

Clinical practice guidelines for Geriatric Anxiety Disorders

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INTRODUCTION

Anxiety is one of the most common symptoms seen in the elderly. Sub-syndromal anxiety is more prevalent than depression and cognitive disorders. The commonest anxiety disorder seen in the clinical practice is Generalised Anxiety Disorder(GAD)(7.3%) followed by phobias(3.1%), the panic disorder(1%) and Obsessive Compulsive Disorder(OCD)(0.6%). Two relatively recent Indian studies have demonstrated an overall prevalence of anxiety disorders to be 10.8% and 10.7%, respectively. Thus anxiety is quite common in the elder, among all the disorders of the geriatric population.

These clinical practice guidelines intend to provide the practicing psychiatrists a ready reckoner to identify anxiety disorders, assess them, treat and manage side-effects of medications among elder individuals.

The classificatory systems (Table 1) now have a difference as far as anxiety disorders are concerned, with DSM 5 introducing changes in the classification of anxiety disorders.

On the basis of their distinct clinical features anxiety disorders can be divided into three categories.

- 1) Worry/distress disorders- GAD, PTSD, Acute stress disorder
- 2) Fear disorders- Panic disorder, phobia
- 3) OCD

Since we are used to evaluating younger individuals, the usual symptoms we expect might not be seen in the elder. Commonly seen differences between the young and the old in the presentation of anxiety are shown in Table-2.

Assessment

A comprehensive assessment of anxiety disorders includes interviewing the older adult and her/his caregiver. There is a tendency to underplay or normalize certain behaviours, which may be indicative of anxiety for e.g., avoidance to go out of the house or fear of falls. It is thus important to assess not only the severity of these symptoms; but also impairment in functioning because of the symptoms. This can be achieved by interviewing the patient and the

caregiver, keeping the following in mind:

- a) Fears and concerns as a part of normal aging e. g. Limited mobility in an elderly leading to avoidance of going out of the house
- b) Anxiety associated with dementia
- c) Medical disorders which may mimic anxiety symptoms.

Table 1: Classificatory Systems for Anxiety Disorders

ICD 10	DSM 5
(F40) Phobic anxiety disorders	Anxiety Disorders
(F40.0) Agoraphobia	Separation anxiety disorder
(F40.1) Social phobias	Selective mutism
o Anthropophobia	Specific phobia
o Social neurosis	Social phobia
(F40.2) Specific (isolated) phobias	Panic disorder
o Acrophobia	Agoraphobia
o Animal phobias	Generalized anxiety disorder
o Claustrophobia	
o Simple phobia	
(F40.8) Other phobic anxiety disorders	
(F40.9) Phobic anxiety disorder, unspecified	
o Phobia NOS	
o Phobic state NOS	
(F41) Other anxiety disorders	
(F41.0) Panic disorder (episodic paroxysmal anxiety)	
(F41.1) Generalized anxiety disorder	
(F42) Obsessive-compulsive disorder	Obsessive-Compulsive Disorders(Separate classification)
	Obsessive-compulsive disorder
	Body dysmorphic disorder
	Hoarding disorder
	Trichotillomania
	Excoriation disorder
(F43) Reaction to severe stress, and adjustment disorders	Trauma and Stressor-Related Disorders(Separate classification)
(F43.0) Acute stress reaction	Reactive attachment disorder
(F43.1) Post-traumatic stress disorder	Disinhibited social engagement disorder
	Post Traumatic Stress Disorder
	Acute stress disorder
	Adjustment disorder

- d) Co-morbidities like cardiac illness, depression, malignancy, Parkinson's disease, auto-immune disorders, collagen vascular diseases, endocrine disorders etc.
- e) Clinical presentation in young adults and elderly differs. For e.g., in elderly phobia is experienced as a fear of situations or inanimate stimuli, such as lightning whereas among young people phobia is usually of animals.
- f) The 'worried well' Worry as a symptom in older adults, independent of a diagnosable disorder.

The hallmark of any complete assessment starts with a detailed history.

History: The following points (Table 3) need to be kept in mind while detailing a history of elder anxiety, to give a clearer picture. The basic history forms a base or a skeleton on which we have to build the further points which will lead us systematically towards a diagnosis. Elder individuals are considered to be a vulnerable population, and it is this vulnerability which makes them at risk to develop anxiety.

Multiple risk factors have been identified, which are known to be associated and specific anxiety disorders (Table-4).

A comprehensive history and assessment of risk factors will be the most important ingredients towards making a diagnosis of the specific anxiety disorder that will emerge as a diagnosis. While narrowing down on the same, the specific characteristics that one can look for, in elder individuals, when one looks for the symptoms of various disorders, are highlighted below (Table 5). The disorders appear from common to uncommon, as seen from various population studies.

Any psychiatric history cannot be complete without the inclusion of negative history too. Anxiety is such a pervasive symptom, that it not only is seen in specific anxiety disorders, but can be seen in other psychiatric disorders, as well as many medical disorders (Table 6). An astute clinician will keep an eye out for the same, and eliminate that whilst taking the history.

It is not only medical disorders that one must rule out. Usually elder individuals are already on

medications for medical co-morbidities, commonest being diabetes or hypertension. They may or may not be on analgesics too. There are some drugs and substances however, that are peculiar in contributing to anxiety. A red flag on any of these would point

Table-2: Differences in clinical presentation of anxiety disorders among young and elderly patients

Young patients	Old Patients
GAD in young and old has similar features consisting of muscle tension, worry, easy fatigability and sleep disturbances.	
More severe panic symptoms	Lower level of cognitive and somatic distress during a panic attack
OCD- More compulsive behavior involving counting or symmetry.	More contamination and religious obsessions
PTSD- More severe psychological symptoms	More severe physical symptoms, more impairment in social functions, avoidance behaviour

Table-3: Pertinent issues in history while evaluating for Elder anxiety

History in detail	· Interview patient and relative separately · Socio-demographic details including marital status, occupational functioning, living conditions, family type, source of income. · Presenting illness: Onset, duration, progress · Similar illness in the past · Medical illnesses and treatment for the same · Hearing and visual impairment · Substance use (Substances of Abuse - cannabinoids, alcohol, ecstasy ; withdrawal syndromes- alcohol, benzodiazepines, barbiturates, propranolol, anticholinergics, opiates, SSRIs) · Cognitive impairment · Loneliness, Social support · Activities of Daily Living e.g. bathing, dressing · Limitations in activities (Functional limitations) e.g. difficulty in climbing stairs. · Stressors like death of a close one · Family history
Medications that may trigger anxiety	Levodopa, Amantadine, Bromocriptine, Cycloserine, MAO inhibitors, TCAs, Theophylline, Interferon, Thyroid hormones, Caffeine, Amphetamines, Methyl Phenidate, Sympathomimetics, Phenylpropalamine.
Risk Factors for anxiety disorders among Elderly	Being female; low educational attainment; lower economic status; being childless; being single or widowed; chronic medical illnesses; poor self-rated health; functional impairment; history of a traumatic event especially in childhood
Psychological risk factors	Neuroticism; poor coping skills; having another psychiatric disorder; low self-efficacy; impaired social networks; cognitive impairment; presence of a major illness in the partner

Table-4: Risk factors for various anxiety disorders in the elderly

Disorder	Risk Factors
Panic Disorder	Disability in old age
Phobic disorders	Lower income, Early parental loss
Agoraphobia	Female gender, widowed or divorced, presence of comorbid depression and social phobia
PTSD	Female gender, childhood trauma, neuroticism, low self efficacy

Table-5: Specific presentations of various anxiety disorders in the elderly

Disorder	Specific Characteristics in the Elderly
Specific phobia	• Commonly seen • Onset earlier in life, not in the geriatric age group
Generalized Anxiety Disorder	• Commonest symptom- Fear of falling • Commonest in elderly • Again, usually early onset and chronic course • Sub-syndromal symptoms more seen in the elder rather than the disorder per se. • Commonest symptoms seen- Illness anxiety and health anxiety
Social Phobia	• Again, usually early onset • May be difficult to pick up due to reduced social networking and relative isolation.
Post-Traumatic Stress Disorder(PTSD)	• Subsyndromal PTSD is more common in older adults • Can be chronic • Best evidence seen in war veterans
Panic Attacks	• In elder individuals-re-experience phenomenon are rare • Not so common, unlike younger age group, unless already pre-existing • Diagnosable panic disorder is rare • Overall functionality –less impeded than in younger adults as sympathetic overdrive reduces • Existential anxiety can also manifest with panic attacks
Obsessive Compulsive Disorder	• Onset after 55 years is very rare • OCD may be seen as part of BPSD(Behavioural and Psychological Symptoms of Dementia) • A peculiarity of this age is hoarding compulsions. Often seen with those having cognitive disorder, personality change or substance use.

Table 6. Medical conditions in the elderly which can be mistaken for anxiety

System	Specific Diseases
Neurological	Stroke ,Parkinsonism ,epilepsy, multiple sclerosis, tumors
CVS	Angina,mitral valve prolapse,cardiac arrhythmia,acute asthmatic attacks
GI disorders	Irritable bowel syndrome
Metabolic /endocrine	Hypoglycaemia,hyperthyroidism,pheochromocytoma, hyperparathyroidism,carcinoidsyndrome, uraemia, hepatic failure, hypocalcemia or hypercalcaemia
Deficiency states	Vit. B1,B6,B12,folic acid

toward non-idiopathic anxiety, and prompt the treating psychiatrist to first alter the existing prescription, before staring yet another molecule and adding to the prescription load.

It becomes important to liaison with the treating physician/ specialist to reduce/replace the suspected offending agent with another acceptable molecule

As one can see, the history, along with medical and drug history, can be quite exhaustive in the elderly, but to get a comprehensive account, it is very much worthwhile investing time into that.

Investigations

Elder individuals are prone to changes in metabolic parameters and nutritional deficiencies, by virtue of a variety of reasons which include decreased appetite, increased frailty

and drug-drug interactions. As a baseline, it is advisable to rule out metabolic abnormalities(Table 7) such as:

Once the basic medical work-up and evaluation is done, then a scale may be used to measure or quantify the anxiety, which would also aid as a prognostic indicator. Various anxiety rating scales(Table 8) have been used in elderly to substantiate the diagnosis and to assess severity of the disorder. These scales also assist in diagnosing anxiety symptoms not amounting to a disorder. This is particularly helpful as anxiety in elderly is under-diagnosed.

The choice of the scale would largely depend on the time and purpose that it is being used for.

The *Geriatric Anxiety Inventory* has become the gold standard for assessment in elder anxiety.

At the end of the above exercise, one would be sufficiently equipped with a preliminary diagnosis or differential diagnosis at the back of the mind.

Whilst we come to a definite diagnosis, the following differentials must be ruled out as these commonly will be

Table 7: Investigations which may be done in a case of Elder Anxiety

Baseline
CBC,
Blood sugar
Urea ,
Creatinine
Thyroid levels
If indicated Sodium,
Potassium and
Calcium levels
Imaging if required
Chest Xray
ECG
Echo Doppler
Based on individual case
Pulse oximetry
Urine analysis and
Drug screening

Table 8: Rating Scales for Geriatric Anxiety

Type of Scale	Name of Scale
Observer Rated	- Hamilton Anxiety Rating Scale - Beck's Anxiety Inventory - Anxiety Status Inventory
Self-Rated(Unidimensional)	-Geriatric Anxiety Inventory -State-Trait Anxiety Inventory(The child version of the scale is better to apply for the elderly) -State-Trait Inventory of Cognitive and Somatic Anxiety -Self Rating Anxiety Scale
Multi-dimensional	Profile of mood states, Hopkins Symptom Checklist(SCL-90 R).
Anxiety in Dementia	- Rating anxiety in dementia scale (RAID), BEHAV AD, E-BEHAV AD, NPI, NPI-Q.

the underlying cause of the anxiety, and our treatment may then show only a partial response.

Differential Diagnosis of Anxiety in Elder individuals(in order of likelihood)

1. Side Effects of Medication use, including self medication
2. Drug and alcohol use
3. Medical comorbidities
4. Other Psychiatric disorders(including cognitive disorders)

Trimming a prescription or changing medication might be a challenge initially, the tricky aspects at times are when one funnels down to a psychiatric diagnosis. Here, there are two pertinent issues which often crop up while assessing the elder individual for anxiety. These are:

1. Distinguishing anxiety and depression in the elder(Table 9)

This simple overview is very helpful in distinguishing the above

2. Distinguishing anxiety from cognition(Table 10)
Anxiety has reported high prevalence rates among people with dementia. It has a negative impact on cognitive impairment and is associated with agitation and poor quality of life. The presence of excessive anxiety can be difficult to establish in people with dementia, especially when expressive or receptive speech is impaired.

Unfortunately, there is a lack of research on the treatment of anxiety in dementia, and also on the wider issue of the management of anxiety disorders in old age. Behavioural and psychological symptoms of dementia are not limited to the later stages of the disease.

The following comparative chart helps with clinical differentiation of the two.

Once one has been able to differentiate between normal ageing, anxiety, depression and a cognitive disorder or

Table 9: Comparative Symptom Overview for Normal Ageing versus Anxiety versus Depression in the Elder

Symptom	Normal Ageing	Major Depressive Disorder	GAD/Panic Disorder/Phobia
Subjective Memory complaint	+	+++	++
Excessive concern or worry	—	++	+++
Mood Disturbances	—	+++	+/-
Changes in sleep pattern	+	++	++
Appetite disturbances	Check for concomitant medication	+	—
Breathing difficulty	Check for concomitant medication/ Respiratory ailment like COPD	—	++
Anhedonia	—	++	—
Hopelessness	—	++	—

Table 10: Comparative Symptom Overview for Late Life Anxiety versus Dementia

Behaviour	Late Life Anxiety	Dementia
Rigidity	+/-	+++
Hoarding	+/-	+++
Restlessness	++	++
Psychomotor agitation	++	+++
Worry	+++	--
Medically unexplained physical symptoms	+++	--
Sleep disturbances	++	+++
Being homebound	Volitional	Involuntary
Wandering away	--	+++
Substance/Drug use(either recreational or medical)	+	--

dementia, and come to a definitive diagnosis of anxiety - one can then proceed on deciding how to manage the patient.

Choice of treatment setting

Most of the anxiety disorders can be treated in outpatient setting.

Inpatient management of anxiety disorders is indicated when

- 1) Comorbid severe depression (and at times suicidality) is present.
- 2) Anxiety disorder is severe and treatment resistant. e.g. OCD.
- 3) In case of poor social support and presence of chronic stressor separation from the stressful situation is needed.
- 4) Concurrent medical illnesses and treatment need evaluation and management.

Non-Pharmacological treatments

Treatment of geriatric anxiety actually involves more of non-pharmacological approaches which are first recommended rather than pharmacological approaches. The usual non-pharmacological measures advised are:

1. **Lifestyle modification:** Sleep, diet, exercise, socialisation –all in moderation. Eliminate medical and non-medical triggers

Structured daily activities are one of the mainstays of elder care. The premise behind the same being, that activities provide some stimulation and interaction with the environment, give a sense of control and reduce overall anxiety. Apart from managing one's own daily routine, the following are commonly advocated.

- a) **Physical Exercise:** Regular physical exercise, even for just a few minutes daily, improves cerebral blood flow and metabolism. Sedentary individuals who are bound to their beds have a distinct reduction in cerebral blood flow. Exercise need not be strenuous in the form of

aerobic exercises or gym based exercises. A simple walk in the garden or outdoors should suffice, that too at the pace of the individual concerned. If wheelchair bound, then upper body can be exercised with simple stretches, use of a ball and hand exercises.

Other forms of physical exercise could include

- Walking in the house if too frail
- Swimming or aqua exercises or playing around in a large tub to mobilize the limbs
- Physical games like playing ball, carrom, table tennis etc

- b) **Sleep:** We are aware that the sleep architecture gets altered with advancing age, hence a shorter night time sleep, phase advancement and more fragmented sleep are all seen in the elder. Hence while teaching about sleep hygiene, it is also important to counsel the elder individual about lowering their expectations about sleep duration.

- c) **Nutrition:** By virtue of decreasing appetite and increasing social isolation, elderly often have compromised nutrition and imbalanced electrolytes. Minor changes in blood levels of sodium, potassium, chloride, vitamin D etc. could give rise to anxiety symptoms. Monitoring through a simple nutrition chart, helps maintain basic parameters, and at times is the only intervention required to manage the anxiety.

2. Behaviour Therapy:

- a) **Relaxation Therapy:** Classical Jacobson's technique of progressive muscle relaxation can be taught to the individual with anxiety. This can also be coupled with guided imagery, or practiced alone.
- b) **Systemic desensitization :** This works particularly for phobias and unspecified fears for eg. fear of falling. Creating a hierarchy and controlling the response helps.
- c) **Exposure and Response Prevention:** For OCD
- d) **Eye Movement Desensitisation and Reprocessing (EMDR):** For PTSD.

3. Cognitive Therapy:

- a) Cognitive Behaviour Therapy : The aim of CBT in older adults is to target cognitive symptoms, physical symptoms as well as behavioural symptoms. First and foremost psycho-education is a must – about the anxiety in general and management of the same. Acceptance that the symptoms may not be suggestive of a medical emergency, at the same time being vigilant of associated co-morbidities, becomes a tricky issue to deal with and require a lot of awareness and self-monitoring . The principles of relaxation and hierarchal construction may also be used. The core of CBT, however, remains cognitive restructuring using the ABC model(antecedents-behaviour-consequences), wherein cognitive errors and maladaptive behaviour are identified and worked upon. The pace may have to be a little slow, as with age new learning takes time, and the template of old learned behaviours is hard to change.

4. **Mindfulness:** Mindfulness as a therapeutic intervention is finding applicability in a wide range of disorders. Mindfulness is inculcating the ability to focus on ‘the now’. It involves focussing initially on individual senses for eg. taste, smell, vision, hearing etc. and then graduating to focussing on one’s emotions, reactions, responses etc. The aim is to harmonise the difference between the mind and body. Mindfulness is particularly important in the elderly, where there are so many transitions taking place not only in the body, but also in the mind, social interactions and roles within the family as well as outside. All of these can contribute to and worsen anxiety. Mindfulness then becomes a very effective tool, under these circumstances.

5. Miscellaneous-

- a) Yoga : Based on the medical condition of the individual, various asanas can be taught. Yoga can also be done sitting on a chair, and not on the floor. More importantly relaxation, stretches and pranayamas can be taught to senior citizens. There is mounting evidence of control of elder anxiety with Yoga.
- b) Art Therapy: Free art in the form of drawing, sketching or colouring as well as structured art in the form of following instructions, are both recommended. Art therapy can be planned as an individual or group activity. Art is said to be soothing and stimulates relaxation, which is paradoxical to anxiety.
- c) Dance therapy: Dance as a structured art form, or free dance to music of one’s choice both are advocated. Even for wheel chair bound and individuals confined to bed, movement of the upper body can help with some stimulation.
- d) Music Therapy: Music as a form of environment

modification has already been discussed. Music can also be used as an activity—either singing or playing an instrument. This can be done as individual therapy or in a group, though there is more evidence for group therapy.

- e) Cognitive Rehabilitation: As much as the body needs physical exercises, the mind too needs to exercise itself. In our daily routine we do not even realize how much we use the brain for planning, sequencing and executing tasks. Cognitive training involves activities like sorting by colour, shape, sequence etc. It also involves memory games wherein memorizing by loci, chunking, pneumonics, visual imagery, su doku etc.
- f) Social Activities or Networking : Interacting with others not only is an important stimulus, but it also improves synaptic connections between the neurons in the brain. Social activity can be within a small locus, or could be extended to external activities like meeting in a senior citizen’s group, laughter clubs, book clubs, ‘satsangs’ etc.
- g) Alternative Therapies: Complementary and alternative therapies like touch therapy, reflexology, massage, reiki etc have been tried with not very robust evidence. There are more of anecdotal reports of the same.

While it is important to try out any of the above approaches, one must not forget to keep in mind the caregivers dealing with a patient of elder anxiety. Educating them about the illness, expectations, response etc. are equally important in the measure of overall response. Apart from information related to the illness per se, it is vital that they learn the art of communication, which can reduce the anxiety in the elder individual. A few do’s and don’ts in this regard are:

Do’s

- a) Talk in a neutral tone
- b) Use very simple words and sentences. And speak slowly.
- c) If instructing, please give one instruction at a time
- d) If asking for something, please give maximally two choices at a time

Don’ts

- a) Use a harsh tone or voice
- b) Use negative words or derogatory remarks
- c) Lose your patience

Having a supportive and encouraging caregiver, is half the battle won. A stay at home caregiver can even learn most of the therapies by themselves, and minimize therapists visits.

However, if a trial of the above non-pharmacological methods does not succeed, or the anxiety is too severe, then pharmacological treatment can be initiated, but is lowest possible doses for as short a duration as possible.

Table 11: Treatment Overview

	GAD	PHOBIA	PANIC DISORDER	OCD	PTSD
FIRST LINE	SSRI, SNRI, Buspirone	SSRI, RIMA	SSRI, SNRI	SSRI	SSRI
SECOND LINE	Mirtazapine,,Pregabalin TCA,Tianeptine	SNRI	TCA	TCA	Mirtazapine
THIRD LINE	BZD	BZD, MAO-I	BZD, MAO-I	BZD	BZD, Atypical antipsychotics

Table 12: Dosing strategies for commonly used Antidepressant Medications

Generic Name	Starting dose mg/day	Average Dose(mg)	Maximum recommended dose (CPS)	Comments/Caution
SSRI				
Escitalopram	5	10-20	20 mg	Probably the safest in the elderly Hyponatremia Caution in those with bleeding tendencies
Sertraline	25	50-150	200 mg	
SNRI				
Venlafaxine	37.5	37.5-150	150 mg	Watch for hypertension Can start with 25 mg. Watch for hyponatremia Risk of falls
Desvanlafaxine	50	50	50 mg	
Duloxetine	10 mg	10-30	30 mg	Withdrawal is difficult Very sensitive to side effects; giddiness Use in caution with BZD Relatively free of side effects. Well tolerated Restlessness
Others				
Mirtazapine	15	30-45	45 mg	
Pregabalin	75	150-600	600mg	
Tianeptine	12.5	12.5-50	50 mg	
Buspirone	10	10-60	60 mg	
TCA				
Nortriptyline	10-25	40-100	200 mg	Anti-cholinergic properties; cardiovascular side-effects

Table 13. Common Side effects of medication seen in elderly

Side Effect	SSRI	SNRI	TCA	Others
Hyponatremia	✓	✓		
Risk of bleeding	✓	✓		
QTc prolongation	Occasional		✓	
Narrow angle glaucoma			✓	
Anti-cholinergic effects			✓	
Elevated blood pressure		✓		
Giddiness		✓	✓	Pregabalin
Serotonin syndrome if given in combination	✓	✓		
Discontinuation syndrome	Especially Paroxetine	✓	✓	Mirtazapine
Toxicity in overdose			✓	
Risk of falls				Benzodiazepines Non-benzodiazepine receptor agonists.

trial with an SNRI, and then the rest of the drugs follow. Benzodiazepines should be restricted to short term use, and quickly tapered, owing to multiple problems that they may lead to in the elderly.

While choosing a pharmacological agent, it is always preferable to follow the thumb rule—*start low, go slow and titrate upto usually half of the adult dose.*

Commonly, the following doses (Table 12) are recommended:

It is advisable to continue treatment for 4-12 weeks (longer for OCD and PTSD, before a response is expected). The above can be combined with benzodiazepines, but with use of both benzodiazepines as well as non-benzodiazepine receptor agonists preferably should be limited to 2-4 weeks in the initial period only. Both are associated with increased risk of falls, dissociative phenomena and confusion in the elderly.

Pharmacological management

SSRI's top the list of first line drugs (Table 11) across the various disorders. Usually, failure of response leads to

Elderly in fact are quite sensitive to benzodiazepines, which have neuro-cognitive effects in them, similar to alcohol. Their use can also cause paradoxical agitation. Hence as far

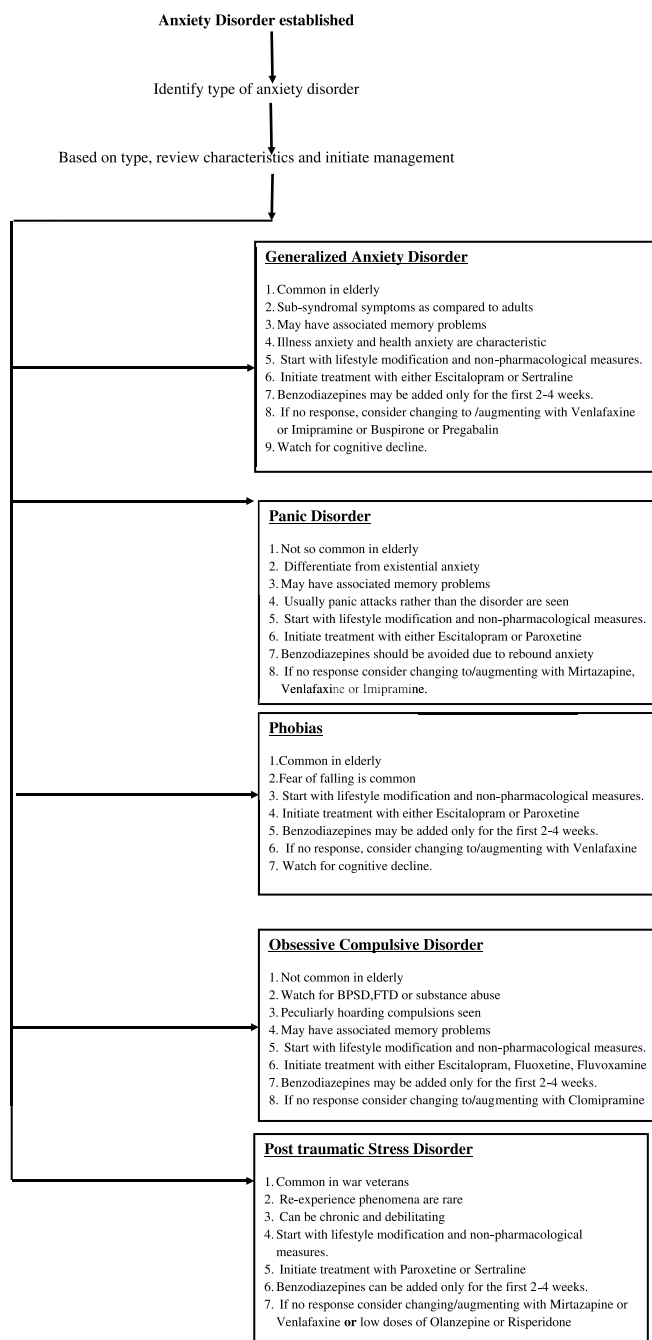


Fig. 1: Anxiety Disorder established

as possible we should avoid using them, but when required use in very low doses and taper them quickly.

There are certain indications for benzodiazepines in the elderly too-like alcohol withdrawal, pre-operative anaesthesia, seizures and in very severe anxiety. However here too, it is preferable to start with lower doses, and quickly taper.

Should there be no response with the first line of medications, then the second line can be tried either as monotherapy i.e switch to the given drug of another class

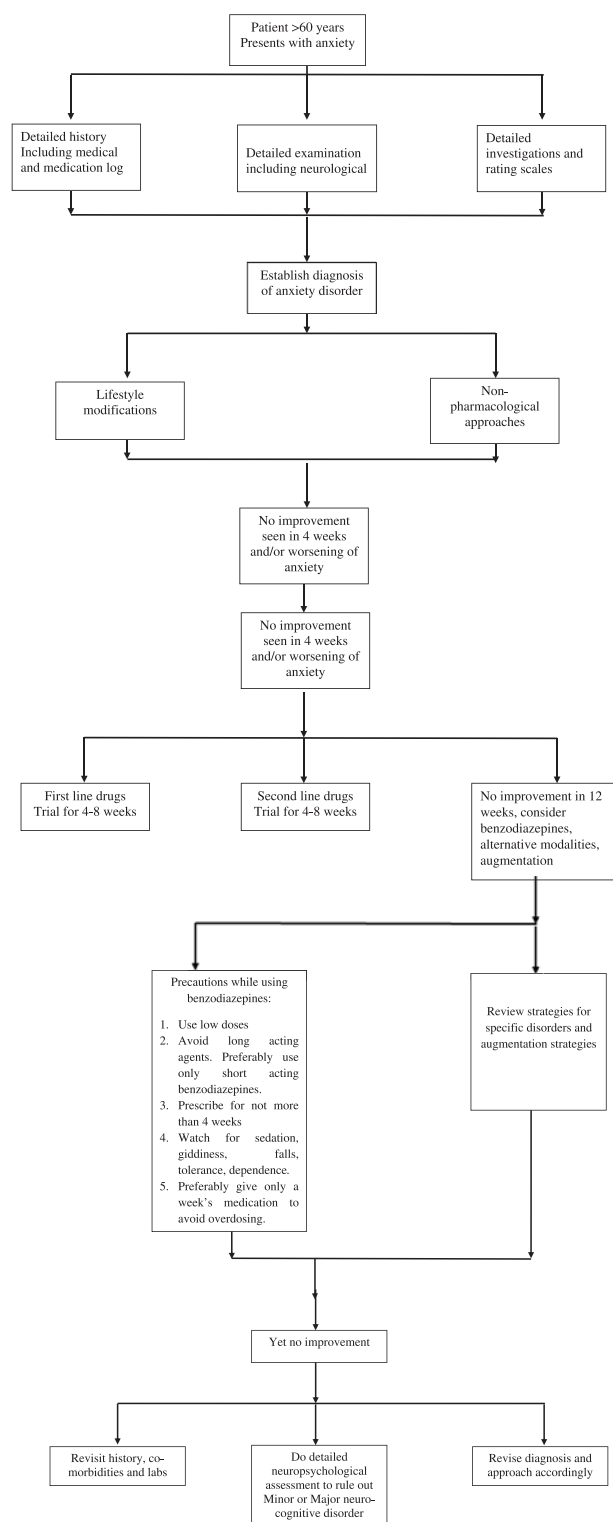


Fig. 2: Overview of approach to an elder individual with anxiety

or augment. The details of the same are discussed under specific anxiety disorders.

Other modalities of treatment

Modalities of treatment like. rTMS, tDCS have been tried in a few studies of anxiety disorders in adult patients, but

Table 14: Issues of Special Concern.

<i>Special issue</i>	<i>Clinical presentation</i>	<i>Management</i>
Medical Comorbidities		
1. Heart disease	Anxiety disorder following myocardial infarction is well known. Presence of anxiety and depression in heart disease increases the morbidity and mortality in these patients.	Can effectively treated with escitalopram and sertraline (caution with those on anti-platelet agents), bupropion, mirtazapine, duloxetine or venlafaxine, desvenlafaxine, (In non responders and in patients without conduction defects and congestive cardiac failure).
2. Chronic Obstructive Pulmonary Disease	In advanced stages COPD leads to a form of panic disorder precipitated by exertion leading to a number of symptoms like avoidance of physical activity for fear of getting a panic attack, fear of sudden death due to asphyxia, guilt about chronic smoking and avoidance of social situations due to negative body image.	In addition to anti-depressants psycho-education, breath retraining and physical training are helpful.
3. Parkinson's disease(PD)	40% of patients of Parkinson's disease suffer from an anxiety disorder, commonly GAD, Panic disorder, Social anxiety disorder, phobias or OCD. Depression is very commonly associated with anxiety disorders in Parkinson's disease. Severity of PD, postural instability, gait disturbances, dyskinesia and young onset PD increase the risk.	SSRIs are effective with periodic assessment for their side effects. Buspirone may be another choice. Psychological interventions in the form of relaxation therapy, social skills training and cognitive therapy are effective in managing secondary anxiety. Identifying and treating both the anxiety disorder along with the endocrine disease is the goal of management.
4. Endocrine disorders	Hypoglycaemia, hypo and hyperthyroidism, pheochromocytoma and hyperadrenocorticism are all associated with a high prevalence of anxiety disorders. Anxiety disorders are also seen in Cushing's disease, Carcinoid syndrome, hyperparathyroidism, hyperinsulinaemia, pancreatic tumours.	
5. Malignancy	Quality of life of patients with malignancy deteriorates if the patient develops anxiety as it creates many existential issues in the mind of the patient. These patients suffer from social isolation, pain, fatigue, dissatisfaction in life. Anxiety and depression often coexist.	Treatment includes anti-anxiety drugs and psychological interventions including a spiritual component.
Psychiatric Comorbidities		
6. Comorbid depression:	A high proportion of geriatric patients with anxiety disorders have coexistent depression leading to delayed acute treatment response and increased risk of relapse of depression with an increased risk of suicide.	Escitalopram and Nefazodone are found to be effective in depressed patients with anxiety. The goal of treatment in these patients is complete remission.
7. Substance use disorders	Anxiety disorders in elderly increase the risk of alcohol and medication abuse and vice versa. This leads to a poorer prognosis and outcome, increased mortality, increased suicidality and increased utilization of health services.	Management includes a focus on age specific issues such as loneliness, coping with loss, retirement, building self esteem and self efficacy, improving social support and dealing with other comorbid conditions like depression and dementia.
8. Dementia	Anxiety in dementia is associated with poorer quality of life, impairment in activities of daily living, sleep disturbances and poorer neuropsychological performance.	Psychosocial management along with pharmacological management forms the mainstay of care.
9. Agoraphobia	There may be panic attacks leading to avoidance behaviour and limiting social activities. The main reasons for the panic attacks followed by agoraphobia are physical illnesses and traumatic events.	It is essential to be able to diagnose the underlying anxiety, so that it can be treated.
10. Complicated Grief	It is distinct from depression and PTSD both, though it has many common features with both these disorders. Clinical features include shock, longing, disbelief, anger, guilt, intrusive memories, avoidance, emotional numbing and feelings of loneliness.	Psychosocial management is the mainstay of treatment. Clinical anxiety and or depressive features may need pharmacological management.
Other Issues of Importance		
11. Fear of falls	One may subsequently develop a phobia consisting of fear of further falls. This leads to functional impairment, reduction in activity level and decrease in social interactions.	Implementing a rehabilitation programme following a fall e. g. Hip fracture, involving a mental health professional, helps in prevention of this complication.
12. Elder mistreatment	Depression, anxiety and PTSD are the commonest psychological disorders occurring as a consequence of elder mistreatment. Female gender, poor self perceived health status, childhood trauma, neuroticism and intimate partner violence increase the risk of elder mistreatment.	Social support groups, skills training, behaviour management and family care conference are helpful in dealing with elder mistreatment along with appropriate pharmacotherapy for anxiety disorders

Contd...

Table 14: Contd..

Special issue	Clinical presentation	Management
13. Loneliness and social isolation:	Being a female, being unmarried, low level of education, poor socioeconomic status, poor self efficacy, mental illness, negative life events and cognitive impairment predispose a person to develop loneliness, which may be associated with anxiety.	Educational groups, support groups, use of information and communication technologies aimed at improving social networks, of the lonely elderly are shown to be successful interventions.
14. Hoarding	It is more often in females who are single and living alone. When it begins as a disorder of old age, it usually begins secondary to an illness like dementia.	Follow the management similar to OCD.

similar studies in elderly patients have not been done. However rTMS has been shown to be useful in resistant geriatric depression and it has been observed in these patients that concurrent anxiety symptoms also improve. Further research is needed in this area to establish these treatment modalities in anxiety disorders.

Managing Side –effects

As the elder are more sensitive to side effects of most medication, it is important for us to know of the common side effects (Table 13) of the commonly prescribed anti-anxiety medications, so we can keep a vigil on the same. The overview below serves as a quick checklist.

There are two challenging side effects, commonly seen, which are often difficult to deal with and manage. These are:
1] Hyponatremia

Hyponatremia is defined as a level of serum sodium below 135 mmol/l and is considered to be severe if it is below 120mmol/l. Usually below 130mmol/l would lead to nausea and malaise and the elderly seem to be more prone to even small changes in sodium levels. Below 115 mmol/l can be life threatening, leading to headache, disorientation, seizures, coma, respiratory depression and even death.

Hyponatremia may be acute or chronic, or due to osmotic demyelination. In chronic hyponatremia, there are increased chances of falls due to two reasons-

- Increase lethargy and confusion due to CNS impairment
- Increased osteoclastic activity and decreased bone mineralization leading to osteoporosis and frail bones, which predispose to falls.

Hence it is important that hyponatremia is corrected at the earliest. In order to correct it, one should ascertain whether the hyponatremia is

- Dilutional: a) Hypervolemic (oedema) secondary to heart disease, nephritic syndrome, cirrhosis
- Euvolemic (no oedema) SIADH—which may be idiopathic or drug induced; hypothyroidism, secondary renal insufficiency
- Depletional : Secondary to volume loss—burns, vomiting, trauma, diuretics, pancreatitis, primary renal insufficiency.

In order to determine the cause, in addition to the sodium levels, the total urine volume (24 hour) along with serum and urine osmolality will give a clue. In addition tests of thyroid and adrenal function may be done.

Once the cause is determined the approach is fairly standard:

- Remove the offending molecule if it is drug induced. SSRI's are notorious for causing the same in the elderly, and along with correction, the offending molecule should be replaced.
- Correct sodium levels by addition of sodium (by standard formulae for correction)
- Reduce total volume by fluid restriction, demeclocycline, vasopressin receptor antagonists etc.

2] Another very specific issue is managing benzodiazepine abuse or dependence

Benzodiazepine Abuse is usually seen in two patterns

- Non-medical or recreational abuse (to 'feel good')
- Partial dependence due to quasi-therapeutic use - long-term drug taking inconsistent with accepted medical practice and at the same dose.

Benzodiazepine abuse may be approached in two steps:

A] Detoxification

1. Traditional Taper Method

Initially substitute with a longer acting BZD. Then start tapering. Elder individuals may be sensitive to the side effects and emergent paradoxical reactions with BZD, and this becomes pronounced with longer acting molecules, hence caution is advised.

The rule of thumb is 10% reduction till half the original dose is reached, then 5% reduction till one-fourth the original dose is reached, then 2.5 % reduction till 0.5 mg is reached and then slowly increase the gap and gradually stop. For eg. If 20 mg of diazepam is the substituted molecule, reduce by 2 mg daily, till 10 mg is reached. Then reduce by 1 mg daily till 5mg is reached. After this dose the next steps have to be largely individualized. Then reduction can be by 0.5 mg daily/alternate days/twice a week depending on the patient response; till 0.5 mg is reached. Once 0.5 mg is reached start increasing the gap between the doses i.e alternate days, then thrice a week, then twice a week then stop.

The response to tapering depends on

1. Individual patients
 2. Setting-outpatient more difficult to monitor
 3. Better if previous use was for therapeutic reasons
 4. Co-morbid medications
 5. Acceptance of need to abstain by the patient i.e patient contract
2. Alternate method: Substitution to once daily dosing of long acting BZD, taper over 4 weeks and stop.
B] Adjuvant pharmacotherapy-

In order to deal with the anticipated withdrawal syndrome, anticonvulsants like Carbamazepine, Gabapentin, Valproic acid may be used for about two weeks. In addition, propranolol or anti-histaminics may also be tried for a period of two weeks.

Treatment End Point

It is recommended that the duration of treatment should be a minimum of 12 months starting from the time of remission (and up to 2 years).

If the decision is made to stop medication, the dose should be reduced over several months with monitoring for relapse. Monitoring should be done 3-6 monthly keeping two things in mind:

- a) Remission/and or exacerbation of anxiety
- b) Emergent cognitive symptoms

Specific Disorders

If we have to summarize the overall management and divide it according to the various anxiety disorders in the elderly, the following guideline may be useful(Fig.1):

Identify type of anxiety disorder

Based on type, review characteristics and initiate management

Special Issues

Treatment of anxiety disorders in elderly is complicated by comorbid psychiatric and medical conditions and multiple medications that these patients may be receiving. Certain medical illnesses in older individuals require special mention, as may lead to anxiety disorders(Table 14)

Conflict of Interest: Nil

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