Monthly Research Meeting
5th April 2018

At
Karachi Psychiatric Hospital
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PREFACE

While a person initially chooses to take drugs, over time the effects of prolonged exposure on brain functioning compromise that ability to choose, and seeking and consuming the drug become compulsive, often eluding a person's self-control or willpower.

But addiction is more than just compulsive drug taking it can also produce far-reaching health and social consequences. For example, drug abuse and addiction increase a person's risk for a variety of other mental and physical illnesses related to a drug-abusing lifestyle or the toxic effects of the drugs themselves. Additionally, the dysfunctional behaviors that result from drug abuse can interfere with a person's normal functioning in the family, the workplace, and the broader community.

Effective treatment programs typically incorporate many components, each directed to a particular aspect of the illness and its consequences. Addiction treatment must help the individual stop using drugs, maintain a drug-free lifestyle, and achieve productive functioning in the family, at work, and in society. Because addiction is a disease, most people cannot simply stop using drugs for a few days and be cured. Patients typically require long-term or repeated episodes of care to achieve the ultimate goal of sustained abstinence and recovery of their lives. Indeed, scientific research and clinical practice demonstrate the value of continuing care in treating addiction, with a variety of approaches having been tested and integrated in residential and community settings.
1. ADDICTION IS A COMPLEX BUT TREATABLE DISEASE THAT AFFECTS BRAIN FUNCTION AND BEHAVIOR. Drugs of abuse alter the brain's structure and function, resulting in changes that persist long after drug use has ceased. This may explain why drug abusers are at risk for relapse even after long periods of abstinence and despite the potentially devastating consequences.

2. No SINGLE TREATMENT IS APPROPRIATE FOR EVERYONE. Treatment varies depending on the type of drug and the characteristics of the patients.

3. POTENTIAL PATIENTS can be lost if treatment is not immediately available or readily accessible. As with other chronic diseases, the earlier treatment is offered in the disease process, the greater the likelihood of positive outcomes.

4. EFFECTIVE TREATMENT ATTENDS TO MULTIPLE NEEDS OF THE INDIVIDUAL, NOT JUST HIS OR HER DRUG ABUSE. To be effective, treatment must address the individual's drug abuse and any associated medical, psychological, social, vocational, and legal problems. It is also important that treatment be appropriate to the individual's age, gender, ethnicity, and culture.

5. REMAINING IN TREATMENT FOR AN ADEQUATE PERIOD OF TIME IS CRITICAL. The appropriate duration for an individual depends on the type and degree of the patient's problems and needs. Research indicates that most addicted individuals need at least 3 months in treatment to significantly reduce or stop their drug use and that the best outcomes occur with longer durations of treatment. Recovery from drug addiction is a long term process and frequently requires multiple episodes of treatment. As with other chronic illnesses, relapses to drug abuse can occur and should signal a need for treatment to be reinstated or adjusted. Because individuals often leave treatment prematurely, programs should include strategies to engage and keep patients in treatment.

6. BEHAVIORAL THERAPIES-INCLUDING INDIVIDUAL, FAMILY, GROUP COUNSELING ARE THE MOST COMMONLY USED FORMS OF DRUG ABUSE TREATMENT. Behavioral therapies vary in their focus and may involve addressing a patient's motivation to change, providing incentives for abstinence, building skills to resist drug use, replacing drug-using activities with constructive and rewarding activities, improving problem-solving skills, and facilitating better interpersonal relationships. Also, participation in group therapy and other peer support programs during and following treatment can help maintain abstinence.

7. Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies. For example, buprenorphine, is
effective in helping individuals addicted to heroin or other addictions stabilize their lives and reduce their illicit drug use. For persons addicted to nicotine, a nicotine replacement product (available as patches, gum, lozenges, or nasal spray) or an oral medication (such as bupropion Zylexx/Xaslex or varenicline) can be an effective component of treatment when part of a comprehensive behavioral treatment program.

8. AN INDIVIDUAL'S TREATMENT AND SERVICES PLAN MUST BE ASSESSED CONTINUALLY AND MODIFIED AS NECESSARY TO ENSURE THAT IT MEETS HIS OR HER CHANGING NEEDS. A patient may require varying combinations of services and treatment components during the course of treatment and recovery. In addition to counseling or psychotherapy, a patient may require medication, medical services, family therapy, parenting instruction, vocational rehabilitation, and/or social and legal services. For many patients, a continuing care approach provides the best results, with the treatment intensity varying according to a person's changing needs.

9. MANY DRUG-ADDICTED INDIVIDUALS ALSO HAVE OTHER MENTAL DISORDERS. Because drug abuse and addiction both of which are mental disorders often co-occur with other mental illnesses, patients presenting with one condition should be assessed for the other(s). And when these problems co-occur, treatment should address both (or all), including the use of medications as appropriate.

10. MEDICALLY ASSISTED DETOXIFICATION IS ONLY THE FIRST STAGE OF ADDICTION TREATMENT AND BY ITSELF DOES LITTLE TO CHANGE LONG-TERM DRUG ABUSE. Although medically assisted detoxification can safely manage the acute physical symptoms of withdrawal and can, for some, pave the way for effective long-term addiction treatment, detoxification alone is rarely sufficient to help addicted individuals achieve long-term abstinence. Thus, patients should be encouraged to continue drug treatment following detoxification. Motivational enhancement and incentive strategies, begun at initial patient intake, can improve treatment engagement.

11. TREATMENT DOES NOT NEED TO BE VOLUNTARY TO BE EFFECTIVE. Sanctions or enticements from family, employment settings, and/or the criminal justice system can significantly increase treatment entry, retention rates, and the ultimate success of drug treatment interventions.

12. DRUG USE DURING TREATMENT MUST BE MONITORED CONTINUOUSLY, AS LAPSES DURING TREATMENT DO OCCUR. Knowing their drug use is being monitored can be a powerful incentive for patients and can help them withstand urges to use drugs. Monitoring also provides an early indication of a return to drug use, signaling a possible need to adjust an individual's treatment plan to better meet his or her needs.
13. TREATMENT PROGRAMS SHOULD TEST PATIENTS FOR THE PRESENCE OF HIV/AIDS, HEPATITIS B AND C, TUBERCULOSIS, AND OTHER INFECTIOUS DISEASES, AS WELL AS PROVIDE TARGETED RISK-REDUCTION COUNSELING, LINKING PATIENTS TO TREATMENT IF NECESSARY.
FREQUENTLY ASKED QUESTIONS:

1. WHY DO DRUG-ADDICTED PERSONS KEEP USING DRUGS?

Nearly all addicted individuals believe at the outset that they can stop using drugs on their own, and most try to stop without treatment. Although some people are successful, many attempts result in failure to achieve long term abstinence. Research has shown that long-term drug abuse results in changes in the brain that persist long after a person stops using drugs. These drug-induced changes in brain function can have many behavioral consequences, including an inability to exert control over the impulse to use drugs despite adverse consequences the defining characteristic of addiction.

LONG-TERM DRUG USE RESULTS IN SIGNIFICANT CHANGES IN BRAIN FUNCTION THAT CAN PERSIST LONG AFTER THE INDIVIDUAL STOPS USING DRUGS.

Understanding that addiction has such a fundamental biological component may help explain the difficulty of achieving and maintaining abstinence without treatment. Psychological stress from work, family problems, psychiatric illness, pain associated with medical problems, social cues (such as meeting individuals from one's drug-using past), or environmental cues (such as encountering streets, objects, or even smells associated with drug abuse) can trigger intense cravings without the individual even being consciously aware of the triggering event. Any one of these factors can hinder attainment of sustained abstinence and make relapse more likely. Nevertheless, research indicates that active participation in treatment is an essential component for good outcomes and can benefit even the most severely addicted individuals.
Components of Comprehensive Drug Abuse Treatment

The best treatment programs provide a combination of therapies and other services to meet the needs of the individual patient.

2. WHAT IS DRUG ADDICTION TREATMENT?

Drug treatment is intended to help addicted individuals stop compulsive drug seeking and use. Treatment can occur in a variety of settings, take many different forms, and last for different lengths of time. Because drug addiction is typically a chronic disorder characterized by occasional relapses, a short-term, one-time treatment is usually not sufficient. For many, treatment is a long-term process that involves multiple interventions and regular monitoring.

There are a variety of evidence-based approaches to treating addiction. Drug treatment can include behavioral therapy (such as cognitive-behavioral therapy or contingency management), medications, or their combination. The specific type of treatment or combination of treatments will vary depending on the patient's individual needs and, often, on the types of drugs they use.

Treatment medications, such as buprenorphine, are available for individuals addicted to opioids, while nicotine preparations (patches, gum, lozenges, and nasal spray) and the medications varenicline and bupropion are available for individuals addicted to tobacco. Topimarat is useful in the treatment of Alcohol dependence.
Treatments for prescription drug abuse tend to be similar to those for illicit drugs that affect the same brain systems. For example, buprenorphine, used to treat heroin addiction, can also be used to treat addiction to opioid pain medications. Addiction to prescription stimulants, which affect the same brain systems as illicit stimulants like cocaine, can be treated with behavioral therapies, as there are not yet medications for treating addiction to these types of drugs.

Behavioral therapies can help motivate people to participate in drug treatment, offer strategies for coping with drug cravings, teach ways to avoid drugs and prevent relapse, and help individuals deal with relapse if it occurs. Behavioral therapies can also help people improve communication, relationship, and parenting skills, as well as family dynamics.

Many treatment programs employ both individual and group therapies. Group therapy can provide social reinforcement and help enforce behavioral contingencies that promote abstinence and a non-drug-using lifestyle. Some of the more established behavioral treatments, such as contingency management and cognitive-behavioral therapy.

Because they work on different aspects of addiction, combinations of behavioral therapies and medications (when available) generally appear to be more effective than either approach used alone.

Finally, people who are addicted to drugs often suffer from other health (e.g., depression), occupational, legal, familial, and social problems that should be addressed concurrently. The best programs provide a combination of therapies and other services to meet an individual patient's needs. Psychoactive medications, such as antidepressants, anti-anxiety agents, mood stabilizers, and antipsychotic medications, may be critical for treatment success when patients have co-occurring mental disorders such as depression, anxiety disorders (including post-traumatic stress disorder), bipolar disorder, or schizophrenia. In addition, most people with severe addiction abuse multiple drugs and require treatment for all substances abused.

3. How EFFECTIVE IS DRUG ADDICTION TREATMENT?

In addition to stopping drug abuse, the goal of treatment is to return people to productive functioning in the family, workplace, and community. According to research that tracks individuals in treatment over extended periods, most people who get into and remain in treatment stop using drugs, decrease their criminal activity, and improve their occupational, social, and psychological functioning. However, individual treatment outcomes depend on the extent and nature of the patient's problems, the appropriateness of treatment and related services used to address those problems, and the quality of interaction between the patient and his or her treatment providers.
RELAPSE RATES FOR ADDICTION RESEMBLE THOSE OF OTHER CHRONIC DISEASES SUCH AS DIABETES, HYPERTENSION, AND ASTHMA.

Like other chronic diseases, addiction can be managed successfully. Treatment enables people to counteract addiction's powerful disruptive effects on the brain and behavior and to regain control of their lives. The chronic nature of the disease means that relapsing to drug abuse is not only possible but also likely, with symptom recurrence rates similar to those for other well-characterized chronic medical illnesses such as diabetes, hypertension, and asthma that also have both physiological and behavioral components.

| COMPARISON OF RELAPSE RATES BETWEEN DRUG ADDICTION AND OTHER CHRONIC ILLNESSES |
|---------------------------------|---------------------------------|-----------------|-----------------|
| **Type I Diabetes**             | **Drug Addiction**              | **Hypertension** | **Asthma**      |
| 30% to 50%                      | 40% to 60%                      | 50% to 70%       | 50% to 70%       |

Unfortunately, when relapse occurs many deem treatment a failure. This is not the case: Successful treatment for addiction typically requires continual evaluation and modification as appropriate, similar to the approach taken for other chronic diseases. For example, when a patient is receiving active treatment for hypertension and symptoms decrease, treatment is deemed successful, even though symptoms may recur when treatment is discontinued.

For the addicted individual, lapses to drug abuse do not indicate failure rather, they signify that treatment needs to be reinstated or adjusted, or that alternate treatment is needed (see figure, "Why is Addiction Treatment Evaluated Differently?").
4. IS DRUG ADDICTION TREATMENT WORTH ITS COST?

Substance abuse costs U.S.A over $600 billion annually and treatment can help reduce these costs. Drug addiction treatment has been shown to reduce associated health and social costs by far more than the cost of the treatment itself. Treatment is also much less expensive than its alternatives, such as incarcerating addicted persons. For example, the average cost for 1 full year of methadone maintenance treatment is approximately $4,700 per patient, whereas 1 full year of imprisonment costs approximately $24,000 per person.

WHY IS ADDICTION TREATMENT EVALUATED DIFFERENTLY? BOTH REQUIRE ON GOING CARE

![Graph showing comparison of Hypertension Treatment and Addiction Treatment](image)

DRUG ADDICTION TREATMENT REDUCES DRUG USE AND ITS ASSOCIATED HEALTH AND SOCIAL COSTS.

According to several conservative estimates, every rupee invested in addiction treatment programs yields a return of between 4 and Rs.7 in reduced drug-related crime, criminal justice costs, and theft. When savings related to healthcare are included, total savings can exceed costs by a ratio of 12 to 1. Major savings to the individual and to society also stem from fewer interpersonal conflicts; greater workplace productivity; and fewer drug-related accidents, including overdoses and deaths.

5. How LONG DOES DRUG ADDICTION TREATMENT USUALLY LAST?

Individuals progress through drug addiction treatment at various rates, so there is no predetermined length of treatment. However, research has shown unequivocally that good outcomes are contingent on adequate treatment length. Generally, for residential
or outpatient treatment, participation for less than 90 days is of limited effectiveness, and treatment lasting significantly longer is recommended for maintaining positive outcomes. For Buprenorphine maintenance, 12 months is considered the minimum, and some opioid addicted individuals continue to benefit from drug maintenance for many years.

**GOOD OUTCOMES ARE CONTINGENT ON ADEQUATE TREATMENT LENGTH**

Treatment dropout is one of the major problems encountered by treatment programs; therefore, motivational techniques that can keep patients engaged will also improve outcomes. By viewing addiction as a chronic disease and offering continuing care and monitoring, programs can succeed, but this will often require multiple episodes of treatment and readily readmitting patients that have relapsed.

**6. WHAT HELPS PEOPLE STAY IN TREATMENT?**

Because successful outcomes often depend on a person's staying in treatment long enough to reap its full benefits, strategies for keeping people in treatment are critical. Whether a patient stays in treatment depends on factors associated with both the individual and the program. Individual factors related to engagement and retention typically include motivation to change drug-using behavior; degree of support from family and friends; and, frequently, pressure from the criminal justice system, child protection services, employers, or family. Within a treatment program, successful clinicians can establish a positive, therapeutic relationship with their patients. The clinician should ensure that a treatment plan is developed cooperatively with the person seeking treatment, that the plan is followed, and that treatment expectations are clearly understood. Medical, psychiatric, and social services should also be available.

**WHETHER A PATIENT STAYS IN TREATMENT DEPENDS ON FACTORS ASSOCIATED WITH BOTH THE INDIVIDUAL AND THE PROGRAM.**

Because some problems (such as serious medical or mental illness or criminal involvement) increase the likelihood of patients dropping out of treatment, intensive interventions may be required to retain them. After a course of intensive treatment, the provider should ensure a transition to less intensive continuing care to support and monitor individuals in their ongoing recovery.
7. HOW DO WE GET MORE SUBSTANCE ABUSING PEOPLE INTO TREATMENT?

It has been known for many years that the "treatment gap" is massive—that is, among those who need treatment for a substance use disorder, few receive it. In U.S.A 2011, 21.6 million persons aged 12 or older needed treatment for an illicit drug or alcohol use problem, but only 2.3 million received treatment at a specialty substance abuse facility. Reducing this gap requires a multipronged approach. Strategies include increasing access to effective treatment, reducing stigma, and raising awareness among both patients and healthcare professionals of the value of addiction treatment.

8. How CAN FAMILY AND FRIENDS MAKE A DIFFERENCE IN THE LIFE OF SOMEONE NEEDING TREATMENT?

Family and friends can play critical roles in motivating individuals with drug problems to enter and stay in treatment. Family therapy can also be important, especially for adolescents. Involvement of a family member or significant other in an individual's treatment program can strengthen and extend treatment benefits.

9. WHAT ARE THE UNIQUE NEEDS OF ADOLESCENTS WITH SUBSTANCE USE DISORDERS?

Adolescent drug abusers have unique needs stemming from their immature neurocognitive and psychosocial stage of development. Research has demonstrated that the brain undergoes a prolonged process of development and refinement from birth through early adulthood. Over the course of this developmental period, a young person's actions go from being more impulsive to being more reasoned and reflective. In fact, the brain areas most closely associated with aspects of behavior such as decision-making, judgment, planning, and self-control undergo a period of rapid development during adolescence and young adulthood.

Adolescent drug abuse is also often associated with other co-occurring mental health problems. These include attention-deficit hyperactivity disorder (ADHD), oppositional defiant disorder, and conduct problems, as well as depressive and anxiety disorders.

Adolescents are also especially sensitive to social cues, with peer groups and families being highly influential during this time. Therefore, treatments that facilitate positive parental involvement, integrate other systems in which the adolescent participates (such as school and athletics), and recognize the importance of prosocial peer relationships are among the most effective access to comprehensive assessment, treatment, case management, and family-support services that are developmentally, culturally, and gender-appropriate is also integral when addressing adolescent addiction.
Medications for substance abuse among adolescents may in certain cases be helpful. Currently, the only addiction medications approved by FDA for people under 18 are over-the-counter transdermal nicotine skin patches, chewing gum, and lozenges (physician advice should be opioid addiction that must be prescribed by specially trained physicians, has not been approved for adolescents, but recent research suggests it could be effective for those as young as 16.

(10). ARE THERE SPECIFIC DRUG ADDICTION TREATMENTS FOR OLDER ADULTS?

While substance abuse in older adults often goes unrecognized and therefore untreated, research indicates that currently available addiction treatment programs can be as effective for them as for younger adults.

(11). CAN A PERSON BECOME ADDICTED TO MEDICATIONS PRESCRIBED BY A DOCTOR?

Yes. People who abuse prescription drugs—that is, taking them in a manner or a dose other than prescribed, or taking medications prescribed for another person—risk addiction and other serious health consequences. Such drugs include opioid pain relievers, stimulants used to treat ADHD, and benzodiazepines to treat anxiety or sleep disorders. Indeed, in U.S.A 2010, an estimated 2.4 million people 12 or older met criteria for abuse of or dependence on prescription drugs, the second most common illicit drug use after marijuana. To minimize these risks, a physician (or other prescribing health provider) should screen patients for prior or current substance abuse problems and assess their family history of substance abuse or addiction before prescribing a psychoactive medication and monitor patients who are prescribed such drugs. Physicians also need to educate patients about the potential risks so that they will follow their physician’s instructions faithfully, safeguard their medications, and dispose of them appropriately.

(12). IS THERE A DIFFERENCE BETWEEN PHYSICAL DEPENDENCE AND ADDICTION?

Yes. Addiction—or compulsive drug use despite harmful consequences—is characterized by an inability to stop using a drug; failure to meet work, social, or family obligations; and, sometimes (depending on the drug), dependence in which the body adapts to the drug, requiring more of it to achieve a certain effect (tolerance) if drug use is abruptly ceased (withdrawal). Physical dependence can happen with the chronic use of many drugs—including many prescription drugs, even if taken as instructed. Thus, physical dependence in and of itself does not constitute addiction, but it often accompanies particularly with prescribed pain medications, for which the need for increasing dosages can represent tolerance or a worsening underlying problem, as opposed to the beginning of abuse or addiction.
(13). HOW DO OTHER MENTAL DISORDERS COEXISTING WITH DRUG ADDICTION AFFECT DRUG ADDICTION TREATMENT?

Drug addiction is a disease of the brain that frequently occurs with other mental disorders. In fact, as many as 6 in 10 people with an illicit substance use disorder also suffer from another mental illness; and rates are similar for users of licit drugs—i.e., tobacco and alcohol. To treat successfully as an additional condition is intertwined. Thus, people entering treatment either for a substance use disorder or for another mental disorder should be assessed for the co-occurrence of the other condition. Research indicates that treating both (or multiple) illnesses simultaneously in an integrated fashion is generally the best treatment approach for these patients.

(14). IS THE USE OF MEDICATIONS LIKE BUPRENORPHINE SIMPLY REPLACING ONE ADDICTION WITH ANOTHER?

No. Buprenorphine is prescribed or administered under monitored, controlled conditions and are safe and effective for treating opioid addiction when used as directed. They are administered orally and their effects differ from those of heroin and other abused opioids. Heroin, for example, is often injected, snorted, or smoked, of intense euphoria, that wears off quickly and ends in craving to use the drug again to stop the crash and reinstate the euphoria. The cycle of euphoria, crash, and craving—sometimes repeated several times a day—is a hallmark of addiction and results in severe behavioral disruption. These characteristics result from heroin’s rapid onset and short duration of action in the brain.

As used in maintenance treatment, buprenorphine is not heroin/opioid substitutes.

In contrast, buprenorphine has gradual onsets of action and produces stable levels of the drug in the brain. As a result, patients maintained on these medications do not experience a rush, while they also markedly reduce their desire to use opioids.

If an individual treated with these medications tries to take an opioid such as heroin, the euphoric effects are usually dampened or suppressed. Patients undergoing maintenance treatment do not experience the physiological or behavioral abnormalities from use. Maintenance treatments save lives—they help to stabilize individuals, allowing treatment of their medical, psychological, and other problems so they can contribute effectively as members of families and of society.

(15). WHERE DO SELF-HELP PROGRAMS FIT INTO DRUG ADDICTION TREATMENT?

Self-help groups can complement and extend the effects of professional treatment.
(16). CAN EXERCISE PLAY A ROLE IN THE TREATMENT PROCESS?

Yes. Exercise is increasingly becoming a component of many treatment programs and has proven effective, when combined with cognitive-behavioral therapy, at helping by addressing psychosocial and physiological needs that nicotine replacement alone does not, by reducing negative feelings and stress, and by helping prevent weight gain following cessation.

(17). HOW DOES DRUG ADDICTION TREATMENT HELP REDUCE THE SPREAD OF HIV/AIDS, HEPATITIS C (HCV), AND OTHER INFECTIOUS DISEASES?

Drug-abusing individuals, including injecting and non-injecting drug users, are at increased risk of human (HCV), and other infectious diseases. These diseases are transmitted by sharing contaminated drug injection equipment and by engaging in immoral sexual behavior sometimes associated with drug use. Effective drug abuse treatment is HIV/HCV prevention because it reduces activities that can spread disease, such as sharing injection equipment and engaging in extra marital sexual activity.

Drug abuse treatment is HIV and HCV prevention.

Injection drug users who do not enter treatment are up to six times more likely to become infected with HIV/HCV than those who enter and remain in treatment.
Drug Addiction Treatment

Drug addiction is a complex disorder that can involve virtually every aspect of an individual’s functioning—in the family, at work and school, and in the community. Because of addiction’s complexity and pervasive consequences, drug addiction treatment typically must involve many components. Some of those components focus directly on the individual’s drug use; others, like employment training, focus on restoring the addicted individual to productive membership in the family and society, enabling him or her to experience the rewards associated with abstinence.

Along with specialized drug treatment facilities, drug mental health clinics by a variety of providers, including counselors, physicians, psychiatrists, psychologists, nurses, and social workers. Treatment approaches often are associated with particular treatment settings, a variety of therapeutic interventions or services can be included in any given setting.

TYPES OF TREATMENT PROGRAMS

Research studies on addiction treatment typically have classifies programs into several types or modalities. Treatment approaches and individual programs continue to evolve and diversity, and many programs today do not fit neatly into traditional drug addiction treatment classifications.

Most, however, start with detoxification and medically managed withdrawal, often considered the first stage of treatment. Detoxification, the process by which the body clears itself of drugs, is designed to manage the acute and potentially dangerous physiological effects of stopping address the psychological, social, and behavioral problems associated with addiction and therefore does not typically produce lasting behavioral changes necessary for recovery. Detoxification should thus be followed by a formal assessment and referral to drug addiction treatment.

Because it is often accompanied by unpleasant and potentially fatal side effects stemming from withdrawal, administered by a physician in an inpatient or outpatient withdrawal.” Medications are available to assist in the withdrawal from opioids, benzodiazepines, alcohol, nicotine, barbiturates, and other sedatives.
LONG-TERM RESIDENTIAL TREATMENT

Long-term residential treatment provides care 24 hours a day, generally in nonhospital settings. The best-known residential treatment model is the therapeutic community (TC), with planned lengths of stay of between 6 and 12 months and use of the program’s entire community—including other residents, staff, and the social context—as active components of treatment. Addiction is viewed in the context of an individual’s social and psychological accountability and responsibility as well as socially productive lives. Treatment is highly structured and can be confrontational at times, with activities designed to help residents examine damaging beliefs, self-concepts, and destructive patterns of behavior and adopt new, more harmonious and constructive ways to interact with others. Many TCs offer comprehensive services, which can include employment training and other support services for individuals with special needs, including adolescents, women, homeless individuals, people with severe mental disorders, and individuals in the criminal justice system.

Further Reading:


SHORT-TERM RESIDENTIAL TREATMENT

Short-term residential programs provide intensive approach. These programs were originally designed to treat alcohol problems, but during the cocaine epidemic of the mid-1980s, many began to treat other types of substance use disorders. The original residential treatment model consisted of a 3- to 6-week hospital-based inpatient treatment phase followed by extended outpatient therapy and participation in a self-help group, such as AA. Following stays in residential treatment programs, it is important for individuals to remain engaged in outpatient treatment programs. These programs help to reduce the risk of relapse once a patient leaves the residential setting.

Further Reading:


OUTPATIENT TREATMENT PROGRAMS

Outpatient treatment varies in the types and intensity of services offered. Such treatment costs less than residential or inpatient treatment and often is more suitable for people with jobs or extensive social supports. It should be noted, however, that low-intensity programs may offer little more than drug education. Other outpatient models, such as intensive day treatment, can be comparable to residential programs in services and effectiveness, depending on the individual patient’s characteristics and needs. In many outpatient programs, group counseling can be a major component. Some outpatient programs are also designed to treat patients with medical or other mental health problems in addition to their drug disorders.

Individualized Drug Counseling

Individualized drug counseling not only focuses on reducing or stopping illicit drug or alcohol use; it also addresses related areas of impaired functioning—such as employment status, illegal activity, and family/social relations—as well as the content and structure of the patient’s recovery program. Through its emphasis on short-term behavioral goals, individualized counseling helps the patient develop coping strategies and tools to abstain from drug use and maintain abstinence. The addiction counselor encourages 12-step participation (at least one or two times per week) and makes referrals for needed supplemental medical, psychiatric, employment, and other services.

Group Counseling

Many therapeutic settings use group therapy to capitalize on the social reinforcement offered by peer discussion and to help promote drug-free lifestyles. Research has shown that when group therapy either is offered in conjunction with individualized drug counseling or is formatted to contingency management, positive outcomes are achieved. Currently, researchers are testing conditions in which group therapy can be standardized and made more community-friendly.
Evidence-Based Approaches to Drug Addiction Treatment

This section presents examples of treatment approaches and components that have an evidence base supporting their use. Each approach is designed to address certain aspects of drug addiction and its consequences for the individual, family, and society. Some of the approaches are intended to supplement or enhance existing treatment programs, and others are fairly comprehensive in and of themselves.

The following section is broken down into Pharmacotherapies, Behavioral Therapies, and Behavioral Therapies Primarily for Adolescents. They are further subdivided according to particular substance use disorders. This list is not exhaustive, and new treatments are continually under development.

PHARMACOTHERAPIES

Opioid Addiction

Methadone

Methadone is a long-acting synthetic opioid agonist medication that can prevent withdrawal symptoms and reduce craving in opioid-addicted individuals. It can also block the effects of illicit opioids. It has a long history of use in treatment of opioid dependence in adults and is taken orally. (This drug is not available in Pakistan. However, Buprenorphine (M-gesic) can be used in its stead).

COMBINED WITH BEHAVIORAL TREATMENT

Research has shown that methadone maintenance is more effective when it includes individual and/or group counseling, with even better outcomes when patients are provided with, or referred to, other needed medical/psychiatric, psychological, and social services (e.g., employment or family services).

Buprenorphine

Buprenorphine is a synthetic opioid medication that acts as a partial agonist at opioid receptors—it does not produce the euphoria and sedation caused by heroin or other opioids but is able to reduce or eliminate withdrawal symptoms associated with opioid dependence and carries a low risk of overdose.

The availability of office-based treatment for opioid addiction is a cost-effective approach that increases the reach of treatment and the options available to patients.
TREATMENT, NOT SUBSTITUTION

Because methadone and buprenorphine are themselves opioids, some people view these treatments for opioid dependence as just substitutions of one addictive drug for another. But taking these medications as prescribed allows patients to hold jobs, avoid street crime and violence, and reduce their exposure to HIV/HCV by stopping or decreasing injection drug use and drug-related high-risk sexual behavior. Patients stabilized on these medications can also engage more readily in counseling and other behavioral interventions essential to recovery. Topiramate is also useful for withdrawal from alcohol addiction.

Tobacco Addiction

Nicotine Replacement Therapy (NRT)

A variety of formulations of nicotine replacement therapies (NRTs) now exist, including the transdermal nicotine patch, nicotine spray, nicotine gum, and nicotine lozenges. Because nicotine is the main addictive ingredient in tobacco, the rationale for NRT is that stable low levels of nicotine will prevent withdrawal symptoms—which often drive continued tobacco use—and help keep people motivated to quit. Research shows that combining the patch with another replacement therapy is more effective than a single therapy alone.

Bupropion (Zyvox/Wellbutrin)

Bupropion was originally marketed as an antidepressant (Wellbutrin). It produces mild stimulant effects by blocking the reuptake of certain neurotransmitters, especially norepinephrine and dopamine. A serendipitous observation among depressed patients was that the medication was also effective in suppressing tobacco craving, helping them quit smoking without also gaining weight. Although bupropion’s exact mechanisms of action in facilitating smoking cessation are unclear, it has FDA approval as a smoking cessation treatment.

Varenicline (Chantix®)

Varenicline is the most recently FDA-approved medication for smoking cessation. It acts on a subset of nicotinic receptors in the brain thought to be involved in the rewarding effects of nicotine. Varenicline acts as a partial agonist/antagonist at these receptors—this means that it to trigger the release of dopamine, which is important for the rewarding effects of nicotine. As an antagonist, varenicline also blocks the ability of nicotine to activate dopamine, interfering with the reinforcing effects of smoking, thereby reducing cravings and supporting abstinence from smoking.
COMBINED WITH BEHAVIORAL TREATMENT

Each of the above pharmacotherapies is recommended for use in combination with behavioral interventions, including group and individual therapies, as well as telephone quitlines. Behavioral approaches complement most tobacco addiction treatment programs. They can amplify the effects of medications by teaching people how to manage stress, recognize and avoid high-risk situations for smoking relapse, and develop alternative coping strategies (e.g., cigarette refusal skills, assertiveness, and time management skills) that they can practice in treatment, social, and work settings. Combined treatment is urged because behavioral and pharmacological treatments are thought to operate by different yet complementary mechanisms that can have additive effects.

Alcohol Addiction

Naltrexone

Naltrexone blocks opioid receptors that are involved in the rewarding effects of drinking and the craving for alcohol. It has been shown to reduce relapse to problem drinking in some patients. An extended release version, Vivitrol—administered once a month by injection—is also FDA-approved for treating alcoholism.

Acamprosate (Not available in Pakistan)

Acamprosate (Campral®) acts on the gamma-aminobutyric acid (GABA) and glutamate neurotransmitter systems and is thought to reduce symptoms of protracted withdrawal, such as insomnia, anxiety, restlessness, and dysphoria. Acamprosate has been shown to help dependent drinkers maintain abstinence for several weeks to months, and it may be more effective in patients with severe dependence.

Disulfiram (Not available in Pakistan)

Disulfiram (Antabuse®) interferes with degradation of alcohol, resulting in the accumulation of acetaldehyde, which, in turn, produces a very unpleasant reaction when a person drinks alcohol. The utility and effectiveness of disulfiram are considered limited because compliance is generally poor. However, among patients who use it episodically for high-risk situations, such as social occasions where alcohol is present. It can also be administered in a monitored fashion, such as in a clinic or by a spouse, improving its efficacy.

Topiramate

Topiramate is thought to work by increasing inhibitory (GABA) neurotransmission and reducing stimulatory (glutamate) neurotransmission, although its precise mechanism of action is not known. Although topiramate has not yet received FDA approval for treating alcohol addiction, it
is sometimes used off-label for this purpose. Improve multiple drinking outcomes, compared with a placebo.

**Combined With Behavioral Treatment**

While a number of behavioral treatments have been shown to be effective in the treatment of alcohol addiction, it does appear that an additive effect exists between behavioral treatments and pharmacotherapy. Studies have shown that just getting help is one of the most important factors in treating alcohol addiction; the precise type of treatment received is not as important.


**Behavioral Therapies**

Behavioral approaches help engage people in drug abuse treatment, provide incentives for them to remain abstinent, modify their attitudes and behaviors related to drug abuse, and increase their life skills to handle stressful circumstances and environmental cues that may trigger intense craving for drugs and prompt another cycle of compulsive abuse. Below are a number of behavioral therapies shown to be effective in addressing substance abuse (effectiveness with particular drugs of abuse is denoted in parentheses).

**Cognitive-Behavioral Therapy (Alcohol, Marijuana, Cocaine, Methamphetamine, Nicotine)**

Cognitive-Behavioral Therapy (CBT) was developed as a method to prevent relapse when treating problem drinking, and later it was adapted for cocaine-addicted individuals. Cognitive-behavioral strategies are based on the theory that in the development of maladaptive behavioral patterns like substance abuse, learning processes play a critical role. Individuals in CBT learn to identify and correct problematic behaviors by applying a range of different skills that can be used to stop drug abuse and to address a range of other problems that often co-occur with it.

A central element of CBT is anticipating likely problems and enhancing patients’ self-control by helping them develop effective coping strategies. Specific techniques include exploring the positive and negative consequences of continued drug use, self-monitoring to recognize cravings early and identify situations that might put one at risk for use, and developing strategies for coping with cravings and avoiding those high-risk situations.

Research indicates that the skills individuals learn through cognitive-behavioral approaches remain after the completion of treatment. Current research focuses on how to produce even more powerful effects by combining CBT with medications for drug abuse and with other types of
behavioral therapies. A computer-based CBT system has also been developed and has been shown to be effective in helping reduce drug use following standard drug abuse treatment.

**Contingency Management Interventions/ Motivational Incentives (Alcohol, Stimulants, Opioids, Marijuana, Nicotine)**

Research has demonstrated the effectiveness of treatment approaches using contingency management (CM) principles, which involve giving patients tangible rewards to reinforce positive behaviors such as abstinence. Studies conducted in both methadone programs and psychosocial counseling treatment programs demonstrate that incentive-based interventions are highly effective in increasing treatment retention and promoting abstinence from drugs.

Prize Incentives CM applies similar principles as VBR but uses chances to win cash prizes instead of vouchers. Over the course of the program (at least 3 months, one or more times weekly), participants supplying drug-negative urine or breath tests draw from a bowl for the chance to win a prize worth between $1 and $100. Participants may also receive draws for attending counseling sessions and completing weekly goal-related activities. The number of draws starts at one and increases with consecutive negative drug tests and/or counseling sessions attended but resets to one with any drug-positive sample or unexcused absence. The practitioner community has raised concerns that this intervention could promote gambling—as it contains an element of chance—and that pathological gambling and substance use disorders can be comorbid. However, studies examining this concern found that Prize Incentives CM did not promote gambling behavior.

**Community Reinforcement Approach Plus Vouchers (Alcohol, Cocaine, Opioids)**

Community Reinforcement Approach (CRA) Plus Vouchers is an intensive 24-week outpatient therapy for treating people addicted to cocaine and alcohol. It uses a range of recreational, familial, social, and vocational reinforcers, along with material incentives, to make a non-drug-using lifestyle more rewarding than substance use. The treatment goals are twofold:

- To maintain abstinence long enough for patients to learn new life skills to help sustain it; and
- To reduce alcohol consumption for patients whose drinking is associated with cocaine use

Patients attend one or two individual counseling sessions each week, where they focus on improving family relations, learn a variety of skills to minimize drug use, receive vocational counseling, and develop new recreational activities and social networks. Patients submit urine samples two or three times each week and receive vouchers for cocaine-negative samples. As in VBR, the value of the vouchers increases with consecutive clean samples, and the vouchers may be exchanged for retail goods that are consistent with a drug-free lifestyle. Studies in both urban
and rural areas have found that this approach facilitates patients’ engagement in treatment and successfully aids them in gaining substantial periods of cocaine abstinence.

A computer-based version of CRA Plus Vouchers called the Therapeutic Education System (TES) was found to be nearly as effective as treatment administered by a therapist in promoting abstinence from opioids and cocaine among opioid-dependent individuals in outpatient treatment. A version of CRA for adolescents addresses problem-solving, coping, and communication skills and encourages active participation in positive social and recreational activities.

**Motivational Enhancement Therapy (Alcohol, Marijuana, Nicotine)**

Motivational Enhancement Therapy (MET) is a counseling approach that helps individuals resolve their ambivalence about engaging in treatment and stopping their drug use. This approach aims to evoke rapid and internally motivated change, rather than guide the patient stepwise through the recovery process. This therapy consists of an initial assessment battery session, followed by two to four individual treatment sessions with provides feedback to the initial assessment, stimulating discussion about personal substance use and eliciting self-motivational statements. Motivational interviewing principles are used to strengthen motivation and build a plan for change. Coping strategies for high-risk situations are suggested and discussed with the patient. In subsequent sessions, the therapist monitors change, reviews cessation strategies being used, and continues to encourage commitment to change or sustained abstinence. Patients sometimes are encouraged to bring a significant other to sessions.

Research on MET suggests that its effects depend on the type of drug used by participants and on the goal of the intervention. This approach has been used successfully with people addicted to alcohol to both improve their engagement in treatment and reduce their problem drinking. MET has also been used successfully with marijuana-dependent adults when combined with cognitive-behavioral therapy, constituting a more comprehensive treatment approach. The results of MET are mixed for people abusing other drugs (e.g., heroin, cocaine, nicotine) and for adolescents who tend to use multiple drugs. In general, MET seems to be more effective for engaging drug abusers in treatment than for producing changes in drug use.

**The Matrix Model (Stimulants)**

The Matrix Model provides a framework for engaging stimulant (e.g., methamphetamine and cocaine) abusers in treatment and helping them achieve abstinence. Patients learn about issues critical to addiction and relapse, receive direction and support from a trained therapist, and become familiar with self-help programs. Patients are monitored for drug use through urine testing.
The therapist functions simultaneously as teacher and coach, fostering a positive, encouraging relationship with the patient and using that relationship to reinforce positive behavior change. The interaction between the therapist and the patient is authentic and direct but not confrontational or parental. Therapists are trained to conduct treatment sessions in a way that promotes the patient’s self-esteem, dignity, and self-worth. A positive relationship between patient and therapist is critical to patient retention.

Treatment materials draw heavily on other tested treatment approaches and, thus, include elements of relapse prevention, family and group therapies, drug education, and self-help participation. Detailed treatment manuals contain worksheets for individual sessions; other components include family education groups, early recovery skills groups, relapse prevention groups, combined sessions, urine tests, 12-step programs, relapse analysis, and social support groups.

A number of studies have demonstrated that participants treated using the Matrix Model show statistically improvements in psychological indicators, and reduced risky sexual behaviors associated with HIV transmission.

**12-Step Facilitation Therapy (Alcohol, Stimulants, Opioids)**

Twelve-step facilitation therapy is an active engagement strategy designed to increase the likelihood of a substance 12-step self-help groups, thereby promoting abstinence. Three key ideas predominate: (1) acceptance, which includes the realization that drug addiction is a chronic, progressive disease over which one has no control, that life has become unmanageable because of drugs, that and that abstinence is the only alternative; (2) surrender, which involves giving oneself over to a higher power, accepting the fellowship and support structure of other recovering addicted individuals, and following the recovery activities laid out by the 12-step program; and (3) active involvement in 12-step meetings and related activities. Facilitation in treating alcohol dependence has been established, the research on its usefulness for other forms of substance abuse is more preliminary, but the treatment appears promising for helping drug abusers sustain recovery.

**Family Behavior Therapy**

Family Behavior Therapy (FBT), which has demonstrated positive results in both adults and adolescents, is aimed at addressing not only substance use problems but other co-occurring problems as well, such as conduct disorders, unemployment. FBT combines behavioral contracting with contingency management.

FBT involves the patient along with at least one significant other such as a cohabiting partner or a parent (in the case of adolescents). Therapists seek to engage families in applying the behavioral strategies taught in sessions and in acquiring new skills to improve the home environment. Patients are encouraged to develop behavioral goals for preventing substance use
and HIV/HCV infection, which are anchored to a contingency management system. Substance-abusing parents are prompted to set goals related to effective parenting behaviors. During each session, the behavioral goals are reviewed, with rewards interventions from a menu of evidence-based treatment options. In a series of comparisons involving adolescents with and without conduct disorder, FBT was found to be more effective than supportive counseling.

**Behavioral Therapies Primarily for Adolescents**

Drug-abusing and addicted adolescents have unique treatment needs. Research has shown that treatments designed for and tested in adult populations often need involvement is a particularly important component for interventions targeting youth. Below are examples of behavioral interventions that employ these principles and have shown efficacy for treating addiction in youth.

**(I) Multisystemic Therapy**

Multisystemic Therapy (MST) addresses the factors associated with serious antisocial behavior in children and adolescents who abuse alcohol and other drugs. These factors include characteristics of the child or adolescent (e.g., favorable attitudes toward drug use), the family (positive attitudes toward drug use), school (dropout, poor performance), and neighborhood (criminal subculture). By participating in intensive treatment in natural environments (homes, schools, and neighborhood settings), most youths and families complete a full course of treatment and for at least 6 months after treatment. Fewer incarcerations and out-of-home juvenile placements offset the cost of providing this intensive service and maintaining the clinicians’ low caseloads.

**Multidimensional Family Therapy**

Multidimensional Family Therapy (MDFT) for adolescents is an outpatient, family-based treatment for teenagers who abuse alcohol or other drugs. MDFT views adolescent drug use in terms of a network of influences (individual, family, peer, community) and suggests that reducing unwanted behavior and increasing desirable behavior occur in multiple ways in different settings. Treatment includes individual and family sessions held in the clinic, in the home, or with family members at the family court, school, or other community locations.

During individual sessions, the therapist and adolescent work on important developmental tasks, such as developing decision-making, negotiation, and problem-solving skills. Teenagers acquire vocational skills and skills in communicating their thoughts and feelings to deal better with life stressors. Parallel sessions are held with family members. Parents examine their particular control and to have a positive and developmentally appropriate influence on their children.
**Brief Strategic Family Therapy**

Brief Strategic Family Therapy (BSFT) targets family interactions that are thought to maintain or exacerbate adolescent drug abuse and other co-occurring problem behaviors. Such problem behaviors include conduct problems at home and at school, oppositional behavior, delinquency, associating with antisocial peers, aggressive and violent behavior, and risky sexual behavior. BSFT is based on a family systems approach to treatment, in which family members’ behaviors are assumed to be interdependent such that the symptoms of one member (the drug-abusing adolescent, for example) are indicative, at least in part, of what else is occurring in the family system. The role of the BSFT counselor is to identify the patterns of family interaction that are associated with the adolescent’s behavior problems and to assist in changing those problem-maintaining family patterns. BSFT is broad range of family situations in various settings (mental health clinics, drug abuse treatment programs, other social service settings, and families’ homes) and in various treatment modalities (as a primary outpatient intervention, in combination with residential or day treatment, and as an aftercare/continuing-care service following residential treatment).

**Functional Family Therapy**

Functional Family Therapy (FFT) is another treatment based on a family systems approach, in which an adolescent’s behavior problems are seen as being created or maintained by a family’s dysfunctional interaction patterns. FFT aims to reduce problem behaviors by resolution, and parenting skills. The intervention always includes the adolescent and at least one family member in each session. Principal treatment tactics include (1) engaging families in the treatment process and enhancing their motivation for change and (2) bringing about changes in family members’ behavior using contingency management techniques, communication and problem-solving, behavioral contracts, and other behavioral interventions.

**Adolescent Community Reinforcement Approach and Assertive Continuing Care**

The Adolescent Community Reinforcement Approach (A-CRA) is another comprehensive substance abuse treatment intervention that involves the adolescent and his or her family. It seeks to support the individual’s recovery by increasing family, social, and educational/vocational reinforcers. After assessing the adolescent’s needs and levels of functioning, the therapist chooses from among 17 A-CRA procedures to address problem-solving, coping, and communication skills and to encourage active participation in positive social and recreational activities. A-CRA skills training involves role-playing and behavioral rehearsal.

Assertive Continuing Care (ACC) is a home-based continuing-care approach to preventing relapse. Weekly home visits take place over a 12- to 14-week period after an adolescent is discharged from residential, intensive outpatient, or regular outpatient treatment. Using positive
and negative reinforcement to shape behaviors, along with training in problem-solving and communication skills, ACC combines A-CRA and assertive case management services (e.g., use of a multidisciplinary team of professionals, round-the-clock coverage, assertive outreach) to help adolescents and their caregivers acquire the skills to engage in positive social activities.


Research Report Series: Therapeutic Community (2002). This report provides information on the role of residential drug-free settings and their role in the treatment process. NIH Publication #02-4877. Available online at drugabuse.gov/publications/research-reports/therapeutic-community.

The National Registry of Evidence-Based Programs and Practices. This database of interventions for the prevention and treatment of mental and substance use disorders is maintained by SAMHSA and can be accessed at nrepp.samhsa.gov.
Important Points to Consider in Psychiatric Treatment (Dr. Syed Mubin Akhtar)

(Therapist meeting 15/3/18)

1. Mood normalizer (e.g. Depakane) is not needed for addiction patients. It has no role in helping withdrawal symptoms.
2. ECT is a MUST and preferable for patients with post partum psychosis.
3. ECT is a MUST for suicidal patients.
4. When a patient is diagnosed schizophrenia or schizoaffective disorder, give the standard treatment of Dr Mubin Akhtar. Plz refrain from low doses of anti-psychotics.
5. First and second written history should be in detail, otherwise diagnosis can’t be made properly, and counseling is difficult.
6. All therapist need to keep a thermometer..ask the mgt for one. And also every patient should have their BP taken, temperature recorded, pulse checked, weight and height checked.
7. Record the type and date of every fit in the ERP chart. (Last fit before coming here and all others after our treatment.) Moreover mark in the symptom list and type the number of fits in the last month as well as average monthly fits before that.
8. Record given ECT in ERP special chart as well.
9. Anxiolytics should be given with Anti depressants for the treatment of anxiety but with draw anxiolytics after some time. ?
10. If a patient with schizophrenia is aggressive, agitated or violent, and a therapist feels a need to give inj Haloperidol for instant effect. Rest of treatment plan should follow the standard way:

(I) Inj haloperidol 10 mg, every eight hours for 3 days

(II) Inj Fluphenazine 25 mg, im stat, repeated 7 to 14 days as needed.

(III) Procyclidine 5 mg 1+1+1. May increase if EPS dewdrops.

(IV) ECT twice a week – 10 – 20 – More can be given if needed.

(V) Can add anxiolytics, and anti depressants if needed.

(VI) Mood normalizers (Specially Depakane) should be avoided for pregnant patients, especially in 1st and 2nd trimester.

(VII) All junior doctors and therapists need to go to the seniors for review (and signature) of the diagnosis and medication.
Debra Malina, Ph.D and Colleagues

Here we are again. Less than a year ago, an editorial in the Journal by Kassirer re-examined the massive public health problem of gun violence in the United States, and a Perspective article by Sacks, born of a personal tragedy, lamented the defunding of research on firearm-injury prevention. Kassirer called for electing “lawmakers at all levels of government with the courage to defy gun lobbyists,” so that essential regulatory changes can finally be enacted — as physicians, public health experts, and others have been recommending for decades. But in early December, the day after a young couple turned up at a holiday party in San Bernardino, California, with semiautomatic weapons and went on a shooting rampage, killing 14 people and injuring 21, Congress voted down a measure that would have prevented people on the terrorist watch list from getting guns and stalled on a measure to enhance background checks. An existing federal ban on military-style assault weapons, which ought to be an uncontroversial, if inadequate, first step, was allowed to lapse in 2004.

In 2013, the latest year for which the Centers for Disease Control and Prevention (CDC) has data, more than 33,000 people in the United States died from gunshot injuries and more than 84,000 survived with such injuries, many of them requiring ongoing care for both physical and mental health. After this year’s high-profile events in San Bernardino, Colorado Springs, Charleston, and Roseburg, Oregon, commentators once again marveled at the vast gap between U.S. rates of gun deaths and those in other developed countries, which either have never witnessed the epidemic of gun violence and the kind of mass shootings that are now routine here or have acted effectively to stop them. If any other public health menace were consistently killing and maiming so many Americans, without research, recommendations, and action by the CDC, the public would be outraged.

But in the United States, the National Rifle Association (NRA), the legislators it has funded, and a certain breed of gun owners have stood in the way even of research to determine what policies might help. The single or double gun deaths that go on around us every day rarely evoke any public response, and the predictable reflex response to the louder mass shootings, after exhortations to pray for the victims, takes two forms: calls for reviving research and calls for improving mental health care.
No doubt both of these avenues are important to pursue. Though the research pathway often feels like a delaying tactic doomed to encounter the same barriers that efforts to change laws face, House Democrats did on December 10 insert into an omnibus funding bill a provision lifting the ban on federal funding for gun-violence research. While the mental health care pathway, for its part, could have broader benefits, it would, at best, solve a tiny fraction of the problem — 3 to 5%, says Friedman, noting that “most people who are violent are not mentally ill, and most people who are mentally ill are not violent.” It also seems to make mental health workers or primary care physicians responsible for the impossible task of diagnosing and treating anyone who might conceivably start shooting people.

Most important, neither of these responses gets at the root of the problem. Something in the psychological or sociological makeup of the United States has left us at this long-standing impasse. Gun-control advocates blame the NRA, but perhaps the NRA is less like a foreign pathogen that has invaded our body politic, to which we could mount an immune response, than like a cancer, growing from our own mutated cells. And that dangerous mutation seems to be a sad distortion of the American principle of individualism that prioritizes one’s right to live the way one wants, without any government interference, over other people’s right to live at all — a distortion that has found one of its key expressions in firearm-related freedoms. But gun violence is an assault on the health of the public. An equally fundamental American principle holds that ensuring the public health sometimes requires curbing the rights of individuals in order to benefit and protect the community as a whole.

Previous commentators including Hemenway and Miller have listed among the steps toward reducing gun violence “changing social norms.” Given that it requires “deep cultural changes,” however, that is far easier said than done — it is, as Wintemute has argued, “the work of generations.” But it is work that we need to begin. If we never address the underlying beliefs that sustain this guns-everywhere extremism, we will not be able to diminish its power. Too many Americans will continue to get their hands on assault weapons, too many will kill or maim other Americans, and we will continue to bicker about whether the first step is more research or better mental health care — while we continue to do nothing to cure the disease.
Abstract
Cognitive-behavioral group therapy (CBGT) is a first-line treatment for social anxiety disorder (SAD). However, since many patients remain symptomatic post-treatment, there is a need for augmenting procedures. This randomized controlled trial (RCT) examined the potential augmentation effect of attention bias modification (ABM) for CBGT. Fifty patients with Social Anxiety Disorder from three therapy groups were randomized to receive an 18-week standard CBGT with either ABM designed to shift attention away from threat (CBGT+ABM), or a placebo protocol not designed to modify threat related attention (CBGT+placebo). Therapy groups took place in a large mental health center. Clinician and self-report measures of social anxiety and depression were acquired pre-treatment, post-treatment, and at 3-month follow-up. Attention bias was assessed at pre- and post-treatment. Patients randomized to the CBGT=ABM group, relative to those randomized to the CBGT+placebo group, showed greater reductions in clinical-rated Social Anxiety Disorder symptoms post-treatment, with effects maintained at 3-month follow-up. Group differences were not evident for self-report or attention-bias measures, with similar reductions in both groups. Finally, reduction in attention bias did not mediate the association between group and reduction in Liebowitz Social Anxiety Scale Structured Interview (LSAS) scores.

This is the first RCT to examine the possible augmenting effect of ABM added to group-based cognitive-behavioral therapy for adults Social Anxiety Disorder. Training patients’ attention away from threat might augment the treatment response to standard CBGT in Social Anxiety Disorder, a possibility that could be further evaluated in large-scale RCTs.

(https://www.cambridge.org/core/journals/psychological-medicine/article/attention-bias-modification-augments-cognitivebehavioral-group-therapy-for-s...)
Abnormal Involuntary Movement Scale (AIMS) - Overview

- The AIMS records the occurrence of tardive dyskinesia (TD) in patients receiving neuroleptic medications.
- The AIMS test is used to detect TD and to follow the severity of a patient's TD over time.

Clinical Utility
The AIMS is a 12 item anchored scale that is clinician administered and scored
- Items 1-10 are rated on a 5 point anchored scale.
  - Items 1-4 assess orofacial movements.
  - Items 5-7 deal with extremity and truncal dyskinesia.
  - Items 8-10 deal with global severity as judged by the examiner, and the patient's awareness of the movements and the distress associated with them.
- Items 11-12 are yes-no questions concerning problems with teeth and/or dentures, because such problems can lead to a mistaken diagnosis of dyskinesia.

Examination Procedure
The indirect observation and the AIMS examination procedure are on the following two pages.

Scoring1
1. A total score of items 1-7 (Categories I, II, III) can be calculated. Those represent observed movements.
2. Item 8 can be used as an overall severity index.
3. Items 9 (incapacitation) and 10 (awareness) provide additional information that may be useful in clinical decision making.
4. Items 11 (dental status) and 12 (dentures) provide information that may be useful in determining lip, jaw and tongue movements.

Psychometric Properties
The AIMS is a global rating method. The AIMS requires the raters to compare the observed movements to the average movement disturbance seen in persons with TD. Such relative judgments may vary among raters with different backgrounds and experience.

1. Rush IA Jr., Handbook of Psychiatric Measures, American Psychiatric Association, 2000, 156-168
AIMS Examination Procedure

Either before or after completing the AIMS on the following page, observe the patient unobtrusively at rest (e.g., in the waiting room).

The chair to be used in this examination should be a hard, firm one without arms.

Questions
1. Ask the patient whether there is anything in his or her mouth (such as gum or candy) and, if so, to remove it.
2. Ask about the current condition of the patient's teeth. Ask if he or she wears dentures. Ask whether teeth or dentures bother the patient now.
3. Ask whether the patient notices any movements in his or her mouth, face, hands, or feet. If yes, ask the patient to describe them and to indicate to what extent they currently bother the patient or interfere with activities.
4. Have the patient sit in chair with hands on knees, legs slightly apart, and feet flat on floor. (Look at the entire body for movements while the patient is in this position.)
5. Ask the patient to sit with hands hanging unsupported -- if male, between his legs, if female and wearing a dress, hanging over her knees. (Observe hands and other body areas).
6. Ask the patient to open his or her mouth. (Observe the tongue at rest within the mouth.) Do this twice.
7. Ask the patient to protrude his or her tongue. (Observe abnormalities of tongue movement.) Do this twice.
8. Ask the patient to tap his or her thumb with each finger as rapidly as possible for 10 to 15 seconds, first with right hand, then with left hand. (Observe facial and leg movements.)
9. Flex and extend the patient's left and right arms, one at a time.
10. Ask the patient to stand up. (Observe the patient in profile. Observe all body areas again, hips included.)
11. Ask the patient to extend both arms out in front, palms down. (Observe trunk, legs, and mouth.)
12. Have the patient walk a few paces, turn, and walk back to the chair. (Observe hands and gait.) Do this twice.
**Abnormal Involuntary Movement Scale (AIMS)**

**Patient Name:** __________________________  **Date of Visit:** __________________________

**Movement Ratings:**
- Rate highest severity observed in category I, II, III.
- Rate movements that occur upon activation one point less than those observed spontaneously.
- Circle movements as well as code number that applies.

<table>
<thead>
<tr>
<th>Code: 0 = None  1 = Minimal  2 = Mild  3 = Moderate  4 = Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
</tr>
</tbody>
</table>

**I FACIAL & ORAL MOVEMENTS**

1. **Muscles of Facial Expression** e.g., movements of forehead, eyebrows, periorbital area, cheeks, including frowning, blinking, smiling, grimacing

2. **Lips and Perioral Area** e.g., puckering, pouting, snacking

3. **Jaw** Biting, clenching, chewing, mouth opening, lateral movement

4. **Tongue** Rate only increases in movement both in and out of mouth. NOT inability to sustain movement. Daring in and out of mouth

**II EXTREMITY MOVEMENTS**

5. **Upper (arms, wrists, hands, fingers)** Include choreic movements (i.e. rapid, objectively purposeless, irregular, spontaneous) athetoid movements. DO NOT INCLUDE TREMOR (i.e. repetitive, regular, rhythmic)

6. **Lower (legs, knees, ankles, toes)** Lateral knee movement, foot tapping, heel dropping, foot squirming, inversion and eversion of foot

**III TRUNK MOVEMENTS**

7. **Neck, shoulders and hips** Rocking, twisting, squirming, pelvic gyrations

**IV GLOBAL JUDGEMENT**

8. **Severity of abnormal movements overall**

9. **Incapacitation due to abnormal movements**

10. **Patient's awareness of abnormal movements. Rate only patients report:**
    - No Awareness = 0
    - Aware, no distress = 1
    - Aware, mild distress = 2
    - Aware, moderate distress = 3
    - Aware, severe distress = 4

**V DENTAL STATUS**

11. **Current problems with teeth and/or dentures**
    - YES
    - NO

12. **Are dentures usually worn**
    - YES
    - NO

13. **Endentia?**
    - YES
    - NO

14. **Do movements disappear with sleep?**
    - YES
    - NO

*Available for use in the public domain.*
Inadequate response to antipsychotic treatment in schizophrenia is common.

Strategies for antipsychotic nonresponders:
- Wait for delayed response
- Dose adjustment
- Antipsychotic switching
- Clozapine
- Antipsychotic polypharmacy

**Antipsychotic polypharmacy is common despite:**
- Lack of strong evidence for efficacy
- Being considered a last-stage option after clozapine failure
- Concerns about cost, adherence, and adverse effects

Galling and colleagues conducted a meta-analysis comparing the efficacy and adverse effects of antipsychotic augmentation versus monotherapy.

**Study Methods**
- Systematic search of MEDLINE, PsycINFO, and 2 Chinese databases.
- Included randomized controlled trials (RCTs of at least 20 adults with schizophrenia or schizoaffective disorder) of antipsychotic augmentation with a different antipsychotic versus either augmentation with placebo or continuation of antipsychotic monotherapy.

**Methods (2)**

**Primary outcomes**
- Total symptom reduction
- Study-defined treatment response

**Secondary outcomes**
- Discontinuation
- Reduction in symptom domains (eg, positive symptoms, negative symptoms, depression)
- Reduction in global illness severity
• Improvement in functioning
• Frequency and severity of adverse effects

Methods (3)
• Group differences for continuous outcomes were analyzed as the pooled standardized mean difference in change from baseline to endpoint.
• Dichotomous data were analyzed as the pooled risk ratio.
• Subgroup analyses were performed for double-blind and “high-quality” studies (those using an intent-to-treat/lastobservation-carried-forward design).

Study Results
• 31 studies were included in the meta-analysis
• 22 studies, comprising 1342 patients, were analyzed regarding efficacy (primary outcome)

Results (2)
• Antipsychotic augmentation was not superior to monotherapy for total symptom reduction in either double-blind or high-quality studies
• Similarly, there was no significant difference between augmentation and monotherapy for treatment response rates in double-blind and high-quality studies
• The pattern of the results was unchanged in augmentation studies of clozapine

Results (3)
• All-cause and intolerability-related discontinuation did not differ between antipsychotic augmentation and monotherapy.
• Augmentation of D2 antagonists with a partial D2 agonist, but not another D2 antagonist, was associated with significant reduction in negative symptoms with a small-to-medium effect size.

Results (4)
• Antipsychotic augmentation and monotherapy did not differ regarding depressive symptoms.

Few differences in adverse effects were observed:
• D2 antagonist augmentation was associated with less insomnia but greater prolactin elevation
• Aripiprazole augmentation was associated with reduced prolactin levels and body weight

Discussion
• This is the first meta-analysis of RCTs focusing exclusively on augmentation strategies versus continued treatment with antipsychotic monotherapy, regardless of the baseline antipsychotic.
- There was no evidence for symptom improvement or treatment response with augmentation of either clozapine or non-clozapine antipsychotics

**Discussion**
- Outside of greater prolactin elevation, the authors did not find evidence that antipsychotic polypharmacy carries a greater risk of adverse effects.
- The authors emphasize that findings should be interpreted with some caution given the relatively small number of double-blind studies, and heterogeneity of the included studies.

**The Bottom Line**
- Findings suggest that the common practice of antipsychotic augmentation in schizophrenia lacks double-blind/high-quality evidence for efficacy, except for negative symptom reduction with partial D2 agonist augmentation.
The amount of maternal weight gain during pregnancy was associated with development of psychosis in adulthood.

Increases in risk for psychosis have been reported in children of mothers exposed to famine. To examine the influence of maternal weight on this risk, investigators compared data from Swedish national registers on 562,042 people born in the 1980s.

Gestational weight gain (GWG) was categorized as ideal, extremely inadequate, inadequate, excessive, or extremely excessive. By a mean age of 26 years, 2910 subjects had developed a nonaffective psychosis (schizophrenia in 704).

The risk for nonaffective psychosis was significantly increased by 21% in children of mothers who were “mildly thin” early in pregnancy (body-mass index, 17.0–18.5). In analyses controlling for relevant medical and familial risk factors, the likelihood of psychosis when mothers had extremely inadequate GWG was significantly increased by 36% in children (more so in females than males).

COMMENT

These results augment data from famines in Holland (1944–1945) and China (1959–1961) suggesting that starvation, or at least severe restriction of food intake, in a mother is associated with her children's development of schizophrenia and other nonaffective psychoses during adulthood. Whether fetal nutritional deficiencies alter central nervous system development or whether restricted food intake is a manifestation of another risk factor (e.g., nonadherence to prenatal regimens or idiosyncratic ideas about food) remains to be determined. Regardless of the causal relationship, clinicians should encourage adequate weight gain during pregnancy and should follow closely children of mothers who gain inadequate amounts of weight during pregnancy.
Multimorbid Impairments of Veterans Applying for Disability Benefits for Post-Traumatic Stress Disorder


In a longitudinal study, about 10% of men and 20% of women who had applied for PTSD-related disability benefits had persistent serious mental illness.

Nearly one third of the entire Veterans' Affairs (VA) budget is allocated to veterans' disabilities; about 650,000 veterans receive disability benefits for post-traumatic stress disorder (PTSD). In a previous study, nearly a quarter of applicants for PTSD disability benefits reported manic and/or psychotic symptoms. To ascertain the impairment burden of similar veterans, investigators studied VA records of 2580 veterans (59% women) who had applied for VA benefits for PTSD between 1994 and 1998.

Participants had been on active duty during or after the Vietnam conflict. About 90% of men but fewer than 25% of women had served during the Vietnam era. Persistent serious mental illness (PSMI) was defined as diagnoses for schizophrenia, schizoaffective disorder, or bipolar disorders that were recorded in three separate calendar years. PSMI was recorded in 10% of men vs. 22% of women; >80% of those with PSMI had persistent PTSD. Depressive disorders were recorded in 71% of men vs. 79% of women, and anxiety disorders were recorded in 40% vs. 51%.

The investigators then focused on 1728 veterans who returned surveys at three time points (1998–2000, 2004–2006, and 2011–2012). Serious social role impairments and PTSD symptoms across time were reported by nearly 90% with PSMI. Employment at any point was reported by <10% of men and ≤20% of women with PTSD and PSMI.

COMMENT

These researchers did not report concurrent cognitive impairment, general medical disorders, pain, or substance use disorders, each of which can further complicate the clinical picture. Whether more recent veterans will have similar difficulties remains to be seen. The significant overall illness burden in these veterans underscores the need for comprehensive medical and social interventions.
Impoverished, institutionalized children adopted into well-functioning families at age <6 months fared well in adulthood; later adoptions were linked to functional and behavioral impairments.

Deleterious effects of early deprivation on behavioral and cognitive development in children are well known (see Biol Psychiatry 2017 Feb 26; [e-pub]). To examine whether these effects persist into adulthood, researchers examined adoptees in young adulthood (ages 22–25): 50 individuals from Romania adopted at <6 months, 72 adopted at ages 6 to 42 months, and 39 U.K. adoptees. Children in Romanian institutions experienced poor hygiene, nonaffectionate caretakers, little stimulation, and insufficient food. All children were adopted into well-functioning U.K. homes. At ages 6, 11, and 15 years, later Romanian adoptees had manifested higher levels of autistic, inattentive, hyperactive, and overfriendly behaviors and were more likely to have IQs <80. Romanians adopted at <6 months were similar to U.K. adoptees. In young adulthood, about 80% of the late-adoption group sustained lower academic and employment status and more behavioral problems than early Romanian and U.K. groups, but IQ normalized. Emotional problems in the late-adoption group were higher in adulthood than at earlier assessments, consistent with delayed onset. About 25% of each adoptee group did not undergo assessments in adulthood, but dropouts were largely similar to continuers.

**COMMENT**

Finding persistent impairments in adulthood is not surprising, because previously institutionalized Romanian adoptees have smaller cortical gray matter (NEJM JW Psychiatry Sep 2012 and Proc Natl Acad Sci U S A 2012; 109:12927) and shorter telomeres (NEJM JW Psychiatry Jul 2011 and Mol Psychiatry 2012; 17:719). Normalization of adult IQ suggests neuroplasticity and, perhaps, the prevention of later functional impairments by early therapeutic interventions. Clinicians need to teach their students that children's overfriendliness (e.g., spontaneous hugging of strangers) is not a sign of examiners' medical skills but a manifestation of affection-impoverished rearing environments. These findings can be discussed with prospective parents, who often ask whether age at adoption affects future development.
A Free Smartphone App Reduces Symptoms of Post-Traumatic Stress Disorder


In a randomized, controlled trial, significant improvements seen at 3 months of treatment persisted at 6 months.

Although smartphone apps are widely used in mental health practice, few studies have meaningfully evaluated their utility. In this first-ever rigorous evaluation of a mobile app for symptoms of post-traumatic stress disorder (PTSD), investigators used advertisements to recruit adults meeting screening criteria for PTSD.

The 120 participants (mean age, 39; women, 69%; white race, 67%) were randomized to 3 months of treatment with PTSD Coach, a free app for Android or Apple devices developed by Department of Defense and Veterans Affairs, or to a waiting list. Not intended to replace professional care, the app offers psychoeducation, symptom assessment checklists, evidence-based self-management tools (e.g., relationship exercises, stress inoculation training, and grounding), and a “find support” section that includes personalized information and emergency services.

Attrition was low (overall, 14%). Participants used the app an average of 1 to 2 days per week. At the end of treatment, clinically significant improvement was seen in 47% of app users vs. 26% of waiting-list controls. App users showed greater improvement in PTSD symptoms, depressive symptoms, and psychosocial functioning (but not coping self-efficacy). Improvements generally persisted 3 months later.

COMMENT

The generalizability of this study is limited by its complete reliance on self-report measures in a convenience sample. Also, using digital devices for mental health treatment might evoke some degree of placebo response. Nevertheless, the potential utility of the app, as an adjunct to conventional PTSD treatment, bears further study. In the meantime, clinicians in routine practice might encourage patients to download and try the app (http://www.ptsd.va.gov/public/materials/apps/PTSDCoach.asp).
Kelly J. Kelleher, M.D., and William Gardner, Ph.D.

The Centers for Disease Control and Prevention (CDC) has just offered further evidence that American children — and rural children in particular — are in trouble. Previously, the CDC had noted that poor U.S. children 2 to 8 years of age have higher rates of parent-reported mental, behavioral, and developmental disorders (MBDDs) than their wealthier counterparts. Now, in the latest of a series of reports, the agency documents the finding that rural children from small communities are more likely to have MBDDs than those living in cities and suburbs.

What might cause this disparity? One important factor is that rural children often live in poverty, the severity of which is increasing. According to the U.S. Department of Agriculture, about one in four rural children in the United States lives in poverty, as compared with one in five children nationwide (see graph). Poverty harms the developing brain through both biologic and social effects. One pathway from poverty to MBDDs may be parental alcohol and drug use, which is associated with lower birth weight and developmental delay in offspring and risk for behavioral disorders in childhood. (Causation could also run reciprocally from MBDDs to poverty: families coping with children with such disorders can lose income and incur increased out-of-pocket costs.)

Another possible cause is perinatal or early-childhood teratogen exposure from extraction and processing industries, although no differential exposures between rural and metropolitan areas have been associated with rates of MBDDs. Rural communities also offer fewer evidence-based, early-intervention programs than urban areas, and these programs might help prevent or ameliorate some cases of MBDDs. Further research is needed to elucidate the contribution of these factors to the burden of MBDDs among rural children.

In the meantime, how do we care for rural children with MBDDs and their families? Our traditional model of service delivery requires patients to visit pediatric behavioral and developmental health specialists regularly. There are national shortages of specialists trained in addressing childhood MBDDs, but the shortfalls are greatest in rural areas, where low population density makes it difficult to support specialist practices. For the past 50 years, calls for placing more behavioral and developmental health care providers in rural areas have failed. Long travel distances keep rural families from making routine visits to specialists even if they can find one, so not surprisingly, attrition rates for behavioral and developmental health services are high.
among rural patients. Continued reliance on traditional delivery systems will clearly mean continued lack of access for rural children and families.

So how can we do a better job delivering care to rural children with MBDDs? Our view extends that of Robinson et al. We believe that rural communities should partner with agencies that operate in alternative settings, use telehealth services, and employ primary care and alternative providers to coordinate care and deliver low-intensity interventions.

It’s possible to deliver behavioral and developmental health care in settings other than medical offices. School-based services are attractive because rural schools are often used as community activity centers, and the concentration of students makes them efficient access points. School-based health centers that offer comprehensive behavioral health services can coordinate with primary care providers, school transportation systems, and (with appropriate consent) teachers and other health professionals to improve billing, electronic record sharing, assessments, and communication. Resource-poor rural towns have little money for such activities, but costs may be reduced if regional health care provider networks and accountable care organizations use low-overhead settings such as schools.

Federally qualified health centers (FQHCs) also offer advantages in providing mental health services in rural areas. They may use the National Health Service Corps Loan Repayment program to recruit professionals, participate in telehealth programs for mental health, and use internal or externally contracted providers to meet federal requirements for adding mental health services. FQHCs are often the only providers in a rural area, and their recent growth suggests that their financial model may work well for rural communities.

Telehealth services enable behavioral and developmental health specialists to deliver care in underserved areas. Unfortunately, shortages of these specialists even in many urban areas mean that synchronous telehealth care can solve only a portion of rural access problems. In contrast, psychoeducation, group sessions, and online therapies (e.g., online cognitive behavioral therapy) can provide useful clinical responses when patients and families are connected with digital services through their clinicians. The Australian experience demonstrates what is possible; several efficacy studies have revealed similar outcomes and engagement with telehealth interventions as with in-person clinical services. Similar programs could be extended, and indeed 20% annual growth in telehealth visits is predicted for the next 5 years, although some rural communities still lack broadband connectivity.

Beyond telehealth, many low-severity mental health problems can be effectively treated in primary care, particularly under collaborative care arrangements with specialists. Thus, coordination of specialist services with primary care, schools, or other trusted rural settings will be an essential element of improved care models for rural children. Efforts such as Project ECHO (http://echo.unm.edu), a specialty model for training primary care clinicians through case-based learning, have helped primary care providers address other chronic conditions.
Reliance on alternative providers will be critical to expanding care for rural children with MBDDs. New models of effective mental health care by trained peers or parents and by community workers are emerging from consumer movements and impoverished areas such as low-income countries. Among appropriately screened patients, these models are effective and acceptable to patients. Parents of children with MBDDs can be trained to provide structured, brief interventions that include emotional support, problem solving, or brief cognitive behavioral therapy. Such peer parents or advocates can be trained, certified, and employed on the treatment team. New York State, for example, has formal licensing and payment models in place for trained parents who join treatment teams.

Unfortunately, there are substantial financial and regulatory obstacles to implementing innovative rural service-delivery models. Alternative settings such as rural schools are often resource-starved and lack capacity to expand services for children with MBDDs. Restrictive credentialing and licensing practices make it difficult to use alternative providers to deliver care in isolated areas. Clinicians avoid some of these barriers by labeling services as educational rather than clinical, but doing so may prevent integration with other health care. Traditional fee-for-service payments reinforce guild restrictions and encourage separate contracts and service agencies for special education, foster care, and juvenile justice in rural communities.

Fragmentation of services reimbursed through fee-for-service systems might be overcome with value-based purchasing that rewards outcomes rather than volume. Global budgets and other forms of value-based payment can encourage use of lower-cost providers and settings, while focusing providers’ attention on population health. Unfortunately, value-based payment mechanisms for care of children have been implemented mostly in urban academic medical centers rather than rural areas. Moreover, the future of U.S. health care reform is uncertain.

A romantic and pastoral view of the countryside as a place of healing is ingrained in American culture. The increased burden of MBDDs among rural children belies this image, as does the failure of the traditional behavioral and developmental health care system to address rural children’s needs. These problems have received too little attention, because most behavioral and developmental health specialists, researchers, and health policymakers live in cities. The problems of rural children, their families’ crises, and the lack of services have been out of sight and out of mind.
مختصرات کے لئے: پہلے دنیا کی انٹرنشنال لیپ دیکھنے کے دستیاب

گرین سال گولگل نے اپیک نیپ ایپ کو کوچنے کے لئے اپیک کو کومار مالک کے 130 سے زیادہ مالک میں عرضہ کر اپیک کا مختصر غراب انٹرنیٹ سروس والے طالب کو سامنانہ کے لیے ویدیو کی بنا پر گزر گیا گولگل کو مالک کا ظاہر کیا اپیک کو 130 سے زیادہ مالک نے ملی اور یہ بھی دیکھیا گیا کہ سہمیں کا متعدد یاد کرتا گیا۔ کوچنے کے 130 سے زیادہ مالک کو اپیک کا مختصر غراب انٹرنیٹ سروس والے طالب کو سامنانہ کے لیے ویدیو کی بنا پر گزر گیا گولگل کو مالک کا ظاہر کیا اپیک کو 130 سے زیادہ مالک نے ملی اور یہ بھی دیکھیا گیا کہ سہمیں کا متعدد یاد کرتا گیا۔ کوچنے کے 130 سے زیادہ مالک کو اپیک کا مختصر غراب انٹرنیٹ سروس والے طالب کو سامنانہ کے لیے ویدیو کی بنا پر گزر گیا گولگل کو مالک کا ظاہر کیا اپیک کو 130 سے زیادہ مالک نے ملی اور یہ بھی دیکھیا گیا کہ سہمیں کا متعدد یاد کرتا گیا۔ کوچنے کے 130 سے زیادہ مالک کو اپیک کا مختصر غراب انٹرنیٹ سروس والے طالب کو سامنانہ کے لیے ویدیو کی بنا پر گزر گیا گولگل کو مالک کا ظاہر کیا اپیک کو 130 سے زیادہ مالک نے ملی اور یہ بھی دیکھیا گیا کہ سہمیں کا متعدد یاد کرتا گیا۔
مشترک کنندگان می‌باشند

(عکسی درج شده درآمد نمی‌شود)

189
پاکستان میں معرکہ کے "شہدا" اور "غازی" (شنواز فاڑوی چنارت)
AFRO ZONE: SEE THROUGH A WIND-POWERED VECTOR'S PERSPECTIVE. COMPREHENDING THE MEANING OF SUCH A CONCEPT IS NOT AN EASY TASK.--


Connections: "I was looking for a way to break into the world of art. I had been working in the gallery world for a long time and wanted to explore new avenues. I started painting and it was a revelation. It was like finding a new language."

In the end, the conference was a success. The participants were enthusiastic and eager to continue their work. The organizers were pleased with the turnout and are planning to hold more events in the future.
مشال خان کے حوالے سے سوہے جو ہیں، وہ کہا کہ "بپا خان نے ایک روز میں پاکستان کے وقت کا عالمی نشان دہندہ کیا"۔ اس وقت کے ساتھ ہے کہ مشال خان نے ایک روز میں پاکستان کے وقت کا عالمی نشان دہندہ کیا۔

محترمہ جماعت میں، "اجلاس بپا خان نے ایک روز میں پاکستان کے وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا۔ اس وقت کے وقت کا عالمی نشان دہندہ کیا।
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- Karachi Addiction Hospital:
  (1) D-71, Nawab House, Block B, North Nazimabad, Karachi.
  (2) Rimpa Plaza M.A Jinnah Road, Karachi.

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Karachi Psychiatric Hospital was established in 1970 in Karachi. It is not only a hospital but an institute which promotes awareness about mental disorders in patients as well as in the general public. Nowadays it has several branches in Nazimabad, North Nazimabad and in Quaidabad. In addition to this there is a separate hospital for addiction by the name of Karachi Addiction Hospital.

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Indoor services include:
- 24 hours well trained staff, available round the clock, including Sundays & Holidays.
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- An Anesthetist and a Consultant Physician are also available.
- The patient admitted by you will be considered yours forever. If your patient by chance comes directly to the hospital, you will be informed to get your treatment instructions, and consultation fee will be paid to you.
- The hospital will pay consultation fee DAILY to the psychiatrist as follows:

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The hospital publishes a monthly web journal in its website by the name ‘The Karachi Psychiatric Hospital Bulletin” with latest Psychiatric researches. We also conduct monthly meetings of our hospital psychiatrists in which all the psychiatrists in the city are welcome to participate.

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Shadab Nizam
(C.E.O)
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UAN # 111-760-760
Email: support@kph.org.pk
Our Professional Staff for Patient Care

**Doctors:**
1. Dr. Syed Mubin Akhtar  
   MBBS, (Diplomate American Board of Psychiatry & Neurology)
2. Dr. Major (Rtd) Masood Ashfaq  
   MBBS, MCPS (Psychiatry)
3. Dr. Javed Sheikh  
   MBBS, DPM (Psychiatry).
4. Dr. Akhtar Fareed Siddiqui  
   MBBS, F.C.P.S
5. Dr. Salahuddin Siddiqui  
   MBBS
6. Dr. Sadiq Mohiuddin  
   MBBS
7. Dr. Seema Tahir  
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8. Dr. Muhammad Ali  
   MBBS
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