Mental Health and HIV/AIDS

Psychiatric Care in Anti-retroviral (ARV) Therapy (for second level care)

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Mental health and HIV/AIDS series

This is module 3 in the Series 'Mental Health and HIV/AIDS'.

Other modules are:-

1. Organization and systems support for mental health interventions in anti-retroviral (ARV) therapy programmes
2. Basic counselling guidelines for anti-retroviral (ARV) therapy programmes
4. Psychosocial support groups in anti-retroviral (ARV) therapy programmes
5. Psychotherapeutic interventions in anti-retroviral (ARV) therapy (for second level care)

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Preface

The AIDS epidemic is one of the most serious public health and social challenges the world has ever faced. It not only destroys individuals, but also families, communities and the whole societal fabric. Worst hit are communities least able to put in place appropriate measures for its containment and control. It is probably the biggest hurdle to the attainment of the Millenium Development Goals.

As a bold measure to counteract it, WHO has launched the 3 by 5 Initiative that, while primarily aimed at providing treatment to millions of people in need of it, also aims at building the elements of the health system that will be needed to deliver it.

Therefore, treating mental disorders of people living with HIV/AIDS has huge humanitarian, public health, and economic consequences; the same applies to providing people in need with appropriate psychosocial support. This is not an easy task, in view of the scarcity of human, technical and financial resources.

The present series is a contribution from the Department of Mental Health and Substance Dependence to the WHO 3 by 5 Initiative, but also goes beyond that. Its production brought together experts on mental disorders in people with HIV/AIDS from around the world. They graciously contributed their knowledge, expertise, energy and enthusiasm to this endeavour. We are profoundly indebted to them all, as well as to the agencies and organizations to which they are connected. The contributors' names are indicated in each of the modules in this series. A special thanks goes to Prof Melvyn Freeman, who steered this illustrious group, sometimes through uncharted waters, with patience and efficiency.

Now, we make this material available, not as a finalized product, but rather as a working tool, to be translated into local languages, adapted as needed, and improved along the way. A set of specific learning/training instruments, related to this series will soon be released, as another contribution to the mammoth task of improving the skills of the human resources available and needed, particularly where the 3 by 5 Initiative is being rolled out. Comments, suggestions and support are most welcome.

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Foreword

Among those affected by or at risk of acquiring HIV/AIDS are people with mental disorders. This happens primarily through-two mechanisms:

(i) some mental disorders make people more vulnerable to infection with the virus (e.g., intravenous drug use, alcohol abuse, major depression and psychotic disorders, developmental disabilities, and other mental disorders that impair judgement and decision-making) and more vulnerable to situations that increase the risk of passing the virus to others; and

(ii) some forms of HIV infection affect the brain thus creating clinical pictures that initially resemble several different mental disorders.

Unfortunately the interplay between HIV/AIDS and mental disorders goes beyond the mutual facilitation of occurrence. Perhaps the most relevant practical aspect of this interaction relates to adherence to treatment. It is well known that the presence of an untreated mental disorder – particularly depression, psychotic and substance use disorders – considerably decreases adherence to the treatment of any condition, including HIV/AIDS.

The failure of adhering to the proper regimen of anti-retroviral (ARV) treatment carries three major consequences. First, the expected benefit of the treatment does not take place, the clinical situation worsens and mortality increases. Second, the irregularity of the intake of the ARVs brings new resistant strains of the virus, thus complicating its future control. Third, the interrupted or incomplete course of treatment wastes money and other resources that could otherwise have produced more cost-effective results in adherent patients.

In addition, being HIV-positive, or having someone with HIV/AIDS in the family can be stressful for some people with HIV and for carers. In many countries where HIV prevalence is high it is not infrequent to find more than one person with HIV/AIDS in the same household, at the same time. The stress of living with a chronic illness or caring for an ill relative – even if it does not lead directly to a mental disorder such as major depression – may result in a chain of psychosocial reactions that cause considerable pain and dysfunction. Such dysfunction and

distress may decrease resistance and resilience to co-morbid conditions, and contribute to reduced adherence to medical regimens.

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Care Pathways for District Level Hospitals/ Physicians: Delirium, Dementia, and Psychiatric Disorders

Using This Table

Sequence

This table is intended to be used in the order in which the diagnoses appear.

Screens

The first column contains a screen for each disorder. If a screen is negative, proceed to the screen for the next diagnosis.

Diagnoses

The diagnoses covered are delirium, Alzheimer's type dementia, HIV-associated dementia, suicide risk, major depression, psychoses and/or mania, anxiety disorder, and alcohol withdrawal. Mania and psychosis are listed together. All anxiety disorders are listed together. More specific information about how to differentiate these disorders can be found at the WHO website, www.mentalneurologicalprimarycare.org

Treatments, subsequent monitoring, and follow-up

This table lists major treatments. For general management, advice to families, and long-term follow-up care, see the WHO website, www.mentalneurologicalprimarycare.org

HIV-Infected Patients

It is important to keep in mind that HIV-infected patients have elevated rates of delirium, dementia, and psychiatric disorders. This may be due to pre-existing mental illnesses (especially alcohol and other substance use disorders), the direct effects of HIV on the brain, opportunistic infections, and malignancies seen in clinical stage 3 and 4 patients, and the side effects of antiretrovirals and other medications used to treat people with HIV related illness. Working with these patients requires a very careful differential diagnosis, always looking for treatable medical problems underlying mental status changes.

SCREEN	IF SCREEN IS POSITIVE, CONTINUE	DIAGNOSTIC CRITERIA	CLASSIFY AS	TREATMENTS
PATIENT REFERRED BECAUSE OF: o Sudden confusion/ behavior change. ASK FAMILY: o When did it start? ASK PATIENT: o Determine if oriented to place, person, and time. EXAMINE: o Is patient confused, agitated, or apathetic?	ASSESS FOR: o Disturbance of conscious level (for example, drowsiness, lethargy, alternately alert and lethargic); o Inability to focus attention; o Memory impairment; o Suspiciousness, illusions, delusions, hallucinations; o Incoherent speech; and o Disturbed sleep or reversal of sleep pattern. CONSIDER: Physical causes o Multiple medical illnesses; o Alcohol and/or street drugs causing intoxication or withdrawal;	o Disturbance of consciousness with reduced ability to focus, sustain or shift attention; o A change in cognition or the development of a perceptual disturbance; o The disturbance developed over hours to days and fluctuates during the course of the day; and o The disturbance is caused by the consequences of a general medical condition (includ-ing alcohol/drugs,	DELIRIUM DSM IV 293 ICD 10 F05	o Delirium requires manage-ment as a medical emer-gency; o Take measures to prevent harm to self or others (a consequence of confusion and agitation); o Give glucose, thiamine and fluids; o Complete standard medical evaluation and blood tests, including HIV testing; o Hospitalise, if possible; o If febrile, pay particular attention to possibility of infectious diseases (including cerebral tuberculosis), dehydration, or alcohol withdrawal; o Follow WHO protocol for assessment of malaria;

o Is patient febrile?	o Medication toxicity or withdrawal; and o Acute head injury.	medication, acute head injury).		o If acute head injury, assess for skull fracture or intracranial bleed (see WHo protocol); and o Treat physical cause (systemic illness) or alcohol or drug/ medication toxicity or withdrawal; o If HIV-related, stabilize and begin ARV therapy with adherence support; o If very agitated, give low dose sedation with haloperidol or, if HIV positive, use risperidol or another atypical antipsychotic, if available; o Avoid diazepam or other benzodiazepines: may worsen confusion and agitation; and o Institute general management, advise family, and provide follow-up. See this website: www.mentalneurologicalprimarycare.org

SCREEN	IF SCREEN IS POSITIVE, CONTINUE	DIAGNOSTIC CRITERIA	CLASSIFY AS	TREATMENTS
PATIENT REFERRED BECAUSE OF: o Forgetful-ness and declining mental functioning over time. ASK FAMILY: o Has there been a change in personality or behavior? o For how long? EXAMINE: o Age of patient. Although it can appear	ASSESS FOR: o Orientation: ability to give own name and address, names of accompanying relatives; o Ability to name three objects and recall them in three minutes; o Ability to carry out daily routines.; o Apathy or emotional lability; o Poor personal hygiene. o Language disturbance (aphasia); o Difficulty performing routine motor tasks despite intact motor function (apraxia); o Failure to identify familiar objects (agnosia); and	o Memory impair-ment; and o One or more of the following cognitive distur-bances: – Aphasia; – Apraxia; – Agnosia; and – Impaired executive functioning. and o These cognitive deficits impair functioning; o Gradual onset and continuing decline; and o Diagnosis of exclusion.	DEMENTIA, ALZHEIMER'S TYPE DSM – IV 290 ICD 10 F03	o Conduct a full medical and laboratory assessment to exclude a treatable cause (e.g. metabolic, endocrine, neoplasm, HIV), and treat accordingly; o Institute general manage-ment, advise family, and provide follow-up. See this website: www.mentalneurologicalprimarycare.org; o If agitated or delusional, give low -dose haloperidol or another antipsychotic; o If insomnia present, con-sider low-dose amitriptyline or low-dose antipsychotic; and o If Alzheimer's diagnosis is made, consider anti-cholinesterase inhibitors, if available.

earlier, Alzheimer's disease usually occurs in people over 60 years old; and o Patient may appear normal, apathetic, or unkempt at first glance.	o Executive function deficits (for example, abstract thinking and organisational capacity). CONSIDER: o Delirium – see Page 2; o All other medical causes of dementia which includes cerebrovascular disease, Parkinson's disease and Huntington's disease; o HIV Dementia – see below; and o Depression with temporarily impaired cognitive functioning (especially if elderly).			

SCREEN	IF SCREEN IS POSITIVE, CONTINUE	DIAGNOSTIC CRITERIA	CLASSIFY AS	TREATMENTS
PATIENT REFERRED BECAUSE OF: o Gradual onset of mental changes that have impaired functioning. ASK PATIENT: o Have you been tested for HIV? o What was the result? EXAMINE: o Is patient too young to have Alzheimer's type dementia?	ASSESS FOR: o Cognitive problems: – Slowed thinking; – Trouble concentrating; – Verbal memory impairment; – Personality changes; – Difficulties with problem solving; and – Impaired executive functions. o Motor problems: – Slowed movements; – Imbalance; – An abnormal gait; or – Weakness. o Behavioral problems: – Apathy; – Social withdrawal; and – Emotional lability. o Decrements in functioning such as difficulty with work or self care.	o Acquired cognitive abnormality in 2 or more domains: – impaired attention; – concentration; – memory; – mental and psychomotor slowing; and – personality change causing marked functional impairment. o Acquired abnormality in motor performance or behavior, change in gait;	DEMENTIA HIV ASSOCIATED DSM IV 294.9 ICD 10 F02.4 (022.0)	o Full medical assessment – see Dementia, Alzheimer's type; o Conduct HIV testing to establish or confirm HIV seropositivity; o Rule out other etiologies common in HIV diseases (e.g. CNS opportunistic infections, metabolic problems) and treat accordingly; o Stabilise and begin ARV therapy with adherence support; o If depressed, consider treating with SSRI antidepressant. If not available, use low-dose amitritryline; and o If psychotic, manic, or agitated, use low-dose

	If available, consider standardised tests indicative of HIV neuropsychiatric impairment (e.g. Hopkins HIV screen, non-dominant hand grooved peg board test). CONSIDER: o All other medical causes of dementia.	o No clouding of consciousness or other confound-ing etiology and o Diagnosis of exclusion.		antipsychotic, preferably an atypical antipsychotic.

SCREEN	IF SCREEN IS POSITIVE, CONTINUE	DIAGNOSTIC CRITERIA	CLASSIFY AS	TREATMENTS
PATIENT REFERRED BECAUSE OF: o Having contem-plated, threatened, or attempted suicide. If current attempt: o Determine specifics and potential lethality. If no current attempt: ASK PATIENT o Have you felt that you would be better off	ASSESS FOR: o Current suicidal thoughts; o Intent to act on suicidal thoughts; o Presence of a specific plan including time frame and potential lethality; o Whether the means have been obtained to carry out the plan; o All prior suicide attempts and their potential lethality; o Factors associated with suicide risk: – Recent bad event; – Alcohol or substance abuse; – Depression; – Psychosis; – Panic attacks; – Major psychiatric diagnosis;	If current suicide thoughts, consider high risk for suicide if the patient: o Has a plan and the means; o Has a current or prior potentially lethal attempt; o Is highly agitated; o Poses a threat of violence to others; and o Has multiple factors associated with suicide risk.	SUICIDE RISK ICD 10 X60-X89	o If high risk, ensure constant observation and hospitalise if possible; o Attend to medical sequelae of current attempt; o Assess for major psychiatric disorder and treat accordingly; and o Institute general management, advise family, and provide follow-up. See this website: www.mentalneurologicalprimarycare.org

dead or that you want to purposely hurt your-self? o Have you ever at-tempted suicide? EXAMINE: o Patient shows physical evidence of self-harm; and o Patient looks depressed, frightened or agitated.	– Family history; – Prior suicide attempt; – Prior violent acts; – Poor social support; – Chronic pain; and – Feelings of hopelessness. o The greater the severity of the factors listed above, the more strongly they contrib-ute to suicide risk.			

SCREEN	IF SCREEN IS POSITIVE, CONTINUE	DIAGNOSTIC CRITERIA	CLASSIFY AS	TREATMENTS
PATIENT REFERRED BECAUSE OF: o Depressed or sad mood, loss of pleasure and interest, or low energy. ASK PATIENT: o Do you feel sad, depressed or hopeless? o Have you lost interest/ pleasure in / energy to do things you usually enjoy?	ASK THE PATIENT: Over the last 2 weeks, have you been bothered by: o Trouble falling or staying asleep, or sleeping too much? o Feeling tired or having little energy? o Poor appetite or overeat-ing? o Feeling bad about yourself, or that you are a failure, or have let yourself or your family down? o Trouble concentrating on things, such as cooking, reading, or watching television? o Moving or speaking so slowly that other people could have noticed? Or the	During the same 2-week period, patient has had: o Nearly continu-ous depressed mood; or o Markedly dimin-ished loss of interest or of pleasure in usual activities. In addition, patient has 3 (if both the above present) or 4 or more of the following: o Weight loss or gain; o Consistently sleeping too much or too little;	MAJOR DEPRESSION Single Episode DSM IV 296.2 ICD 10 F32 Recurrent Episodes DSM IV 296.3 ICD 10 F33	o If suspect bipolar disorder, see Page 12; o Ensure that standard medical assessment includes thyroid tests; o If symptons began following recent administration of efavirenz (EFV), assess if patient can tolerate waiting to see if symptoms sponta-neously improve. If not, treat depression or consider ARV regimen change; o For mild to moderate symptoms, consider nonpharmacological interventions; o For moderate to severe symptoms, begin a TCA antidepressant or, if available, an SSRI anti depressant. See psycho-tropic medication table;

o Have you ever had a previous episode of severe depression?

EXAMINE:

o Patient appears sad, tearful, slowed down or restless.

opposite, being so fidgety or restless that you have been moving around a lot more than usual?

o Thoughts you would be better off dead or of hurting yourself in some way?

ASSESS FOR:

o Accompanying complaints :
– Dizziness;
– Palpitations;
– Physical aches and pains;
– Sexual dysfunction; and
– Anxiety;

o Physical disorders associated with depression that require medical treatment; and

o Suicide risk, see Page 8.

o Can be observed as either agitated or slowed down;

o Consistent loss of energy;

o Feelings of worthlessness or guilt;

o Consistent problems thinking or concentrating, or indecisiveness;

o Recurrent thoughts of death or suicide or suicide attempt or plan.

Consider whether depression is secondary to a physical illness or is part of a bereavement reaction.

o Institute general management, advise family, and provide follow-up. See website:

www.mentalneurologicalprimarycare.org;

o Monitor for increased suicide risk during early phases of medication treatment (patient may become activated or have side effects that increase risk);

o For first episode depression, continue antidepressant for six months to one year;

o If 3 or more episodes of depression, continue antidepressant indefinitely; and

o If minor depression (symptoms do not meet criteria), consider counseling or medication depending on level of distress or impairment.

SCREEN	IF SCREEN IS POSITIVE, CONTINUE	DIAGNOSTIC CRITERIA	CLASSIFY AS	TREATMENTS
PATIENT REFERRED BECAUSE OF; o Behavior that is strange, frightening, or atypically impulsive. ASK PATIENT: o Do you hear voices of people who are not in the room? o Do you feel people are trying to harm you? o Have you ever been hospitalised for a psychi-atric illness?	ASSESS FOR: o Bizarre ideas or fixed unrealistic beliefs; o Disorganised thinking or speech; o Unusual or unnatural body posturing; o Perceptual disturbances; o Apprehension and confusion; o Disinhibited behavior; and o Mood swings or lack of appropriate emotion. CONSIDER: o Physical causes including medication, alcohol, street drugs, head trauma, and HIV infection.	o Criteria vary depending on whether patient has: – Brief psychotic disorder; – Delusional disorder; – Schizophrenia; – Schizoaffective disorder; or – Other psychotic disorders; o Depression may be accompanied by psychosis; o Consider mania if patient has: – Increased energy and activity; – Elevated mood or irritability; – Rapid speech;	PSYCHOSIS and/or MANIA (BIPOLAR DISORDER) Psychosis DSM IV 295 ICD 10 F20 – F29 Bipolar Disorder DSM IV 296A ICD 10 F30 – F31	o Take measures to prevent harm to self or others; o Assess for medical causes, including intoxication and treat accordingly; o Hospitalise if possible; o Begin treatment with haloperidol. If patient is HIV -positive, use risperidone or another atypical antipsychotic if available; o If using haloperidol or chlorpromazine for agitation with a clinical stage 3 or 4 HIV-positive patient, consider augmentation with very low dose diazepam to diminish risk of EPS. See psychotropic medication table; o If psychosis persists or patient has mania, refer for specialty care;

EXAMINE: o Is patient behaving in a bizarre or threatening manner? Always rule out delirium, see Page 2.		– Loss of inhibitions, including financial and sexual inhibitions; – Decreased need for sleep; and – Increased self importance. For further diagnostic clarification see this website: www.mentalneurological primarycare.org		o If specialty care not available for mania, and following stabilisation with an antipsychotic, consider lithium, carbamazepine, or sodium valproate for further treatment and/or prophylaxis for mania. See psychotropic medication table; and o Institute general manage-ment, advise family, and provide follow-up. See this website: www.mentalneurologicalprimary care.org

<table>
<tr><th>SCREEN</th><th>IF SCREEN IS POSITIVE, CONTINUE</th><th>DIAGNOSTIC CRITERIA</th><th>CLASSIFY AS</th><th>TREATMENTS</th></tr>
<tr>
<td>PATIENT REFERRED BECAUSE OF:

o Anxiety, fearfulness, avoidance of ordinary situations, repetitive ritualised behaviors.

ASK PATIENT:

o Do you feel anxious, worried or stressed most of the time?

o Do you sometimes suddenly feel terrified for no obvious reason?</td>
<td>ASK THE PATIENT:

o Do you experience:
– Pounding heart?
– Sweating?
– Trembling?
– Shortness of breath?
– Choking?
– Dizziness?
– Fear of dying?
– Tingling or numbness;
– Nausea and upset stomach; and
– Headaches.

o Are there specific things that you are afraid of? Do you go out of your way to avoid them?

o Do you have unwanted thoughts or images that you cannot get out of your mind? How much does this bother you?

o Are there rituals you perform to prevent harm to</td>
<td>o Criteria vary depending on whether patient has:
– Generalised anxiety disorder (GAD);
– Acute stress or post-traumatic stress disorder (ASD/PTSD);
– Panic disorder (Panic D/o);
– Obsessive – Compulsive disorder (OCD); or
– Other anxiety disorders.

o Anxiety may be comorbid with depression.</td>
<td>ANXIETY DISORDER

GAD
DSM IV
300.02
ICD 10
F41.1

ASD
DSM IV
308.3
ICD 10
F43.0

PTSD
DSM IV
309.81
ICD 10
F43.0</td>
<td>o Assess for suicide risk , see Page 8;

o Rule out physical causes;

o Counsel on managing anxiety according to specific situation. Consider specific therapies if available (e.g. CBT);

o Teach patients slow breathing and progressive relaxation;

o If severe anxiety, consider short-term use of diazepam (up to 2 weeks) and longer term use of an SSRI antidepressant; and

o Criteria for using medication include:
– Lack of improvement with counseling;
– Persistence of symptoms;
– Comorbid depression;</td>
</tr>
</table>

o Do you frequently think or dream about something terrible that happened to you in the past? EXAMINE: o Does patient appear frightened, anxious, or restless?	yourself or others or to reduce your anxiety (e.g. repetitive checking, washing, cleaning)? Do they interfere with things you need to get done? CONSIDER: o Physical causes of anxiety including cardiac problems, asthma, thyrotoxicosis, stimulant use.		PANIC D/o DSM IV 300.01 ICD 10 F41.0 OCD DSM IV 300.3 ICD 10 F42	– Significant functional impairment; and – Great subjective distress.

SCREEN	IF SCREEN IS POSITIVE, CONTINUE	DIAGNOSTIC CRITERIA	CLASSIFY AS	TREATMENTS
PATIENT REFERRED BECAUSE OF: o Not feeling well after cutting down or stopping regular heavy drinking within the past hours to few days. ASK PATIENT OR FAMILY: o Confirm history of regular heavy alcohol use prior to cutting down or stopping.	ASSESS FOR: Mild to moderate symptoms o Nervousness/anxiety/ shakiness; o Emotional lability; o Bad dreams; o Rapid heart rate; o Nausea and vomiting; o Sweating; o Paleness; o Clammy; o Hand tremors; o Insomnia; and o Difficulty concentrating. Severe symptoms o Confusion; o Hallucinations; o Agitation; o Fever; o Seizures; and o Memory disturbances.	o Cessation of (or reduction in) alcohol use that has been heavy and prolonged; and o Two or more of the following occurring within a few days thereafter: – Automatic hyperactivity; – Increased hand tremor; – Insomnia; – Nausea or vomiting; – Transient visual, tactile, or auditory hallucinations or illusions; – Psychomotor agitation; – Anxiety; and	ALCOHOL WITHDRAWAL DSM IV 291.1	o Alcohol withdrawal is a medical emergency – follow recommendations for delirium – Page 2 – and assess for other causes of delirium and other alcohol-related medical illnesses (e.g. liver failure); o Give thiamine 100 mg PO, folate 1 mg PO, and a multivitamin every day during treatment for with-drawal; and o Begin substitution treatment with diazepam, lorazepam, or carbamazepine. See psychotropic medication table for doses and taper.

		– Grand mal seizures.		

Psychotropic Medications

Using this Table

Medications Listed

This table lists most psychotropic medications that are in the WHO model formulary. It also includes some additional psychotropic medications which, if available, are easier to administer to HIV infected patients, especially those who are clinical stages 3 or 4 and those who are taking protease inhibitors as part of an ARV regimen. Many other newer psychotropic medications are also suitable for HIV-infected patients if they are available.

In some countries certain of the drugs listed below are not available, are only available at tertiary level or may be administered by registered psychiatrists only. Practitioners at secondary level should be familiar with the regulations and rules that pertain to psychiatric medication in their country and prescribe accordingly.

Side Effects and Cautions

This table does not list every possible side effect or caution. It focuses on the most serious and common ones. Very rare syndromes are not listed. More detailed information is available in the WHO model formulary and/or from online resources.

Disorders

This table covers psychotropic medications for the management of delirium, dementia, and common or serious psychiatric disorders. However, it does not address the treatment of chronic schizophrenia with long-acting injectable medication.

Dosages

The dosages of medications are approximations, and need to be adjusted to the patient in accordance with therapeutic response and tolerability. Patients with chronic medical illnesses, including HIV, may be on multiple medications

that can affect the metabolism of the psychotropic drug being administered. In these patients, the basic rule is start low, go slow.

Interactions Between Psychotropic Drugs and Antiretroviral Medications

Information is often theoretical rather than clinically demonstrated in patients. Most psychotropic medications are well tolerated by patients on ARVs. Again, the general rule is start low, go slow.

Use of Multiple Psychotropic Medications

Always use caution when simultaneously prescribing more than one psychotropic medication, whether from one or more classes. Many combinations are associated with the potential for drug interactions and overlapping toxicities. Use the simplest possible psychotropic medication to stabilise and maintain a patient. If possible, check an online resource for drug interactions.

HIV Clinical Stage 3 and 4 Patients on Complex Medication Regimens

In addition to ARVs, many patients will be taking antimicrobial agents for the prevention and/or treatment of opportunistic infections. If possible, when adding a psychotropic medication to a complex regimen, check an online resource for potential drug interactions and overlapping toxicities.

Terms, Definitions, and Descriptions

Term	Abbreviation	Definition and Description
Autonomic side effects		Autonomic side effects due to muscarinic blockade (seen with antipsychotics and TCAs) include orthostatic hypotension, sedation, dry mouth, blurred vision (disturbance of accommodation, increased intraocular pressure), urinary retention, constipation, sexual dysfunction.
Extrapyramidal side effects	**EPS**	EPS due to dopamine blockade (seen with antipsychotics) include dystonias (opisthotonus, oculogyric crises, torticollis), parkinsonism (masked facies, cogwheeling, tremor, gait disturbance, akinesia), and akathisia (restlessness and anxiety). In severe form, EPS can be very frightening and uncomfortable for the patient.
Neuroleptic malignant syndrome	**NMS**	Decreased consciousness, increased muscle tone, autonomic dysfunction including fever, labile hypertension, tachycardia, tachypnea, diaphoresis, and drooling. Muscle necrosis may cause myoglobinuric renal failure. NMS is a potentially fatal medical emergency occurring in about 1 percent of patients exposed to antipsychotics. Discontinue antipsychotic and give supportive treatment, including hydration and cooling.
Nucleoside reverse transcriptase inhibitor	**NRTI**	The NRTIs for HIV infection include abacavir, didanosine (ddi), emtricitabine, lamivudine (3TC), stavudine (d4T), tenofovir, zalcitabine (ddc), zidovudine (AZT, ZDV), and various combinations of these medications in one pill.
Non-nucleoside reverse transcriptase inhibitor	**NNRTI**	The NNRTIs for HIV include delavirdine, efavirenz, nevirapine.
Protease inhibitor	**PI**	PIs for HIV include amprenavir, atazanivir, fosamprenavir, indinovir, nelfinavir, ritonavir, saquinivir, and combinations in which ritonavir is used to boost another PI.

Term	Abbreviation	Definition and Description
Selective serotonin reuptake inhibitor	**SSRI**	The SSRI antidepressants include fluoxetine, sertraline, paroxetine, citalopram, escatalopram, fluvoxamine.
Serotonin syndrome		Caused by a hyperserotonergic state. Symptoms include: mental status changes (euphoria, drowsiness, confusion, loss of consciousness), muscle abnormalities (sustained rapid eye movement, overreaction of the reflexes, abnormal movements of the foot, clumsiness, restlessness, muscle twitching, rigidity, muscle contraction and relaxation in the jaw) dizziness, sweating, fever, shivering, and diarrhea. Usually occurs in patients taking more than one medication that increases serotonin. Difficult to distinguish from NMS since symptoms are very similar. Can be fatal. Discontinue the offending drugs and give supportive measures including hydration and cooling.
Tricyclic antidepressant	**TCA**	The TCA antidepressants include amitryptiline, imipramine, clomipramine, nortryptyline, desipramine, doxepin, and protriptyline.
Tardive dyskinesia	**TD**	Caused by prolonged dopamine blockade (seen with antipsychotics), TD is a syndrome of abnormal involuntary movements, often of the mouth and tongue, but which may affect any part of the body, including the trunk and extremities. In rare cases, TD may affect respiratory musculature and cause problems breathing. Discontinue antipsychotics if possible, which may or may not reverse TD. Vitamin E 800 I.U. daily may be beneficial.

Class: Antipsychotics

Indications: Antipsychotics can be used to treat psychotic disorders, mania and severe behavioral disturbances, such as agitation associated with delirium and dementia.

Medication: Name (Type) Tablet sizes	**Dose: Healthy Adult**	**Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4**	**Serious and Common Side Effects**	**Cautions**	**Main Antiretroviral interactions**
Haloperidol (First generation typical antipsychotic). **Tablet sizes:** WHO model formulary: 2 mg. 5 mg. Other: 0.5 mg. 1 mg. 10 mg. 20 mg.	**Start:** 2 to 5 mg PO once or twice daily. **Severe agitation:** 5 mg IM and repeat in one hour if needed. **Maintenance:** 2 to 20 mg daily.	**Start:** 0.5 to 1 mg PO once or twice daily. **Severe agitation:** 2 mg IM and repeat in one hour if needed. If still agitated, consider augmentation with very low doses of an anxiolytic. **Maintenance:** 1 to 5 mg daily.	**Serious, acute:** EPS, NMS, arrhythmias, hypotension, heat stroke. **Serious long-term:** NMS, TD **Other common:** – Anxiety; – Drowsiness; – Lethargy; – Weight gain; – Autonomic side effects; – Gynecom-astia; – Breast tenderness;	Use with caution if history of NMS and in medically ill. **Other:** HIV Clinical Stage 3 or 4 patients are very sensitive to EPS. In addition, NMS can occur within days, and TD can occur within weeks. Use risperidone if possible.	**NNRTIs:** No published data. **NRTIs:** No published data **Protease inhibitors:** Ritonavir may increase blood levels of haloperidol: use low doses of haloperidol.

			– Galactorrhea; and – Menstrual irregularities.		
Medication: Name (Type) Tablet sizes	**Dose: Healthy Adult**	**Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4**	**Serious and Common Side Effects**	**Cautions**	**Main Antiretroviral interactions**
Chlorpromazine (First generation typical antipsychotic) **Tablet sizes:** WHO model formulary: 100 mg. Other: 10 mg. 25 mg. 50 mg. 200 mg.	**Start:** 25 mg 3 times daily or 75 mg pm **Severe agitation:** 25 to 50 mg IM and repeat every 6 to 8 hours if needed. **Maintenance:** 100 to 300 mg daily. May go higher if needed.	**Start:** 10 mg 3 times daily or 25 mg pm. **Severe agitation:** 12.5 to 25 mg IM and repeat every 6 to 8 hours if needed. **Maintenance:** 25 to 100 mg daily.	**Serious, acute:** – Hypotension; – NMS; – EPS; and – Blood dyscrasias. **Serious long-term:** NMS, TD. **Other common:** Autonomic side effects, drowsiness.	Same cautions as haloperidol. **Additional Cautions:** Avoid using with lithium: increased risk of EPS. Avoid using with fluoxetine or sertraline: risk of QT prolongation and cardiac arrhythmias. **NNRTIs:** No published data.	**NRTIs:** No published data **Protease inhibitors:** Ritonavir may increase blood levels of chlor-promazine. Use low doses of chlorpromazine.

Class: Antipsychotics

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Risperidone (Atypical antipsychotic). **Tablet sizes:** WHO model formulary: None. Other: 0.25 mg. 0.5 mg. 1 mg. 2 mg. 3 mg. 4 mg.	**Start:** 1 to 2 mg PO once daily. **Increase:** by 1 or 2 mg every three to seven days. **Severe agitation:** only oral preparation available. Give 2 mg PO. Repeat if needed in 3 to 4 hours. **Maintenance:** 4 to 16 mg daily.	**Start:** 0.25 to 0.5 mg PO once daily. **Increase:** by 0.5 mg every three to seven days. **Severe agitation:** only oral preparation available. Give 1 mg PO. Repeat if needed in 3 to 4 hours. **Maintenance:** 1 to 6 mg daily.	**Serious, acute:** Hypotension, EPS (not common at lower doses), NMS. **Serious long-term:** NMS, TD, diabetes mellitus. **Other common:** Autonomic side effects, menstrual irregularities, weight gain. **Note:** Studies with HIV clinical stage 3 or 4 suggest patients tolerate risperidone well.	**Other:** Use with caution if history of NMS and in medically ill.	**NNRTIs:** No published data. **NRTIs:** No published data. **Protease inhibitors:** No published data.

Class: Antidepressants

Indications: Many antidepressants (e.g. SSRIs) can be used to treat both depressive and anxiety disorders. Antianxiety drugs such as benzodiazepines however, are not a treatment for depression. Low dose sedating antidepressants can be used for sleep.

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Amitriptyline (TCA) **Tablet sizes**: WHO model formulary: 25 mg. Other: 10 mg. 50 mg. 75 mg. 100 mg. 150 mg.	**Start**: 50 mg pm **After 1 week increase to:** 75 mg pm. **After 3 weeks increase to:** 25 mg am. 75 mg pm. **Two weeks later if inadequate response:** 50 mg am. 100 mg pm. **Maximum dose:** 250 mg. **For insomnia:** 10 to 50 mg pm.	**Start**: 25 mg pm. **After 1 week increase to:** 25 mg am. 25 mg pm. **After 3 weeks increase to:** 25 mg am. 50 mg pm. **Two weeks later if inadequate response:** 25 mg am. 75 mg pm. **Maximum dose:** 125 mg. **For insomnia:** 10 to 25 mg pm.	**Serious:** – Hypotension; – Arrhythmias; – Seizures; and – Mania. **Other common:** Autonomic side effects, drowsiness, weight gain.	**Contra-indications:** – Recent Myocardial Infarction; – Arrhythmias; – Mania; and – Severe liver disease. **Other:** Give small supply if patient is suicidal. Risk of serious arrhythmia in overdose.	**NNRTIs:** No published data. **NRTIs**: No published data. **Protease inhibitors:** Ritonavir increases blood levels of amitriptyline. Use low doses of amitriptyline. If starting a protease inhibitor with a patient already on amitriptyline, halve the amitriptyline dose, wait two weeks, and titrate back up slowly as tolerated.

Class: Antidepressants

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Imipramine (TCA) **Tablet sizes**: WHO model formulary: None Other: 10 mg. 25 mg. 50 mg.	Same dosing as amitriptyline.	Same dosing as amitriptyline.	Same side effects as amitriptyline.	Same cautions as amitriptyline.	Same ARV interactions as amitriptyline. Ritonavir increases blood levels of imipramine; follow same procedure as for amitriptyline.
Clomipramine (TCA) **Tablet sizes:** WHO model formulary: 10 mg. 25 mg. Other: 50 mg. 75 mg.	**Start:** 25 mg PO at bedtime. **Increase:** in divided doses by 25 mg every 4 to 7 days to 100-150 mg. **Maximum dose:** 250 mg.	**Start:** 10 mg PO at bedtime. **Increase:** in divided doses by 10 mg every 4 to 7 days to 50-75 mg. **Maximum dose:** 100 mg.	Same side effects as amitriptyline.	Same cautions as amitriptyline.	Same ARV interactions as amitriptyline. Ritonavir increases blood levels of clomipramine; follow same procedures as for amitriptyline.

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Fluoxetine (SSRI) **Tablet sizes:** WHO model formulary: None. Other: 10 mg. 20 mg. 40 mg.	**Start:** 10 to 20 mg PO daily. **Increase by:** 10 mg every three weeks until adequate clinical response. **Maximum dose:** 60 mg.	**Start:** 5 to 10 mg PO daily. **Increase by:** 10 mg every three weeks until adequate clinical response. **Maximum dose:** 40 mg.	**Severe:** Serotonin syndrome, mania, severe rash. **Common:** Autonomic side effects: – Nausea; – Headache; – Insomnia; – Anxiety; – Asthenia; – Diarrhea; – Tremor; and rash.	**Other:** Use cautiously with other medications that elevate serotonin levels (TCAs, lithium, MAOIs, another SSRI) and with ECT.	**NNRTIs:** No published data. **NRTIs:** No published data **Protease inhibitors:** Ritonavir may increase blood levels of fluoxetine; this is unlikely to be clinically significant.

Class: Antidepressants

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Sertraline (SSRI) **Tablet sizes:** WHO model formulary: None. Other: 25 mg. 50 mg. 100 mg.	**Start:** 25 to 50 mg PO daily. **Increase by:** 50 mg every three weeks until adequate clinical response. **Maximum dose:** 200 mg.	**Start:** 25 mg PO daily. **Increase by:** 25 mg every three weeks until adequate clinical response. **Maximum dose:** 150 mg.	Same side effects as fluoxetine.	Same cautions as with fluoxetine.	**NNRTIs:** No published data. **NRTIs:** No published data **Protease inhibitors:** Ritonavir may increase blood levels of sertraline. This is unlikely to be clinically significant.

Class: Anxiolytics

Indications: Anxiolytics can be used to treat anxiety disorders and can be used briefly for sleep disorders.

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Diazepam (Benzodiazepine).	**Start:** 2 mg 1-2 times daily.	*Day six*: Stop. **Start:** 1 to 2 mg once to twice	**Serious:** – Respiratory	**Precautions:**	**NNRTIs:** No published data.

Tablet sizes: WHO model formulary: 2 mg. 5 mg. Other: 10 mg.	**Increase:** if needed, in divided doses every seven to fourteen days to 10 to 20 mg daily. **To treat alcohol withdrawal:** *Day one*: Start with 4 to 20 mg P.O. up to four times daily until patient is calm. *Day two*: Give two-thirds of day one dose. *Day three*: Give one half of day two dose. *Days four and five*: Continue to reduce dose.	times daily. **Increase:** to 5 to 10 mg daily, if needed, in divided doses every seven to fourteen days. **To treat alcohol withdrawal:** Use half the doses recom-mended for a healthy adult. Use special caution if patient is taking ritonavir.	depression; – Withdrawal syndrome; – Hypotension; – Bradycardia; – Dependence; and – Abuse. **Common:** – Drowsiness; – Fatigue; – Ataxia; – Confusion; – Diplopia; – Dysarthria; – Hypotension; – Vertigo; and – Blurred vision.	If patient is on protease inhibitors, use cautiously and where available substitute lorazepam or buspirone. **Other:** Do not use in pregnant women. May cause congenital anomalies, particularly when used in the first trimester. Avoid in patients with cognitive impairment.	**NRTIs**: No published data. **Protease inhibitors:** May increase diazepam levels with resultant toxicity including excessive sedation and respiratory depression. Avoid diazepam.

Class: Anxiolytics

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Lorazepam (Benzodiazepine). **Tablet sizes**: WHO model formulary: None. Other: 0.5 mg. 1 mg. 2 mg.	**Start:** 1 mg PO two to three times daily. **Increase:** to 6 to 10 mg daily, if needed, in divided doses. **Maximum dose:** 10 mg daily. **To treat alcohol withdrawal:** *Days one and two*: Start with 1 to 4 mg up to four times daily until patient is calm. *Days three and four*: Give half of day one dose. *Day five*: Give 2 mg or less. *Day six*: Stop.	**Start:** 0.5 mg PO once to twice daily. **Increase:** to 3 to 4 mg daily, if needed, in divided doses. **Maximum dose:** 4 mg daily. **To treat alcohol withdrawal:** Use half the doses recom-mended for a healthy adult. Safe to use with patients on ritonavir.	Same side effects as Diazepam.	Same cautions as Diazepam. Except safer to use with protease inhibitors	**NNRTIs**: No published data. **NRTIs**: No published data. **Protease inhibitors:** No published data. Lorazepam is preferable to diazepam due to low risk of interac-tion with protease inhibitors.

Class: Anxiolytics

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Buspirone (Non Benzodiazepine). **Tablet sizes:** WHO model formulary: None Other: 5 mg. 7.5 mg. 10 mg. 15 mg. 30 mg.	**Start:** 10 mg PO two to three times daily. **Increase:** If needed by 5 mg every three days. **Maximum dose:** 60 mg daily. Note: May be less efficacacious than benzodiazepines for treating anxiety, but lacks addictive potential.	**Start:** 10 mg PO two to three times daily. **Increase:** If needed by 5 mg every three days. **Maximum dose:** 45 mg daily.	**Serious:** None reported. **Other common:** – Dizziness; – Drowsiness; – Nausea and vomiting; – Headache; and – Nervousness.	Use cautiously with other medications that elevate serotonin levels (TCAs, lithium, MAOIs, SSRIs) and with ECT.	**Protease inhibitors:** Protease inhibitors may increase buspirone levels. Consider using lower doses.

Class: Mood Stabilizers

Indications: Mood Stabilizers are used as monotherapy and in combination with other drugs for treatment of acute mania and as maintenance treatment for bipolar disorder.

Medication: Name (Type) Tablet sizes	**Dose: Healthy Adult**	**Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4**	**Serious and Common Side Effects**	**Cautions**	**Main Antiretroviral interactions**
Lithium (Salt) **Tablet sizes**: WHO model formulary: 300 mg. Other: 150 mg. 450 mg. 600 mg.	**Start:** 600 mg PO in divided doses. **Increase:** 300 mg each week and monitor blood level. **Maintain lithium level** in range: 0.6 – 1.0 mEq/L Consider slightly higher lithium level up to 1.2 mEq/L if needed for efficacy and if lithium levels can be obtained regularly.	Not advisable. **If necessary, start:** 150 mg PO two times daily. **Increase:** 150 mg each week and monitor blood level **Maintain lithium level in range:** 0.6 – 1.0 mEq/ liter.	**Serious:** Coma; Seizures; Ventricular arrhythmia; Leucocytosis; Goiter; and Bradycardia **Common:** Tremor; Polyuria,; Diarrhea, Vomiting; Drowsiness; Muscle weakness; Arrhythmia; Anorexia; Nausea; Blurred vision; Dry mouth; Fatigue; Acne; and Rash	Use if lithium levels can be monitored and patient is HIV negative or HIV asymptomatic. Periodically monitor kidney and thyroid function. **Contra-indications**: Renal Impairment. **Other:** Do not use in pregnant women, lithium may cause congenital anomalies.	**NNRTIs:** No published data. **NRTIs:** No published data. **Protease inhibitors:** No published data.

Class: Mood Stabilizers

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Sodium Valproate, Valproic Acid and Divalproex Sodium (Anticonvulsant) **Tablet sizes**: WHO model formulary: 200 mg. 500 mg. **Other:** 125 mg.	**Start:** 250 mg a.m. 500 mg p.m. **Increase:** by 200 mg every 7 days until clinical response or therapeutic blood level. Give in divided doses. **Maximum dose:** 60 mg/kg/day Desirable valproate serum level: 50-125 µg/mL.	**Start:** 200 mg a.m. 200 mg p.m. **Increase:** by 200 mg every 7 days until clinical response or therapeutic blood level. Give in divided doses. **Maximum dose:** Assess by tolerability and clinical response. Desirable valproate serum level: 50-125 µg/mL.	**Serious:** Hepatotoxicity (can be fatal), pancreatitis, SIADH, hyponatremia, blood dyscrasias, severe allergic reactions. **Common:** Headache; Nausea; Vomiting; Somnolence; Dyspepsia; Dizziness; Diarrhea; Abdominal pain; Tremor; Alopecia; Appetite and weight increases; Rash; Ataxia; Visual changes; Blurred vision; and Nystagmus	**Other:** Do not use in pregnant women – may cause congenital anomalies. Use with caution if liver disease, however, not contraindicated. If available, monitor serum levels of valproate, liver function tests, and blood count.	**NNRTIs:** No published data. **NRTIs:** Sodium Valproate may elevate levels of AZT **Protease Inhibitors:** No published data.

Class: Mood Stabilizers

Medication: Name (Type) Tablet sizes	Dose: Healthy Adult	Dose: Medically Ill, Elderly or HIV Clinical Stage 3 or 4	Serious and Common Side Effects	Cautions	Main Antiretroviral interactions
Carbamazepine (Anticonvulsant) **Tablet sizes:** WHO model formulary: 100 mg 200 mg.	Used for prophylaxis of bipolar disorder. **Start:** 200 mg P.O. in p.m. **Increase:** By 200 mg every 3-4 days. Give in divided doses up to 400 – 800 mg. **Maximum dose:** 1200 mg **To treat alcohol withdrawal:** *Day one and two:* Start with 800 mg in divided doses.	Used for prophylaxis of bipolar disorder. **Start:** 100 mg P.O. in p.m. **Increase:** By 100 mg every 3-4 days. Give in divided doses up to 300 – 600 mg. **Maximum dose:** 800 mg **To treat alcohol withdrawal:** Use half the doses recom-mended for a healthy adult.	**Serious:** Hypersensitivity reaction; Seizures; Arrhythmias; Syncope; Blood dyscrasias; Hepatitis; Jaundice; Hyponatremia; SIADH; Water intoxication; Severe allergic reactions; and Pancreatitis. **Common:** Dizziness; Drowsiness; Ataxia; Nausea; Vomiting; Abdominal pain; Blurred vision; Nystagmus;	**Other:** Do not use in pregnant women; may cause congenital anomalies. If available, monitor serum levels of carbamazepine, liver function tests, and blood count. Desirable carbamazepine serum level: for maintenance 6-10 µg/mL.	**NNRTI:** carbamazepine may decrease delavirdine levels. Avoid using with efavirenz; may decrease efavirenz levels and efficacy. **NRTIs:** No published data. **Protease Inhibitors:** Avoid using with PIs; may decrease PIs levels and efficacy. Carbamazepine levels can increase or decrease with PIs.

	Day three: Reduce to 600 mg in divided doses. *Days four:* Reduce to 400 mg in divided doses. *Day five:* Reduce to 200 mg in divided doses. *Day six:* Stop.		Confusion; Elevated liver; Transaminases; and Fatigue.		