



كلية معتمدة من الهيئة القومية لضمان
جودة التعليم والإعتماد بالجمهورية
د.م (102) بتاريخ 2011/9/27

كلية الصيدلة



DRUG INFORMATION CENTER BULLETIN
FACULTY OF PHARMACY
ASSIUT UNIVERSITY

Ass. Uni. D.I. Bull., Vol. 14, No. 2, June 2018

F-750-30-07



جامعة أسيوط

In This Issue...

- ▶ Depression
- ▶ Why are Drug Names so Crazy?

OTC Medicines Corner
**Omega-3 fatty acid supplementation
and cardiovascular benefits.....5**

Test Your Knowledge5

DIC Real Enquiry6

Psychogenic nonepileptic seizures....6

Deep Sleep Formula7



Editorial Board

Prof. Mahmoud Mohamed Sheha
Dean of Faculty of Pharmacy

Prof. Tahani Hassan Elfaham
Director of DIC

Pharmacists:

Hanan Mohamed Gaber
Heba Yousry Raslan

Tel. 088/2080388 & 088/2411556
E-mail: clinipharm_assiut@yahoo.com
Website: www.aun.edu.eg/clinipharm
FB Page: facebook.com/DIC.pharmacy

رقم الأيداع: 12632 لسنة 2005

This Bulletin is a free quarterly periodical issued by the Drug Information Center (DIC) located at Faculty of Pharmacy Assiut University

Depression

Depression (major depressive disorder) is a common and serious medical illness that negatively affects how you feel, the way you think and how you act.

According to the Centers for Disease Control and Prevention (CDC), 7.6 percent of people over the age of 12 have depression in any 2-week period. This is substantial and shows the scale of the issue. According to the World Health Organization (WHO), depression is the most common illness worldwide and the leading cause of disability. They estimate that 350 million people are affected by depression, globally.



Fortunately, it is also treatable. Depression causes feelings of sadness and/or a loss of interest in activities once enjoyed. It can lead to a variety of emotional and physical problems and can decrease a person's ability to function at work and at home.

Depression symptoms

Can vary from mild to severe and can include:

- Feeling sad or having a depressed mood
- Loss of interest or pleasure in activities once enjoyed
- Changes in appetite — weight loss or gain unrelated to dieting
- Trouble sleeping or sleeping too much
- Loss of energy or increased fatigue
- Increase in purposeless physical activity (e.g., hand-wringing or pacing) or slowed movements and speech (actions observable by others)
- Feeling worthless or guilty
- Difficulty thinking, concentrating or making decisions
- Thoughts of death or suicide

Symptoms must last at least two weeks for a diagnosis of depression. Also, medical conditions (e.g., thyroid problems, a brain tumor or vitamin deficiency) can mimic symptoms of depression so it is important to rule out general medical causes.

Depression affects an estimated one in 15 adults (6.7%) in any given year. And one in six people (16.6%) will experience depression at some time in their life. Depression can strike at any time, but on average, first appears during the late teens to mid-20s. Women are more likely than men to experience depression. Some studies show that one-third of women will experience a major depressive episode in their lifetime.

Depression Is Different From Sadness or Grief/Bereavement

The death of a loved one, loss of a job or the ending of a relationship are difficult experiences for a person to endure. It is normal for feelings of sadness or grief to develop in response to such situations. Those experiencing loss often might describe themselves as being “depressed.” But being sad is not the same as having depression. The grieving process is natural and unique to each individual and shares some of the same features of depression. Both grief and depression may involve intense sadness and withdrawal from usual activities. They are also different in important ways:

- In grief, painful feelings come in waves, often intermixed with positive memories of the deceased. In major depression, mood and/or interest (pleasure) are decreased for most of two weeks.

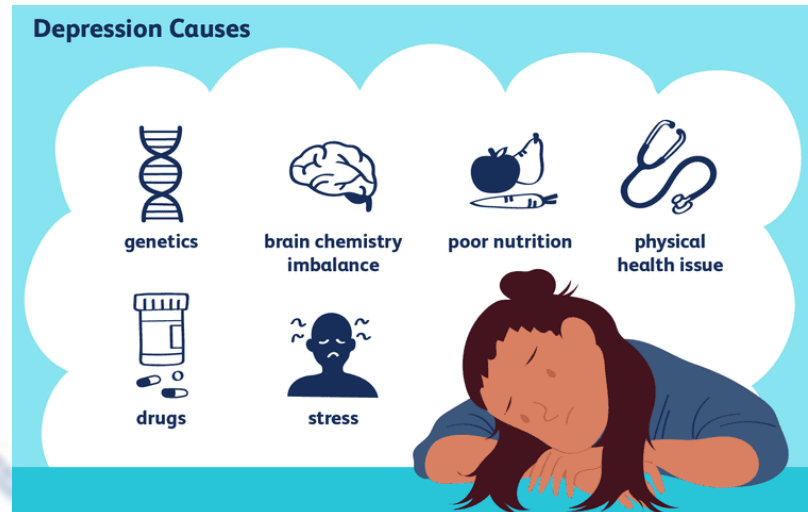
- In grief, self-esteem is usually maintained. In major depression, feelings of worthlessness and self-loathing are common.
- For some people, the death of a loved one can bring on major depression. Losing a job or being a victim of a physical assault or a major disaster can lead to depression for some people. When grief and depression co-exist, the grief is more severe and lasts longer than grief without depression. Despite some overlap between grief and depression, they are different. Distinguishing between them can help people get the help, support or treatment they need.

Risk Factors for Depression

Depression can affect anyone even a person who appears to live in relatively ideal circumstances.

Several factors can play a role in depression:

- **Biochemistry:** Differences in certain chemicals in the brain may contribute to symptoms of depression.
- **Genetics:** Depression can run in families. For example, if one identical twin has depression, the other has a 70 percent chance of having the illness sometime in life.
- **Personality:** People with low self-esteem, who are easily overwhelmed by stress, or who are generally pessimistic appear to be more likely to experience depression.
- **Environmental factors:** Continuous exposure to violence, neglect, abuse or poverty may make some people more vulnerable to depression.



How Is Depression Treated?

Depression is among the most treatable of mental disorders. Between 80 percent and 90 percent of people with depression eventually respond well to treatment. Almost all patients gain some relief from their symptoms.

Before a diagnosis or treatment, a health professional should conduct a thorough diagnostic evaluation, including an interview and possibly a physical examination. In some cases, a blood test might be done to make sure the depression is not due to a medical condition like a thyroid problem. The evaluation is to identify specific symptoms, medical and family history, cultural factors and environmental factors to arrive at a diagnosis and plan a course of action.

Medication

Brain chemistry may contribute to an individual's depression and may factor into their treatment. For this reason, antidepressants might be prescribed to help modify one's brain chemistry. These medications are not sedatives, "uppers" or tranquilizers. They are not habit-forming. Generally antidepressant medications have no stimulating effect on people not experiencing depression. Antidepressants are available on prescription from a doctor. Drugs come into use for moderate to severe depression, but are not recommended for children, and will be prescribed only with caution for adolescents.

A number of classes of medication are available in the treatment of depression:

- selective serotonin reuptake inhibitors (SSRIs)
- monoamine oxidase inhibitors (MAOIs)
- tricyclic antidepressants
- atypical antidepressants
- selective serotonin and norepinephrine reuptake inhibitors (SNRI)

Each class of antidepressant acts on a different neurotransmitter. The drugs should be continued as prescribed by the doctor, even after symptoms have improved, to prevent relapse.

The Food and Drug Administration (FDA) warns that "antidepressant medications may increase suicidal thoughts or actions in some children, teenagers, and young adults within the first few months of treatment." Any concerns should always be raised with a doctor - including any intention to stop taking antidepressants. It is important that the doctor knows if a medication does not work or if a patient's experience side effects.

Antidepressants may produce some improvement within the first week or two of use. Full benefits may not be seen for two to three months. If a patient feels little or no improvement after several weeks, his or her psychiatrist can alter the dose of the medication or add or substitute another antidepressant. In some situations other psychotropic medications may be helpful.

Psychiatrists usually recommend that patients continue to take medication for six or more months after symptoms have improved. Longer-term maintenance treatment may be suggested to decrease the risk of future episodes for certain people at high risk.

Psychotherapy

Psychotherapy, or "talk therapy," is sometimes used alone for treatment of mild depression; for moderate to severe depression, psychotherapy is often used in along with antidepressant medications. Cognitive behavioral therapy (CBT) has been found to be effective in treating depression. CBT is a form of therapy focused on the present and problem solving. CBT helps a person to recognize distorted thinking and then change behaviors and thinking.

Psychotherapy may involve only the individual, but it can include others. For example, family or couples therapy can help address issues within these close relationships. Group therapy involves people with similar illnesses.

Depending on the severity of the depression, treatment can take a few weeks or much longer. In many cases, significant improvement can be made in 10 to 15 sessions.

Exercise

Aerobic exercise may help against mild depression since it raises endorphin levels and stimulates the neurotransmitter norepinephrine, which is related to mood.

Electroconvulsive Therapy (ECT)

Is a medical treatment most commonly used for patients with severe major depression or bipolar disorder who have not responded to other treatments. It involves a brief electrical stimulation of the brain while the patient is under anesthesia. A patient typically receives ECT two to three times a week for a total of six to 12 treatments. ECT has been used since the 1940s, and many years of research have led to major improvements. It is usually managed by a team of trained medical professionals including a psychiatrist, an anesthesiologist and a nurse or physician assistant.

What does not class as depression?

Depression is different from the fluctuations in mood that people experience as a part of normal life. Temporary emotional responses to the challenges of everyday life do not constitute depression.

Likewise, even the feeling of grief resulting from the death of someone close is not itself depression if it does not persist. Depression can, however, be related to bereavement - when depression follows a loss, psychologists call it a "complicated bereavement."

Self-help and Coping

There are a number of things people can do to help reduce the symptoms of depression. For many people, regular exercise helps create positive feeling and improve mood. Getting enough quality sleep on a regular basis, eating a healthy diet and avoiding alcohol (a depressant) can also help reduce symptoms of depression.

Depression is a real illness and help is available. With proper diagnosis and treatment, the vast majority of people with depression will overcome it. If you are experiencing symptoms of depression, a first step is to see your family physician or psychiatrist. Talk about your concerns and request a thorough evaluation. This is a start to addressing mental health needs.

References:

- 1) Parekh R. *What Is Depression?* [Internet]; Jan 2017 [cited May 25 2018]. Available from: <https://www.psychiatry.org/patients-families/depression/what-is-depression>
- 2) MacGill M. *What is depression and what can I do about it?* [Internet]; Nov 2017 [cited May 25 2018]. Available from: <https://www.nhs.uk/conditions/polycystic-ovary-syndrome-pcos/>
- 3) WHO Fact Sheets. *Depression.* [Internet]; Mar 2018 [cited May 25 2018]. Available from: <http://www.who.int/news-room/fact-sheets/detail/depression>



OTC Medicines Corner

Omega-3 fatty acid supplementation and cardiovascular benefits

Results of a comprehensive systematic review from the Agency for Healthcare Research and Quality (AHRQ) on the effects of omega-3 fatty acid supplementation on select cardiovascular (CV) outcomes concluded that these supplements do not appear to have an impact on the risk of major CV events, all-cause death, sudden cardiac death, revascularization, or high blood pressure. The same results were recently concluded by a meta-analysis published in *JAMA Cardiology*.

Source:

- 1) <http://www.aphanet.org/alternative-medicines-corner/omega-3-fatty-acid-supplementation-does-not-appear-affect-cv-outcomes>
- 2) <http://www.aphanet.org/alternative-medicines-corner/omega-3-fatty-acid-supplementation-and-cv-benefits>

Test Your Knowledge



- 1- Gastro-esophageal reflux disease may be associated with:
a) acid regurgitation b) dysphagia c) stricture formation
- 2- When aspirin is compared with warfarin, it:
a) decreases platelet aggregation b) has higher rates of major hemorrhage
c) requires the same degree of monitoring
- 3- Concern the following conditions:
a) Diabetes b) Raised intracranial pressure c) Pregnancy
d) Diverticulitis e) Oral thrush
- Which one of the above:
i- could be a cause of lower gastrointestinal bleeding
ii- could be a cause of early morning headache
iii- could be a cause of early morning vomiting

Real Enquiries

At the "Drug Information Center", we respond to enquiries from the professional healthteam as well as from others. Here's one of the enquiries received at the center:

Enquiry received from: R. M.- Qena

Enquiry: What's the role and mechanism of action of pregabalin in treatment of spondylosis?

Summary of the answer: Some types of epilepsy medications, such as gabapentin (Neurontin) and pregabalin (Lyrica), can dull the pain of damaged nerves in cervical spondylosis. A recent study has shown that has shown that pregabalin has rapid onset and is efficacious for neuropathic pain related to cervical spondylosis as a first-line single agent.

In a case report in 2013, pregabalin was reported effective in a male patient with Ankylosing spondylitis (AS) suffering from opioid-refractory pain. AS is a systemic inflammatory disease with chronic back pain as the most common presenting symptom.

Pregabalin is indicated for the treatment of four specific conditions (fibromyalgia, diabetic peripheral neuropathy, seizures, and Herpes zoster pain (postherpetic neuralgia). Though it is only indicated, or FDA approved for use to treat neuropathic pain associated with spinal cord injury, it is prescribed (off label) by doctors to treat certain types of chronic pain.

Pregabalin, like gabapentin, was shown to be effective in several models of neuropathic pain (incisional injury, and inflammatory injury). Chronic pathological pain is sustained by mechanisms of peripheral and central sensitization which are increasingly investigated at the molecular and cellular levels.

The molecular mechanisms of sensitization that occur in peripheral nociceptors and the dorsal horns of the spinal cord are putative targets for context-dependent drugs, that is, drugs that are able to discriminate between "normal" and "pathological" pain transmission.

Among these, pregabalin binds to the $\alpha 2\delta$ subunit of voltage-sensitive Ca^{2+} channels, which sustain the enhanced release of pain transmitters at the synapses between primary afferent fibers and second-order sensory neurons. Although other anticonvulsants have been reported as helpful to patients with inflammatory conditions, pregabalin is particularly potent and effective as an analgesic and is characterized by linear kinetics across a wide range of doses.

References:

- 1) Kontoangelos K, Kouzoupis A, Ferentinos P, Xynos I, Sipsas N, and Papadimitriou G. Pregabalin for Opioid-Refractory Pain in a Patient with Ankylosing Spondylitis. *Case Reports in Psychiatry*. 2013.
- 2) Frank J. *Lyrica (Pregabalin)*. [Internet]; April 2008 [cited May 28 2018]. Accessed at: <https://www.spine-health.com/treatment/pain-medication/lyrica-pregabalin>
- 3) DISEASEDEX™ (electronic version). Pregabalin. [cited: May 28,2018]. Available at: www.micromedexsolutions.com
- 4) Mayo Clinic Staff. *Cervical spondylosis*. [Internet]; Nov 2015 [cited May 28 2018]. Accessed at: <https://www.mayoclinic.org/diseases-conditions/cervical-spondylosis/diagnosis-treatment/drc-20370792>
- 5) Lo Y, Cheong P, George J, Tan S, Yue W, Guo C and Fook-Chong S. Pregabalin and Radicular Pain Study (PARPS) for Cervical Spondylosis in a Multiracial Asian Population. *J Clin Med Res*. 2014;6(1):66-71.

Psychogenic Nonepileptic Seizures

Psychogenic nonepileptic seizures (PNES), or pseudoseizures are paroxysmal episodes that resemble and are often misdiagnosed as epileptic seizures; however, PNES are psychological (i.e., emotional, stress-related) in origin. Paroxysmal nonepileptic episodes can be either organic or psychogenic. Syncope, migraine, and transient ischemic attacks (TIAs) are examples of organic nonepileptic paroxysmal symptoms.

The terminology on the topic has been variable and, at times, confusing. Various terms are used, including pseudoseizures, nonepileptic seizures, nonepileptic events, and psychogenic seizures. PNES has been the preferred term in the literature, but in practice, the term "seizures" is confusing to patients and families, so that it is probably best to replace it with more general terms that do not imply epilepsy, such as "attacks" or "events."

PNES are common at epilepsy centers, where they are seen in 20-30% of patients referred for refractory seizures. PNES are probably also common in the general population, with an estimated prevalence of 2-33 cases per 100,000 population, which makes PNES nearly as prevalent as multiple sclerosis or trigeminal neuralgia.

Source: Benbadis S. *Psychogenic Nonepileptic Seizures*. [Internet]; June 2017 [cited May 25 2018]. Available from: <https://emedicine.medscape.com/article/1184694-overview>

Why Are Drug Names So Crazy?

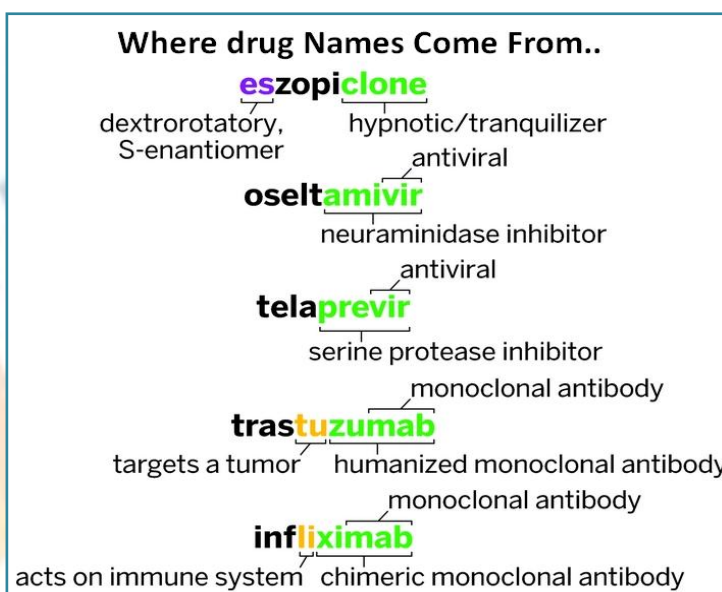
Everyone agrees that drug names are becoming ever crazier. For instance, why all those X's and Z's in brand names (Pradaxa, Xarelto, Xeljanz, Zyprexa)?

Generic names can be even more mouth-boggling. Can you remember that acetaminophen is the generic name for Tylenol, and can you pronounce it? If you want to get it when visiting Europe, however, you'll have to ask for paracetamol. Both of those names get their syllables from a chemical name of the compound: para-acetylaminophenol. But the names of most generics (like brand names) are largely or completely

made up and illogical, except that some related drugs share a suffix, such as "-statin" at the end of cholesterol-lowering drugs like simvastatin (Lipitor) or rosuvastatin (Crestor), and "-azepam" for tranquilizers like lorazepam (Ativan) or temazepam (Restoril).

Tongue-twisting generic names are a big problem since the vast majority of drugs are now dispensed as generics, leading to growing concerns that if names are mispronounced or misread and drugs misidentified, patients could be harmed. Avoiding such confusions is one of the rationales for electronic prescriptions.

A recent editorial in *JAMA Internal Medicine* by a physician in Seattle, Dr. Daniel Frank, tackled the problem of "unpronounceable pharmaceuticals". New drugs are given their generic names by a group called the U.S. Adopted Names (USAN) Council, which is supported by the American Medical Association (AMA) and works with drug companies to choose the names and decide how they should be pronounced. (To complicate matters, the World Health Organization also manages generic names and occasionally decides on different ones than USAN.) Dr. Frank points out that some drug names sound like former Soviet republics (ustekinumab) or rich Italian desserts (canagliflozin) and that even specialists often disagree on pronunciation. "Drug companies might prefer an unpronounceable generic to pair with their zippy trade name," he notes, so that patients keep asking for Crestor instead of rosuvastatin, Lunesta instead of eszopiclone, or Pradaxa instead of dabigatran (the last is not yet available as a generic). He is particularly perturbed



by the inscrutability of the official pronunciation of many generic names as determined by USAN. He'd like USAN to provide online audio clips and clear phonetic spellings, along with perhaps "rhymes with" and other hints.

We're already up to some six- or seven-syllable generic names. Isn't it time for USAN, the AMA, and pharmaceutical companies to simplify drug names?

Source: Wellnessletter. *Why Are Drug Names So Crazy?* [Internet]; May 2018 [cited May 28 2018]. Available from: <http://www.berkeleywellness.com/healthy-community/health-care-policy/article/why-are-drug-names-so-crazy>

Deep Sleep Tincture

Uses: Restlessness, insomnia

Ingredients:

- 4 tsp. Valerian tincture (tinctures can be made using vegetable glycerin rather than alcohol)
- 2 tsp. Passionflower tincture
- 2 tsp. Ashwaganda tincture
- 2 tsp. Catnip tincture
- 1 tsp. Hops tincture
- 1 tsp. Chamomile tincture
- 1 tsp. Spearmint or Peppermint tincture

Use one of three methods:

- 1) Combine all these together and store in a 1 oz amber glass bottle. Take 1-2 dropperfuls before bed or throughout the day at 4-hour intervals to promote relaxation and a restful night's sleep.
- 2) The herbs can also be combined in the same proportions in their dried form. A tea can then be made by steeping 1 tsp. per cup of boiling water.
- 3) For convenience, the herbs can also be combined in their dry state and encapsulated in size 00 gelatin capsules or vegi-caps. Take 1-2 capsules before bed.

Answers:

1. **(A)** Gastro-esophageal reflux disease (GERD) is usually due to reflux esophagitis, which results in acid regurgitation. Stomach contents which have a low pH are refluxed into the esophagus and the esophageal mucosa has very little if any, protection against acidic contents. Dysphagia, which is difficulty in swallowing, may sometimes occur in GERD. Stricture formation of the esophagus may take place in GERD, owing to the inflammation caused by acid regurgitation.

2. **(D)** Aspirin is an antiplatelet drug that decreases platelet aggregation, whereas warfarin is an oral anticoagulant that antagonizes the effects of vitamin K. Disadvantages of aspirin when it is used for its antiplatelet effects are that it may cause bronchospasm and hemorrhage including gastrointestinal. Occurrence of hemorrhage is much higher with warfarin and for this reason, patients receiving warfarin should have their prothrombin time monitored.

3. i. **(D)** Diverticulitis refers to the extension of mucosal pouches outwards from the external muscle wall into the gastrointestinal tract. Diverticulitis is accompanied by colicky pain lasting for a few days. The condition may be accompanied by constipation or diarrhoea and blood in stools.

ii. **(B)** Raised intracranial pressure could be a cause of early morning headache. Early morning headache could also be triggered by sinusitis, tension or muscle spasm.

iii. **(C)** Pregnancy is a common cause of early morning vomiting. The condition is referred to as morning sickness and may be relieved by taking dry biscuits on waking up.