

Management of Depression in Patients with Endocrine Disorders

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귀찮은 존재
대충 조용하게 만들고 싶다!

대하기 어려운
환자



이상한 환자



PD!!!



정신건강의학과로!!!



- 정신과적 질환에 의한 신체 증상

신체화 장애



위장관계증상, 통증,
생식기증상

Psychosomatic Disorders

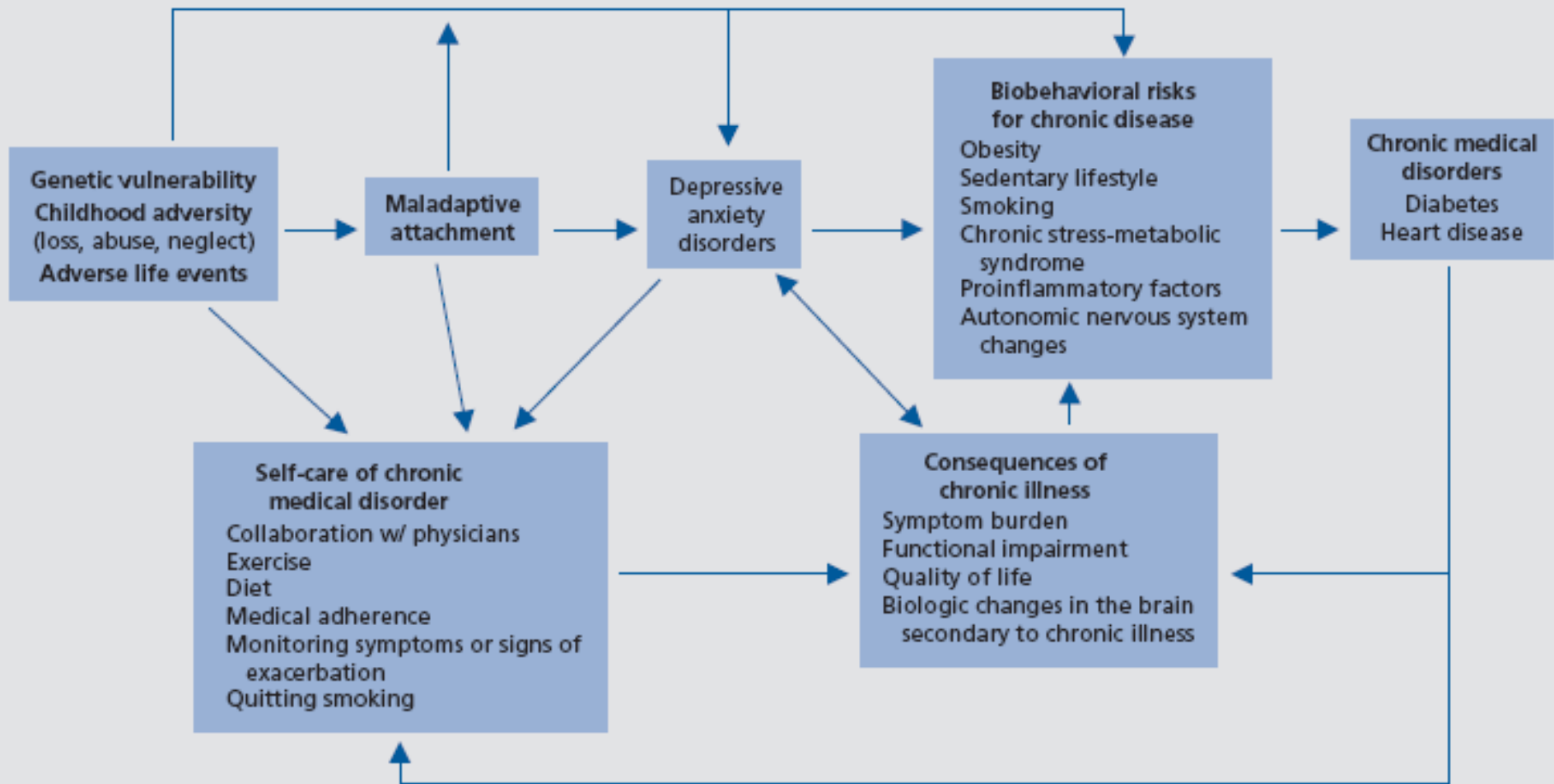


Endocrine Disorders

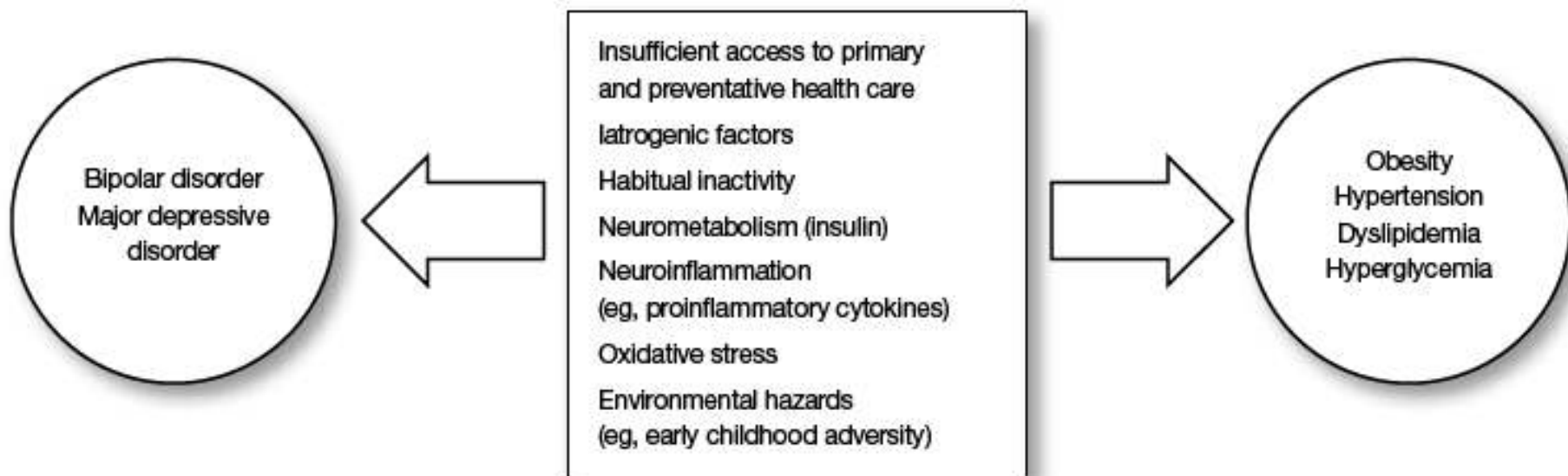


Depression

Bidirectional interaction



Mood Disorders & Metabolic Syn.



CANMAT recommendations, 2012



**DEPRESSION AND ANXIETY
ARE THE MOST COMMON
PSYCHIATRIC PRESENTATIONS
OF ENDOCRINE DISORDERS**

Prevalence of Psychiatric Dis.



TABLE 26-4. Prevalence of psychiatric disorders among patients with endocrine disease, from studies with prospective systematic evaluations

Endocrine disorder	Anxiety disorder	Major depression	Cognitive impairment	Substance abuse	Psychosis/delirium	Any disorder
Diabetes mellitus	0%–45% ^{a,b,c}	7%–33% ^{a,b,c}	0% ^c	1%–14% ^{a,b,c}	0%–1% ^{a,b,c}	33%–71% ^{a,b,c}
Hypothyroidism	20%–33% ^d	33%–43% ^d	29% ^e	—	5% ^e	—
Hyperthyroidism	53%–69% ^{f,g}	30%–70% ^{f,g}	0% ^f	0%–8% ^f	0% ^{f,g}	53%–100% ^{f,g}
Hyperparathyroidism	12% ^h	11%–43% ^{h,i,j}	3%–39% ^{h,i,j}	—	3%–9% ^{h,j}	23%–67% ^{h,j}
Cushing's syndrome	18% ^k	35%–86% ^{k,l,m,n}	—	3%–6% ^{k,m}	0% ^{k,l,m}	80% ^{k,m}
Addison's disease	—	48% ^o	—	—	4% ^o	—
Pheochromocytoma	12%*–29%† ^p	12%*–18%† ^p	—	—	—	—
Acromegaly	—	2.5% ^q	—	—	—	—

*Definite. †Probable plus definite.

Source. ^aPopkin et al. 1988; ^bWilkinson et al. 1988; ^cLustman et al. 1986; ^dJain 1972; ^eNickel and Frame 1958; ^fTrzepacz et al. 1988; ^gKathol and Delahunt 1986; ^hJoborn et al. 1986; ⁱBrown et al. 1987; ^jPetersen 1968; ^kHudson et al. 1987; ^lS.I. Cohen 1980; ^mHaskett 1985; ⁿJeffcoate et al. 1979; ^oCleghorn 1951; ^pStarkman et al. 1985; ^qAbed et al. 1987.

Textbook of Consultation-Liaison Psychiatry, 2nd



Depression

Hyperglycemia

Diabetic
Complication

Functional
Impairment,
Mortality ↑

Treatment of Comorbid Pt.



Treatment of Cormobid Pt.



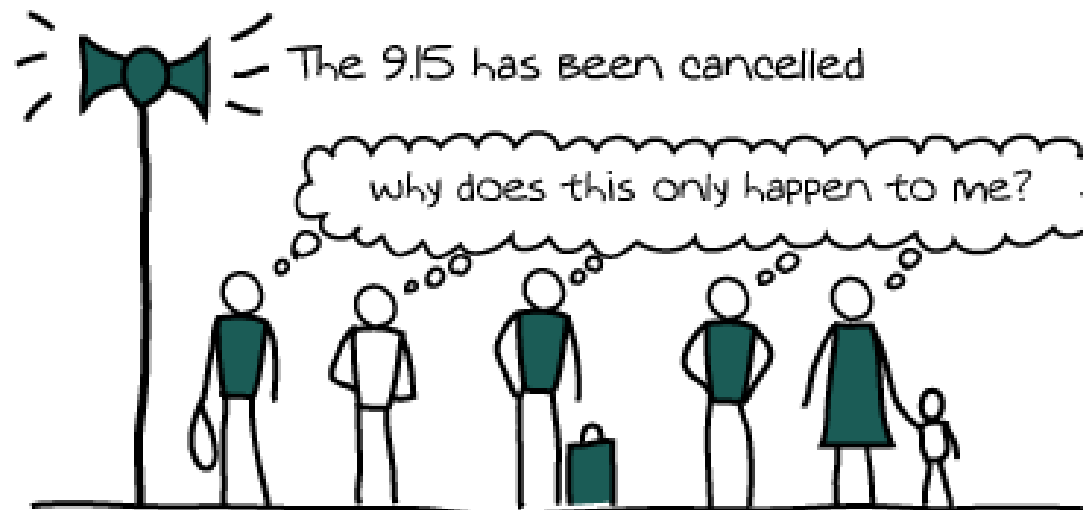
Psychological interventions

Outcomes	Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)	Comments
Depression remission Follow-up: (a) end of treatment (b) 1 to 6 months after treatment	(a) OR 2.88 (1.58 to 5.25) (b) OR 2.49 (1.44 to 4.32)	(a) 647 (4) (b) 296 (2)	(a) ⊕⊕⊕○ moderate ¹ (b) ⊕⊕○○ low ²	
Diabetes complications	Not estimable	See comment	See comment	Not investigated
Death from any cause	Not estimable	See comment	See comment	Not investigated
Health-related quality of life Follow-up: (a) end of treatment (b) 1 to 6 months after treatment (c) > 6 months after treatment		(a) 784 (4) (b) 463 (2) (c) 208 (1)	(a), (b), (c) ⊕⊕○○ low ³	
Medication adherence/ adverse effects Follow-up: end of treatment	See comment	291 (1)	⊕⊕○○ low ⁴	No reports of serious or severe adverse effects
Glycaemic control (HbA1c) [%] Follow-up: (a) end of treatment (b) 1 to 6 months after treatment (c) > 6 months after treatment	(a), (b) See comment (c) MD -0.5 (-1.1 to 0.1)	(a) 441 (4) (b) 346 (3) (c) 49 (1)	(a), (b) ⊕⊕○○ low ⁵ (c) ⊕⊕○○ low ⁶	(a), (b) No meta-analysis performed
Healthcare costs [annual costs and effects]		208 (1)	⊕⊕○○ low ⁷	

인지행동치료



- **Beck;** 우울증 환자의 자신, 미래, 현실에 대한 부정적인 평가와 견해, 전망 등의 왜곡을 변화시킴으로 인하여 우울증을 치료할 수 있다.



인지행동치료



Improve
mood

Reduce
emotional
stress

Improve
self care

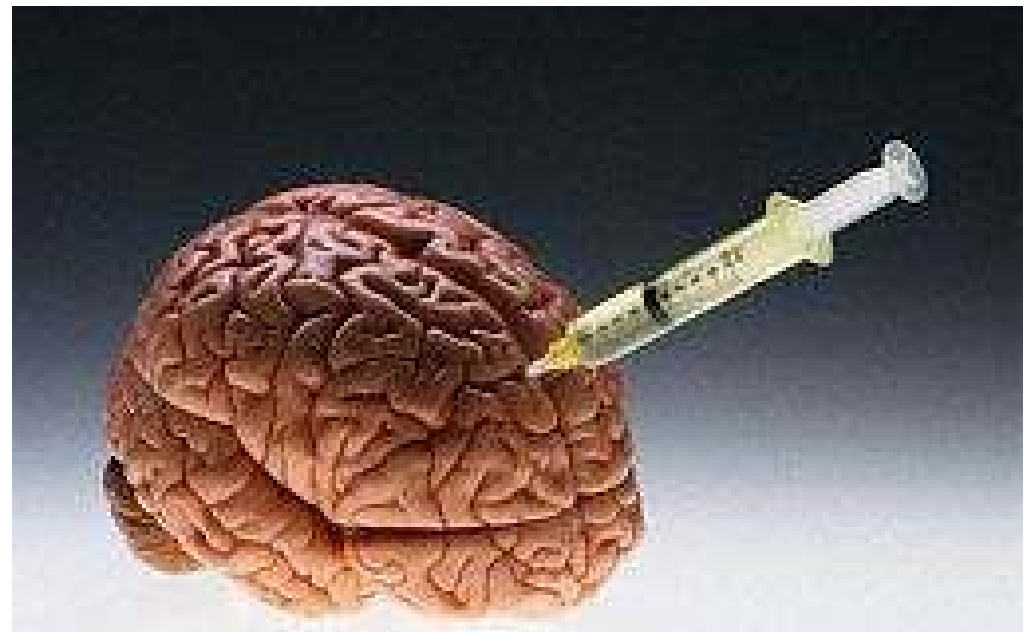
Improve
glycemic
control

Pharmacological intervention

Outcomes	Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)	Comments
Depression remission Follow-up: end of treatment	(I) OR 2.50 (1.21 to 5.15) (II) See comment	(I) 136 (3) (II) 20 (1)	(I) ⊕⊕○○ low ¹ (II) ⊕⊕○○ low ²	(II) Comparison fluoxetine versus paroxetine
Diabetes complications	Not estimable	See comment	See comment	Not investigated
Death from any cause	Not estimable	See comment	See comment	Not investigated
Health-related quality of life Follow-up: end of treatment	(I) See comment (II) Not estimable	(I) 153 (3)	(I) ⊕⊕○○ low ³ (II) See comment	(I) 2 studies did not report sufficient information to compute effect sizes, 1 study did not find significant differences between sertraline and placebo (II) Not investigated
Medication adherence/adverse effects Follow-up: end of treatment	(I) See comment (II) See comment	(I) 28 (1) / 278 (5) (II) 23 (1) / 81 (3)	(I) ⊕⊕○○ low ⁴ (II) ⊕⊕○○ low ⁴	(I) No significant differences between nortriptyline and placebo / serious adverse effects were rarely reported (II) No significant difference between imipramine and magnesium supplementation/serious adverse effects were rarely reported
Metabolic control (HbA1c) [%] Follow-up: end of treatment	(I) MD -0.4 (-0.6 to -0.1) (II) See comment	(I) 238 (5) (II) 63 (2)	(I) ⊕⊕⊕○ moderate ⁵ (II) ⊕⊕○○ low ⁶	(II) 1 trial comparing fluoxetine with paroxetine did not report sufficient information to compute effect sizes, 1 trial comparing magnesium supplementation with imipramine did not find significant differences, 1 trial comparing fluoxetine with citalopram reported a benefit in favour of fluoxetine (MD for HbA1c -1.0%; 95% CI -1.9 to -0.2; N = 40)
Healthcare costs	Not estimable	See comment	See comment	Not investigated



정신과약!!!





항우울제의 기전

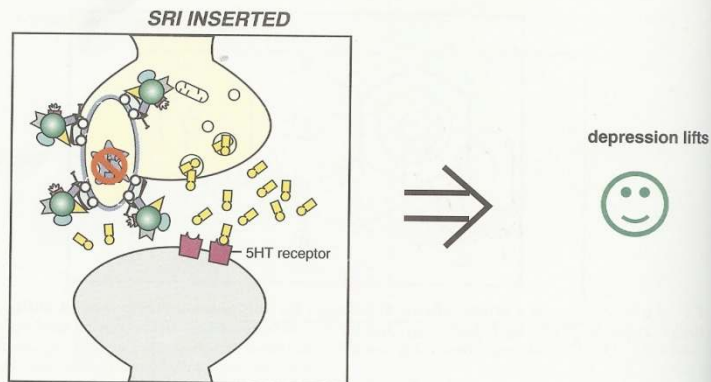


FIGURE 6-28. *Therapeutic actions of the tricyclic antidepressants—part 1.* In this diagram, the icon of the TCA is shown with its serotonin reuptake inhibitor (SRI) portion inserted into the serotonin reuptake pump, blocking it and causing an antidepressant effect.

Setotonin

Norepinephrine

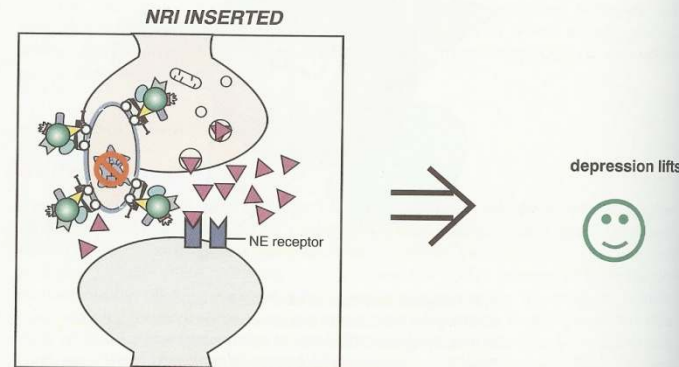
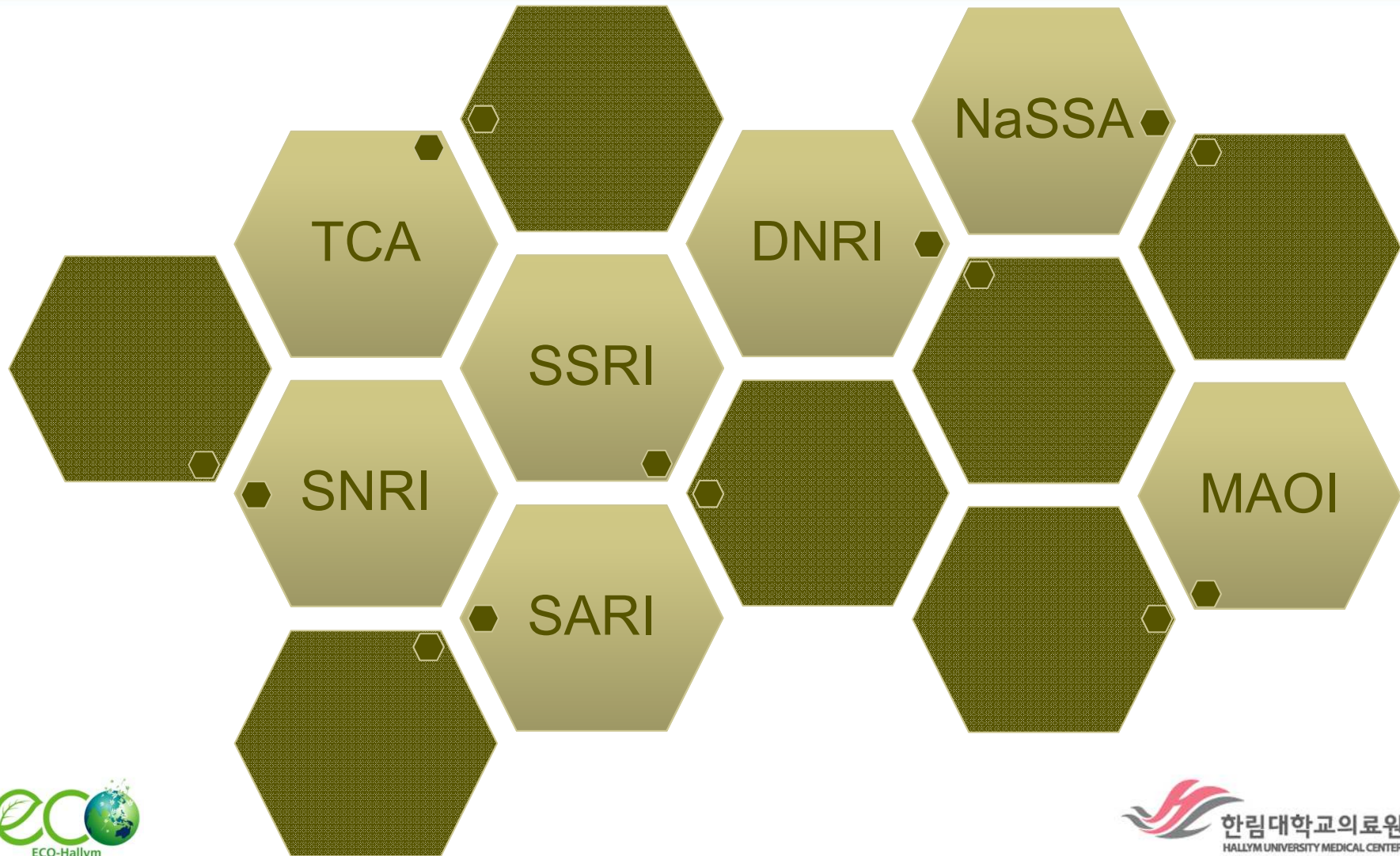


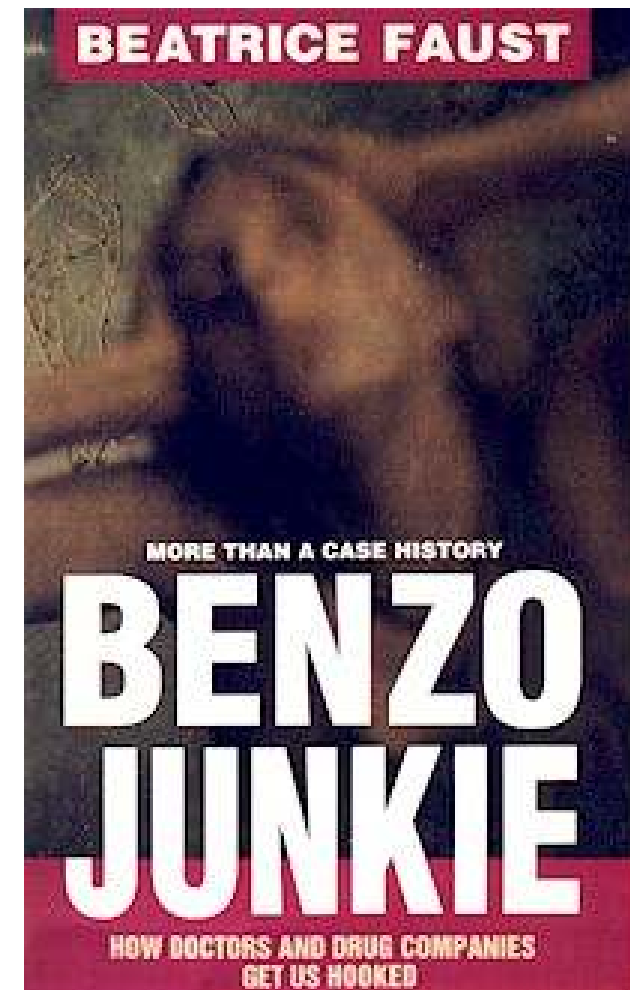
FIGURE 6-29. *Therapeutic actions of the tricyclic antidepressants—part 2.* In this diagram, the icon of the TCA is shown with its norepinephrine reuptake inhibitor (NRI) portion inserted into the norepinephrine reuptake pump, blocking it and causing an antidepressant effect. Thus, both the serotonin reuptake portion (see Fig. 6-28) and the NRI portion of the TCA act pharmacologically to cause an antidepressant effect.



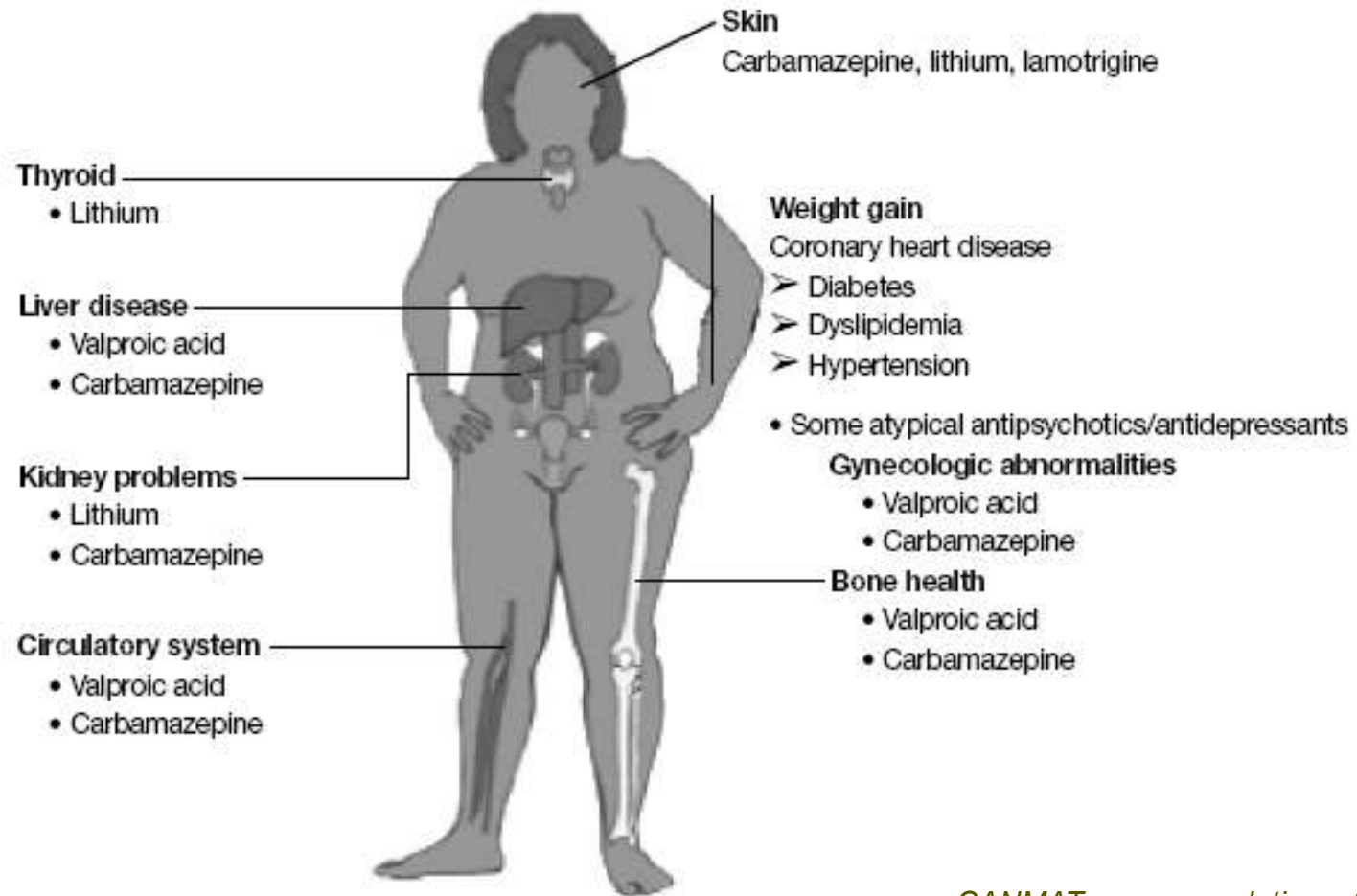
Benzodiazepine



- Lorazepam, Alprazolam, Diazepam, Triazolam, Etizolam, Flurazepam
- Abuse
- Dependence
- Withdrawal symptoms



Body Sys. at risk of S/E

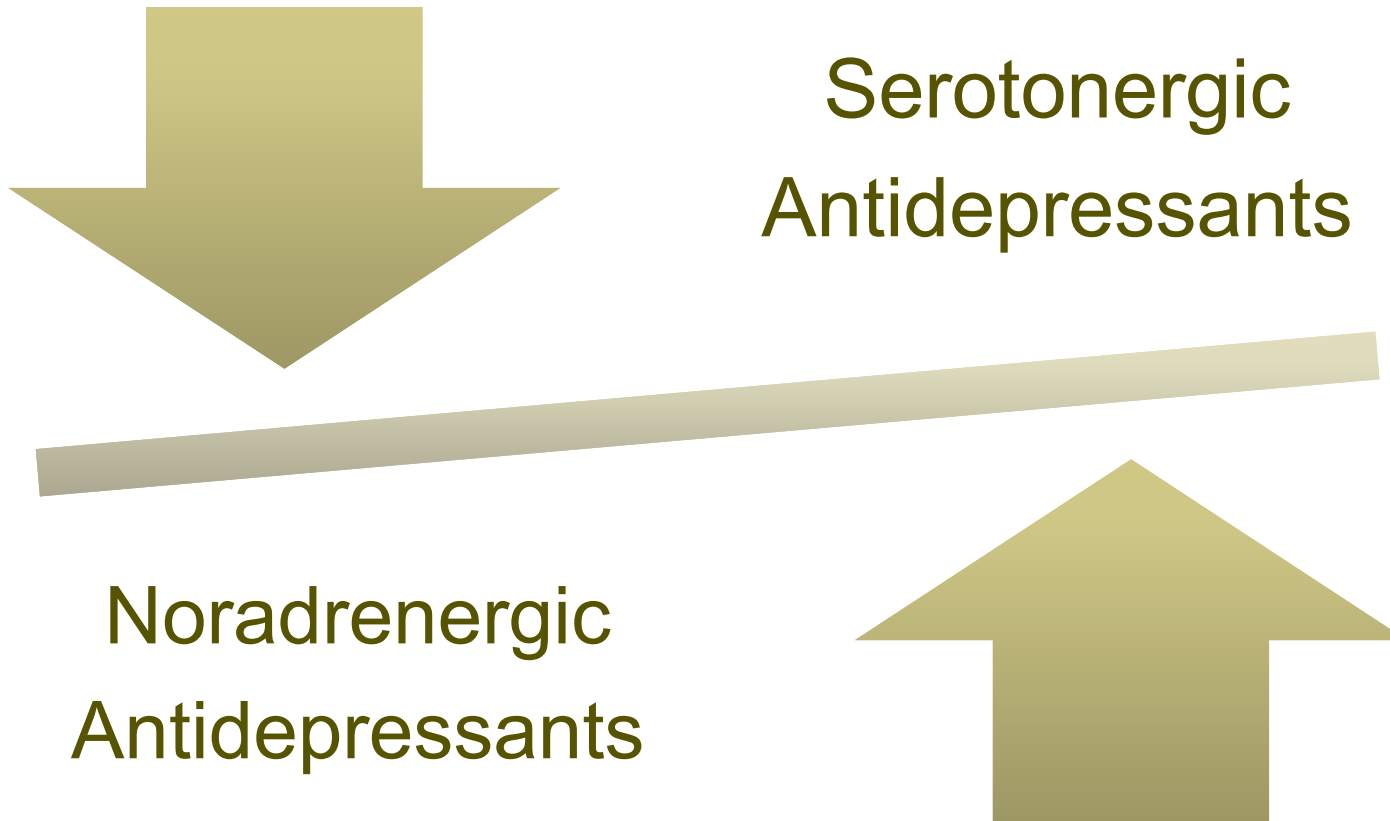


CANMAT recommendations, 2012

Drug Interaction



Glucose Level

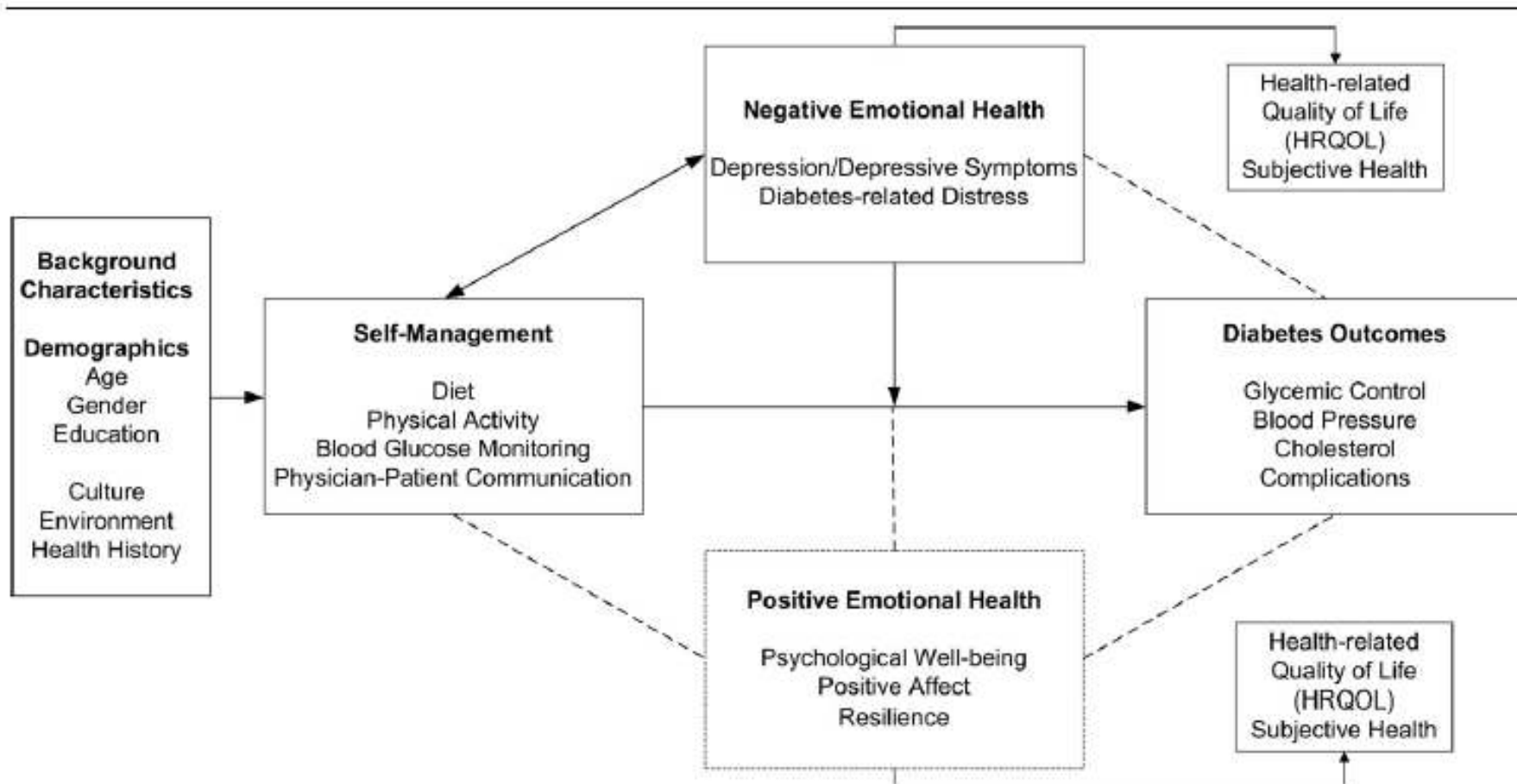


Others

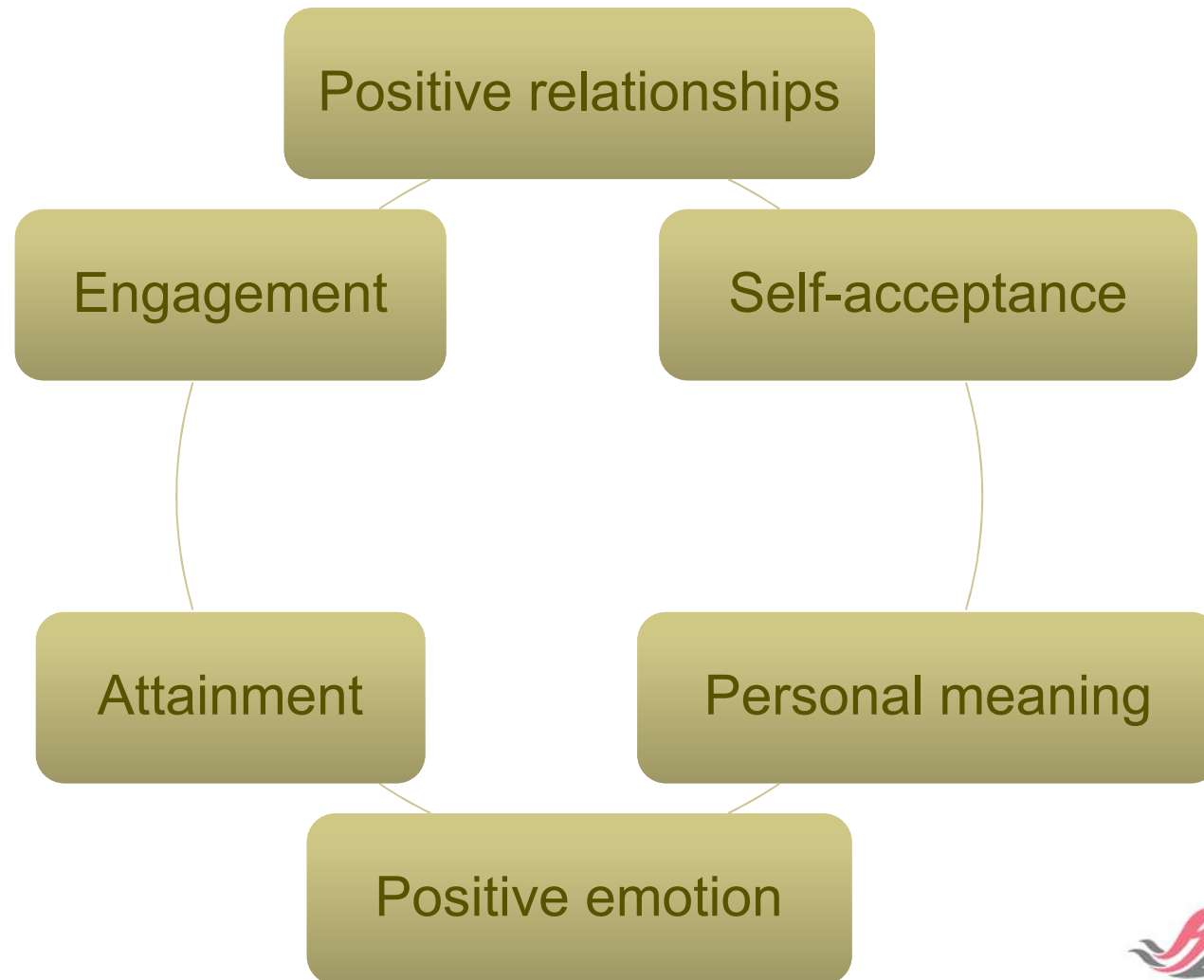


- Positive emotional health of diabetic pts.
- Management of subclinical depression in diabetic pts.

긍정심리와 DM



Positive Emotional Health





- 신체질환에 의한 정신과적 증상

갑상선기능항진증



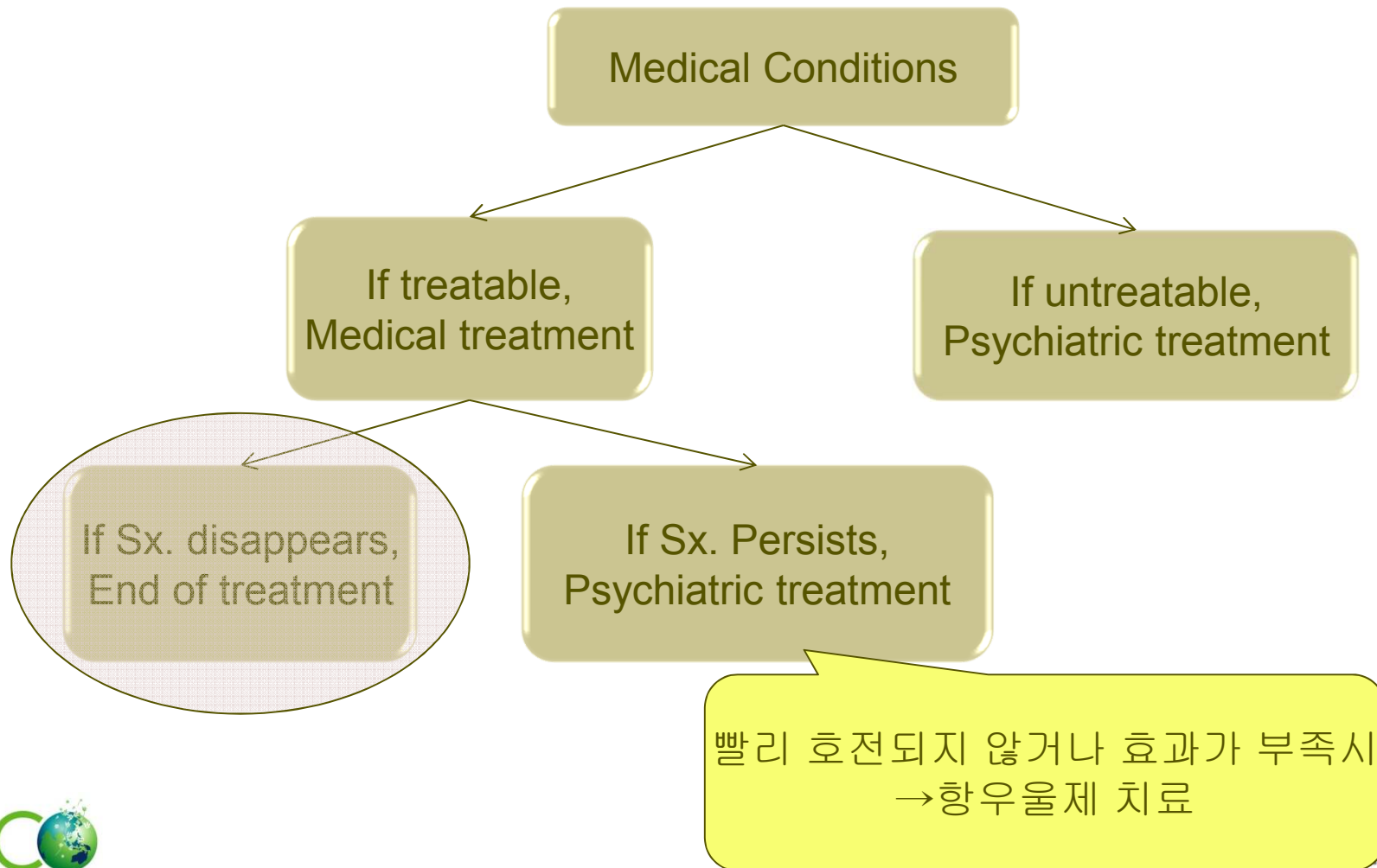
불안증상
(갑상선기능항진증에
의한 불안장애)

Thyroid

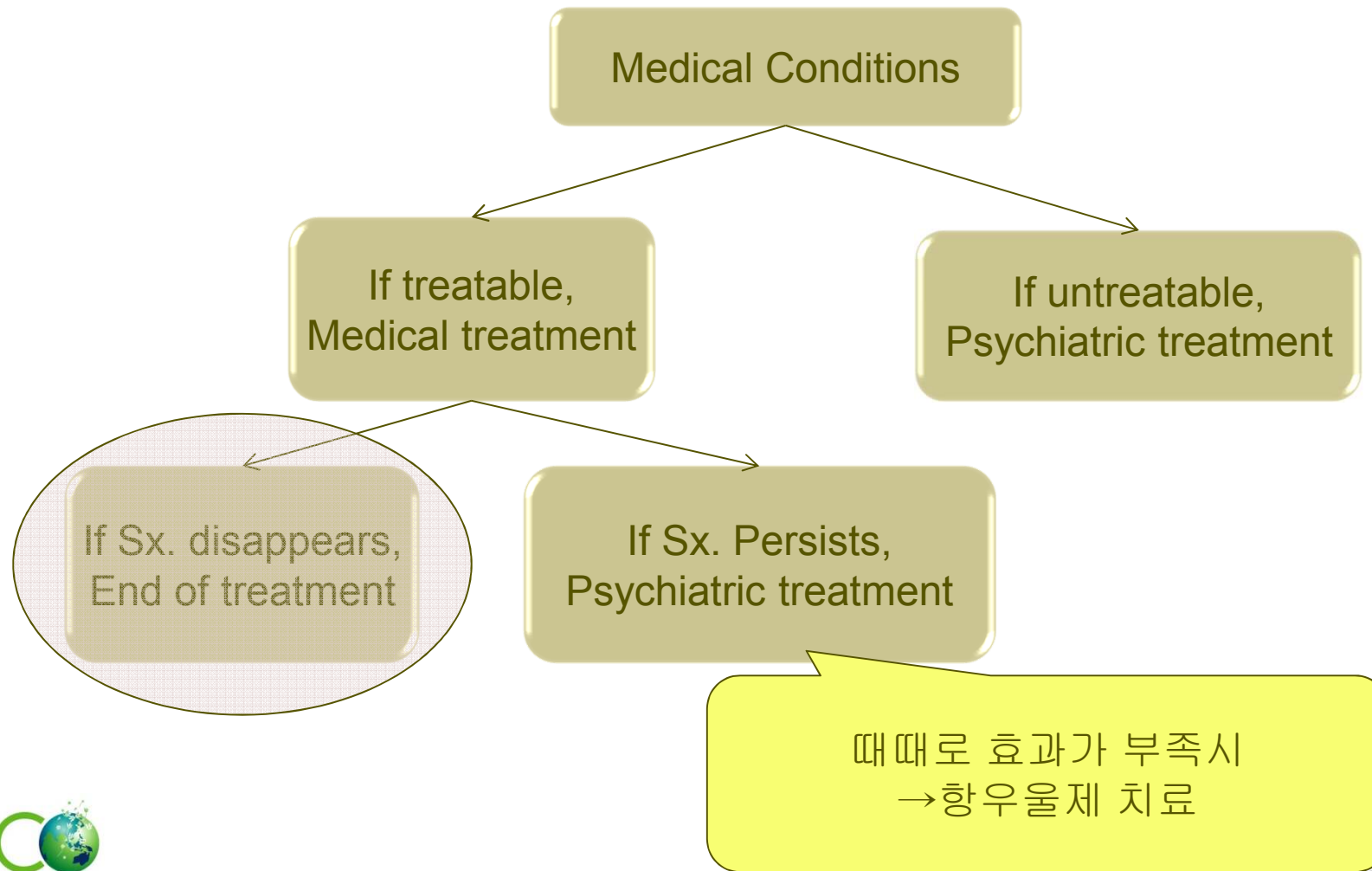


- Fatigued?
- Stressed?
- Feeling "Blue"?
- Irritable?
- Unhappy with your weight?

Treatment of Thyroid Pt.



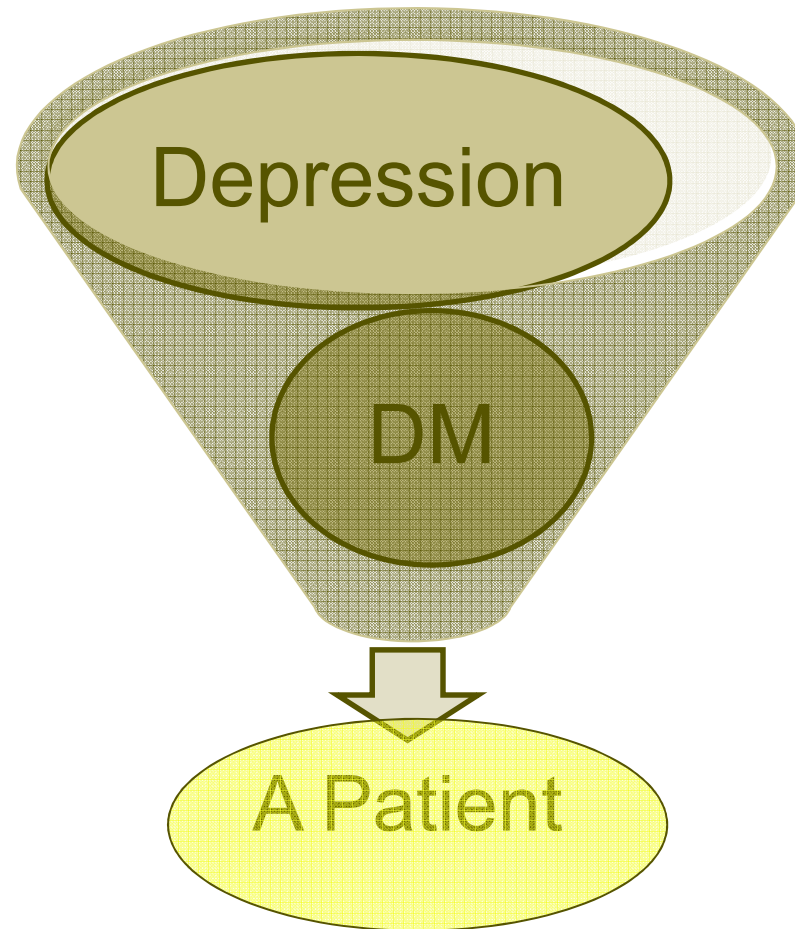
Hyperparathyroidism



Treatment of Cormobid Pt.



Patient-centered approach



Collaboration



cooperation



makes beautiful music.

Collaborative Care



TABLE 4. Studies of Collaborative Care Interventions for Depression in Diabetes

Reference	Study Design	Depression Entry Criteria	M(SD) Baseline HbA1c Levels	Enrolled/ Completed	Treatment Modality/ Duration/Type	Depression Measures	Significant Depression Outcomes	Significant Health/Glucose Outcomes	Methodologic Characteristics
Katon et al., 2004 ⁸⁶	RCT of collaborative case management, TAU	PHQ \geq 10 and HSCL-20 depression score $>$ 1.1	8.0 (1.6)% intervention group 8.0 (1.5)% usual care group	329/288	Depression care management, pharmacotherapy or education/ problem-solving	HSCL-20	Patients in depression care management had less depression severity over time than those in TAU ($\zeta = 2.84, p = 0.04$)	No difference in HbA1c	RCT design with TAU comparison and 12-month follow-up, completer analyses, type 1 or 2, depressive symptoms, HbA1c outcome measure
Williams et al., 2004 ⁸⁵	RCT of depression care management, TAU	SCID MDD or Dysthymia	7.3 (1.3)% intervention group, 7.3 (1.5)% usual care group	417/350	Depression care management, pharmacotherapy or education/ problem-solving	HSCL-20	Depression care management patients had lower rate of depression (0.43 on 0–4 scale) than TAU	No difference in HbA1c	RCT design with TAU comparison and 12-month follow-up, ITT analyses, age 60 and over, type 1 and 2, MDD or dysthymia criterion, HbA1c outcome measure
Bogner et al., 2007 ⁸⁴	RCT of depression care management, TAU	SCID MDD CES-D $>$ 20	Not reported	123	Depression care management, pharmacotherapy or IPT	HDRS	Depression care management patients had lower rate of mortality than TAU patients (adjusted hazard ratio 0.49%)	N/A	RCT design with TAU comparison and 5-year follow-up period, separate survival analyses on patients with diabetes from larger sample, age 60 and over, type 1 or 2, MDD or dysthymia criterion, no HbA1c measure or depression outcome

RCT: randomized controlled trial; PHQ: Physicians Health Questionnaire; HSCL-20: Hopkins Symptom Checklist-20; SCID: Structured Clinical Interview for DSM Disorders; CES-D: Center for Epidemiologic Studies Depression Scale; HDRS: Hamilton Depression Rating Scale; MDD: major depressive disorder; HbA1c: hemoglobin A1c; ITT: intent-to-treat.

Markowitz et al. 2011

우리나라의 실정



- 의료보험상 항우울제 치료 문제
- 정신건강의학과에 대한 편견

대하기 어려운
환자



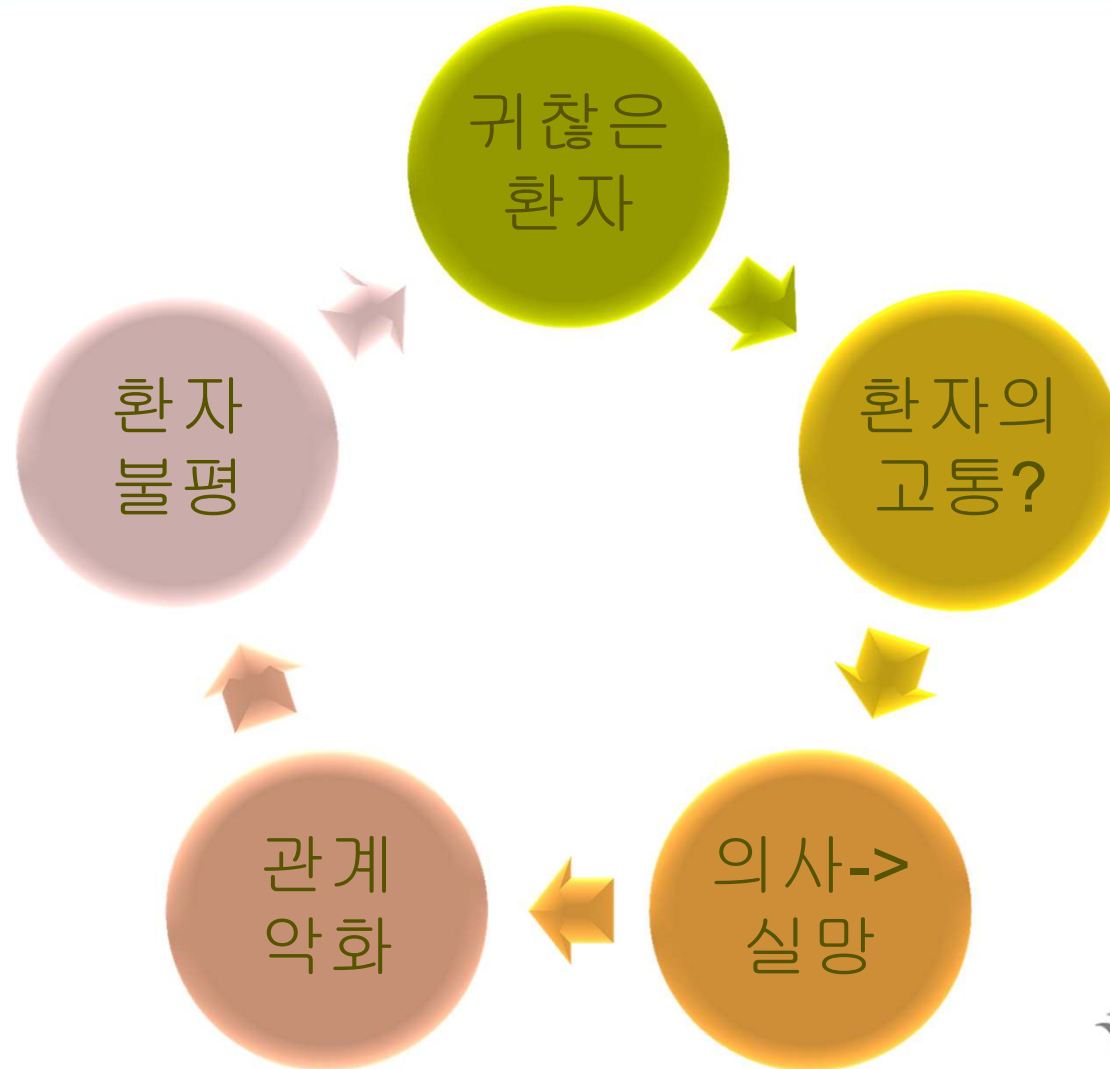
이상한 환자



PD!!!



정신건강의학과로!!!



의사의 권고에
따르지 않는 경우



의사 소통의 문제



이상한 환자



