



**UW PACC**

Psychiatry and Addictions Case Conference

UW Medicine | Psychiatry and Behavioral Sciences

# MEDICATION ALGORITHM FOR TREATING ANXIETY DISORDERS

KIMIKO "KOKO" URATA, MD

UW POPULATION MENTAL HEALTH AND INTEGRATED CARE FELLOW

JANUARY 25TH, 2024



# SPEAKER DISCLOSURES

None

# PLANNER DISCLOSURES

The following series planners have no relevant conflicts of interest to disclose; other disclosures have been mitigated.

Mark Duncan MD  
Rick Ries MD  
Kari Stephens PhD  
Barb McCann PhD

Anna Ratzliff MD PhD  
Betsy Payn MA PMP  
Esther Solano  
Cara Towle MSN RN

**ACKNOWLEDGE THE LAND OF THE COAST SALISH PEOPLES, WHICH TOUCHES THE SHARED WATERS OF ALL TRIBES AND BANDS WITHIN THE DUWAMISH, SUQUAMISH, TULALIP AND MUCKLESHOOT NATIONS.**

# OBJECTIVES

1. Describe Anxiety Disorders
2. First, second, and third-line treatment
3. PRN options
4. Alternative options

# PREVALENCE OF ANXIETY

- Anxiety disorders are the world's **most common** mental health disorder (1)
- Anxiety increased from 2008 to 2018 among American adults (2)
- Nearly 7% of adults and 15% (1 in 6) of young adults reported anxiety in 2018 (2, 3)
- Anxiety increased most rapidly among young adults ages 18–25 years old (2)
- More women are affected by anxiety disorders than men (3)

# IMPACT OF ANXIETY DISORDERS

- Anxiety causes frequent school and work absence resulting in high cost burden, but is difficult to study.
- Although highly effective treatments for anxiety disorders exist, only about 1 in 4 people in need (27.6%) receive any treatment (1)
- Barriers to care include lack of awareness that this is a treatable health condition, lack of investment in mental health services, lack of trained health care providers, and social stigma.
- There are limited novel medication treatments.

# ANXIETY DISORDERS

# CASE: WHAT ARE WE TREATING?

CC: "I think I have OCD"

22 yo female, reports

- Difficulty with sleep
  - "Easily irritated" if things aren't in their spot
  - "I have ADHD and tics."
  - History of trauma
  - Attending community college and has a part time job
  - "I've only been treated for depression; I've never been given something for my anxiety."
- 
- What are we treating? What is on your differential?



# CO-OCCURRING ANXIETY DISORDERS

- Generalized Anxiety Disorders
- Social Anxiety Disorder
- Panic Disorder
- Specific phobia
- Separation anxiety
- Personality disorder
- PTSD
- OCD
- ADHD
- Eating Disorders
- Bipolar
- Schizophrenia
- Somatic Symptom Disorder
- Functional Neurological Disorder
- Illness Anxiety Disorder
- Agoraphobia
- Trichotillomania or tic disorder
- Substance use (caffiene, cannabis, alcohol, stimulants, benzo rebound)
  - does not need to be substantial
- Insomnia
- Medical causes: anemia (restless legs), low vitamin D, hypo/hyperthyroid, pheochromocytoma, Irritable bowel syndrome, migraines, chronic pain, cardiac disorder, cancer, respiratory disease

# ASSESSING ANXIETY

- Current stressors
- Prescribed Medications
- Substances
- Comorbid medical issues
- History of past stressful/traumatic events
- Screening for comorbid psychiatric issues
- Assess current coping strategies

# VALIDATED SCREENING TOOLS FOR ANXIETY:

## GAD-7 Anxiety

Over the <u>last two weeks</u> , how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious, or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid, as if something awful might happen	0	1	2	3

Column totals \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ =

Total score \_\_\_\_\_

If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all      Somewhat difficult      Very difficult      Extremely difficult

## SCARED- Screen for Child Anxiety-related Emotional Disorders<sup>1</sup>.

10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
<b>Total</b>					
	Cutoff = 7	Cutoff = 9	Cutoff = 5	Cutoff = 8	Cutoff = 3

Total anxiety ≥ 25

### SCORING

A total score of ≥ 25 may indicate the presence of an **Anxiety Disorder**. Scores higher than 30 are more specific.

A score of 7 for items 1, 6, 9, 12, 15, 18, 19, 22, 24, 27, 30, 34, 38 may indicate **Panic Disorder** or **Significant Somatic Symptoms**.

A score of 9 for items 5, 7, 14, 21, 23, 28, 33, 35, 37 may indicate **Generalized Anxiety Disorder**.

A score of 5 for items 4, 8, 13, 16, 20, 25, 29, 31 may indicate **Separation Anxiety Disorder**.

A score of 8 for items 3, 10, 26, 32, 39, 40, 41 may indicate **Social Anxiety Disorder**.

A score of 3 for items 2, 11, 17, 36 may indicate **Significant School Avoidance**.

# ANXIETY TREATMENT ALGORITHM

# FIRST LINE TREATMENT IN ALL AGES

- SSRI/SNRI
- Cognitive Behavior Therapy

# WHO GETS TREATED WITH MEDICATIONS?

- Severity of symptoms
- Level of distress and impairment on functioning
- Patient preference\*
- R/O hypomania/mania

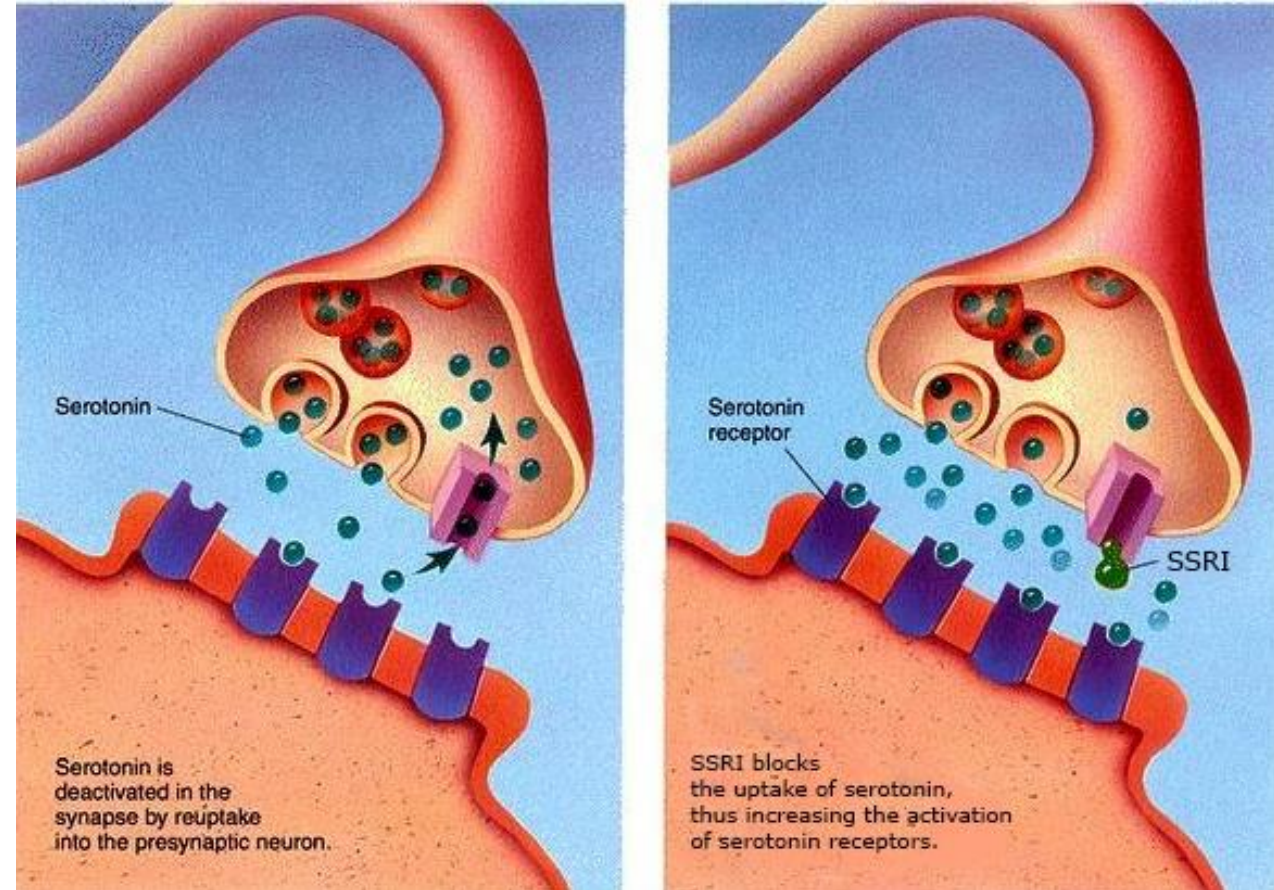
# FIRST LINE MEDICATIONS

## Selective serotonin reuptake inhibitor (SSRI) and Serotonin Norepinephrine Reuptake inhibitor (SNRI):

- **Both** are **equally** effective and first line for PD, GAD, SAD, PTSD (7)
- SSRI are better tolerated than SNRIs (7)
- Continue treatment for 6-12 months once stable

### Side effects:

- Sexual side effects are the #1 reason for patients discontinuing these medications
- Withdrawal syndrome ("brain zaps", flu-like symptoms, mood and sleep changes)
  - More common in SNRIs
  - Slow taper to prevent withdrawal
- Drug-drug interactions:
  - Fluoxetine, Bupropion, Paroxetine: Strong 2D6 inhibitors
  - Do not combine due to serotonin syndrome risk
- Risk of increased suicidal thoughts < 25 years old, not attempts



<https://www.ocduk.org/overcoming-ocd/medication/how-ssri-work/>

# TITRATION PLAN

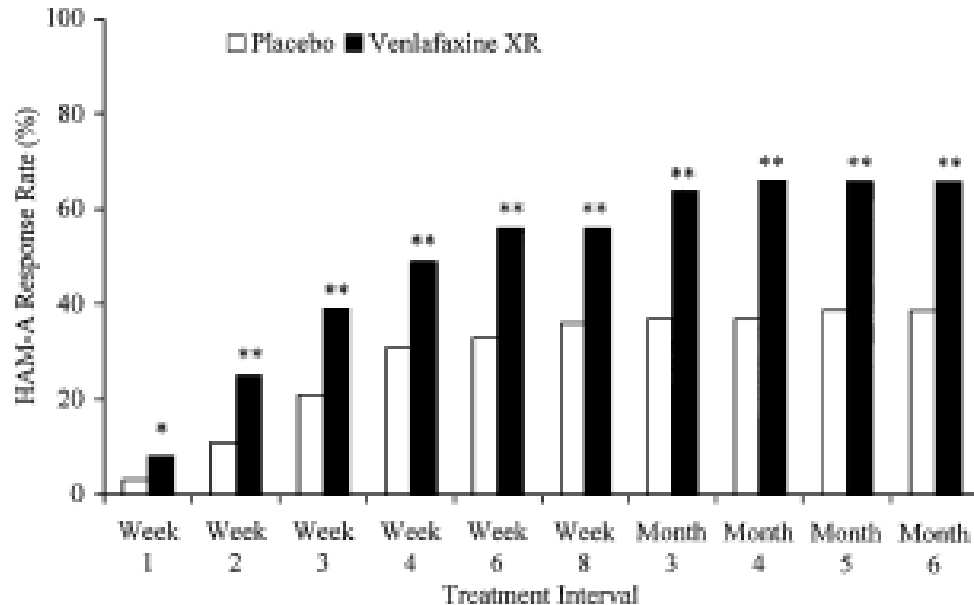


Fig. 2. Time course of response with venlafaxine XR and placebo in the treatment of GAD (last observation carried forward analysis). \* $P < 0.05$ ; \*\*  $P < 0.001$ , logistic regression.

- Start at low dose and go slow
- Most articles describe onset of effect between 2-4 weeks with symptom improvement up to 8-12 weeks (7, 8, 10)
- Response rate up to 60-70% (8)
- If no response but medication is tolerated after 4-6 weeks at starting dose AND patient is willing, titrate further over another 4-6 weeks with potential of reaching FDA maximum dose

Montgomery SA, et al 2001

## TYPICAL MAXIMUM THERAPEUTIC DOSES (MG/DAY):

### SSRI:

- Paroxetine (Paxil) 60 mg\*
- Sertraline (Zoloft) 200 mg\*
- Citalopram (Celexa) 40 mg
- Escitalopram (Lexapro) 30 mg
- Fluoxetine (Prozac) 80 mg
- Fluvoxamine (Luvox) 300mg
- Vilazodone (Viibryd) 40mg
- Vortioxetine (Trintellix) 20mg

### SNRI:

- Venlafaxine ER (Effexor) 225 mg\*
- Duloxetine (Cymbalta) 120 mg
- Desvenlafaxine (Pristique) 100mg

OCD: Often require higher doses

Eating Disorders: weight neutral for best response

PTSD: Trauma therapy is gold standard

SUD: Treat simultaneously



# COMMON SIDE EFFECTS IN SSRI

- GI Side Effects
  - **Sertraline**
- Drowsiness
  - **Paroxetine and fluvoxamine**
- Orthostatic Hypotension
  - All can but especially **Paroxetine**
- All can cause sexual side effects
  - All can but especially **Paroxetine**
- QTc Prolongation
  - **Citalopram** and (escitalopram)
- Insomnia/agitation
  - **Fluoxetine**, then sertraline
- Weight
  - Least likely to cause weight gain --> **Fluoxetine**
  - Most likely to cause weight gain --> **Paroxetine**

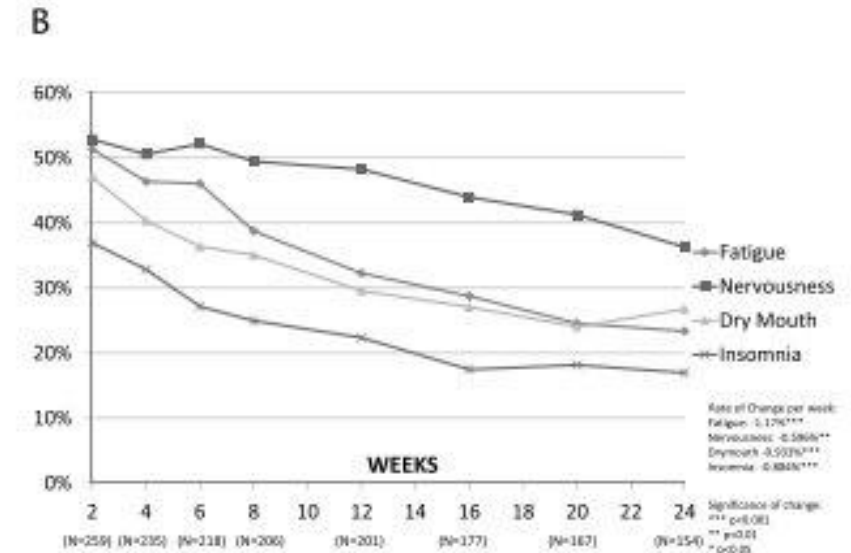
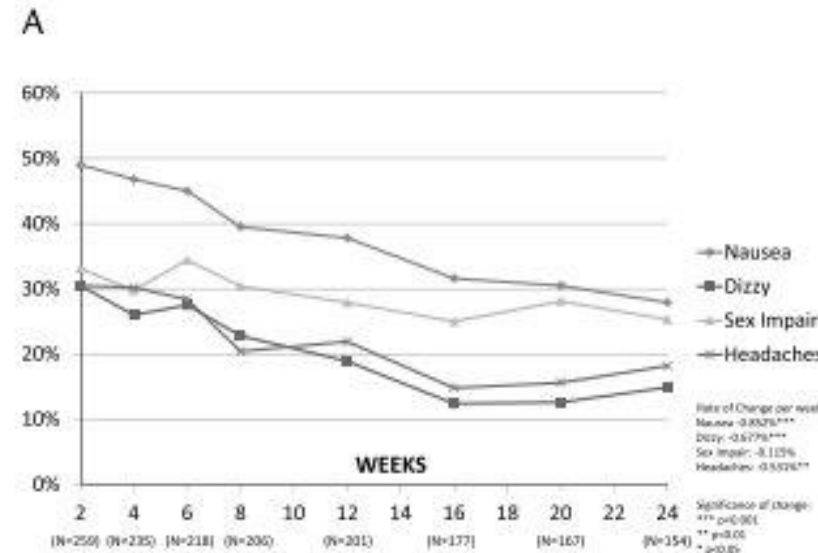


FIGURE 1. A and B, Presence of AEs over time.

# SECOND LINE OR AUGMENTATION OPTIONS

- Buspirone (Buspar) 60mg/ day
  - DX: GAD only
  - Augmentation to SSRI
  - Generally well tolerated (common SE: dizziness, nausea, headaches)
  - Similar response to benzodiazepine for GAD
  - Lack of sexual side effects and may reduce sexual side effects associated with SSRIs/SNRIs
  - BID/TID dosing due to short half life
  - Schedule dosing for best efficacy

# SECOND LINE OPTIONS CONTINUED

- Mirtazapine (Remeron), 60mg at bedtime
  - Dx: GAD, PD, SAD, OCD, PTSD
  - Sedation side effects
  - Appetite stimulator
  - Less likely to have sexual side effects
  - Less likely to have GI side effects
- Gabapentin (Neurontin), 2400mg (TID dosing)
  - Limited studies in GAD, some in SAD and PD
  - Side effects: Dry mouth, constipation, weight gain
  - Approved for neuropathic pain
  - Not approved by FDA for GAD
  - Off label for alcohol withdrawal
- Pregabalin (Lyrica), 300mg (BID dosing)
  - SAD and GAD
  - Expensive
  - Schedule V Medication
- Prazosin for PTSD nightmares (1-15mg QHS)
  - Monitor for dizziness and hypotension
- TCAs have more side effects than SSRIs, are lethal on overdose
  - Clomipramine is approved for OCD and may out-perform in studies but more side effects
  - Bupropion is ineffective for Anxiety Disorders

# MEDICATION MANAGEMENT CASE

25 year old person history of anxiety on fluoxetine 30 mg daily, reports initial benefit however reports difficulty falling asleep for 1-2 hours.

What questions do you have?

What would you suggest as next step?

- Move dose to QAM
- Increase fluoxetine to 40mg
- Discuss sleep hygiene
- Clarify when patient is taking dose
- Switch to another SRRI if not tolerating

# VERY THIRD LINE: NEUROLEPTICS/ ANTIPSYCHOTICS

- Strongest data support adjunctive use, added to SSRI, in OCD (Quetiapine, Olanzapine, Risperidone)
  - FDA denied approval quetiapine for anxiety due to metabolic side effects.
  - Reserve for severe and refractory cases
  - Consult psychiatrist for input as able
- The adverse effects on lipids, glucose and weight are much better established than clinical benefits.
  - Also risk for movement disorders such as tardive dyskinesia and extrapyramidal symptoms
- Lamotrigine has anxiolytic properties, but still being studied.

5,11, 16

# BUT I GET PANIC ATTACKS!

- What are panic attacks?
- Panic Attack:
  - A discrete period of intense fear or discomfort, in which four (or more) physical symptom developed abruptly and reached a peak within 10 minutes and resolve within an hour.
    - Triggered or untriggered
- Panic Disorder:
  - Recurrent UNTRIGGERED panic attacks with one month or more of worry about future attacks or maladaptive change in behavior related to the attacks.

# NON ADDICTIVE PRN ("AS NEEDED") MEDICATIONS

## Hydroxyzine (Vistaril)

DX: GAD and early insomnia

- 10-25mg PRN TID
- Sedating
- Nonaddictive
- Antihistamine
- SE: sedation, fall risk especially in elderly

## Propranolol:

- Beta-blockers are only indicated and studied for Performance Anxiety.
- Do not combine with hydroxyzine and other blood pressure medication

**Goal is to treat anxiety with SSRI and not need PRN long-term**

# WHEN TO USE A BENZODIAZEPINE?

- **Diagnosis: Most justified for Panic and Social Anxiety Disorder;**
  - Less for GAD; no utility for PTSD or MDD
  - Can worsen depression
  - If Bipolar, hypomanic/manic, catatonic, acute settings
  - Alcohol or benzodiazepine withdrawal
- Tried non-addictive options
- Short-term scheduled use only
- Prefer long half-life (clonazepam, diazepam)
- Discuss risks of co-administered w/CNS depressants leading to respiratory depression, cognitive and memory effects, fall risk in elderly



# OTHER CONSIDERATIONS

- Can impact benefit from psychotherapy
- Avoid PRN benzos. Patients give the benzo credit for relief of the panic attack
- Are they in therapy?
- Other contributing factors or diagnosis?

## MANAGING THE PATIENT WHO IS ALREADY ON A BENZO WHEN YOU MEET THEM

- Discuss risks and concerns for long-term benzodiazepine use
- Have agreement that the patient works exclusively with you
- Discuss reduction will be done AFTER other medication or behavioral treatments are initiated
- Tell them your aim is for a gradual reduction in dose over months
- Regular schedule, avoid PRN use
- Discuss and check Rx monitoring program
- Screen for substance abuse history (UTOX?)

16, 17

# NON-PHARM OPTIONS



- Physical Activity
- High-intensity interval training (HIT)
  - Every other day for 12 days
  - 20 minutes alternating one-minute bouts of elevated HR above and below 70% HR max
  - 5- minute warm up and cool down.
- Yoga
- Tai Chi
- Mindfulness-Based Stress Reduction (MBSR)
- Hypnosis
- Acupuncture
- DBT TIPP skills \*ICE
- Therapy
- Sleep hygiene, sleep study, CBT-I
- Phone Apps
- Support versus emotional support animals

5, 14,15,

# NATURAL SUPPLEMENTS

- Ashwaganda
- Magnesium
- Lavender
- Cannabis\*
  - Induce psychosis and cyclic vomiting

Mixed data, not regulated, unknown and potential side effects

# SUMMARY

- Clarify diagnosis and provide education when possible
- SSRI/SNRIs are first line options for anxiety disorders
- Avoid PRN use, but rather scheduled preventative medications and work on behavioral changes.
- Engaged in discussions about sleep, substances and exercise
- Therapy, Therapy, Therapy

# RESOURCES

- 1. <https://www.who.int/news-room/fact-sheets/detail/anxiety-disorders>
- 2. [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7441973/#:~:text=Anxiety%20increased%20from%205.12%25%20in,time%20trend%20p%20%3C%200.001\).](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7441973/#:~:text=Anxiety%20increased%20from%205.12%25%20in,time%20trend%20p%20%3C%200.001).)
- 3. <https://www.cdc.gov/nchs/products/databriefs/db378.htm>
- 4. <https://www.therecoveryvillage.com/mental-health/separation-anxiety/separation-anxiety-statistics/>
- 5. [https://pubmed.ncbi.nlm.nih.gov/24270478/#:~:text=There%20is%20a%20high%20rate,disorder%20\(80%2D84.8%25\).](https://pubmed.ncbi.nlm.nih.gov/24270478/#:~:text=There%20is%20a%20high%20rate,disorder%20(80%2D84.8%25).)
- 6. [https://www.uptodate-com.offcampus.lib.washington.edu/contents/generalized-anxiety-disorder-in-adults-management?source=mostViewed\\_widget#H2925518967](https://www.uptodate-com.offcampus.lib.washington.edu/contents/generalized-anxiety-disorder-in-adults-management?source=mostViewed_widget#H2925518967)
- 7. Jakubovski E, Johnson JA, Nasir M, Müller-Vahl K, Bloch MH. Systematic review and meta-analysis: Dose–response curve of SSRIs and SNRIs in anxiety disorders. *Depress Anxiety*. 2019; 36: 198–212. <https://doi-org.offcampus.lib.washington.edu/10.1002/da.22854>
- 8. Montgomery SA, Mahé V, Haudiquet V, Hackett D. Effectiveness of venlafaxine, extended release formulation, in the short-term and long-term treatment of generalized anxiety disorder: results of a survival analysis. *J Clin Psychopharmacol*. 2002 Dec;22(6):561-7. doi: 10.1097/00004714-200212000-00005. PMID: 12454555.
- 9. Rickels, K. , Gallop, R. & Cleary, S. (2019). The Course of Adverse Events in Venlafaxine XR Treatment in Generalized Anxiety Disorder. *Journal of Clinical Psychopharmacology*, 39 (3), 258-260. doi: 10.1097/JCP.0000000000001027.
- 10. <https://www.cambridge.org/core/services/aop-cambridge-core/content/view/DC77B406AA32EF7B131F9C3ABEF8CF90/S0007125000266105a.pdf/div-class-title-venlafaxine-extended-release-er-in-the-treatment-of-generalised-anxiety-disorder-div.pdf>
- 11. <https://doi.org/10.1176/appi.focus.19203>
- 12. Landén M, Eriksson E, Agren H, Fahlén T. Effect of buspirone on sexual dysfunction in depressed patients treated with selective serotonin reuptake inhibitors. *J Clin Psychopharmacol*. 1999 Jun;19(3):268-71. doi: 10.1097/00004714-199906000-00012. PMID: 10350034.
- 13. Maneeton N, Maneeton B, Woottiluk P, Likhitsathian S, Suttajit S, Boonyanaruthee V, Srisurapanont M. Quetiapine monotherapy in acute treatment of generalized anxiety disorder: a systematic review and meta-analysis of randomized controlled trials. *Drug Des Devel Ther*. 2016 Jan 12;10:259-76. doi: 10.2147/DDDT.S89485. PMID: 26834458; PMCID: PMC4716733.
- 14. Valentine KE, Milling LS, Clark LJ, Moriarty CL. THE EFFICACY OF HYPNOSIS AS A TREATMENT FOR ANXIETY: A META-ANALYSIS. *Int J Clin Exp Hypn*. 2019 Jul-Sep;67(3):336-363. doi: 10.1080/00207144.2019.1613863. PMID: 31251710.
- 15. Plag J, Schmidt-Hellinger P, Klippstein T, Mumm JLM, Wolfarth B, Petzold MB, Ströhle A. Working out the worries: A randomized controlled trial of high intensity interval training in generalized anxiety disorder. *J Anxiety Disord*. 2020 Dec;76:102311. doi: 10.1016/j.janxdis.2020.102311. Epub
- 16. Treatment-refractory anxiety; definition, risk factors, and treatment challenges Peter Roy-Byrne, MD 2020 Sep 24. PMID: 33007710.
- 17. [https://psychiatryonline.org/pb/assets/raw/sitewide/practice\\_guidelines/guidelines/panicdisorder.pdf](https://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/panicdisorder.pdf)
- 18. Kennedy KM, O'Riordan J. Prescribing benzodiazepines in general practice. *Br J Gen Pract*. 2019 Mar;69(680):152-153. doi: 10.3399/bjgp19X701753. PMID: 30819759; PMCID: PMC6400612.

**THANK YOU!**

