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جناح ہسپتال میں 53 ویں سالانہ میڈیکل سیمپوزیم میں منتظم اعلیٰ کراچی نفسیاتی ہسپتال ڈاکٹر سید مبین اختر تشریف فرما ہیں جبکہ ڈاکٹر شعیب کے پی ایچ میں کی گئی تحقیق پیش کر رہے ہیں۔

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## **Breaking the Stigma — A Physician's Perspective on Self-Care and Recovery**

My name is Adam. I am a human being, a husband, a father, a pediatric palliative care physician, and an associate residency director. I have a history of depression and suicidal ideation and am a recovering alcoholic. Several years ago, I found myself sitting in a state park 45 minutes from my home, on a beautiful fall night under a canopy of ash trees, with a plan to never come home. For several months, I had been feeling abused, overworked, neglected, and underappreciated. I felt I had lost my identity. I had slipped into a deep depression and relied on going home at night and having a handful of drinks just to fall asleep. Yet mine is a story of recovery: I am a survivor of an ongoing national epidemic of neglect of physicians' mental health.

In the past year, two of my colleagues have died from suicide after struggling with mental health conditions. On my own recovery journey, I have often felt branded, tarnished, and broken in a system that still embroiders a scarlet letter on the chest of anyone with a mental health condition. A system of hoops and barriers detours suffering people away from the help they desperately need — costing some of them their lives.

Last year, I decided I could no longer sit by and watch friends and colleagues suffer in silence. I wanted to let my suffering colleagues know they are not alone. I delivered a grand-rounds lecture to 200 people at my hospital, telling my own story of addiction, depression, and recovery. The audience was quiet, respectful, and compassionate and gave me a standing ovation. Afterward, hundreds of e-mails poured in from people sharing their own stories, struggles, and triumphs. A floodgate of human connection opened up. I had been living in fear, ashamed of my own mental health history. When I embraced my own vulnerability, I found that many others also want to be heard — enough of us to start a cultural revolution.

My years of recovery taught me several important lessons. The first is about self-care and creating a plan to enable us to cope with our rigorous and stressful work. Personally, I use counseling, meditation and mindfulness activities, exercise, deep breathing, support groups, and hot showers. I've worked hard to develop self-awareness — to know and acknowledge my own emotions and triggers — and I've set my own boundaries in both medicine and my personal life. I rearranged the hierarchy of my needs to reflect the fact that I'm a human being, a husband, a father, and then a physician. I learned that I must take care of myself before I can care for anyone else.

The second lesson is about stereotyping. Alcoholics are stereotyped as deadbeats or bums, but being humbled in your own life changes the way you treat other people. An alcoholic isn't a bum

under a bridge or an abusive spouse: I am the face of alcoholism. I have been in recovery meetings with people of every color, race, and creed, from homeless people to executives. Mental health and substance-abuse conditions have no prejudice, and recovery shouldn't either. When you live with such a condition, you're made to feel afraid, ashamed, different, and guilty. Those feelings remove us further from human connection and empathy. I've learned to be intolerant of stereotypes, to recognize that every person has a unique story. When we are privileged as professionals to hear another person's story, we shouldn't take it for granted.

The third lesson is about stigma. It's ironic that mental health conditions are so stigmatized in the medical profession, given that physicians long fought to categorize them as medical diagnoses. Why do medical institutions tolerate the fact that more than half their personnel have signs or symptoms of burnout? When mental health conditions come too close to us, we tend to look away — or to look with pity, exclusion, or shame.

We may brand physicians who've had mental health conditions, while fostering environments that impede their ability to become and remain well. When, recently, I moved to a new state and disclosed my history of mental health treatment, the licensing board asked me to write a public letter discussing my treatment — an archaic practice of public shaming. Indeed, we are to be ashamed not only of the condition, but of seeking treatment for it, which our culture views as a sign of weakness. This attitude is pervasive and detrimental — it is killing our friends and colleagues. I've never heard a colleague say, "Dr. X wasn't tough enough to fight off her cancer," yet recently when a medical student died from suicide, I overheard someone say, "We were all worried she wasn't strong enough to be a doctor." We are all responsible for this shaming, and it's up to us to stop it.

The fourth lesson is about vulnerability. Seeing other people's Facebook-perfect lives, we react by hiding away our truest selves. We forget that setbacks can breed creativity, innovation, discovery, and resilience and that vulnerability opens us up to personal growth. Being honest with myself about my own vulnerability has helped me develop self-compassion and understanding. And revealing my vulnerability to trusted colleagues, friends, and family members has unlocked their compassion, understanding, and human connection.

Many physicians fear that showing vulnerability will lead to professional repercussions, judgment, or reduced opportunities. My experience has been that the benefits of living authentically far outweigh the risks. When I introduced myself in an interview for a promotion by saying, "My name is Adam, I'm a recovering alcoholic with a history of depression, and let me tell you why that makes me an exceptional candidate," I got the job. My openly discussing recovery also revealed the true identity of others. I quickly discovered the supportive people in my life. I can now seek work opportunities only in environments that support my personal and professional growth.

The fifth lesson is about professionalism and patient safety. We work in a profession in which lives are at risk, and patient safety is critically important. But if we assume that the incidence of mental health conditions, substance abuse, and suicidal ideation among physicians is similar to (or actually higher than) that in the general population, there are, nevertheless, many of us out there working successfully. The professionals who pose a risk to patient safety are those with active, untreated medical conditions who don't seek help out of fear and shame. Physicians who are successfully engaged in a treatment program are actually the safest, thanks to their own self-care plans and support and accountability programs.

Instead of stigmatizing physicians who have sought treatment, we need to break down the barriers we've erected between our colleagues who are standing on the edge of the cliff and treatment and recovery. Empathy, unity, and understanding can help us shift the cultural framework toward acceptance and support. Mentally healthy physicians are safe, productive, effective physicians.

The last lesson is about building a support network. My network has been the bedrock of my recovery. You can start small and gradually add trusted people, from your spouse and family to friends, counselors, support groups, and eventually colleagues. Then when you fall flat on your face, there will be someone to pick you up, dust you off, and say, "Get back out there and try it again." A support network can also hold you accountable, ensuring that you remain true to your own personal and professional standards.

Without question, my own successful recovery journey has made me a better physician. My newfound perspective, passion, and perseverance have opened up levels of compassion and empathy that were not previously possible. I still wear a scarlet A on my chest, but it doesn't stand for "alcoholic," "addict," or "ashamed" — it stands for Adam. I wear it proudly and unapologetically.

When a colleague dies from suicide, we become angry, we mourn, we search for understanding and try to process the death . . . and then we go on doing things the same way we always have, somehow expecting different results — one definition of insanity. It's way past time for a change.

## **Being Overweight at Any Point in Adulthood Tied to Increased Mortality Risk**

*By Kelly Young*

*Edited by David G. Fairchild, MD, MPH, and Jaye Elizabeth Hefner, MD*

Being overweight or obese is associated with increased mortality risk, according to a study in the *Annals of Internal Medicine*. Previous studies suggested a potentially lower mortality risk from being overweight.

Using data from three cohorts of 225,000 health professionals, researchers examined each participant's highest recorded BMI over the course of 16 years. Participants whose maximum BMIs fell into the overweight or obese categories had elevated risks for all-cause mortality and for death related to cardiovascular disease and cancer, compared with patients in the normal BMI range throughout follow-up.

An editorialist concludes that "we need to go beyond a single BMI measurement to refine our risk assessment." He notes, "Adding waist circumference to the BMI may represent a simple but key step in the introduction of a new and relevant 'vital sign' in clinical practice."

## **Treatment of Benzodiazepine Dependence**

**Michael Soyka, M.D.**

Long-term use of benzodiazepines can lead to dependence. Symptoms of withdrawal include anxiety, irritability, confusion, seizures, and sleep disorders. Withdrawal management relies on the use of a single agent (diazepam) and gradual dose reduction.

Disclosure forms provided by the author are available with the full text of this article at [NEJM.org](http://NEJM.org).

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# Psychosexual Training for Youth with Autism Spectrum Disorders

*Barbara Geller, MD reviewing Visser K et al. J Child Psychol Psychiatry 2017 Mar 9.*

*Sexual knowledge but not romantic skills or sexual behavior improved after training in a Dutch study of 12- to 18-year-olds.*

People with autism spectrum disorders (ASD) have sexual thoughts and desires but may also engage in problematic behaviors. They are also more likely to develop sexual fetishes and to be victims of sexual predators. The Tackling Teenage Training program (TTT) aimed to “tackle” these problems.

Participants (N=189) aged 12 to 18 years were randomized to the intervention or to a waitlist for a 1-year study period. Those with severe psychosexual problems were excluded. The intervention involved 18 weekly 45-minute sessions during which the participants were given sexual information and practiced communication skills. Each session was followed by homework assignments using a workbook. Self- and parent assessments were performed at baseline and at 6 and 12 months, with 84% and 86% retention respectively.

Both groups improved overall in social skills and behavior. The TTT group, especially those ages 12 to 14, gained significantly improved knowledge and insight into boundaries compared with controls. Only the 12- to 14-year-olds evidenced significant improvement in social functioning.

## COMMENT

Parents may be concerned that exposure to sexual material might increase problems. This notion can be put to rest because during the study impairments did not increase in the TTT group compared with the control group. Because gains were greatest in the youngest participants, training should begin at age 12 — or at even younger ages in those with earlier pubertal changes. More interventions need to be developed to enhance romantic communication skills and to decrease inappropriate sexuality.

# Functional Connectivity of the Subcallosal Cingulate Cortex and Differential Outcomes to Treatment with Cognitive-Behavioral Therapy or Antidepressant Medication for Major Depressive Disorder

Boadie W. Dunlop, M.D., M.S. and colleagues

## Abstract

### Objective:

The purpose of this article was to inform the first-line treatment choice between cognitive-behavioral therapy (CBT) or an antidepressant medication for treatment-naïve adults with major depressive disorder by defining a neuroimaging biomarker that differentially identifies the outcomes of remission and treatment failure to these interventions.

### Method:

Functional MRI resting-state functional connectivity analyses using a bilateral subcallosal cingulate cortex (SCC) seed was applied to 122 patients from the Prediction of Remission to Individual and Combined Treatments (PREdict) study who completed 12 weeks of randomized treatment with CBT or antidepressant medication. Of the 122 participants, 58 achieved remission (Hamilton Depression Rating Scale [HAM-D] score  $\leq 7$  at weeks 10 and 12), and 24 had treatment failure ( $<30\%$  decrease from baseline in HAM-D score). A  $2 \times 2$  analysis of variance using voxel-wise subsampling permutation tests compared the interaction of treatment and outcome. Receiver operating characteristic curves constructed using brain connectivity measures were used to determine possible classification rates for differential treatment outcomes.

### Results:

The resting-state functional connectivity of the following three regions with the SCC was differentially associated with outcomes of remission and treatment failure to CBT and antidepressant medication and survived application of the subsample permutation tests: the left anterior ventrolateral prefrontal cortex/insula, the dorsal midbrain, and the left ventromedial prefrontal cortex. Using the summed SCC functional connectivity scores for these three regions, overall classification rates of 72%–78% for remission and 75%–89% for treatment failure was demonstrated. Positive summed functional connectivity was associated with remission with CBT and treatment failure with medication, whereas negative summed functional connectivity scores were associated with remission to medication and treatment failure with CBT.

**Conclusions:**

Imaging-based depression subtypes defined using resting-state functional connectivity differentially identified an individual's probability of remission or treatment failure with first-line treatment options for major depression. This biomarker should be explored in future research through prospective testing and as a component of multivariate treatment prediction models.

## **Effects of Patient Preferences on Outcomes in the Predictors of Remission in Depression to Individual and Combined Treatments (PReDICT) Study**

**Boadie W. Dunlop, M.D. and colleagues**

**Abstract****Objective:**

The Predictors of Remission in Depression to Individual and Combined Treatments [PReDICT] study aimed to identify clinical and biological factors predictive of treatment outcomes in major depressive disorder among treatment-naive adults. The authors evaluated the efficacy of cognitive-behavioral therapy (CBT) and two antidepressant medications (escitalopram and duloxetine) in patients with major depression and examined the moderating effect of patients' treatment preferences on outcomes.

**Method:**

Adults aged 18–65 with treatment-naive major depression were randomly assigned with equal likelihood to 12 weeks of treatment with escitalopram (10–20 mg/day), duloxetine (30–60 mg/day), or CBT (16 50-minute sessions). Prior to randomization, patients indicated whether they preferred medication or CBT or had no preference. The primary outcome was change in the 17-item Hamilton Depression Rating Scale (HAM-D), administered by raters blinded to treatment.

**Results:**

A total of 344 patients were randomly assigned, with a mean baseline HAM-D score of 19.8 (SD=3.8). The mean estimated overall decreases in HAM-D score did not significantly differ between treatments (CBT: 10.2, escitalopram: 11.1, duloxetine: 11.2). Last observation carried forward remission rates did not significantly differ between treatments (CBT: 41.9%, escitalopram: 46.7%, duloxetine: 54.7%). Patients matched to their preferred treatment were more likely to complete the trial but not more likely to achieve remission.

**Conclusions:**

Treatment guidelines that recommend either an evidence-based psychotherapy or antidepressant medication for nonpsychotic major depression can be extended to treatment-naive patients. Treatment preferences among patients without prior treatment exposure do not significantly moderate symptomatic outcomes.

## **Nearly Half of American Adults Have Genital HPV**

**By Kelly Young**

**Edited by William E. Chavey, MD, MS**

Over 40% of men and women in the U.S. have genital human papillomavirus (HPV) infection, according to new estimates from the CDC's National Center for Health Statistics.

Using data from the National Health and Nutrition Examination Survey (NHANES) from 2011 to 2014, researchers found the following:

Oral HPV prevalence was 7% for adults under age 70. The prevalence of high-risk oral HPV was just 4%.

For adults under age 60, the prevalence of genital HPV was 43% in 2013 to 2014. It reached 64% among black adults. Non-Hispanic Asian adults had the lowest prevalence at 24%.

Roughly 23% of adults had high-risk genital HPV, with the highest prevalence among black males (40%).

The authors note that these figures are likely conservative, given that NHANES doesn't include certain high-risk groups, like those who are institutionalized, incarcerated, or homeless.

# The Curative Potential of Trancelike Brain States

**Patrick Lemoine, MD**

## **Global Manifestations of Dissociation**

Dissociation is a very specific and often unsettling clinical phenomenon. It's the altered state of consciousness that occurs in people who have suffered trauma at some point in their lives and who, very often, also have what is referred to as a "borderline state" or "borderline personality disorder."

It's an especially interesting topic, because all of the world's cultures describe and use altered states of consciousness—whether it's whirling dervishes, Jews at the Wailing Wall, Christians with the Rosary, shamans, meditating lamas, or the use of psychotropic substances among certain South American tribes. In each case, there is a phenomenon referred to generally as a "trance," which is also used in medical hypnosis.

In all of these cultures, a trance is a way to go gather information, regardless of whether the place where the information is sought is called the unconscious, the world of spirits, or limbo. It's about seeking information elsewhere than in ordinary, everyday consciousness.

There's another altered state of consciousness that I think is important: rapid eye movement (REM) sleep or dreaming. Once again, we use this to gather information. For example, when I do a crossword puzzle and have gone as far as I can with it, I go to sleep. The next morning, I complete the puzzle like magic. Somewhere, in my private library, I've gotten the solutions to the unsolved clues.

If we accept the fact that trances, meditation, and REM sleep are altered states of consciousness, we can try to better interpret, understand, or even use dissociations.

## **Pathological Dissociative States**

Pathological dissociative states are observed in cases of severe trauma in men, but are most common in young girls. Curiously, many who have suffered trauma and exhibit dissociative states are lucid dreamers who know when they're dreaming and are able to guide their dreams.

But the problem is that sometimes—perhaps in public, or often when they're alone—they can fall to the floor into epileptiform convulsions and generalized tremor. If they're in a public place, emergency medical services are called and the individual is hospitalized and possibly given

injectable drugs, one more ineffective and dangerous than the next. On top of it, they're ridiculed every time—so for them, experiencing pathological dissociative states is hell.

People who have suffered trauma very often have recurring nightmares and flashbacks about the event. In fact, these dissociative states are merely extreme flashbacks where the individual tries—in vain, unfortunately—to find a solution to their trauma. It doesn't work. It's like when you're sending an email, but the attachment is too large. Your computer just jams and spins. The individual doesn't manage to process the information and let it settle. So what can we do as clinicians?

## **Treatment**

Such techniques as medical hypnosis and eye movement desensitization and reprocessing (EMDR)—the standard treatment for this type of posttraumatic stress disorder—can be very effective. EMDR involves sending a message, an oversized attachment, via the “cerebral Internet” from the overly emotional networks to the more rational ones in order to archive the trauma.

With the attachment being too large, what do we do in EMDR? We divide it into small pieces, and it ends up going through. And we see, as do individuals who experience these posttraumatic stress disorders and exhibit these dissociative states, that little by little, they manage to control it and possibly transfer their dissociations into their dreams. And that's it. Some of these individuals even manage to embrace and appreciate their ability to gather information.

# Prescribing a Diet to Treat Depression

## Drew Ramsey, MD

The first-ever randomized controlled clinical trial to test a dietary intervention as a treatment for clinical depression has just been published. I am Dr Drew Ramsey. I am assistant clinical professor of psychiatry at Columbia University in New York City, and I am reporting for Medscape Psychiatry. I am excited to share the results of this very interesting study with you.

Two researchers, Felice Jacka and Michael Berk, led a consortium of Australian Institutions based at the Food & Mood Centre at Deakin University in Victoria, Australia. Over 3 years, they recruited several hundred patients with moderate to severe depression and entered 67 into a 12-week parallel group trial. The treatment group received seven 60-minute sessions of dietary counselling. The parallel control group received a matching social support protocol. All but nine of the 67 participants were receiving another active treatment—either psychotherapy, medications, or both.

In the dietary counseling sessions, participants were implored to increase consumption of foods in 12 food categories. The food categories, as you may guess, included whole grains, fruits, vegetables, nuts and legumes, and lean meats, chicken, and seafood, and to decrease consumption of foods that are correlated with a higher risk for depression: empty carbohydrates, refined starches, and highly processed foods. During the past decade, a mountain of evidence has been building that dietary patterns are strongly correlated with risk for depression. We have not had a randomized controlled trial like this to direct our clinical care, however.

The outcome was quite robust. The researchers found a statistically significant 7.1-point difference on the Montgomery-Asberg Depression Rating Scale (MADRS) in favor of the treatment group, which was their primary outcome. The researchers extrapolated that there was a 2.2-point reduction in the MADRS for every 10% adherence to the healthier dietary pattern.

They developed that pattern, which they called the Modified Mediterranean Diet, or the Modi-Medi Diet, by combining recommendations from the Australian government and the Greek government, and data from an earlier analysis by Felice Jacka and her colleagues that determined which dietary factors played the largest role in fighting depression with diet.

In this latest study, the number needed to treat was 4.1. That compares favorably with data from two pooled analyses of adjunctive aripiprazole in which the number needed to treat was 10. The augmentation effect was quite robust for an adjunctive treatment. In the treatment group, about 32% of patients achieved remission, compared with 8% in the control group. In terms of risk-

benefit profiles, a dietary intervention is emerging as a very safe and effective way for us to engage our patients.

As we know from our experience in our nutritional psychiatry clinic here in New York, discussing food is a great way to get a conversation going about aspects of a patient's life that we traditionally do not discuss. When you think about all of the information one can get about food and how people care for themselves, it becomes an intervention that not only helps build a very strong alliance but also is just a lot of fun—talking about lentil soup and where people get their seafood, and focusing overall on the food categories that individuals need to improve. Overall, these good foods tend to be leafy greens, rainbow vegetables, a variety of seafood, and improving the quality and amount of meat they consume, and, as the researchers note, reducing the consumption of foods that increase the risk for depression and other disorders.

One issue about eating for brain health is the cost, as often the recommended seafood and organic food can cost more. But the Australian researchers found that eating for brain health costs less. The average Australian spends \$138 a week on food. Those who were taking part in the study spent just \$112.

The study is called the SMILES Study, which makes me smile. SMILES stands for Supporting Modification of Lifestyle in Lower Emotional States. We hope the results of this intervention will be replicated.

For those of you who are incorporating food and nutritional assessments into your clinical practices, this is more evidence that you are on the right track. It is not only an engaging and alliancebuilding conversation, it is also a very effective intervention. For those who have not incorporated nutritional and lifestyle assessment into your practices, this study provides a great impetus to do so. Taking a peek at the paper will show you the methodology, which revolves around conducting a good dietary assessment.

I should note that the people who entered the trial had a poor dietary quality. Overall, that is what we also see in our clinic: Individuals who have the best response to a brain-food intervention are those who are eating a nutrient-depleted diet, often called the "beige diet" or the "12-year-old boy diet," consisting of empty carbohydrates, pizza, pasta, baked goods, and few of the brain nutrients that we hope patients will seek out based on the mountain of data we have.

Certain nutrients, such as the omega-3 fats, zinc, magnesium, iron, and vitamin B12, are very effective in terms of preventing depression and are readily found if you choose the right core set of foods. These are the foods that make up traditional diets, the foods that are highly correlated with a lower risk for depression and dementia. With this new randomized controlled clinical trial, this set of foods looks as though it can play a role as an adjunctive treatment for clinical depression and help your patients achieve full remission.

I am Dr Drew Ramsey for Medscape Psychiatry. Please let us know in the comments section below what you think of the study and how you are incorporating food into your clinical practice.

## Screening Tests for Depression

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### Overview

The estimated prevalence of depressive disorders is 13-22% in primary care clinics but is only recognized in approximately 50% of cases. The US Preventative Services Task Force recommendations were updated in 2016. The USPSTF published a level B recommendation for screening for depression in the general adult population (18 years and older), including older patients and pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.

Use of patient-administered screening tools has increased as a quick and reliable option in the first step of depression assessment or as a treatment monitor. An initial screen must be followed by a clinical interview to make the diagnosis of depression. The *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* criteria for major depression are reviewed below.

Diagnostic criteria for major depressive disorder (DSM-5)

At least 5 of the following symptoms have been present during the same 2-week period, represent a change from previous functioning, and include either depressed mood or loss of interest or pleasure.

- Depressed mood
- Marked diminished interest or pleasure
- Significant weight loss or weight gain
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Feelings of worthlessness or excessive guilt
- Diminished ability to concentrate
- Recurrent thoughts of death or suicidal ideation

A 2002 literature review found that median sensitivity across 16 instruments, including the BDI, CES-D, SDS, and GDS, for major depression was 85%, ranging from 50-97%, while median specificity was 74%, ranging from 51-98%. The more common screening tools will be reviewed in this topic, including the following:

- Hamilton Depression Rating Scale (HDRS)
- Beck Depression Inventory (BDI)
- Patient Health Questionnaire (PHQ)
- Major Depression Inventory (MDI)
- Center for Epidemiologic Studies Depression Scale (CES-D)
- Zung Self-Rating Depression Scale (SDS)
- Geriatric Depression Scale (GDS)
- Cornell Scale for Depression in Dementia (CSDD)

## **Hamilton Depression Rating Scale**

The Hamilton Depression Rating Scale is the most widely used interview scale, developed in 1960 to measure severity of depression in an inpatient population. Since then, many versions have been adapted, including structured interview guides, self-report forms, and computerized versions.

In the original clinician-administered scale, the first 17 items are tallied for the total score, while items 18-21 are used to further qualify the depression. The scale takes 20-30 minutes to

administer. Scores of 0-7 are considered normal, and scores greater than or equal to 20 indicate moderately severe depression. Each item either is scored on a 5-point scale, representing absent, mild, moderate, or severe symptoms, or on a 3-point scale, representing absent, slight or doubtful, and clearly present symptoms. The HDRS contains a relatively large number of somatic symptoms and relatively few cognitive or affective symptoms. The 21 items it assesses are as follows:

- Depressed mood
- Feelings of guilt
- Thoughts of suicide
- Insomnia
- Work and activities
- Psychomotor retardation
- Psychomotor agitation
- Psychic anxiety
- Somatic anxiety
- Gastrointestinal symptoms
- General somatic symptoms
- Genital symptoms
- Hypochondriasis
- Loss of insight
- Loss of weight
- Diurnal variation
- Depersonalization and derealization
- Paranoid symptoms
- Obsessional and compulsive symptoms

See the image below.

Hamilton Depression Rating Scale.

Name \_\_\_\_\_ Date \_\_\_\_\_

## Hamilton Depression Rating Scale

### 1. Depressed Mood (sadness, hopelessness, helplessness, worthlessness)

- 0 = Absent  
 1 = These feeling states indicated only on questioning  
 2 = These feeling states spontaneously reported verbally  
 3 = Communicates feeling states nonverbally (i.e., facial expression, posture, voice, tendency to weep)  
 4 = Reports verbally only these feeling states in spontaneous verbal and nonverbal communication

### 2. Feelings of Guilt

- 0 = Absent  
 1 = Self-reproach, feels he/she has let people down  
 2 = Ideas of guilt or retribution over past errors or "sinful" deeds  
 3 = Present illness is a punishment; delusions of guilt  
 4 = Hears accusatory or delusory voices and/or experiences threatening visual hallucinations

### 3. Suicide

- 0 = Absent  
 1 = Feels life is not worth living  
 2 = Wishes he/she were dead or has any thoughts of possible death to self  
 3 = Suicidal ideas or gestures  
 4 = Attempts at suicidal (any serious attempt rates "4")

### 4. Insomnia—Early

- 0 = No difficulty falling asleep  
 1 = Complaints of occasional difficulty falling asleep (i.e., >1/2 hour)  
 2 = Complaints of nightly difficulty falling asleep

### 5. Insomnia—Middle

- 0 = No difficulty  
 1 = Complaints of being restless and disturbed during the night  
 2 = Wakes during the night—getting out of bed rate "2" (except for purposes of voiding)

### 6. Insomnia—Late

- 0 = No difficulty  
 1 = Wakes in early hours of the morning but falls back to sleep  
 2 = Unable to fall asleep again if he/she gets out of bed

### 12. Somatic Symptoms—Gastrointestinal

- 0 = None  
 1 = Loss of appetite, but eating; heavy feelings in abdomen  
 2 = Difficulty eating without urging; requests or requires laxatives or medication for bowels or medication for GI symptoms

### 13. Somatic Symptoms—General

- 0 = None  
 1 = Heaviness in limbs, back of head; headache, muscle aches, loss of energy and fatiguability  
 2 = Any clear-cut symptoms rate "2"

### 14. Genital Symptoms (i.e., loss of libido; menstrual disturbances)

- 0 = Absent  
 1 = Mild  
 2 = Severe

### 15. Hypochondriasis

- 0 = Not present  
 1 = Self-absorption (body)  
 2 = Preoccupation with health  
 3 = Frequent complaints, requests for help, etc.  
 4 = Hypochondriacal delusions

### 16. Weight Loss

- 0 = No weight loss  
 1 = Slight or doubtful weight loss  
 2 = Obvious or severe weight loss

### 7. Work and Activities

- 0 = No difficulty  
 1 = Thoughts and feelings of incapacity, fatigue or weakness related to activities, work or hobbies  
 2 = Loss of interest in activity, hobbies or work—either directly reported by patient or indirectly in listlessness, indecision and vacillation (he/she has to push self to work or for activities)  
 3 = Decrease in actual time spent in activities or decrease in productivity  
 4 = Stopped working because of present illness

### 8. Retardation (slowness of thought and speech; impaired ability to concentrate; decreased motor activity)

- 0 = Normal speech and thought  
 1 = Slight retardation at interview  
 2 = Obvious retardation at interview  
 3 = Interview difficult  
 4 = Complete stupor

### 9. Agitation

- 0 = None  
 1 = Fidgetiness  
 2 = "Playing with" hands, hair, etc.  
 3 = Moving about, can't sit still  
 4 = Hand wringing, nail biting, hair pulling, etc.

### 10. Anxiety—Psychic

- 0 = No difficulty  
 1 = Subjective tension and irritability  
 2 = Worries about minor matters  
 3 = Apprehensive attitude apparent in face or speech  
 4 = Fear expressed without questioning

### 11. Anxiety—Somatic (physiological concomitants of anxiety such as gastrointestinal: dry mouth, flatulence, indigestion, diarrhea, cramps, belching; cardiovascular: palpitations, headaches; respiratory: hyperventilation, sighing; urinary frequency; sweating)

- 0 = Absent  
 1 = Mild  
 2 = Moderate  
 3 = Severe  
 4 = Incapacitating

### 17. Insight

- 0 = Acknowledges being depressed and ill  
 1 = Acknowledges illness but attributes cause to bad mood, climate, overwork, virus, need for rest, etc.  
 2 = Denies being ill at all

### 18. Diurnal Variation

- 0 = No variation  
 1 = Mild doubtfulness or slight variation  
 2 = Severe, clear or marked variation; if applicable, note whether symptoms are worse in AM or PM

### 19. Depersonalization and Derealization (feelings of unreality, nihilistic ideas)

- 0 = Absent  
 1 = Mild  
 2 = Moderate  
 3 = Severe  
 4 = Incapacitating

### 20. Paranoid Symptoms

- 0 = None  
 1 = Suspicious  
 2 = Ideas of reference  
 3 = Delusions of reference and persecution  
 4 = Paranoid hallucinations

### 21. Obsessive/Compulsive Symptoms

- 0 = Absent  
 1 = Mild  
 2 = Severe

Total HAM-D Score: \_\_\_\_\_

## **Beck Depression Inventory**

The Beck Depression Inventory (BDI) is the most widely used self-rating scale, developed in 1961 by Aaron Beck based on symptoms he observed to be common among depressed patients. The BDI consists of 21 items of emotional, behavioral, and somatic symptoms that takes 5-10 minutes to administer. The items are scored from 0 to 3 and measure mood, pessimism, sense of failure, lack of satisfaction, guilty feelings, sense of punishment, self hate, self accusations, self-punitive wishes, crying spells, irritability, social withdrawal, indecisiveness, body image, work inhibition, sleep disturbance, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido.

Scores of 10-18 indicate mild depression, 19-29 indicate moderate depression, and greater than 30 indicate severe depression. Other versions have been developed, including the Beck Depression Inventory II (BDI-II), a revision of the BDI in 1996 in response to the fourth edition of the DSM, and the Beck Depression Inventory for Primary Care (BDI-PC). The BDI-II is scored in the same manner as the BDI, but the cutoffs differ slightly. The BDI-PC is a screening 7-item scale for primary care outpatients, with a cut-off of 4 points for major depression. One study found a 97% sensitivity and 99% specificity rate for identifying patients with major depression. (The BDI is copyright protected and cannot be reproduced here. It can be purchased from Psychcorp.com.)

## **Patient Health Questionnaire**

The Patient Health Questionnaire is a self-administered tool of 2 (PHQ2) or 9 (PHQ9) items. A meta-analysis found sensitivity to be 80% and specificity of 92%. The PHQ2 is a screening tool for depression that assesses the frequency of depressed mood and anhedonia over the past 2 weeks, scoring each as 0 ("not at all") to 3 ("nearly every day").

A PHQ-2 score of greater than 3 had a sensitivity of 83% and a specificity of 92% for major depression. The PHQ 9 establishes the clinical diagnosis of depression and can additionally be used over time to track the severity of symptoms over time. The cut point of the PHQ9 is equal or greater than 10, which has a sensitivity of 88% and a specificity of 88% for major depression. PHQ-9 scores of 5, 10, 15, and 20 are representative of mild, moderate, moderately severe, and severe depression, respectively (see the image below).

<b>Patient Health Questionnaire (PHQ-9)</b>				
Over the <i>last 2 weeks</i> , how often have you been bothered by any of the following problems?				
	Nearly every day 3	More than half the days 2	Several days 1	Not at all 0
Little interest or pleasure in doing things				
Feeling down, depressed, or hopeless				
Trouble falling or staying asleep, or sleeping too much				
Feeling tired or having little energy				
Poor appetite or overeating				
Feeling bad about yourself—or that you are a failure or have let yourself or your family down				
Trouble concentrating on things, such as reading the newspaper or watching television				
Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual				
Thoughts that you would be better off dead, or of hurting yourself in some way				

## Major Depression Inventory

The Major Depression Inventory (MDI) is a self-rating scale used for the diagnosis or measurement of depression, according to both DSM-IV major depression and ICD-10 moderate to severe depression criteria. The symptoms should have been present nearly every day during the past 2 weeks. In both the DSM-IV and ICD-10, the items of depressed mood and lack of interest are considered as the core symptoms of depression.

For the diagnosis of major depression, either item 1 or 2 should be among the 5 of 9 items present. Items 4 and 5 are combined, with only the highest answer category is considered and a total number of items of nine. As a diagnostic tool, the 10 items are dichotomized for the presence (1) or absence (0) of each symptom. As a measuring tool, the items are given a value

(0-5) and summed up to a theoretical score of 0 to 50. The cutoff score is 26 for the diagnosis of major (moderate to severe) depression. The sensitivity of the MDI algorithms is between 86% and 92%, while the specificity is between 82% and 86% (see the image below).

<b>Major Depression Inventory</b>						
	All of the time	Most of the time	Slightly more than half of the time	Slightly less than half of the time	Some of the time	At no time
	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
1 Have you felt low in spirits or sad?						
2 Have you lost interest in your daily activities?						
3 Have you felt lacking in energy and strength?						
4 Have you felt less self-confident?						
5 Have you had a bad conscience or feelings of guilt?						
6 Have you felt that life wasn't worth living?						
7 Have you had difficulty in concentrating, e.g., when reading the newspaper or watching television?						
8a Have you felt very restless?						
8b Have you felt subdued?						
9 Have you had trouble sleeping at night?						
10a Have you suffered from reduced appetite?						
10 b Have you suffered from increased appetite?						

### **Center for Epidemiologic Studies Depression Scale**

The Center for Epidemiologic Studies Depression (CES-D) scale was published in 1977 as a screening tool for depression in the general population. The CES-D is often used in studies examining the well-being of participants in large-scale population surveys. The self-administered screening scale consists of 20 items, 16 negatively worded and 4 positively worded. The instrument measures affective and somatic aspects of depression. Each question receives a score ranging from 0 to 3, and the possible range of scores is from 0 to 60, with higher scores indicating the presence of greater symptomatology. The CES-D was revised to reflect current DSM-IV diagnostic criteria for depression, the CESD-R (see the image below).

**Center for Epidemiologic Studies Depression Scale (CES-D), NIMH**

Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

Week	During the Past			
	Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)
1. I was bothered by things that usually don't bother me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I did not feel like eating; my appetite was poor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I felt that I could not shake off the blues even with help from my family or friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I felt I was just as good as other people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I had trouble keeping my mind on what I was doing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I felt depressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I felt that everything I did was an effort.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I felt hopeful about the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. I thought my life had been a failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I felt fearful.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. My sleep was restless.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I was happy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. I talked less than usual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. I felt lonely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. People were unfriendly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I enjoyed life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I had crying spells.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I felt sad.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I felt that people dislike me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I could not get "going."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SCORING: zero for answers in the first column, 1 for answers in the second column, 2 for answers in the third column, 3 for answers in the fourth column. The scoring of positive items is reversed. Possible range of scores is zero to 60, with the higher scores indicating the presence of more symptomatology.

## Zung Self-Rated Depression Scale

The Zung Self-Rated Depression Scale (SDS), originally called the Self-Rating Depression Scale, is a 20-item self-administered test published in 1965 with the goal of developing a quick and inclusive self-administered tool. Half of the 20 items are positively worded and half are negatively worded. This scale has been used in clinical research to monitor treatment or as a screening tool in general practice. The SDS has a key for scoring, with scores ranging from 1 to 4. Scores greater than 50 indicate mild depression, greater than 60 indicate moderate depression, and greater than 70 indicate severe depression (see the image below).

## ZUNG SELF-RATING DEPRESSION SCALE

Patient's Initials \_\_\_\_\_

Date of Assessment \_\_\_\_\_

Please read each statement and decide how much of the time the statement describes how you have been feeling during the past several days.

Make check mark (✓) in appropriate column.	A little of the time	Some of the time	Good part of the time	Most of the time
1. I feel down-hearted and blue				
2. Morning is when I feel the best				
3. I have crying spells or feel like it				
4. I have trouble sleeping at night				
5. I eat as much as I used to				
6. I still enjoy sex				
7. I notice that I am losing weight				
8. I have trouble with constipation				
9. My heart beats faster than usual				
10. I get tired for no reason				
11. My mind is as clear as it used to be				
12. I find it easy to do the things I used to				
13. I am restless and can't keep still				
14. I feel hopeful about the future				
15. I am more irritable than usual				
16. I find it easy to make decisions				
17. I feel that I am useful and needed				
18. My life is pretty full				
19. I feel that others would be better off if I were dead				
20. I still enjoy the things I used to do				

Adapted from Zung, A self-rating depression scale, Arch Gen Psychiatry, 1965;12:63-70.

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## KEY TO SCORING THE ZUNG SELF-RATING DEPRESSION SCALE

Consult this key for the value (1-4) that correlates with patients' responses to each statement. Add up the numbers for a total score. Most people with depression score between 50 and 69. The highest possible score is 80<sup>1</sup>.

Make check mark (✓) in appropriate column.	A little of the time	Some of the time	Good part of the time	Most of the time
1. I feel down-hearted and blue	1	2	3	4
2. Morning is when I feel the best	4	3	2	1
3. I have crying spells or feel like it	1	2	3	4
4. I have trouble sleeping at night	1	2	3	4
5. I eat as much as I used to	4	3	2	1
6. I still enjoy sex	4	3	2	1
7. I notice that I am losing weight	1	2	3	4
8. I have trouble with constipation	1	2	3	4
9. My heart beats faster than usual	1	2	3	4
10. I get tired for no reason	1	2	3	4
11. My mind is as clear as it used to be	4	3	2	1
12. I find it easy to do the things I used to	4	3	2	1
13. I am restless and can't keep still	1	2	3	4
14. I feel hopeful about the future	4	3	2	1
15. I am more irritable than usual	1	2	3	4
16. I find it easy to make decisions	4	3	2	1
17. I feel that I am useful and needed	4	3	2	1
18. My life is pretty full	4	3	2	1
19. I feel that others would be better off if I were dead	1	2	3	4
20. I still enjoy the things I used to do	4	3	2	1

Adapted from Zung.<sup>2</sup>

**References:** 1. Carroll BJ, Fielding JK, Blashki TC. Depression rating scales: a critical review. *Arch Gen Psychiatry.* 1973;28:361-366.

2. Zung WWK. A self-rating depression scale. *Arch Gen Psychiatry.* 1965;12:63-70.

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## **Geriatric Depression Scale**

The Geriatric Depression Scale (GDS) was specifically developed for use in geriatric populations, originally as a 30-item scale. It was modified a 15-item scale, which has been widely used. The GDS was later reduced to 5 items, so as to be better received by elderly patients. The questions elicit only “yes” or “no” responses, making comprehension easier compared with multiple-choice answers.

The 5-item scale has a sensitivity of 94%, specificity of 81%, and demonstrated a significant agreement in the clinical diagnosis of depression with the 15-item scale. The 5-item scale is scored by 1 point for a “no” answer on the first question or a “yes” answer for the remaining questions. A score of greater than or equal to 2 is a positive screen for depression (see the images below).

### Geriatric Depression Scale

Date: \_\_\_\_\_

Please read each question and select the best answer that describes how you've been feeling in the past **week**.

<b>Make check mark (✓) in appropriate column.</b>	<b>Yes</b>	<b>No</b>
1. Are you basically satisfied with your life?		
2. Have you dropped many of your activities and interests?		
3. Do you feel that your life is empty?		
4. Do you often get bored?		
5. Are you hopeful about the future?		
6. Are you bothered by thoughts you can't get out of your head?		
7. Are you in good spirits most of the time?		
8. Are you afraid that something bad is going to happen to you?		
9. Do you feel happy most of the time?		
10. Do you often feel helpless?		
11. Do you often get restless and fidgety?		
12. Do you prefer to stay at home, rather than going out and doing new things?		
13. Do you frequently worry about the future?		
14. Do you feel you have more problems with memory than most?		
15. Do you think it is wonderful to be alive now?		
16. Do you often feel downhearted and blue?		
17. Do you feel pretty worthless the way you are now?		
18. Do you worry a lot about the past?		
19. Do you find life very exciting?		
20. Is it hard for you to get started on new projects?		
21. Do you feel full of energy?		
22. Do you feel that your situation is hopeless?		

<b>Make check mark (✓) in appropriate column.</b>	<b>Yes</b>	<b>No</b>
23. Do you think that most people are better off than you are?		
24. Do you frequently get upset over little things?		
25. Do you frequently feel like crying?		
26. Do you have trouble concentrating?		
27. Do you enjoy getting up in the morning?		
28. Do you prefer to avoid social gatherings?		
29. Is it easy for you to make decisions?		
30. Is your mind as clear as it used to be?		

Reference: Yesavage, J.A., Brink, T.L., Rose, T.L., Lum, O., Huang, V., Adey, M., Leirer, V.O. (1983). Development and Validation of a Geriatric Depression Screening Scale: A Preliminary Report. *Journal of Psychiatric Research*, 17: 37-49.

### Scoring for Geriatric Depression Scale

Scoring Directions: 1) For each question, look up your response and circle the corresponding score (0-1). 2) Calculate your Total Score by adding up all the "1" values.

<b>Make check mark (✓) in appropriate column.</b>	<b>Yes</b>	<b>No</b>
1. Are you basically satisfied with your life?	0	1
2. Have you dropped many of your activities and interests?	1	0
3. Do you feel that your life is empty?	1	0
4. Do you often get bored?	1	0
5. Are you hopeful about the future?	0	1
6. Are you bothered by thoughts you can't get out of your head?	1	0
7. Are you in good spirits most of the time?	0	1
8. Are you afraid that something bad is going to happen to you?	1	0
9. Do you feel happy most of the time?	0	1
10. Do you often feel helpless?	1	0
11. Do you often get restless and fidgety?	1	0
12. Do you prefer to stay at home, rather than going out and doing new things?	1	0
13. Do you frequently worry about the future?	1	0
14. Do you feel you have more problems with memory than most?	1	0
15. Do you think it is wonderful to be alive now?	0	1
16. Do you often feel downhearted and blue?	1	0
17. Do you feel pretty worthless the way you are now?	1	0
18. Do you worry a lot about the past?	1	0
19. Do you find life very exciting?	0	1
20. Is it hard for you to get started on new projects?	1	0
21. Do you feel full of energy?	0	1
22. Do you feel that your situation is hopeless?	1	0

<b>Make check mark (✓) in appropriate column.</b>	<b>Yes</b>	<b>No</b>
23. Do you think that most people are better off than you are?	1	0
24. Do you frequently get upset over little things?	1	0
25. Do you frequently feel like crying?	1	0
26. Do you have trouble concentrating?	1	0
27. Do you enjoy getting up in the morning?	0	1
28. Do you prefer to avoid social gatherings?	1	0
29. Is it easy for you to make decisions?	0	1
30. Is your mind as clear as it used to be?	0	1
<b>Total Score:</b>		

**Scoring Results:**

Total Score: 0-9 = normal; 10-19 = mild depression; 20-30 = severe depression

If your score indicates depression, see a health care/mental health professional for further evaluation and treatment. Bring these test results to your appointment.

## Geriatric Depression Scale (Short Form)

Patient's Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions:** Choose the best answer for how you felt over the past week.

No.	Question	Answer	Score
1.	Are you basically satisfied with your life?	YES / NO	
2.	Have you dropped many of your activities and interests?	YES / NO	
3.	Do you feel that your life is empty?	YES / NO	
4.	Do you often get bored?	YES / NO	
5.	Are you in good spirits most of the time?	YES / NO	
6.	Are you afraid that something bad is going to happen to you?	YES / NO	
7.	Do you feel happy most of the time?	YES / NO	
8.	Do you often feel helpless?	YES / NO	
9.	Do you prefer to stay at home, rather than going out and doing new things?	YES / NO	
10.	Do you feel you have more problems with memory than most?	YES / NO	
11.	Do you think it is wonderful to be alive?	YES / NO	
12.	Do you feel pretty worthless the way you are now?	YES / NO	
13.	Do you feel full of energy?	YES / NO	
14.	Do you feel that your situation is hopeless?	YES / NO	
15.	Do you think that most people are better off than you are?	YES / NO	
<b>TOTAL</b>			

**Scoring:**

Assign one point for each of these answers:

- |        |        |        |         |         |
|--------|--------|--------|---------|---------|
| 1. NO  | 4. YES | 7. NO  | 10. YES | 13. NO  |
| 2. YES | 5. NO  | 8. YES | 11. NO  | 14. YES |
| 3. YES | 6. YES | 9. YES | 12. YES | 15. YES |

A score of 0 to 5 is normal. A score above 5 suggests depression.

**Source:**

- Yesavage J.A., Brink T.L., Rose T.L. et al. Development and validation of a geriatric depression screening scale: a preliminary report. *J. Psychiatr. Res.* 1983; 17:37-49.

## **Cornell Scale for Depression in Dementia**

The Cornell Scale for Depression in Dementia (CSDD) is designed for use in elderly patients with underlying cognitive deficits. Because this patient population may give unreliable answers, the CSDD additionally uses information from a patient informant, someone who knows and has frequent contact with the patient, and can include family members or care staff.

The CSDD takes approximately 20 minutes to administer. The CSDD is a 19-item scale, with scores of 0 for absent, 1 for mild or intermittent, and 2 for severe symptoms. A total score of 10 indicate probable major depression and greater than 18 indicate definite major depression. However, a recent study found a score of 6 or more has a sensitivity of 93% and specificity of 97%. The same questions are asked of both the patient and the informant and include mood-related signs of anxiety, sadness, lack of reactivity to pleasant events, and irritability; behavioral disturbance including psychomotor agitation and retardation, physical complaints, acute loss of interest; physical signs such as appetite loss, weight loss, and lack of energy; cyclic functions including diurnal variations and sleep difficulties; and ideation disturbance including suicide, self-deprecation, pessimism, and mood congruent delusions (see the image below).

## Predictors of Psychosis Relapse Identified

### Liam Davenport

FLORENCE, Italy — Medication nonadherence is the primary predictor of an initial relapse after first-episode psychosis (FEP), say Spanish researchers, who found that other factors predicted subsequent relapses.

The findings showed that second and subsequent relapses were associated with nonmodifiable factors, such as age at onset, a schizophrenia diagnosis, and a low level of positive symptomatology.

"This subgroup of patients could have greater predisposition to relapse related with the severity of the disease itself," the investigators, led by Marcos Gomez Revuelta, MD, Hospital Universitario de Álava-Sede Santiago, Vitoria-Gasteiz, Spain, note.

The findings were presented here at the European Psychiatric Association (EPA) 2017 Congress.

### Major Disease Burden

Nuria Núñez Morales, MD, also from Hospital Universitario de Álava-Sede Santiago, who presented the findings on behalf of Dr Revuelta, noted that positive symptoms in FEP "are just the tip of the iceberg" in terms of disease burden.

She said relapse following FEP is associated with hospitalization, treatment resistance, brain tissue loss, suicide, violence, social stigma, and economic and familial burden, as well as loss of clinical, social, and vocational recovery.

Although previous studies have shown that a first relapse is linked to nonadherence to medication, persistent substance use disorder, and poor premorbid adjustment, little is known about the factors affecting subsequent relapse.

To examine the predictive factors of first and subsequent relapse, the team examined data on 393 antipsychotic-naïve FEP patients who had taken part in a prospective, randomized, flexible-dose, open-label drug study between 2001 and 2011. The patients were allocated to receive one of six antipsychotics.

Of those patients, 341 achieved clinical remission and were considered to be at risk for relapse. As part of the trial, they were assessed at baseline, 6 weeks, and again at 12 and 36 months.

During the 3-year follow-up, 166 (48.68%) patients experienced at least one relapse. Fifty-six patients (33.73%) experienced a second relapse. A total of 15 patients (26.79%) had three relapses, six patients experienced four relapses (9.20%), and a single patient had five relapses.

Cox regression analysis revealed that the main predictor of first relapse was poor adherence to medication (ExpB: 2.979;  $P < .001$ ). Predictors of a second relapse were diagnosis (ExpB: 1.975;  $P = .074$ ), age at onset, (ExpB: 1.078;  $P = .003$ ), and a low level of positive symptomatology (ExpB: 0.863;  $P = .03$ ).

Dr Núñez Morales concluded that nonadherence to medication "was the main relevant predictor for clinical relapses after a first episode of psychosis." She said that "only nonmodifiable factors, such as diagnosis and age of onset, increased the risk" for further relapses.

### **Need for Better Patient Relations**

However, session chair Armida Mucci, MD, PhD, Department of Psychiatry, University of Naples SUN, in Italy, took issue with this notion and said that age of onset is a modifiable risk factor, noting it can be modified by identifying high-risk patients early on and enrolling them in prevention programs.

Speaking to *Medscape Medical News* after the session, Dr Mucci said that the rate of medication nonadherence in psychiatry is extremely high. She believes that the key to solving this problem lies in better physician-patient relationships, which she described as the "number one factor in the dropout rate.

"We should strive to have better relationships with our patients, we should consult with them more, and we should really work on adherence via the relationship," she said.

Dr Mucci noted that the problem of nonadherence is not confined to psychiatry. "All the chronic diseases are plagued by this," she said. She added that it is largely due to the fact that patients do not like to take medications for a lifetime.

"But if they trust their doctor and they have not only the pills but perhaps a warm relationship with their doctor, this helps a lot, both in medicine and in psychiatry," she said.

*No funding for the study and no relevant financial relationships have been disclosed.*

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# Emergent Treatment of Schizophrenia

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Disclosure: Nothing to disclose.

## Overview

Schizophrenia is a chronic psychotic disorder, either persistent or episodic, whose hallmark features may include delusions, hallucinations, disturbed thinking processes, flattening of affect, and abnormal behaviors. Affecting approximately 1% of the members of all cultural groups globally, schizophrenia is a catastrophically disabling illness with heavy social and economic costs on its sufferers and society.

During 2009-2011, an estimated 382,000 emergency department (ED) visits related to schizophrenia occurred each year among adults aged 18-64, with an overall ED visit rate of 20.1 per 10,000 adults.

It is essential in the emergency department (ED) not to confuse the thought and behavioral disturbances of organically based acute delirium with any of the psychotic disorders. The avoidance of this confusion is the primary reason for "medical clearance" examinations and drugs-of-abuse screening.

Because of the variability of symptom expression, diagnostic requirements of chronicity, and lack of pathognomonic features, an ED diagnosis of schizophrenia should be provisional at best. As a diagnosis-by-exclusion, schizophrenia must be distinguished from the numerous psychiatric and organic disorders that also can lead to psychotic disturbances in thinking and behavior.

Psychosis and schizophrenia are not equivalent, although they are commonly mistaken as such. Psychosis is a disorder of thinking and perception in which information processing and reality testing are impaired, resulting in an inability to distinguish fantasy from reality (delusions and hallucinations). Schizophrenia is one of several psychiatric disorders for which psychosis is a major feature. Other psychiatric disorders that can be mistaken for schizophrenia include the following:

- Bipolar disorder in a manic phase
- Delusional disorders
- Brief psychotic disorder
- Schizophreniform illness, schizoid and schizotypal personality disorder
- Borderline personality disorder
- Posttraumatic stress disorder (PTSD)
- Transient, drug-induced psychosis; alcoholic hallucinosis; and drug or alcohol withdrawal syndromes
- Major depression with psychotic features
- Delirium

The most common etiologies for severe mental status changes in the ED are organic, not psychiatric. They include medications, drug intoxication, drug withdrawal syndromes, and general medical illnesses causing delirium.

Take a careful medication history; many commonly prescribed medicines can occasionally cause psychotic reactions.

Medical clearance examinations are medicolegally risky. These evaluations are typically brief and rarely sufficient to rule out organic etiologies.

Go to Schizoaffective Disorder, Childhood-Onset Schizophrenia, and Schizophreniform Disorder for complete information on these topics.

## **Patient History**

The onset of schizophrenia is insidious in approximately one half of all patients. The prodromal phase can begin years before the full-blown syndrome and is characterized by losses of functioning in home, society, and occupation (eg, poor school or work performance, deterioration of hygiene and appearance, decreasing emotional connections with others, behaviors that would have been odd for the individual in the past).

A gradual onset indicates a more severe and prolonged course of illness.

An abrupt onset of hallucinations and delusional, bizarre, or disorganized thinking in patients who previously functioned normally may result in a better intermediate and long-term outcome. Such patients arriving in a psychotic crisis that requires immediate management may not have been diagnosed with psychiatric illness previously. They often present diagnostic dilemmas involving organic versus psychiatric etiology and primary psychotic versus affective disorder diagnosis. Treatment may be complicated further by the presence of alcohol or drug intoxication. Often, the history obtained in the ED relates to a complication of treatment (medication adverse effects) or a crisis arising from socioeconomic factors secondary to schizophrenia (eg, poverty, homelessness, social isolation, failure of support systems).

While the primary diagnosis of schizophrenia rarely is made de novo in the ED, several historical features can be helpful in distinguishing the illness from the many medical and psychiatric conditions that can mimic it.

Two or more of the following must have been present over the prior month for a significant period (unless treated with medication):

- Delusions - Bizarre or illogical false beliefs, which often have a paranoid, grandiose, persecutory, or religious flavor; false interpretation of normal perceptions

- Hallucinations - Typically auditory (visual or tactile strongly suggest an organic etiology), often involving malevolent or taunting voices commenting on the patient's actions or character, often with a sexual flavor; voices giving commands (ie, command hallucinations); 2 or more voices discussing or arguing with each other; audible thoughts; thought withdrawal (feeling that thoughts are being removed from head), thought broadcasting, or thought interference by an outside agent
- Disorganized speech - Tangential, incoherent, rambling speech; neologisms (new word creation); loosening of associations
- Behavior - Grossly disorganized or catatonic
- Negative symptoms - Poverty of speech (ie, alogia), emotional and/or social withdrawal, blunting of affect, avolition

Loss of a previously held level of occupational, social, or self-care functioning must have occurred since the onset of illness.

Presence of an affective disorder (eg, major depression, bipolar disorder, schizoaffective disorder) must be excluded; these conditions can be mistaken for schizophrenia and have very different prognoses and therapies. Additionally, an organic etiology (eg, drug intoxication, medical illness) must be ruled out.

One of the following problems with antipsychotic medications commonly is the chief complaint:

- Acute dystonia (muscle rigidity and spasm), oculogyric crisis (bizarre and frightening upward gaze paralysis and contortion of facial and neck musculature), akathisia (dysphoric sense of motor restlessness)
- Parkinsonian symptoms of stiffness, resting tremor, difficulty with gait, and feeling slowed-down
- Orthostatic hypotension caused by alpha-adrenergic blockade
- Dry mouth, fatigue, sedation, visual disturbance, inhibited urination, and sexual dysfunction, which can be adverse reactions to antipsychotic medication or to anticholinergic drugs taken for prophylaxis of dystonia

Obtain the following information when an acutely psychotic patient presents to the ED:

- The potential danger the patient presents to himself or herself or to others
- Prior medical and psychiatric records, including past hospitalizations and medication therapy
- His or her baseline level of functioning
- Current or recent substance abuse
- Current use of prescribed, over-the-counter (OTC), and herbal medications
- Compliance with current psychiatric medications

A paranoid schizophrenic, in response to delusions and command hallucinations, can be extremely dangerous and unpredictable.

Find out about threats made to others, expressions of suicidal intent, and possession of weapons at home or on the person.

## **Physical Examination**

Depending on the reason for ED presentation, the patient with schizophrenia may present with wildly agitated, combative, withdrawn, or severely catatonic behavior. Conversely, the patient may appear rational, cooperative, and well controlled (perhaps with only some blunting of affect). The person also could be subtly odd, unkempt, or frankly bizarre in manner, dress, and/or affect.

Perform a general physical examination on all patients, with attention to vital signs, pupillary findings, hydration status, and mental status.

A comprehensive physical examination and laboratory evaluation is required when an organic etiology or drug intoxication may be related to mental status changes.

Pay particular attention to fever, tachycardia (which, in association with rigidity, can be a sign of neuroleptic malignant syndrome), heatstroke (antipsychotics inhibit sweating), and other medical illness.

Look for signs of dystonia, akathisia, tremor, and muscle rigidity.

Tardive dyskinesia is a common and often irreversible sequela of long-term (and sometimes brief) antipsychotic use. It involves uncontrollable tongue thrusting, lip smacking, and facial grimacing.

Mental status testing should typically reveal clear sensorium and orientation to person, place, and time. Assess attention, language, memory, constructions, and executive functions. Absence of clear sensorium and/or orientation may indicate the presence of acute delirium, a medical condition.

## **Differential Diagnosis**

Conditions to consider in the differential diagnosis of schizophrenia include the following:

- Delirium, dementia, and amnesia
- Depression
- Encephalitis
- Neuroleptic malignant syndrome

- Panic disorders
- Personality disorders
- Acetaminophen toxicity
- Hallucinogen toxicity
- Hallucinogenic mushroom toxicity
- Neuroleptic agent toxicity
- Phencyclidine toxicity
- Sympathomimetic toxicity

## **Laboratory Studies**

No specific laboratory findings are diagnostic of schizophrenia. However, performing some studies may be necessary to rule out possible organic etiologies for psychosis or to uncover complications of schizophrenia and its treatment.

Blood levels of certain psychiatric drugs, specifically lithium and the mood-stabilizing antiseizure medications (eg, valproic acid, carbamazepine), can be used to confirm compliance or rule out toxicity.

Serum alcohol levels and drugs-of-abuse screening can be useful when substance abuse is suspected.

Interpreting the results of a fingerstick blood glucose determination is a rapid and inexpensive method of ruling out a diabetic emergency masquerading as an exacerbation of a psychotic illness; similarly, measuring oxygen saturation levels can help to disclose hypoxia resulting in behavioral or central nervous system (CNS) disturbance.

Electrolyte measurements may reveal hyponatremia secondary to water intoxication (ie, psychogenic polydipsia). This is common in undertreated or refractory schizophrenia.

Laboratory abnormalities observed in neuroleptic malignant syndrome may include leukocytosis with left shift and elevated skeletal muscle creatinine kinase (CK) and aldolase levels.

## **Other Studies**

Computed tomography (CT) scanning, magnetic resonance imaging (MRI), and positron emission tomography (PET) scanning can disclose abnormalities of brain structure and function in schizophrenia. Although these studies are of interest for research, they have limited clinical relevance. Various psychological and neurobiologic tests, such as absence of smooth eye-tracking, may be helpful in studying schizophrenia but are not useful in the ED setting.

## **Prehospital Care**

Safe transport of a patient with acute psychosis may require physical or chemical restraints.

Be familiar with restraint and sedation protocols in your emergency medical service (EMS) area and hospital.

Know your state's regulations or statutes regarding involuntary transport, treatment, and hospitalization of psychiatric patients.

Document your concerns regarding imminent risk to the patient or others resulting from the patient's psychiatric condition.

File appropriate application for involuntary transport/treatment when indicated.

## **Emergency Department Care**

Evolving from the efficacy of modern antipsychotic medications and the subsequent widespread budget cutting of psychiatric services over the past 2 decades, deinstitutionalization of patients with schizophrenia has had a major impact on emergency medicine. Patients with schizophrenia now are frequent visitors to the ED, presenting with problems ranging from symptom exacerbation to medication noncompliance, adverse effects to medications, and socioeconomic crisis arising from substance abuse, poverty, homelessness, or a failed support system.

Depending on the reason for the patient's ED visit, care may be limited to diagnosis and treatment of an urgent or nonurgent medical complaint; a brief medical evaluation followed by consultation with psychiatric, crisis, or social service personnel; evaluation and treatment of an adverse reaction to a psychiatric drug; or physical and chemical restraint of a patient with acute psychosis in coordination with a workup, when indicated, to rule out organic etiologies.

Remember that psychiatric and organic illness can coexist and interact at the same time in the same patient. Furthermore, acute psychiatric symptoms and difficulties obtaining a reliable history from the patient can mask serious organic illness.

A brief medical clearance examination is limited in usefulness and insufficient to rule out organic etiologies.

## **Use of restraints and involuntary commitment**

Failure to talk down or intimidate (with a show of force) a severely agitated patient may require physical restraint of the patient, followed by chemical restraint (ie, sedation).

Proper physical restraints and individuals trained in their application should be available at all times. Document reasons for restraining a patient (mention patient/staff safety and protection), the type of restraint used (eg, locked room vs 4-point leather), the maximum duration of restraint, and reasons for involuntary commitment; follow all Consolidated Omnibus Budget

Reconciliation Act (COBRA) regulations when transferring patients to another facility for psychiatric care.

Be familiar with ED and hospital regulations, Health Insurance Portability and Accountability Act (HIPAA) rules, regional statutes, and Emergency Medical Treatment and Labor Act (EMTALA) requirements regarding the use of physical restraints, involuntary psychiatric commitment, and transfer.

Do not order "restrain prn." Give specific reasons for applying and removing restraints. Personally ensure that restraints are applied safely. Use the least restrictive measures that are effective. The patient should be monitored continuously while restrained either physically or chemically. Restraint and seclusion orders should be renewed at regular intervals not to exceed 4 hours.

In most cases, chemical restraint (ie, sedation) is preferable to physical restraint when prolonged behavioral control is necessary or when the patient is severely combative. Any physical restraint of a combative patient can lead to serious injury or death (eg, from aspiration, sudden cardiac death, rhabdomyolysis).

## **Tranquilization**

Rapid tranquilization (chemical restraint) may be carried out as follows here.

Typically, a combination of lorazepam 2 mg mixed in the same syringe with haloperidol 5 or 10 mg is administered intramuscularly or intravenously. Benztropine (Cogentin), 1 mg, may be added to counteract dystonia ("5-2-1"). Elderly patients typically require lower doses. Repeat doses can be administered in 20-30 minutes as needed to control continued severe agitation. Haloperidol dose can be doubled each time up to 20 mg if prior dosing is inadequate for severe agitation.

An alternative to the haloperidol component is droperidol at the same dosages. Droperidol is more sedating, faster in onset, and somewhat shorter acting. The downside is the black-box warning about prolonged QT syndrome, which rarely occurs at higher doses than those typically utilized for acute behavioral control. Cardiac monitoring is recommended, but some experts believe these warnings to be overly cautious. Following the black-box warning, most physicians continuing to utilize droperidol for acute behavioral control reserve it for special situations requiring somewhat faster onset and greater sedation than would be achieved with similar doses of haloperidol. Droperidol, therefore, may be considered useful, yet second-line to haloperidol in the emergency department.

In certain cases, sedation can be administered orally and may consist of lorazepam 2 mg plus haloperidol 2-5 mg or risperidone 2 mg PO (by mouth). An alternative is olanzapine (Zyprexa Zydis), which is an oral, rapidly disintegrating tablet, 5-10 mg.

If the patient has haloperidol or droperidol sensitivity, ziprasidone 10-20 mg (administered intramuscularly) can be substituted (20 mg is the typical dose). Exercise caution regarding prolonged QT syndrome and multiple drug-drug interactions. Ziprasidone may be somewhat slower in onset than haloperidol and droperidol but has excellent sedating qualities with less propensity for dystonia. A single repeat dose of 20 mg in 4 hours may be necessary (maximum 40 mg/d IM). A 10 mg dosing can be repeated in 2 hours. Reduced pricing now makes ziprasidone an excellent first-line alternative to the older, conventional antipsychotics, especially in younger patients who are more likely to develop dystonic reactions.

Lorazepam alone is sometimes sufficient for lesser degrees of agitation or anxiety and can be given sublingually for more rapid onset. The recommended dose for anxiety and mild agitation is 1-2 mg administered orally or sublingually.

## **Consultations**

When available, consult with a psychiatrist (ideally, who can immediately and personally evaluate the patient in the ED) when assistance is needed with proper diagnosis and/or management of acute symptoms or severe behavioral disturbances.

Crisis liaison teams, typically made up of clinical social workers, psychologists, and/or psychiatric nurses, are available in many EDs 24 hours a day through the hospital or local psychiatric agencies. Their primary role is assessment for appropriateness of psychiatric hospitalization and to determine availability of inpatient beds in compliance with the patient's insurance coverage. Such clinicians can also assist in arranging prompt outpatient follow-up when hospitalization is not necessary.

Emergency clinicians always should examine each patient personally, assessing their suicide risk or threat to others and documenting all reasoning. A medical clearance evaluation must be performed in order to rule out organic illness that may be causing psychiatric symptoms or will preclude admission to a psychiatric bed.

The emergency clinician should speak directly with the crisis consultant and read his or her evaluation notes. Then, based on the evaluation and the information has been obtained, the crisis consultant's disposition proposals should be confirmed or modified. The final decision as to patient disposition should always be confirmed by the emergency physician. Such decision-making should never be abrogated to or overruled by a crisis liaison worker. Ultimately, the emergency clinician is medically and legally responsible for the patient and his or her disposition until a psychiatrist or other provider assumes the primary responsibility for care.

Do not delay necessary sedation of a patient with acute psychosis for the diagnostic benefit of psychiatric crisis consultants not yet present in the ED. Treatment delays can lead to injuries and

can increase morbidity and worsen prognosis. In these situations, the crisis consultant must rely on the premedication assessment.

## **Transfer**

Psychiatric transfers from the ED to other hospitals are common because of bed shortages and insurance considerations. These transfers should be treated as medical transfers by documenting the patient's stability, the reason for transfer, and other factors required to meet COBRA obligations.

Sedating patients with severe agitation and/or acute psychosis is essential to prevent potential injury to the patient and staff en route.

## **Medication**

Antipsychotic medications (previously referred to as neuroleptics or major tranquilizers) have revolutionized the treatment of and prognosis for schizophrenia. All block dopamine (especially D2) receptors in the brain.

The newer, atypical agents also affect serotonin transmission. These newer agents (eg, risperidone, clozapine, olanzapine, quetiapine, ziprasidone, aripiprazole) are less likely to produce dystonia and tardive dyskinesia and are more likely to improve negative symptoms. However, they are not more effective than traditional agents (eg, haloperidol, droperidol, fluphenazine), with the possible exception of clozapine in the treatment-resistant patient. Some newer agents cause serious weight gain and may raise the risk of insulin resistance and diabetes mellitus. Studies show a slightly increased death rate in elderly patients with dementia using atypical agents. However, the risk was even higher with the older, conventional agents.

A retrospective analysis found that in relapsed schizophrenia patients, atypical long-acting injectable antipsychotics (LATs) were associated with lower rehospitalization and ER visit rates than oral APs.

Benzodiazepines also have a role in schizophrenia, especially in the emergency care of a patient with acute psychosis.

Anticholinergic medications (ie, benztropine, diphenhydramine) are used to counteract the dystonic and parkinsonian adverse effects (extrapyramidal symptoms [EPS]) of the antipsychotics, particularly the higher-potency agents that are less sedating but more EPS-producing.

# Suicide Deaths with Opioid Poisoning in the United States: 1999-2014.

**Jennifer Brennan Braden and Colleagues**

## **Abstract**

### **OBJECTIVES:**

To describe trends in suicides with opioid poisoning noted as a contributing cause of death.

### **METHODS:**

Using National Vital Statistics data (1999-2014), we calculated age-adjusted rates of suicide with opioid poisoning (International Classification of Diseases, Tenth Revision codes T40.0-T40.4) per 100 000 population per year and annual percentage change (APC) in rates. We used Joinpoint regression to examine trends in suicide rates and proportion of suicides involving opioids.

### **RESULTS:**

The annual age-adjusted death rate from suicide with opioid poisoning as a contributing cause of death increased from 0.3 per 100 000 in 1999 to 0.7 per 100 000 in 2009 (APC = 8.1%;  $P < .001$ ), and remained at 0.6 to 0.7 per 100 000 through 2014. The percentage of all suicides with opioid poisoning listed as a contributing cause of death increased from 2.2% in 1999 to 4.4% in 2010 ( $P < .001$ ). Rates were similar for men and women, higher among Whites than non-Whites, higher in the West, and highest for individuals aged 45 to 64 years.

### **CONCLUSIONS:**

Opioid involvement in suicides has doubled since 1999. These analyses underscore the need for health care providers to assess suicidal risk in patients receiving opioids.

# Untangling the Association Between Migraine, Pain, and Anxiety: Examining Migraine and Generalized Anxiety

**Factor-Inwentash Faculty of Social Work, University of Toronto, Toronto, Ontario, Canada.**

## **Abstract**

### **OBJECTIVE:**

The aims of this study were to investigate: (1) the prevalence and unadjusted and adjusted odds of 12-month generalized anxiety disorder (GAD) among adults with migraine in comparison to those without migraine; (2) If debilitating pain and/or limitations in instrumental activities of daily living (IADLs) are mediators of the migraine-GAD association; and (3) Factors associated with past year GAD among adults with migraine.

### **METHODS:**

Secondary data analysis of the nationally representative 2012 Canadian Community Health Survey-Mental Health (CCHS-MS), a population-based survey of community dwellers with a response rate of 68.9%. The first subsample included those with ( $n = 2232$ ) and without migraine ( $n = 19,270$ ), and the second subsample was restricted to those with migraine ( $n = 2232$ ). GAD was based on the WHO-CIDI scale.

### **RESULTS:**

Fully, 6% of those with migraines had past year GAD in comparison of 2.1% of those without migraine ( $P < .001$ ). The socio-demographically adjusted odds of past year GAD were two and a half times higher among those with migraine than those without ( $OR = 2.46$ ; 95%  $CI = 2.00, 3.02$ ). A path analysis indicated that debilitating pain and limitations in IADLs were mediators in the relationship between migraine and GAD. In the sample restricted to migraineurs, the factors associated with higher odds of 12-month GAD included having a university degree, having low income, being without a confidant, and being male.

### **CONCLUSIONS:**

Generalized anxiety disorder is robustly associated with migraine and targeted outreach and interventions are warranted.

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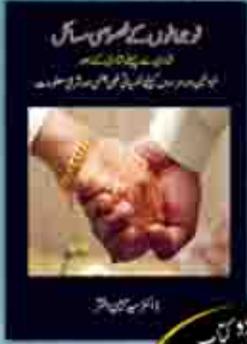
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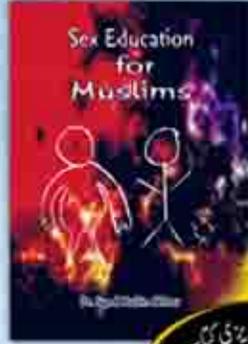
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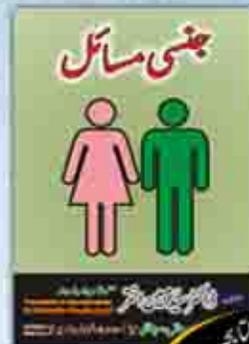
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## کتابوں کا مختصر تعارف

### Sex Education for Muslims

The Quran and Hadees provide guidance in all affairs of life. It is imperative for a Muslim to study the Quran and Hadees, understand them, and make these principles a part of daily life. The most important human relationship is that of marriage. It is through this institution that the procreation and training of the human race comes about. So it's no wonder that the Quran and Hadees give us important guidance on this matter. But it is unfortunate that our authors, teachers and imams avoid this topic in their discourses due to a false sense of embarrassment. Moreover most of them are not well versed in the field of medicine and psychology. Therefore it's only people who have knowledge of both religion as well as medicine who should come forward to speak and write on the subject. We have included in this book all passages referring to sexual matters from the Quran, Hadees and Fiqh. These passages provide guidance to married as well as unmarried youngsters. If one reads this matter it would be easier to maintain proper physical and sexual health, along with an enjoyable marital life. The reading of this matter as well as using it in one's life will be considered equal to.

The same book has been translated into Urdu under the title of "انگریزی اور اردو میں جنسی مسائل"

### جنسی مسائل

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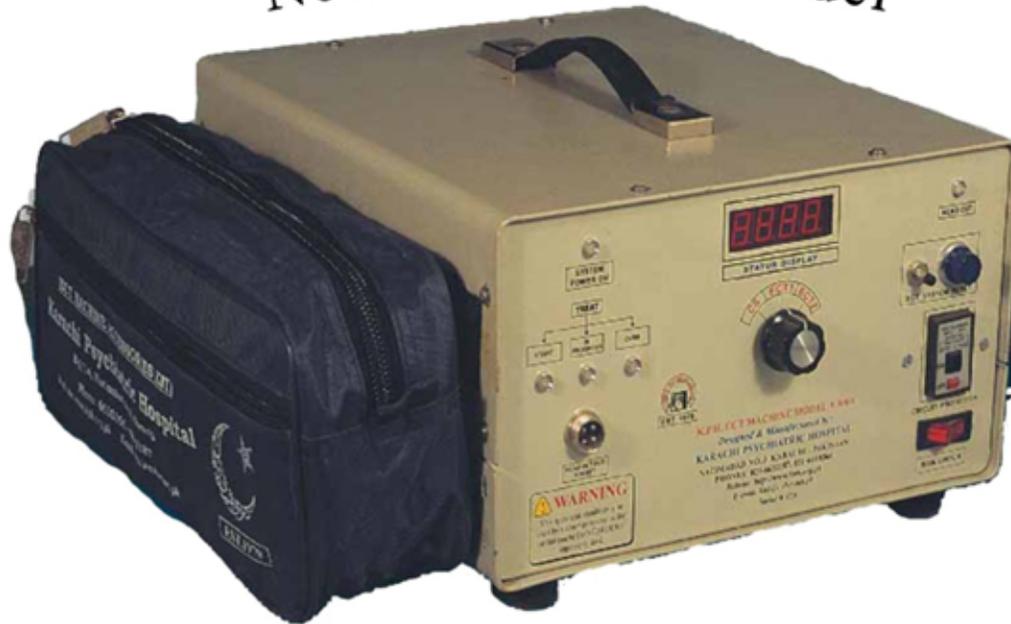
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