

SEASONAL AFFECTIVE DISORDER



OUTLINE

- **Definition**
- **History**
- **Epidemiology**
- **Neurobiology**
- **Symptomatology**
- **Diagnostic criteria**
- **Assessment tools**
- **Treatment**
- **Diagnostic validity and controversy**
- **Summary**
- **References**

INTRODUCTION

- Seasonal affective disorder (SAD) is a syndrome characterized by recurrent depressions that occur annually at the same time each year.
- The tendency to experience seasonal changes in mood and behavior- seasonality
- Manifested to a different degree in individuals, from the extreme and pathological end of the spectrum, namely patients with sad, through the mildly pathological, as in subsyndromal SAD, to the normal.

HISTORY

- Hippocrates- melancholia occurs in the spring.
- Multiple studies of seasonal variations in mood disorders
- 1984- 'Seasonal Affective Disorder' coined by Rosenthal with operational criteria
- 1987- DSM-III- seasonal pattern modifier to RDD
- 2006- Wellbutrin XL approved by U.S. FDA for SAD

SYNONYMS

- Winter depression
- Winter blues
- Summer depression
- Summer sadness
- Seasonal depression



EPIDEMIOLOGY

- Prevalence- <1 to >10%
- seasonal affective disorders- 20 to 25% patients of RDD
- Children and adolescents- 3.3 to 4.2%
- Summer SAD- 1/10th patients of SAD

EPIDEMIOLOGY

Epidemiological correlates:

1. Age-

- Adults- common in younger population
- Adolescents and children- increases with age

2. Gender-

- Adults- more common in women
- Children- no statistical difference, higher rate in pubertal girls
- Adolescents- higher rates in females

EPIDEMIOLOGY

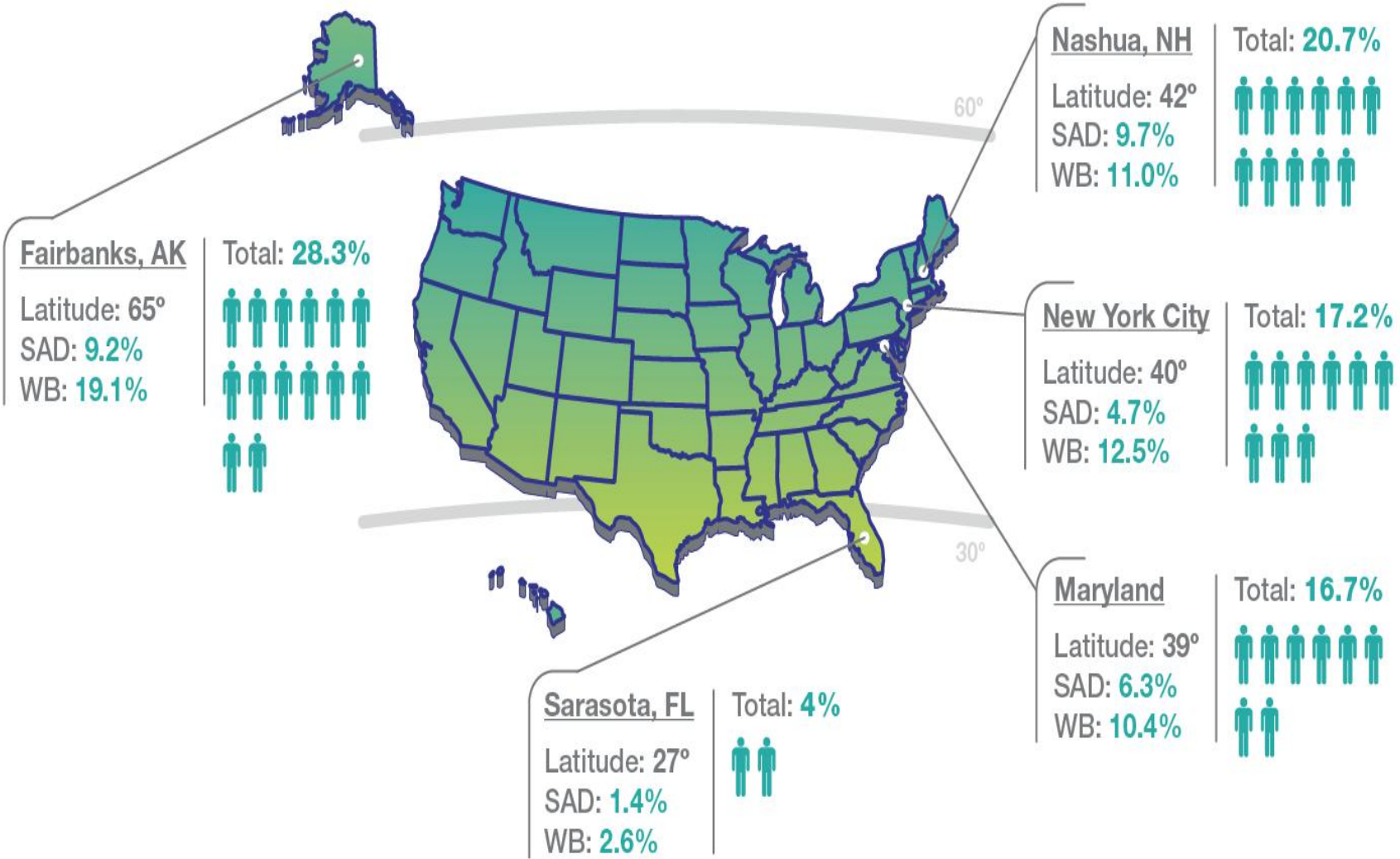
3. Latitude-

- mixed results- weak influence
- several studies have found an increasing prevalence of SAD with higher northern latitudes, while others have not.

4. Acclimatization-

- Longer an individual had resided in the area, the fewer seasonal symptoms
- individuals who migrate to higher latitudes appear to be more prone to develop SAD.

Prevalence of SAD and Winter Blues by USA Latitude



NEUROBIOLOGY

1. Phase shift hypothesis

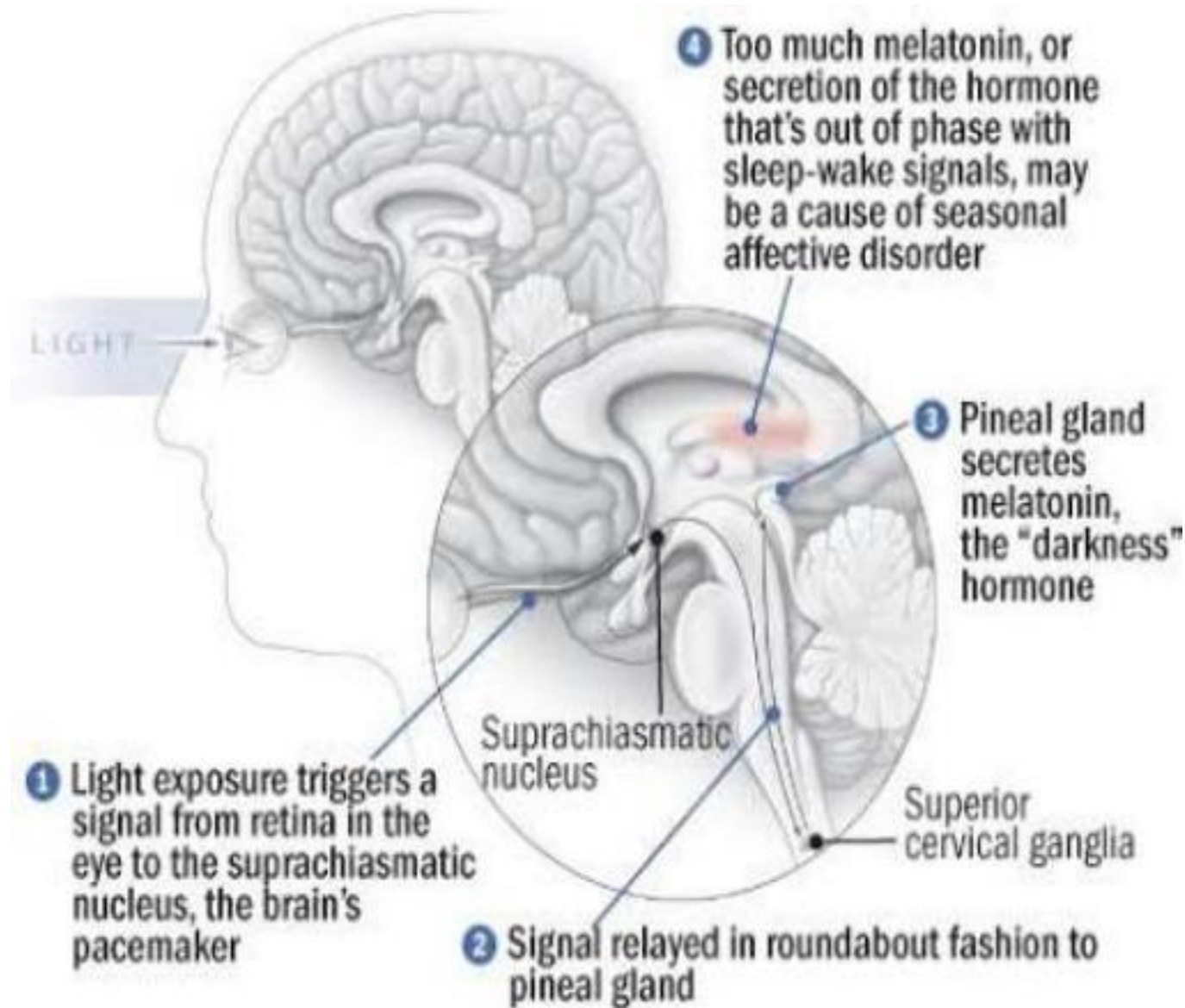
- the biological clock is out of phase (mostly delayed) with the natural day–night cycle

2. Melatonin hypothesis

- longer duration of nocturnal melatonin secretion or delayed onset of secretion

3. Serotonin

- Altered serotonin activity during winter months
- L-tryptophan deficiency



NEUROBIOLOGY

4. Catecholamines

- Catecholamine depletion
- Dopamine- light-dark adaptation in retina

5. Hypocretin/orexin

- Hypocretin/orexin -role in controlling patterns of sleep and wakefulness
- Seasonal variation in hcrt was found in cerebrospinal fluid

NEUROBIOLOGY

6. Genetic abnormalities

- Serotonin transporter (HTTLPR) polymorphism in promoter region or clock gene defects
- Young – dual vulnerability model- interplay between vulnerability to seasonal as well as depressive factors

SYMPTOMATOLOGY

- Atypical symptoms
- Impaired functioning- differentiate from holiday blues
- Psychotic symptoms seen rarely.
- Improvement or remission in response to light and illumination including travelling to warmer climes
- Children -fatigue, irritability, sleep inertia, and school problems attributed to external world rather than insight

SYMPTOMS AND SIGNS IN PATIENTS WITH WINTER SAD

FREQUENT	PERCENT
SADNESS	96
DECREASED ACTIVITY	96
SOCIAL MISFORTUNE	92
ANXIETY	86
IRRITABILITY	86
OCCUPATIONAL MISFORTUNE	84
DAYTIME TIREDNESS	81

FAIRLY FREQUENT	PERCENT
INCREASED SLEEP	76
POOR SLEEP QUALITY	75
INCREASED WEIGHT	74
CARBOHYDRATE CRAVING	70
DECREASED LIBIDO	68
INCREASED APPETITE	65

FAIRLY INFREQUENT	PERCENT
SUICIDAL THOUGHTS	35
DECREASED SLEEP	31

INFREQUENT	PERCENT
NO APPETITE CHANGE	17
NO WEIGHT CHANGE	17
DECREASED APPETITE	15
DECREASED WEIGHT	7
NO SLEEP CHANGE	5
NO ACTIVITY CHANGE	2

SUBSYNDROMAL SAD (SSAD)

- Sub syndromal SAD is a condition with similar but milder symptoms that do not impair functioning to a major degree.

SUMMER SAD

- Insomnia
- Poor appetite
- Weight loss
- Restlessness
- Agitation or anxiety
- Episodes of violent behavior

SUMMER REVERSAL

- periods with elation, increased libido, improved social activity, increased energy, decreased need for sleep, reduced appetite, and loss of weight
- Mania- 2-8%
- Hypomania- 34%

DIAGNOSTIC CRITERIA

OPERATIONAL CRITERIA FOR SUBSYNDROMAL SAD

- A history of some difficulty (depressive symptoms) during winter months for at least 2 consecutive winters lasting for 4 or more weeks
- Subjects regard self as normal
- No medical or psychological help sought or suggested
- Problem not recognizable by people who don't know them well
- No major disruption in functioning
- No history of major affective disorder in winter
- No serious medical illness

SAD CRITERIA- ROSENTHAL

- Regularly recurring depressive episodes in the fall and winter
- Full remissions in spring and summer
- At least one prior depressive episode met the criteria for MDD.
- No regularly recurring psychosocial variable to account for RDD.

DSM-5 CRITERIA

With seasonal pattern: This specifier applies to recurrent major depressive disorder

A) regular temporal relationship between the onset of major depressive episodes and a particular time of the year (e.g., in the fall or winter).

B) Full remissions (or a change from major depression to mania or hypomania) also occur at a characteristic time of the year

DSM-5 CRITERIA

- C) In the last 2 years, two major depressive episodes have occurred that demonstrate the temporal seasonal relationships
- D) Seasonal major depressive episodes (as described above) substantially outnumber the non seasonal major depressive episodes that may have occurred over the individual's lifetime
- This specifier does not apply to those situations in which the patterns are better explained by seasonally linked psychosocial stressors

ICD-10 RESEARCH CRITERIA

- Three or more episodes of mood disorder must occur, with onset within the same 90-day period of the year, ≥ 3 consecutive years
- Remissions also occur within a particular 90-day period of the year
- Seasonal episodes substantially outnumber any non-seasonal episodes that may occur

PROPOSED CRITERIA

- Rosenthal proposed the criteria for SAD in DSM-V (not accepted)
 1. Regularly recurring depressive episodes in fall and winter
 2. Remissions in spring and summer
 3. At least two prior autumn/winter depressive episodes met the criteria for MDD
 4. Seasonal episodes outnumber non-seasonal ones
- ICD-11 specifier suggested

ASSESSMENT

- **QUESTIONNAIRES**

1. SPAQ- Seasonal pattern assessment questionnaire
2. PIDS- Personal inventory for depression and SAD
3. SHQ- Seasonal health questionnaire

- **STRUCTURED INTERVIEWS**

1. SCID- Structured clinical interview for DSM-IV axis 1 disorders
2. DIAD- Diagnostic interview for atypical depression
3. HIGH- Hypomania interview guide(including hyperthymia)

ASSESSMENT

- **ANCILLARY TOOLS**

1. MEQ- Morningness- eveningness questionnaire
2. Daily sleep logs and mood and energy ratings
3. Columbia eye examination for users of light therapy

COURSE OF ILLNESS

- The onset of SAD typically occurs between 20 and 30 years of age
- affected individuals do not usually seek psychiatric help for some years
- Many patients suffer from either more severe or longer episodes with time
- After a period of 5-11 years from the initial diagnosis,
 - 22% to 42% of patients were still suffering from SAD
 - 33% to 44% had developed a non-seasonal pattern in subsequent episodes
 - Remaining patients (~6%) had subsyndromal sad
 - Resolved completely in 14% to 18% of the patients

TREATMENT

- The National Institute for Health and Care Excellence (NICE) recommends that SAD should be treated in the same way as other types of depression.
- This includes using talking treatments such as cognitive behavioural therapy (CBT) or medication such as antidepressants.
- Light therapy is also a popular treatment for SAD, although NICE says it's not clear whether it's effective.

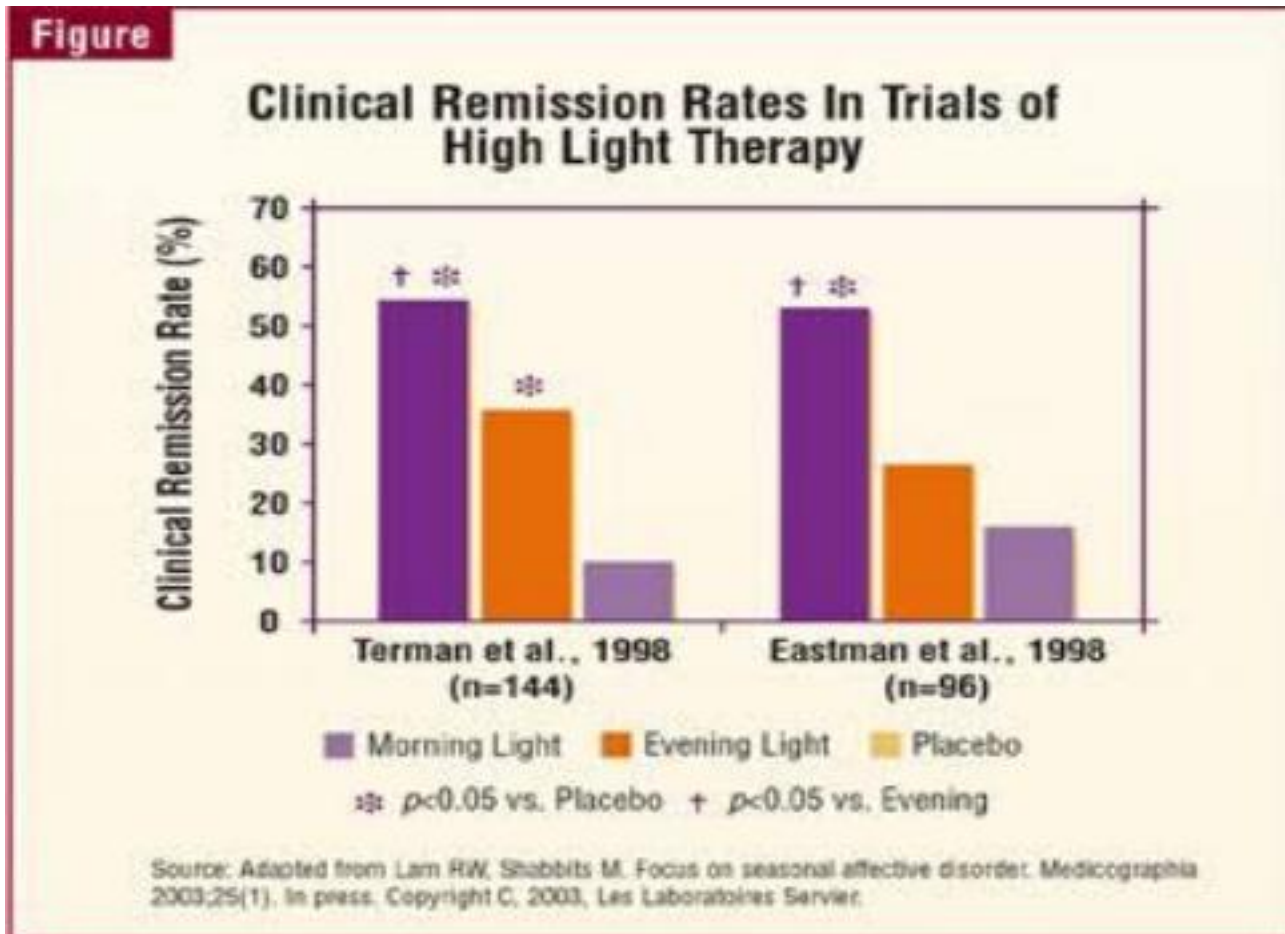
LIGHT THERAPY

- Rosenthal et al published the first study in which exposure to bright light was successful in treating SAD
- LT with bright light intensity of 10,000 lux for 30–45 minutes per session has become more or less the standard
- Photoreceptors influence the circadian system and are most sensitive to light with a wavelength of 470–490 nm (blue light).
- Blue or blue-enriched light fixtures have become available for the treatment of sad patients



LIGHT THERAPY

- Dawn simulation



LIGHT THERAPY

- Side effects-
 1. Mild visual complaints, nausea, dizziness and headaches,
 2. Tired eyes, agitation, sleep disturbances
 3. Manic decompensation
- Contraindications- pre existing retinal diseases, the use of photosensitizing drugs, and recent eye surgery

LIGHT THERAPY

- Intensity- 10000 lux
- Minimum - 30 min
- Time- early morning (phase delay)
- Response time- 2 to 4 days- 3 weeks
- Instruments- light boxes, visors, dawn-stimulating alarm clocks

MEDICATION

- Antidepressants- sertraline and fluoxetine proven efficacy
- Others- reboxetine, citalopram, L-tryptophan, tranylcypromine
- CAN-SAD study- fluoxetine equally efficacious as light therapy
- Bupropion – proven efficacy in prevention
- Wellbutrin XL- USA FDA approved in SAD

MEDICATION

- Agomelatine- melatonin receptor agonist and 5HT_{2C} antagonist
 1. Licensed for depression
 2. Causes phase advance
 3. Recent evidence of efficacy in seasonal pattern- open label studies
 4. No controlled trials so far

PSYCHOTHERAPY

- Distinct lack of trials
- Generally believed to be efficacious
- Rohan et al- CBT tailored course as efficacious as light therapy in acute phase and better at preventing relapse

PREVENTION

- Starting with LT before SAD patients show symptoms and continuing into winters may lead to the prevention or early treatment of a depressive episode
- The use of light visors (wearable light fixtures on the head) during the winter made it possible to prevent a depressive episode.
- Use of bupropion- more efficacious than placebo

DIAGNOSTIC VALIDITY AND CONTROVERSY

- Stuhlmiller stated that the effects of the seasons on psychological changes are inconsistent, controversial, and influenced by the appreciation of cultural perception and adaptation.
- This view is countered by Rosenthal - Many convergent lines of research justify its classification as an independent disorder.

DIAGNOSTIC VALIDITY AND CONTROVERSY

- distinct clinical picture
- predominantly women
- regularly depressed in autumn and winter
- remission in spring and summer.
- characteristic atypical vegetative symptoms
- have a history of reactivity to environmental light
- Seasonal affective disorder increases in prevalence with increasing distance from the equator described in the southern, as well as the northern hemisphere

SUMMARY

- Seen mostly in women, young adults, away from equator
- Asynchronicity of internal and external clock
- Atypical vegetative symptoms
- Light therapy- Gold standard
- Controversial validity of diagnosis and placement in guidelines

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THANK YOU

