

DLPA FOR CHRONIC PAIN & DEPRESSION

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Most people think of their emotions as separate from their bodies and unconnected with the chemistry of their brain cells. However, depression, irritability, and anxiety are all reflections of the functioning of the brain. When certain nutrients are not supplied to the brain, they experience an array of negative emotions, tending to lose their coping ability in response to the stressful circumstances we confront each day of our lives.

Although the brain is only equal to two percent of our total body weight, twenty-five percent of our total metabolic activity takes place there. This is probably the reason that the brain is so sensitive to nutritional deficiency. In fact, our need for proper brain function is so great that the body feeds the brain preferentially.

Nutrients can cause important changes in the chemical composition of substances in the brain, with corresponding changes in our feelings. Scientific studies have shown that by taking particular amino acids, mental depression, apathy, peevishness, and the desire to be left alone can be alleviated.

DEPRESSION

About one in five Americans has significant symptoms, more than 1.5 million are being treated for it, and about 30 million can expect to suffer from it at some point in their lives. Classic, full-blown depression has been described as "the loss of the capacity to enjoy life combined with a poverty of thought and movement." It can appear as grief, but may manifest through a series of emotional states that can be so extreme that the outcome is suicide or total withdrawal.

Of course a preoccupation with death or suicide is an obvious symptom, but often depression is not obvious because the person does not feel "sad." This is called "masked depression." Symptoms may involve changes in sleeping patterns, such as insomnia, early morning waking, or constant sleepiness, or changes in eating pattern, either overeating or loss of appetite. The person may be anxious or have excessive complaints about body

functions and chronic pain, especially headaches, but also indigestion or constipation. Both hair and skin may feel dry and lose luster, while blood pressure has a tendency to be high. There is an inability to enjoy customary pleasures and a concomitant loss of sex drive, loss of energy, extreme fatigue, difficulty concentrating and making decisions, irritability, and possibly temperamental outbursts.

With endogenous depression, there are symptoms of guilt, self-hate, feelings of worthlessness, apathy, crying spells, and a desire to be left alone. Women are more susceptible to depression than men—one woman in six compared to one man in twelve. It is thought that there may be some connection to the female reproductive hormone cycles. There are also some diseases, such as hypothyroidism (underactive thyroid gland), that may produce depression, while others, such as arthritis or heart disease, commonly bring on a depressive reaction. Overall, not only can depression be a result of nutritional deficiency, but that depression in turn puts a further stress on the body. Without the proper nutritional attention, depression has a very deleterious effect on the general health.

TREATMENT

DLPA (or DL-phenylalanine) has been found to be effective in the treatment of depression. Studies since 1974 show it to be particularly beneficial in cases of endogenous depression. This type of depression is characterized by a decrease in energy and interest, feelings of worthlessness, and a pervasive sense of helplessness to control the course of a person's life. Significant improvement has also been achieved with people suffering from reactive depression (thought to be caused by environmental influences such as death in the family) and involuntal depression (an aging related depression). DLPA has also shown itself to be effective for other types of depression, including the depressive phase of manic-depression, schizophrenic depression, and post-amphetamine depression.

Phenylalanine is one of the "essential" amino acids, and it must be obtained through the diet. The type of phenylalanine our bodies require is L-phenylalanine, while the type found to be most effective against depression is D-phenylalanine. D-phenylalanine mirrors L-phenylalanine in its molecular structure. DLPA or the DL-form is the preferable form for depression. DLPA is a 50/50 mixture of D-phenylalanine and L-phenylalanine. They do not interact but follow separate transport and metabolic pathways. In other words, 500 milligrams of DLPA behaves like 250 milligrams of pure D-phenylalanine plus 250 milligrams of L-phenylalanine.

At this time, it appears that DLPA has three separate antidepressant effects in the body: increased production of PEA, increased endorphin levels, and increased norepinephrine production. These biochemical changes are not isolated but rather create a synergistic overlap which accounts for the terrific result of DLPA in the treatment of depression.

Although D-phenylalanine is very rare in nature, all mammals, including man, are able to metabolize it. Part of the metabolic process involves conversion to phenylethylamine or PEA. PEA is a neurotransmitter-type substance which bears a close structural resemblance to the stimulant drug amphetamine. It seems to be a natural stimulant. This characteristic prompted mental health researchers to speculate that a deficiency of PEA in the nervous system might be a cause of depression. This concept gained support when research demonstrated that depressed patients were not just low in PEA, they were "immeasurably low." In a series of studies in the late 70's, it was also found that every major treatment for depression indirectly elevated levels of PEA in the brain. Both D and L forms of phenylalanine are directly converted to PEA. However, D-phenylalanine has been reported to induce greater, more prolonged increases than L-phenylalanine alone.

A second way in which DLPA may act as an antidepressant is in its ability to inhibit enzymes which break down the endorphin hormone. Endorphins are morphine-like hormones whose presence may account for the euphoria experienced by runners, joggers, and other enthusiasts of aerobic exercise. It is thought that endorphin concentration in the brain may be critical in mood regulation. If a sufficient number of the receptors in the brain are

filled with endorphins and enkephalins, a person feels a sense of well-being. But, if for some reason the endorphin level is reduced, and too few receptors are filled, the deficiency causes a person to feel a sense of urgency and irritation. In a similar way if the production is too high and an excessive number of receptors are filled, a person feels a sense of euphoria that is usually followed by a letdown. This is natural, and is a major cause of the "ups and downs" everyone experiences in life. If a drug such as heroin or morphine is consumed, these drugs take the place of endorphins and enkephalins at the receptors and, if taken in quantity, activate a large number of receptors creating an unnatural euphoria. A person feels great for a while, but the drug has a serious side effect. It causes the body to shut down the production of natural endorphins and enkephalins. Then, as the drug wears off, the feeling of need becomes greater than ever. If drug consumption continues over a period of time, the ability of the body to produce endorphins and enkephalins is reduced, and the person becomes dependent on the drug.

A patient that has been taking narcotics or drugs for a period of time, has desensitized his endorphin receptors. Even if this individual desired to quit using the narcotics, his body would not respond to an endorphin release. He must gradually reduce his intake of drugs to slowly reactivate his endorphin receptor sites.

In fact, clinical research has shown that endorphins administered intravenously can trigger sudden, dramatic antidepressant actions, even in suicidal patients. Essentially, DLPA works because it inhibits endorphin-degrading enzymes so that the endorphins produced by the brain last longer.

Recall, alcohol has been found to cause a production of chemicals called tetrahydroisoquinolines or TIQ's which have effects similar to morphine and heroin. They fill the enkephalin receptors, produce an unnatural euphoria, and reduce the output of the natural endorphins and enkephalins. The long term use of large amounts of alcohol produces a permanent, urgent need for alcohol, and the craving for more alcohol or another drink.

Additionally, DLPA could be converted to the brain neurotransmitter norepinephrine. A deficiency of norepinephrine was the first brain chemical deficiency believed to be involved in severe depression. Like PEA, norepinephrine is a natural stimulant. Both D and L-phenylalanine serve as its

precursors, although they follow somewhat different metabolic pathways. Most antidepressant drugs are designed to increase the amount of norepinephrine in the central nervous system, but by very different means than DLPA.

Antidepressant drugs, such as tricyclics, can be effective in reducing symptoms of depression. Unfortunately, this is where their usefulness ends. They can engender numerous adverse side effects such as seizures, drowsiness, nausea, and anorexia. Besides these side effects, these drugs can stimulate neurotransmitter release for mood elevation, but they prevent re-absorption of the neurotransmitters into nerve terminals. This depletes our cellular stores of neurotransmitter material, and interferes with proper brain function. DLPA can serve to restore brain levels to normal.

In a recent double-blind controlled study, DLPA was found to be equally as effective as the tricyclic drug Imipramine, the most commonly prescribed antidepressant. Psychopathological, neurologic, and somatic indices showed no differences between the two treatments. Side effects tended to be higher for the Imipramine patients.

- DL-phenylalanine and Imipramine were given to depressed patients in equal dosages (150 - 200 milligrams per day) with twenty patients in each group.
- Psychopathological, neurologic and somatic indices showed no differences between the two treatments.
- Automatic side effects "tended to be higher for the Imipramine patients."
- Anti-depressant efficacy of DL-phenylalanine "seems to equal that of the tricyclic antidepressant Imipramine."

Evidence indicates that DLPA may be useful in the alleviation of the mood disorders associated with P.M.S. Reports from clinical investigations have revealed that over eighty percent of all patients suffering from P.M.S. have experienced good to complete relief.

DLPA capsules come in weights of 375 to 750 milligrams per capsule. The dosage is generally four to eight capsules per day. Each capsule should be

taken thirty minutes prior to meals. It is important that the capsules be taken in divided dosages throughout the day to get the antidepressant effect. Dosage can be varied with improvement, but must be individualized. People who suffer from PKU (phenylketonuria) should not use DLPA.

KEY FACTORS OF DLPA

- 1) DLPA is a highly safe, nontoxic substance when used in short-term or long-term therapy.
- 2) DLPA does not induce excessive excitation or arousal in normal or depressed subjects.
- 3) Toxic overdose is impossible and there is generally a lack of potential for abuse.
- 4) DLPA does not cause adverse side effects.

Endogenous depression, which was discussed earlier in relation to DLPA, is a particularly insidious mental state. The person involved feels so worthless that they do not want to take the necessary steps to feel good. When a person feels depressed, they do not feel like taking good care of themselves. Of course, that is the very time a person needs to do right—eat right, sleep right, think right, and ... get enough exercise and amino acids.

References

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