced with serious problems. This too, is not depression. These feelings usually pass within a few days or weeks, once we adjust to the stress. But, if these feelings linger, intensify, and begin to interfere with work, school or family responsibilities, it may be depression. Depression can affect anyone. Once identified, most people diagnosed with depression are successfully treated. Unfortunately, depression is not always diagnosed, because many of the symptoms mimic physical illness, such as sleep and appetite disturbances. Recognizing depression is the first step in treating it. Nearly two-thirds of depressed people do not get proper treatment. Major factors are (Kris et al, 2002)

1. The symptoms are not recognized as depression.
2. Depressed people are seen as weak or lazy.
3. Social stigma causes people to avoid needed treatment.
4. The symptoms are so disabling that the people affected cannot reach out for help.
5. Many symptoms are misdiagnosed as physical problems
6. Individual symptoms are treated, rather than the underlying cause.

Clinical depression is a very common psychological problem, and most people never seek proper treatment, or seek treatment but they are misdiagnosed with physical illness. This is extremely unfortunate because, with proper treatment, nearly 80% of those with depression can make significant improvement in their mood and life adjustment. This requires a holistic approach to prevent and cure the disease (Taylor et al., 2004). 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 (Kirkwood et al., 2005). 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 (Balch et al., 2008) (Hyde et al., 2006). 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. 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 (Glaxosmithkline, 2010). 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 (Memoz, 1993). 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.

ANTICIPATORY 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 (Gillman, 2006). 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

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

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 (Naser et al., 2004). Emotional support from family and friends are important in preventing depression development, especially in times of crisis (Westgate, 1996). 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 (Jane et al., 2003). Recent studies showed promising evidence that prevention programs help to prevent depression. For example, author 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 (Chang et al., 2010). 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 (Stoll et al., 1999). 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 (Parker et al., 2006) (Artal et al., 1998). 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, and 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 (American Physiological Association, 2000).

DIAGNOSING DEPRESSION

Depression is diagnosed based on occurrence of at least five of the nine symptoms listed in DSM-IV manual for more than one week (children) to two weeks (adults) (Kroenke et al., 2002). 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 diagnostic criteria for DSM-IV depressive disorders, the PHQ-9 scores help not only to diagnose depression but also to evaluate its severity and to propose treatment actions (Lam et al., 2002). Healthcare professionals need to work closely with patients on the diagnosing results to determine intervention measures.

HOLISTIC APPROACH OF TREATMENT

Traditionally depression has been treated with Cognitive/Behavioral Therapy or other forms of psychotherapy, and if severe, antidepressant medication prescribed by a physician. Today more people are looking onto options for all their health care, and emotional health is no exception. If you or someone you know is suffering from a deep depression with suicidal thoughts and unable to care for daily responsibilities, medical attention needs to be sought immediately. But for more mild forms of depression, or in compliment with other interventions, many alternative treatments have become popular. One of the most publicized complimentary/alternative treatments for depression has been St. John's Wort (*Hypericum perforatum*). Many research studies (including well-conducted studies by Pharmanex laboratories) have suggested that for mild to moderate depression, this traditional herb, may have therapeutic benefit. It is imperative to discuss any herbal remedies or supplements with your physician, as many can have a negative interaction with other prescription medication you may need. Kava Kava, Ginko and SAM-e (for S-adenosylmethionine) have also received recent press. Although SAM-e received initial applause from the scientific community, more recent reassert showed it to be an unstable substance that tends to disintegrate if not properly processed.

Other well known remedies for the "Blues" include exercise to increase endorphins and energy. Exercise also helps people feel better about their bodies and time outdoors can increase the vitamin D. Exposure to nature is also a wonderful way to relax and experience enhanced mood. Moderate exercise also helps the body systems work better to eliminate toxins, waste and excess water; this also can help a person feel better. Exercise is also a wonderful way to relieve physical stress held in the body that may be contributing to depression. Many people report after vigorous exercise they feel more energized and worry less about their problems. Many medications can have a negative side effect of creating depression (even some antidepressants). It is important to ask your doctor if any of the medication you currently take (or combinations of medications) could be increasing depression (Niggemen et al., 2003). Discontinuing or lowering dosage, with

doctor's supervision of depression causing medications can enhance mood, especially in older adults. Alcohol is also a depressant. Eliminating alcohol from the diet can decrease depression and increase healthy sleep patterns. When someone feels depressed the last thing they want to do is get out and try their hand at something they have never done before. But with encouragement, and even someone to go with, the self-concept of learning something new can make a world of difference. Some favorite depression dispelling activities are; painting, drawing, dancing, hiking, music appreciation, poetry writing, cooking, yoga, gardening, fishing, ceramics, needle pointing, and any other activities that inspire self-expression. Another activity that is often healing for those feeling depressed, is group involvement. Once again, it may very difficult for a depressed person who has been isolating for weeks. But being in a group of others who are also struggling (with things it may seem the rest of the world finds easy) can help a person feel less alone and give them more compassion for their own situation. Acupuncture has been researched for effectiveness with mood disorders and there appears to be help for some people. There are acupuncture points on the ear that correspond to mood or "spirit", as the Chinese would say (Logan, 2006). When these specific, scientific points are stimulated with tiny needles, there is a change in the energy of the patient leading to enhance feelings of well being. These techniques are still being researched in the West and individual acupuncturists should be asked about their experience treating mood disorders. Diet changes can make a profound change in the way a person feels. Often a patient is not willing to change long-standing eating patterns until they experience serious consequences, sometimes to the point of being impaired from normal daily activities or life seems unbearable. If a person has diabetes or hypoglycemia, abnormal blood sugar can have a dramatic impact on feelings of depression and hopelessness. It is important that blood sugar is monitored to remain as even as possible. If irregular blood sugar is a medical condition, it is very important to be under the care of a physician and to follow medical advice. Even if fluxuating blood sugar is not a medical condition, eating in ways that maintain an even level throughout the day can significantly enhance one's feeling of energy and increased frustration tolerance. A qualified nutritional counselor can individualize eating plans to specifically address individual needs and food preferences. Eating disorders have been known for a long time to correlate with mood swings, especially leading to depression and feeling bad about oneself (Smith et al., 2010). Going long periods of time without eating leads to lower frustration tolerance, agitation and feelings of helplessness. When someone eats "comfort food" that is high in sugar, salt and fat content the subsequent feelings can be discouragement, lethargy, fatigue, anger, frustration, loneliness, and depression. Changing these patterns can be very complicated and may need professional support and treatment. There are psychotherapists, physicians, nutritional counselors and nurse practitioners who specialize in helping those with eating disorders. Biofeedback has been shown to be successful in treating the anxiety that often accompanies depression.

Feeling more in control of one aspect of life (i.e., anxiety, panic attacks, free floating fear) can assist a person in feeling they have the energy and strength to address other areas of life. Learning to control fear and anxiety can lead to increased feelings of competency and effectiveness in the world. Therapeutic Massage has also been shown to decrease feelings of depression. Not only does massage release tense muscles that often accompany depression, but toxins are moved through the body that may be causing feelings of lethargy and fatigue. People who are depressed and isolated often are deprived of human contact. Just being touched by another person in a caring therapeutic way can increase feelings of well being and hope (Mead et al., 2001). The relief from pain through massage for those with chronic pain can also ease the accompanying feelings of depression and anxiety. Interactive Guided Imagery (a form of interactive hypnosis) can be used for addressing feelings of discouragement and self-doubt. In Guided Imagery, a patient, with the help of a therapist, chooses an image to represent the feeling or the event that is bothering them. They are then guided to take some productive action with that symbol. This technique is effective when the content of discouragement seems vague or overwhelming. Choosing a well-qualified Interactive Guided Imagery facilitator is essential (Finzi et al., 2006). New psychotherapy models have also been developed to address feelings of discouragement and sadness. Sand Tray Therapy can help a person express feelings they do not have words for. This form of symbolic therapy involves toys and small objects that patients can use to work through difficult feelings and gain a sense of mastery over their situation. It is symbolic much like dream work is used. Many therapists are trained to help patients set goals and encourage them as they put these plans into place. Often developing new habit patterns is an essential part of overcoming depression. Learning to say kind things to one, keeping an exercise program, or learning to enjoy new foods and eating habits, can all be assisted with the help of a therapist (Heckmann et al., 2007). As a traditional prescription, antidepressants are widely used to treat depressive symptoms. The anti-depressants 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 (Carvalho et al., 2007). 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 but with increased risk of serotonin toxicity (Freedenburg, 2009). In addition to anti-

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;

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 (Buspirone, Methylphenidate, Dextroamphetamine)	Affect serotonin and dopamine transmission, thus augment TCAs, MAOIs, SSRIs, and SNRIs	Buspirone 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

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

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)
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
Exercise	Helps to enhance the sense of self-control, discharge frustration and anger, increase social interaction, may increase levels of monoamine neurotransmitters	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
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	Gastrointestinal disturbances, nausea
Folate	Folate may facilitate monoamine neurotransmitter synthesis	Supported by promising evidence	Virtually no side effect
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
Yoga	Helps to reduce stress and anxiety	Supported by limited evidence	Virtually no side effect
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	Risk of mechanical injury & infectious complications
Relaxation	Helps to reduce stress and anxiety	Looks promising	Virtually no side effect
Botulinum Toxin Injection	The cosmetic treatment helps mood improvement	Looks promising, but needs further studies	Risk of side effects associated with botulinum toxin injection

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 (Ulbricht et al., 2010) 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. Exercise has 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 help 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

(Jorh et al., 2002). 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. 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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