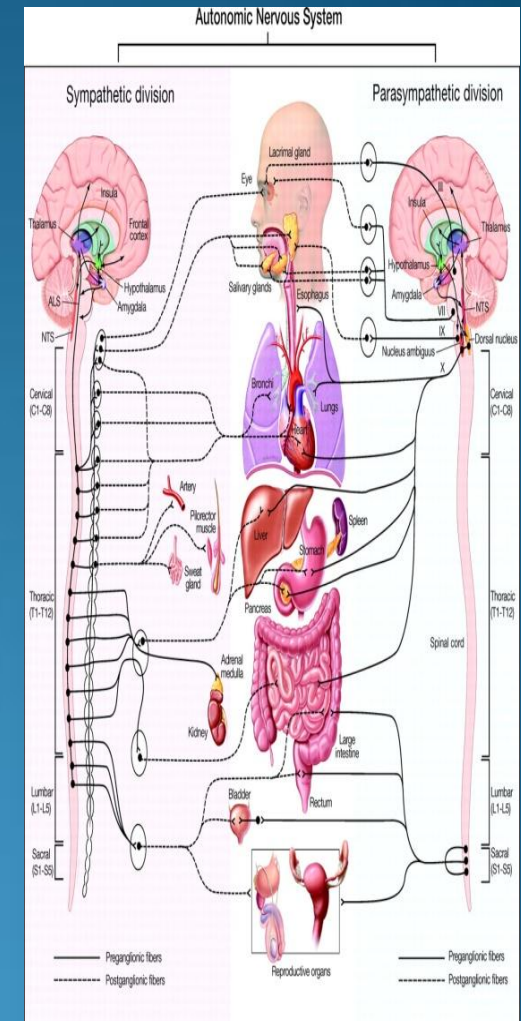


Psychosomatic Medicine

Theme 1

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King Saud University, Riyadh



Case Development 3

- Past medical and psychiatric history indicated that the patient has left side CVA 7 years ago.
- Post stroke, he had 3 months history of low mood, loss of interest, crying spells, excessive guilt feelings and death wishes.
- Moreover, he had decreased sleep, appetite, energy and concentration.
- He became isolated and not cooperative during physiotherapy session. After been assessed and managed by psychosomatic psychiatrist, patient's mood and motor function have improved very well.

Discussion of the case

- Analyze the symptoms (presented and expected) in this case and signs, including mood, thoughts, cognition, perception and physical aspects
- Discuss other elements related to the case includes possible etiological reasons
- Discuss the initial possible diagnosis of this case and different types of such clinical presentation

Stroke

- ❑ After stroke, 25 to 40% of patients meet criteria for Depression.
- ❑ Studies in the 80's and 90's demonstrated that post-stroke depression (PSD) was associated with left frontal brain lesions, worse physical and cognitive recovery, and increased mortality.
- ❑ These depressions were shown to be treatable with antidepressants and successful treatment led to both improved recovery and survival.
- ❑ There have now been 8 controlled trials showing PSD may be treated and prevented effectively with citalopram, nortriptyline, or reboxetine.

Stroke


- ❑ Recently, antidepressants : improve physical and cognitive recovery over one year independent of depression.
- ❑ Over seven years, antidepressants have been shown to decrease mortality by almost 50% even among non-depressed patients ...How?
- ❑ Inflammatory proteins are released both by stroke and depression and can have long lasting effects on brain function.
- ❑ Antidepressants have been shown to decrease these Inflammatory proteins → neurogenesis and synaptogenesis → improved recovery and decreased mortality following stroke.

Next.....

- Introduction about psychosomatic medicine.
- Discuss about Depression in medical ill patients.
- Discuss about Psycho-pharmacology in medically ill populations

Introduction (psychosomatic medicine)

- ❑ Psychosomatic medicine is the subspecialty of psychiatry whose practitioners have particular expertise in the diagnosis and treatment of psychiatric disorders and difficulties in complex medically ill patients (Gitlin et al. 2004)
- ❑ Psychosomatic medicine resides at the interface of physical and mental illness.
- ❑ The clinical practice of psychosomatic medicine is sometimes called consultation-liaison psychiatry (CLP)
- ❑ Since 2001, Psychosomatic medicine has become a subspecialty recognized by the *American Board of Medical Specialties*

- 
- ❑ Medical factors/illnesses may affect individual vulnerability, course, & outcome of ANY psychiatric disorder.
 - ❑ Psychosocial factors/illnesses may affect individual vulnerability, course, & outcome of ANY type of disease.
 - ❑ Psychological factors may operate to facilitate, sustain, or modify the course of medical disease , even though their relative weight may vary...
-
- from illness to illness !..
 - form one individual to another !..
 - between 2 different episodes of the same illness in the same individual! .

Illness Vs. Disease

□ Illness:

- The response of the individual and his/her family to symptoms
- Subjective !, psychosocial, cultural, religious factors

□ Disease:

- Defined by physicians and associated with pathophysiological processes and documented lesions
- Objective !

□ Implications !!

Illness Behavior

- ❑ The manner in which individuals monitor their bodies, define and interpret their symptoms, take remedial actions, and utilize the health care system

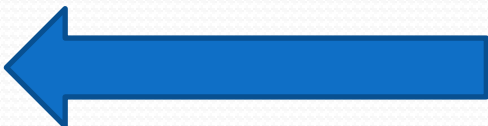
- ❑ Variety of factors

- ❑ Achievement of objectives

- ❑ Abnormal illness behavior:

Inappropriate or maladaptive mode of perceiving, evaluating or acting in relation to one's own health status

Illness affirming.....illness denying



Example of psychosocial factors affecting a medical d (CHD)

According to The Interheart study, the population attributable risk factor for MI of Hypertension was 17.9% , while the **psychosocial risk factors**, were responsible about :

- a) 5%
- b) 10%
- c) 15%
- d) 20%
- e) >30%

Stress Vs CHD

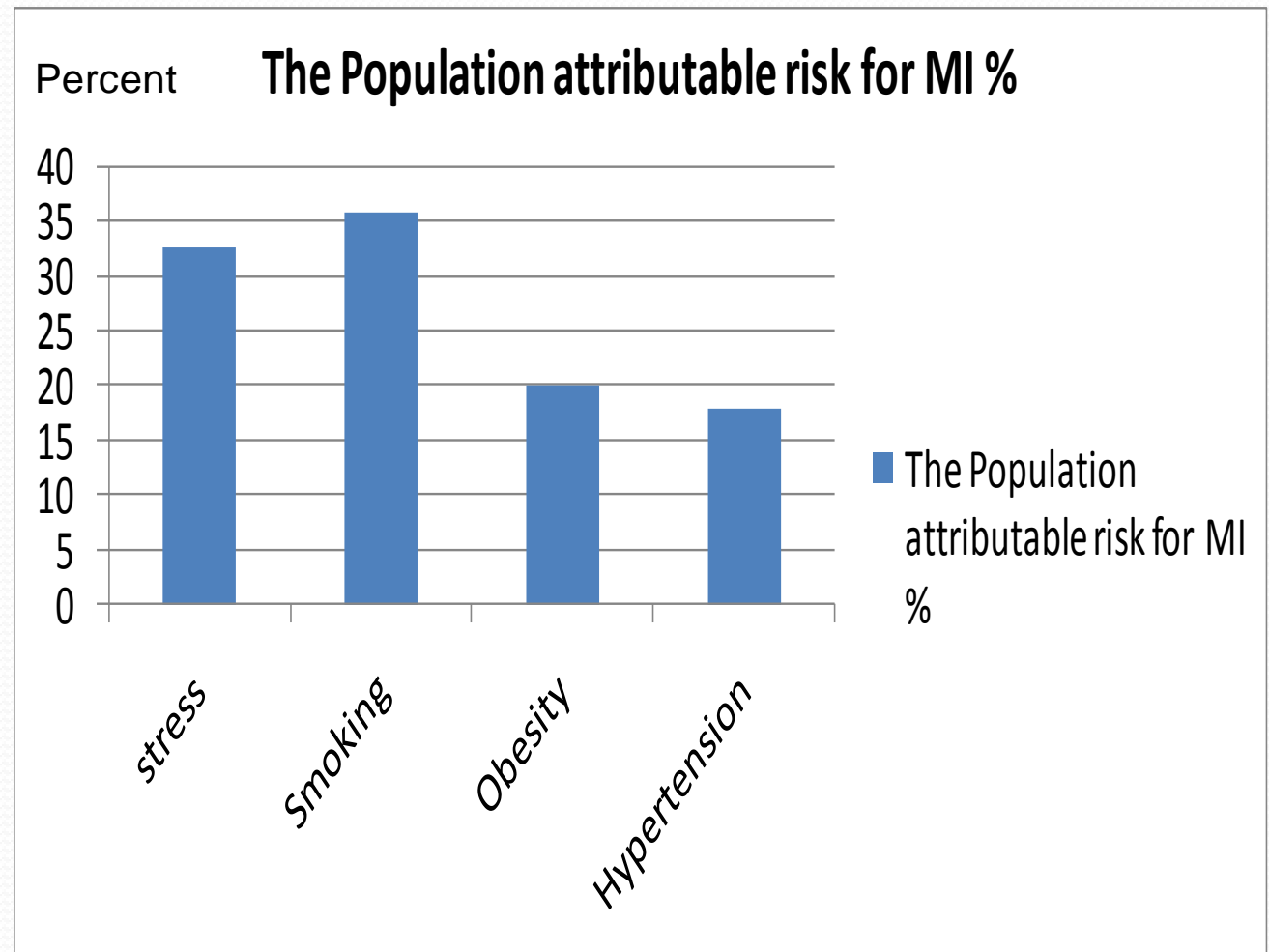
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- e) >30%

INTERHEART Study (EPIDEMIOLOGY, stress & CHD)

*Case control study of:
n > 29000 in
52 countries.

*Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. Yusuf S et al. Lancet 2004



Advantages of psychosomatic medicine (CLP) service

- 1-Relieve symptoms of distress & improve the quality of life of some patient with serious diseases.
- 2- May improve the course and prognosis of several major medical illnesses
- 3-Cost-effective :
 - A- Reduce the length of hospital stay.
 - B-Reduce the number of unnecessary investigations (performed for physical symptoms that may actually reflect underlying psychological distress)..

Approach

How to do it (effective psych. Consultation)

- 1-Review patient charts, asking nurses and physician.
- 2-Obtain good psychiatric history (paying attention to psychological & social factors).
- 3-MSE & MMSE if cognitive problem is suspected and possibly neuropsychological assessment.

Approach

How to do it (effective psych. Consultation)

4-Making logical differential diagnosis among medical , neurological and psychiatric diseases (use multi-axial Dx.)

5-Investigate based on that.

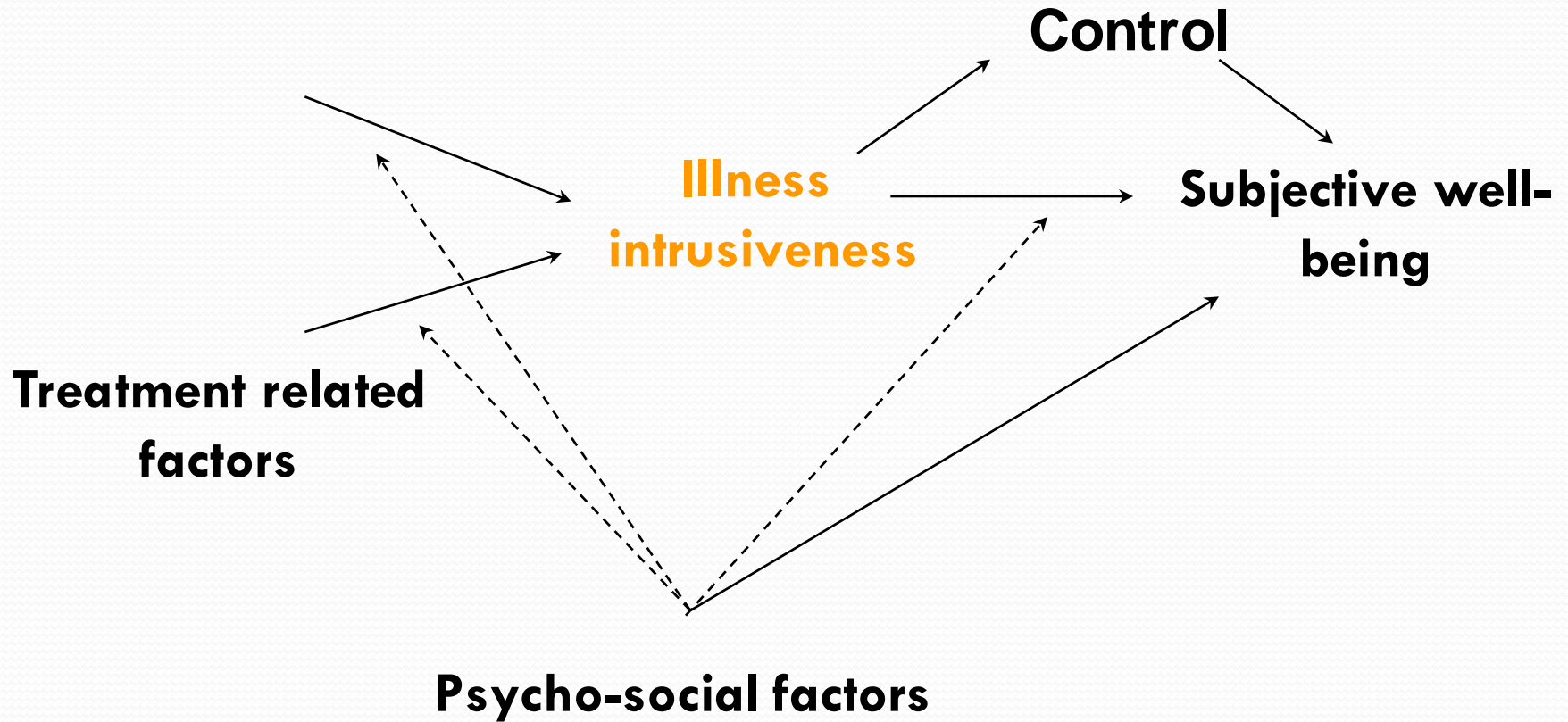
6-Make treatment plan.

7-Follow up plan (as inpatient & outpatient).

8-Collaborate with both the patient and the referring team.

Quality of life and illness Intrusiveness (G. Devins, 1994)

Disease related factors



Medical Disorders That Can Induce Psychiatric Symptoms

Endocrine	Metabolic	Infectious	Autoimmune	CNS
Thyroid disorder	Hepatic disorder	➤ Neurocystercerosis	➤ Systemic Lupus Erythematosa	Seizure DO
➤ Hypo-	➤ Wilson's	➤ Tuberculosis (TB)		➤ TLE
➤ Hyper-	➤ Encephalopathy	➤ PANDAS	➤ Multiple Sclerosis	➤ Frontal LE
Adrenal disorder	➤ Porphyria	➤ Neuroborriosis	➤ Pernicious Anemia (B12 def)	➤ Paraneoplastic Syndrome
➤ Hypo-	Vitamin def	➤ Neurosyphilis		Dementia
➤ Hyper	➤ B-1	➤ Herpes	➤ Addison's Disease (hypoadrenalism)	➤ NPH
➤ Pheochromocytoma	➤ B-12	➤ HIV		➤ Delirium
Parathyroid DO	Electrolyte imbalances	Sepsis		Subdural hematoma
➤ Hypo-		Malaria	➤ Grave's Disease (hyperthyroidism)	Tumor
➤ Hyper	Hypoxia	Legionnaire disease		Meningitis
Pancreatic DO	Lead toxicity	Typhoid	➤ Fibromyalgia	Encephalitis
➤ Hyperglycemia		Diphtheria	➤ PANDAS	➤ Multiple Sclerosis
➤ Hypoglycemia		Rheumatic fever		NMS
➤ Pancreatic tumor		Pneumonia		
		UTI		

Medications That can Induce Psychiatric Symptoms

Examples

Prescription drugs

- Chemotherapeutic Rx's
 - Immunosuppressants (e.g., cyclosporin [Gengraf, Neoral, Sandimmune])
 - Antiviral Rx's (e.g., interferons)
 - Antiparkinsonian Rx's
 - Cardiovascular Rx's
 - Thyroid Rx's
 - Anticholinergic Rx's
 - Corticosteroids
 - Psychostimulants
 - Sympathomimetics
 - Sedative & CNS-depressants
(e.g., barbiturates, benzodiazepines)
 - Opioids
-

Clues Suggestive of “Organic” Mental Disorders(Psychiatric disorder 2ndary to general medical condition)

● **History:**

☐ **Psychological symptoms occurring ...**

- ☐ New onset psychiatric symptoms presenting after age 40.
- ☐ During the course of a major medical illness which had impaired some organ function (e.g., neurological, endocrine, renal, hepatic, cardiac, pulmonary).
- ☐ While taking medications/illicit substance, he had psychoactive effects.

☐ **Family history of:**

- ☐ -ve for primary psychiatric illness..
- ☐ +ve for medical disease that may present with psychiatric symptoms e.g.:
 - Degenerative or inheritable neurological disorders (e.g., Alzheimer’s disease, Huntington’s disease)
 - Inheritable metabolic disorders (e.g., DM, Pernicious Anemia, Porphyria)

Clues Suggestive of Psychiatric disorder 2ndary to general medical condition

- **Clinical Exam:**

- ☐ Abnormal vital signs.

- ☐ Evidence of organ dysfunction, focal neurological deficits.

- ☐ Eye exam:

- Pupillary changes—asymmetries

- Nystagmus (often a sign of drug intoxication)

- ☐ Presence of altered states of mind, LOC, mental status changes, cognitive impairment; episodic, recurrent, cyclic course

- ☐ Presence of visual, tactile or olfactory hallucinations

- ☐ Signs of:

- Cortical dysfunction (e.g., dysphagia, apraxia, agnosia)

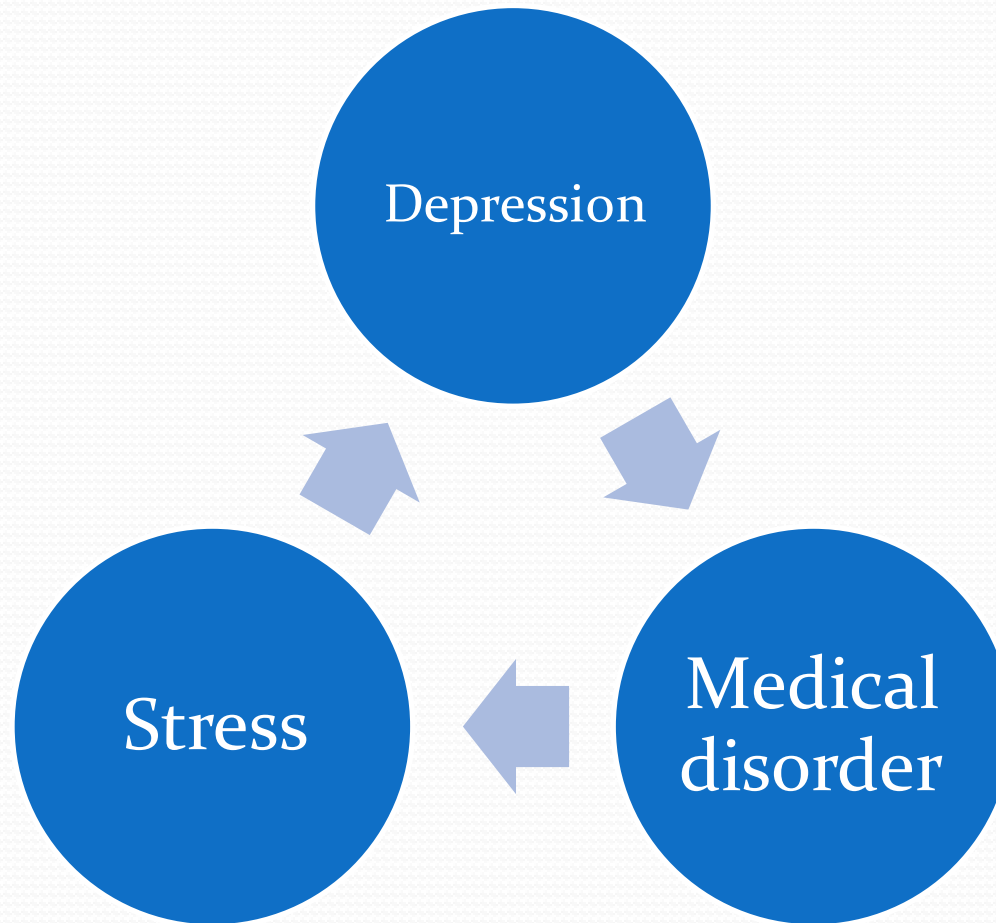
- Diffuse subcortical dysfunction

- (e.g., slowed speech/mentation/movement, ataxia, incoordination, tremor, chorea, asterexis, dysarthria)

Lab Tests For Differentiating Physical from Ψ Illness

- Hormonal levels
- CBC
- Chemistry panel
- Thyroid Function Test
- Screening test for syphilis (VDRL or RPR)
- HIV serology for high risk patients
- B12 and folate
- Urinalysis (with protein and glucose levels)
- Toxicology screening
- Urine for uroporphyrins and porphobilinogen
- Serum ceruloplasmin
- Chest X-ray
- ECG
- EEG
- CT/MRI

Depression & medical illnesses



SELECTED EPIDEMIOLOGIC STUDIES OF DEPRESSION ASSOCIATED WITH MEDICAL ILLNESS

Reference	Illness	Prevalence of depression (%)
Burvill et al. (1995)	Cerebrovascular accident	23
Robinson et al. (1984)	Cerebrovascular accident	27 (Major depression) 20 (Minor depression)
Sano et al. (1989)	Parkinson disease	51
Greenwald et al. (1989)	Alzheimer disease	11
Schleifer et al. (1989)	Myocardial infarction	18 (Major depression) 27 (Minor depression)
Frasure-Smith et al. (1993)	Myocardial infarction	16
Hance et al. (1989)	Coronary artery disease (CAD)	17

Depression plus Medically illness

Is it serious?

- ❑ Poor outcomes of the medical illness
- ❑ Increased mortality in cardiovascular disease, stroke, diabetes, and ?cancer
- ❑ Chronic medical conditions and depression are interrelated and that treatment of one condition can affect the outcomes for the other.
- ❑ Worse adherence to medical regimens, tobacco smoking, sedentary lifestyle, and overeating.
- ❑ Increased functional disability, decreased self-care.
- ❑ Four to five times greater levels of morbidity, premature mortality, health services use and health care expenditures compared to non- depressed patients with no GMC.

*Lin EH. Et al. *Gen Hosp Psychiatry*. 2006;28:482-486

Pathophysiology :Relation BT depression & medical illnesses

- There are multiple physiological responses to stress:
 - ❖ hyperactivity of the hypothalamic- pituitary- adrenal (HPA) axis.
 - ❖ immune activation with release of proinflammatory cytokines.
 - ❖ activation of the sympathetic nervous system.

Signs of Depression IN MEDICALLY ILL

isolation
depressed mood
insomnia
weight loss
crying
guilt feelings
poor or increased appetite
Sad appearance
less communication
poor concentration
death wishes

loss of follow up and
treatment
No healthy life style
Poor social
communication
Restlessness
Loss of productivity

DIFFERENTIAL DIAGNOSIS

- 1) Mood disorder due to a general medical condition, with depressive features.
- 2) Substance-induced mood disorder, iatrogenic versus other substances, with depressive features.
- 3) Bipolar I/II disorder, most recent episode depressed.
- 4) Major depressive episode(uni polar).
- 5) Dysthymic disorder.
- 6) Adjustment disorder with depressed mood (common in medical setting).



Examples of Depression in medically ill patients

EPIDEMIOLOGY (depression & coronary heart disease)

Depression has repeatedly been found to predict :

- ✚ early-onset CHD.
- ✚ post-MI mortality (1.5- 5.07 times risk), esp. severe and chronic types.
e.g. (HAM-Depression) scale score in first 2 weeks post CHD event predict 7 years mortality risk.
- ✚ increased CHD symptoms(chest pain, fatigue).
- ✚ noncompliance on exercise/medication/smoking .

Glassman AH , et al ,Psychiatric characteristics associated with long-term mortality among 361 patients having an acute coronary syndrome and major depression: seven-year follow-up of SADHART participants, Arch Gen Psychiatry, Sep 2009

Keteyian SJ. Cardiovascular symptoms in coronary-artery disease patients are strongly correlated with emotional distress.] Psychosomatics,2008

Pathophysiology (depression & CHD)

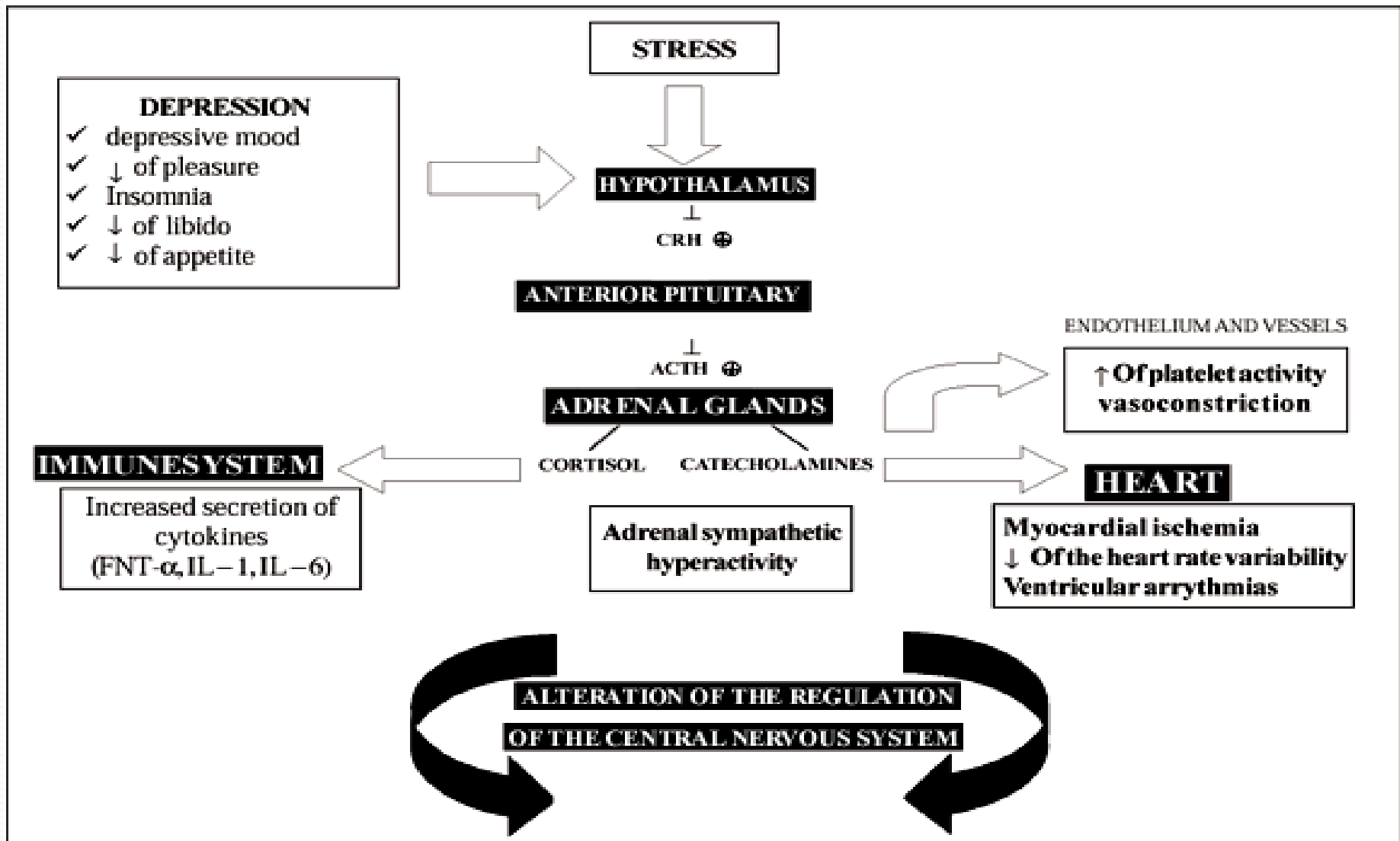


Fig. 1 – Relation between major depression and cardiovascular disease

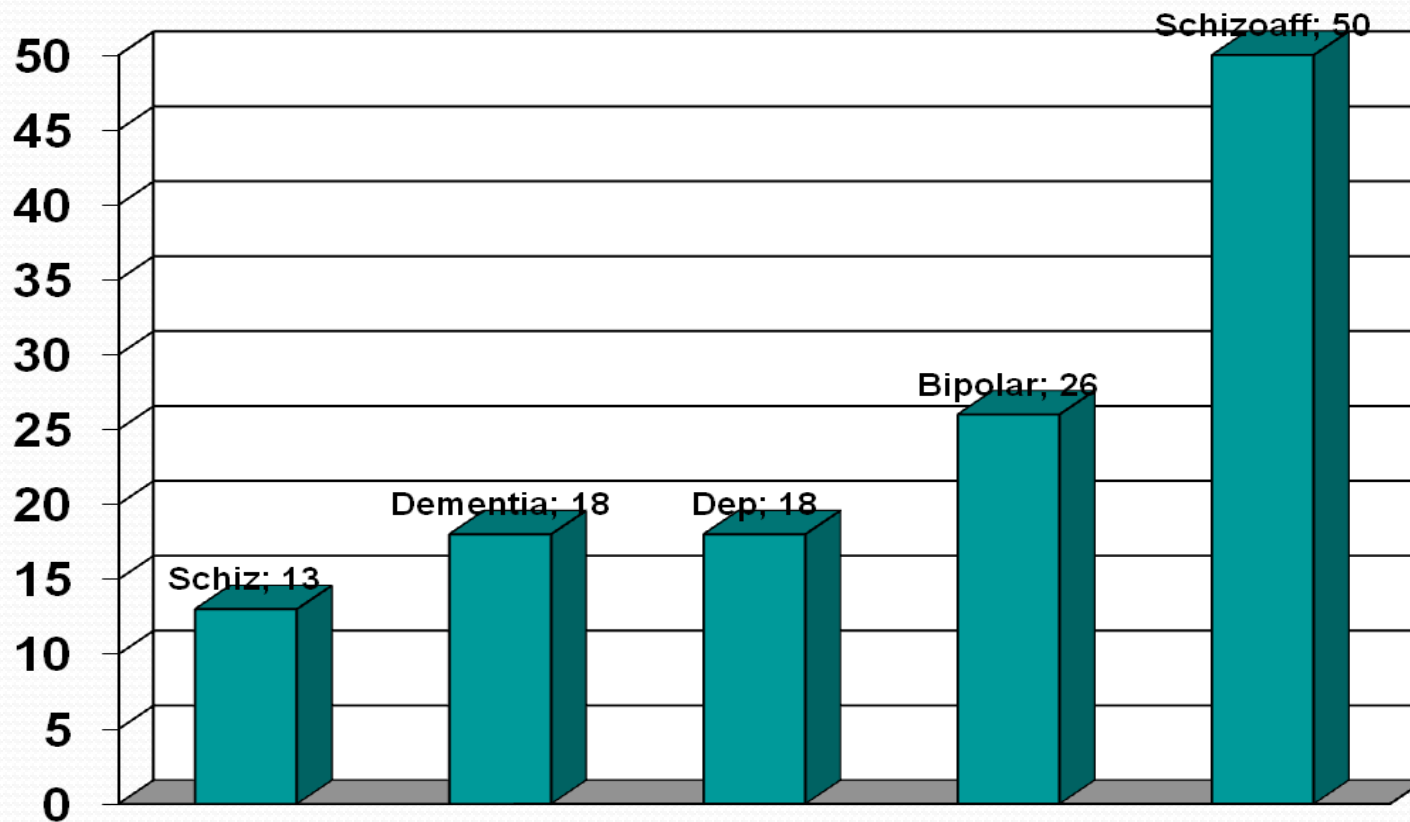
Pathophysiology (Behavioural)

- +Physical inactivity.
- +Smoking.
- +High carbohydrate & high fat diet.
- +Poor adherence to medications.
- +Social isolation.

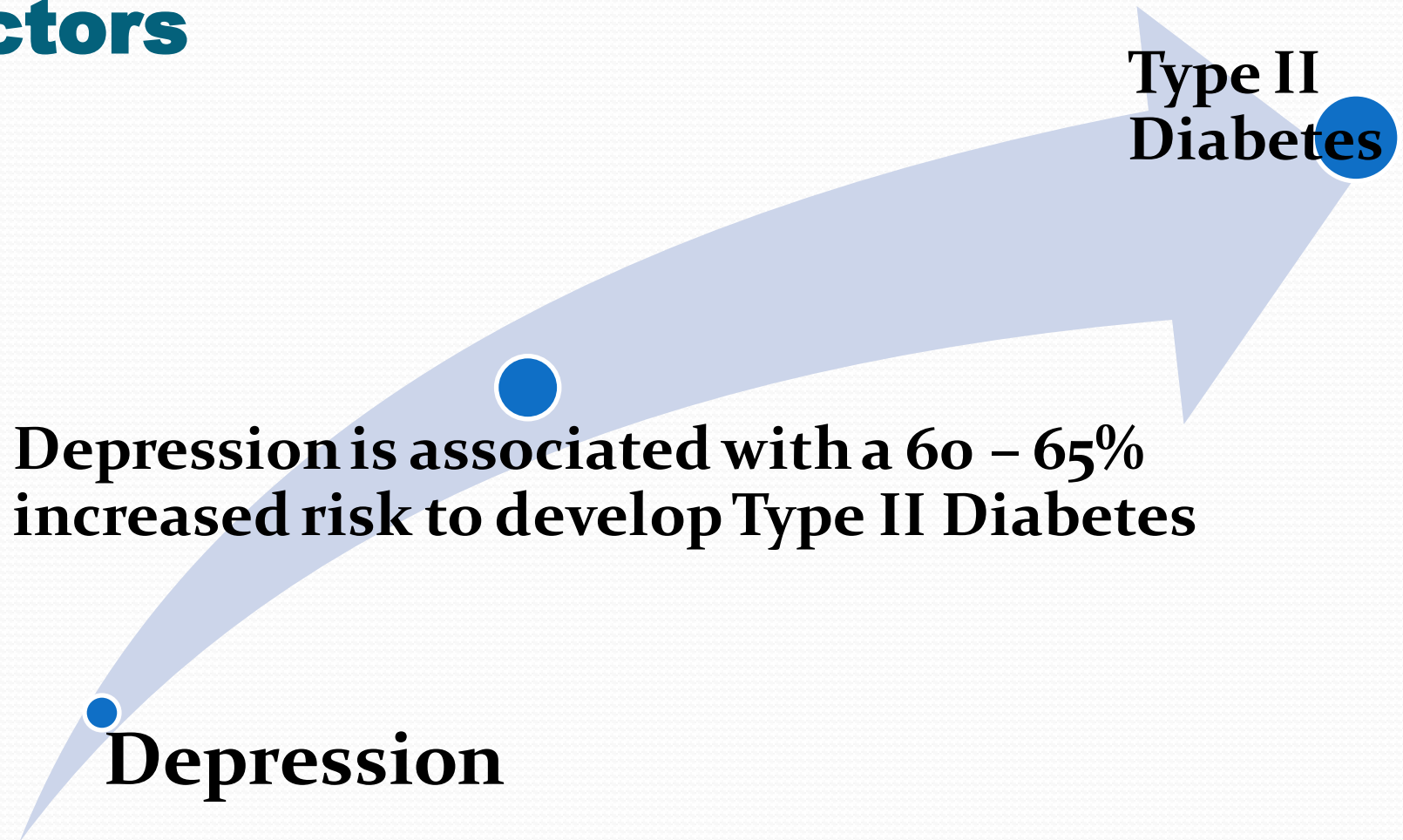


Depression & diabetes

Prevalence of Diabetes among patients with major psychiatric disorders

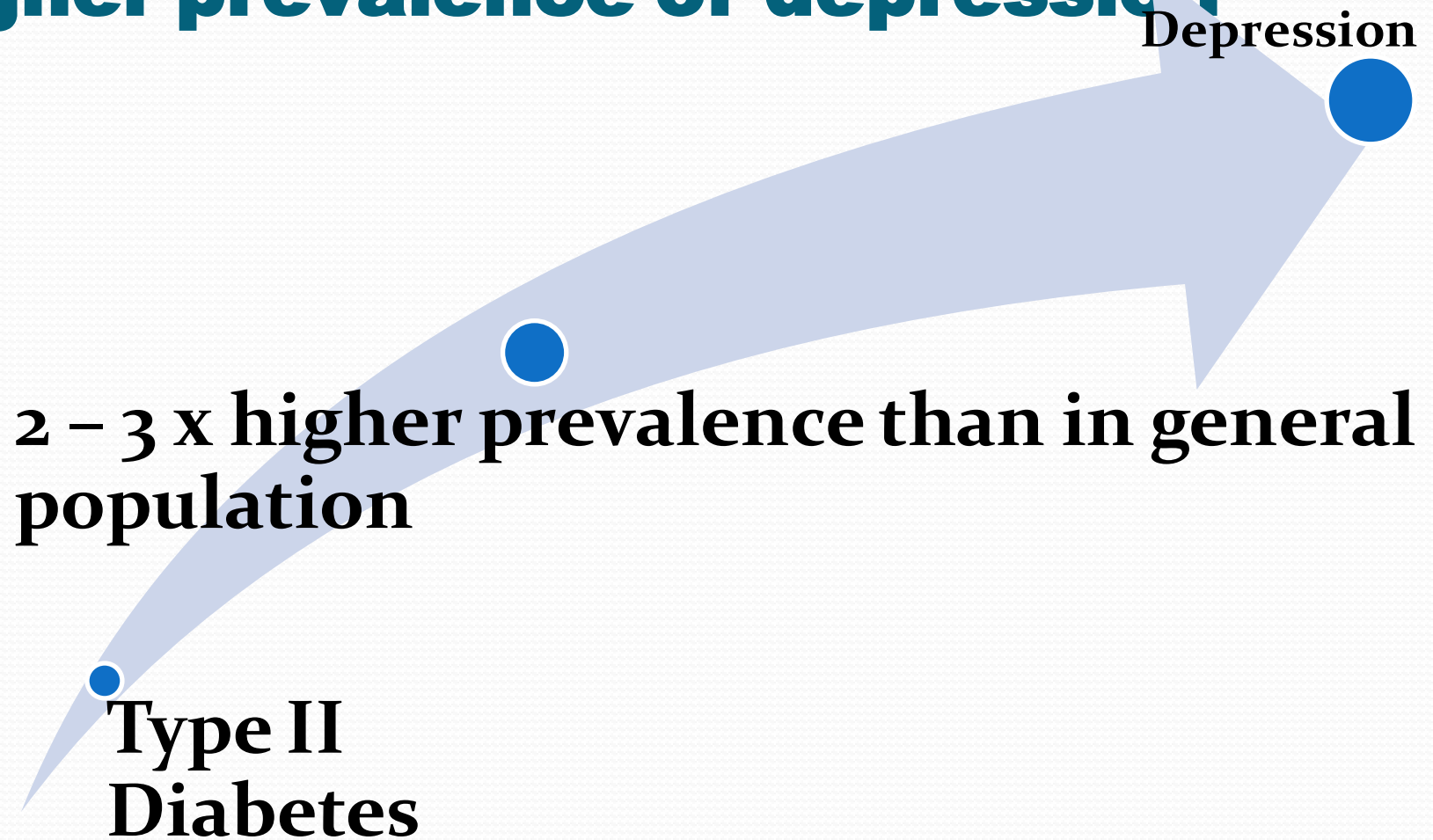


Bi-directional Relationship: Independent of multiple confounding factors



(Campayo et al. 2010; Mezuk et al. 2008; Musselman et al. 2003)

Type II Diabetes is associated with higher prevalence of depression



Summary (Depression in medically ill)

- ❑ Historically, depression in the medically ill was often considered a natural and expected response to medical illness.
- ❑ Treatment of depression was often considered secondary to treatment of the medical illness, if the depression was even treated at all.
- ❑ Today, this perspective can no longer be accepted.
- ❑ Depression is a systemic disease.
- ❑ The effect of depression on the course of medical illness is multifaceted because there are systemic pathophysiologic implications, as well as psychological and behavioral ramifications.

Summary (Depression in medically ill)

- ❑ The accurate diagnosis and appropriate treatment of depression in the medically ill improves quality of life, enhances the patient's ability to be actively engaged in his or her treatment, decreases symptom quantity and severity, and decreases cost utilization.
- ❑ Most important, it decreases morbidity and mortality.

Four important messages ABOUT MEDS in ESRD


- ❑ Most **psychotropic** medications are **fat soluble**, easily pass the blood-brain barrier, are not dialyzable, are **metabolized** primarily by the **liver**, and are excreted mainly in bile.
 - ❑ The majority of these drugs can be **safely used** with the ESRD populations.
 - ❑ Dosing often involves trial and error. The majority of patients with ESRD both tolerate and require **ordinary doses** of most psychotropic medications.
 - ❑ Toxicity is usually obvious, and we would **caution** more **against undermedicating** patients than against overmedication.
- ❑ Cohen LM. Update on psychotropic medication use in renal disease. Psychosomatics. 2004

Summary of psychopharmacology for patients with liver disease

- To guide pharmacotherapy in liver disease, use Childs-Pugh scores with closer monitoring to help to increase safety and tolerability.
- When choosing psychotropic agents for patients with liver disease, consider the following:
 - ▣ **Drug interactions**
 - e.g : NSAIDs + SSRI for GI bleed
 - ▣ **Medical Disease**
 - E.g : Severity of liver disease, protein binding
 - ▣ **Age** : e.g. : Decreased risk hepatotoxicity in adults
 - ▣ **Drug profile**
 - E.g.: Hepatotoxicity, hyperammonemia
 - ▣ **Hepatic modifications**
 - E.g: Bupropion vs. citalopram

Case Development 4

- Elaborating more in his past history, His wife reported that when she was pregnant with her last child 27 years ago, she has needed to get help of psychiatry -because of sadness, crying, anxiety and disturbed sleeping.
- Also, after delivery, she became behaviorally disturbed plus hearing voices asking her to kill her child.

- 
- Analyze the symptoms (presented and expected) in this case and signs, including mood, thoughts, cognition, perception and physical aspects
 - Discuss other elements related to the case includes possible etiological reasons
 - Discuss the initial possible diagnosis of this case and different types of such clinical presentation



Perinatal psychiatry

CONSEQUENCES OF DEPRESSION IN PREGNANCY


Mother	Baby
<ul style="list-style-type: none">❑ Suicide❑ unhealthy practices e.g. smoking❑ Poor nutrition❑ Less compliant with prenatal care❑ Increased pain ,nausea, stomach pain, SOB, GI symptoms..etc	<ul style="list-style-type: none">❑ low birth weight, smaller head circumferences, premature delivery, etc❑ poor mother-infant attachment, delayed cognitive and linguistic skills, impaired emotional development, and behavioral issues❑ emotional instability and conduct disorders, attempt suicide, and require mental health services

Depression in pregnant Women

- ❑ 10% to 16% of pregnant women fulfill the diagnostic criteria for MDD, and even more women experience subsyndromal depressive symptoms
- ❑ Many of depressive symptoms overlap with the physical and mental changes experienced during pregnancy

The American Psychiatric Association and the American College of Obstetricians and Gynecologists 2009 Report

- ❑ True association between maternal SSRI use and *reduced infant birth weight*
- ❑ Longer exposures are more likely to *decrease gestational age*
- ❑ NO association between TCA use in pregnancy and structural malformations
- ❑ *SSRIs*: exposure show NO consistent information to support specific morphological teratogenic risks.

- 
- ❑ Presumed associations between antidepressants and malformations may be complicated by poly-drug interactions
 - ❑ Bupropion, venlafaxine, duloxetine, nefazodone, and mirtazepine: NO statistically significant difference or higher than expected rate of congenital anomalies
 - ❑ ECT has long been regarded as a safe and effective treatment for severe depression, life threatening depression, or failure to response to antidepressant drugs

Treatment of mania & psychosis during pregnancy

- Typical antipsychotics esp. high potent considered as relatively safe compared to other medications.
- Atypical antipsychotics: no major malformations were found. However, limited data so far, Metabolic syndrome is more with olanzapine and clozapine.
- Lithium is considered first line mood stabilizer during pregnancy despite rare cardiac anomaly.
- Lamotrigine is the safest anticonvulsants mood stabilizers.
- Avoid valproate & carbamazepine in child bearing women and pregnancy

Why to avoid Valproate in child bearing women and pregnancy?

- Neural tube defects secondary to interference with folate metabolism with first trimester exposure
 - Risk = 7-16%
- Craniofacial defects: mid-face hypoplasia, short nose with anteverted nostrils, and long upper lip
- Hypoglycemia, hepatic dysfunction, fingernail hypoplasia, cardiac defects, cleft palate, hypospadias, polydactyly
- Neonatal toxicity possible
- Significantly lower mean IQ and verbal IQ

NONPHARMACOLOGIC TREATMENTS

- ❑ Psychotherapy: is considered to be an *evidence-based treatment* of mood disorders
- ❑ Mild depression: *interpersonal psychotherapy (IPT)* or *cognitive behavioral therapy (CBT)*, both having solid evidence-based outcomes data for the treatment of depression.
- ❑ Couples counseling

POSTPARTUM DEPRESSION

- ❑ 10% to 20% of women who give birth
- ❑ *Undetected and commonly underdiagnosed*
- ❑ Continuum of Affective Symptoms
“baby blues” postpartum psychosis

TREATMENT OF POSTPARTUM DEPRESSION

- ❑ SSRIs are medications prescribed most commonly but other agents should be considered
- ❑ ?More positive response to SSRIs and Venlafaxine, than to TCAs
- ❑ Pharmacotherapy should continue for at least 6 months to prevent a relapse of symptoms
- ❑ Breastfeeding: All antidepressants are secreted to some degree into the breast milk!
- ❑ *Paroxetine and sertraline*: Infant serum levels are low to undetectable

- ❑ Fluoxetine : higher rate of secretion into breast milk, long half-lives of metabolites, they can accumulate in an infant's blood, reaching detectable levels
- * NOT considered the first-line SSRI for breastfeeding women
- ❑ Mirtazapine: no negative effects on infants with maternal use*
- ❑ Research on long-term effects of SSRI and TCA exposure through breast milk on children shows NO alteration in IQ, language development, or behavior**
- ❑ IPT and CBT are effective.

*Kristensen JH. et al. Br J Clin Pharmacol 2007;63:322


**Hale TW. Neo Reviews 2004;5:E451

Postpartum Psychosis

- Rare: 1 in 500-1000 deliveries.
- Typically presents within 2 weeks of delivery.
- Often is a manifestation of bipolar disorder.
- Signs/symptoms: Severe insomnia, Rapid mood swings, Anxiety, Psychomotor restlessness, Delusions (childbirth themes) ,hallucinations, cognitive disturbance, neglecting the infant.
- Assess for suicidal, homicidal/ infanticidal ideations.
- Treatment: mostly similar to Tx of bipolar disorder, consider ECT.

Case Development 4

- At that time (27 years ago), our patient (Abdullah) started to complain of multiple pains in his body associated with headache and dizziness.
- He spent his saving for medical checkup for years with no conclusive results till he was met his psychiatrist and he started to improve.

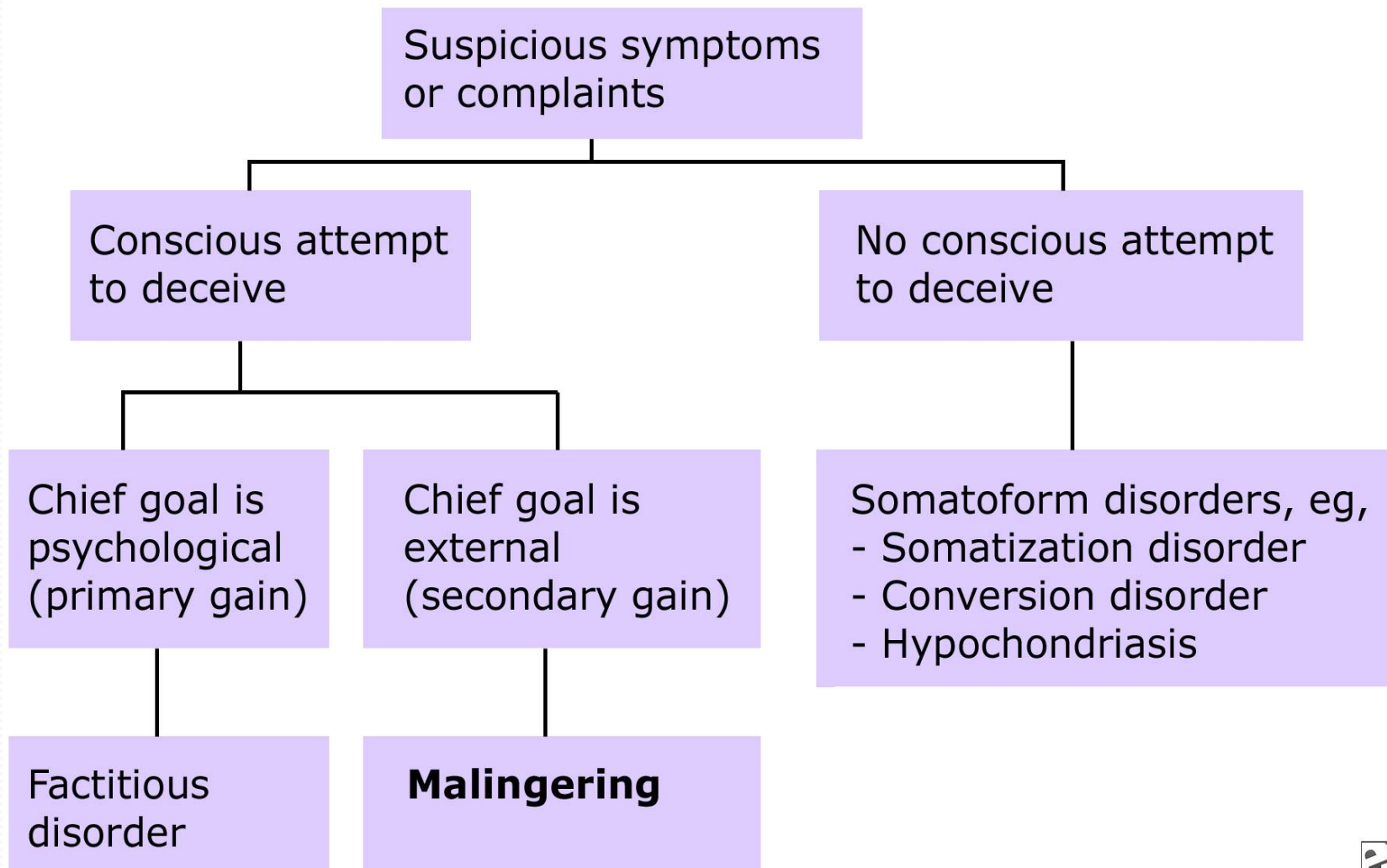
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Somatoform disorders

Medically unexplained symptoms

Flow Chart for Suspicious Symptoms



Somatoform Disorders

Three enduring clinical features:

- Somatic complaints that suggest major medical problems.
- Psychological factors and conflicts that seem important.
- Symptoms or magnified health concerns that are NOT under the patient's conscious control.

I

Not exp

Organic cause?
Substance abuse?
Other psychiatric dis.?

II

Neurological symptom



conversion

III

Pain predominant



Pain disorder

IV

Too busy with disease



Hypochondriasi

V

Many symptoms



Somatization dis.

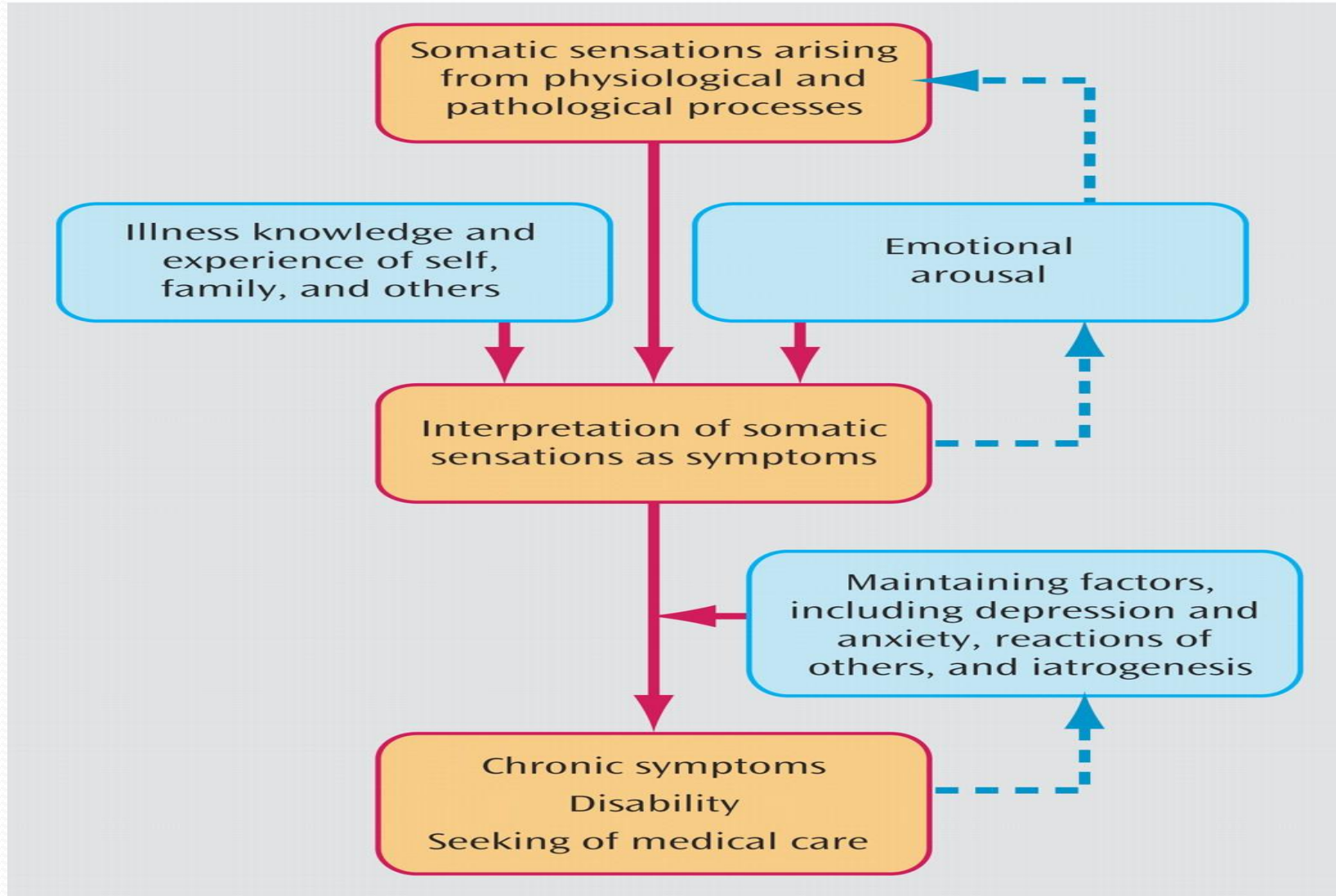
VI

Intentional symptoms



Factitious / Malingering

Etiology of somatoform D



Management of somatoform disorders

Do	AVOID
<ul style="list-style-type: none">▪ Allow patient role▪ Concentrate on functions▪ Frequent, short visits▪ Single doctor▪ Group therapy▪ May individual Tx▪ Drug treatment for psych co-morbidity.▪ SSRIs, high doses for Hypochondraisis and BDD	<ul style="list-style-type: none">▪ Concentrating on Symptoms.▪ Say (It's just in your mind, take it easy..)▪ Tests or Rx without Dx▪ Unnecessary Referrals / consults.

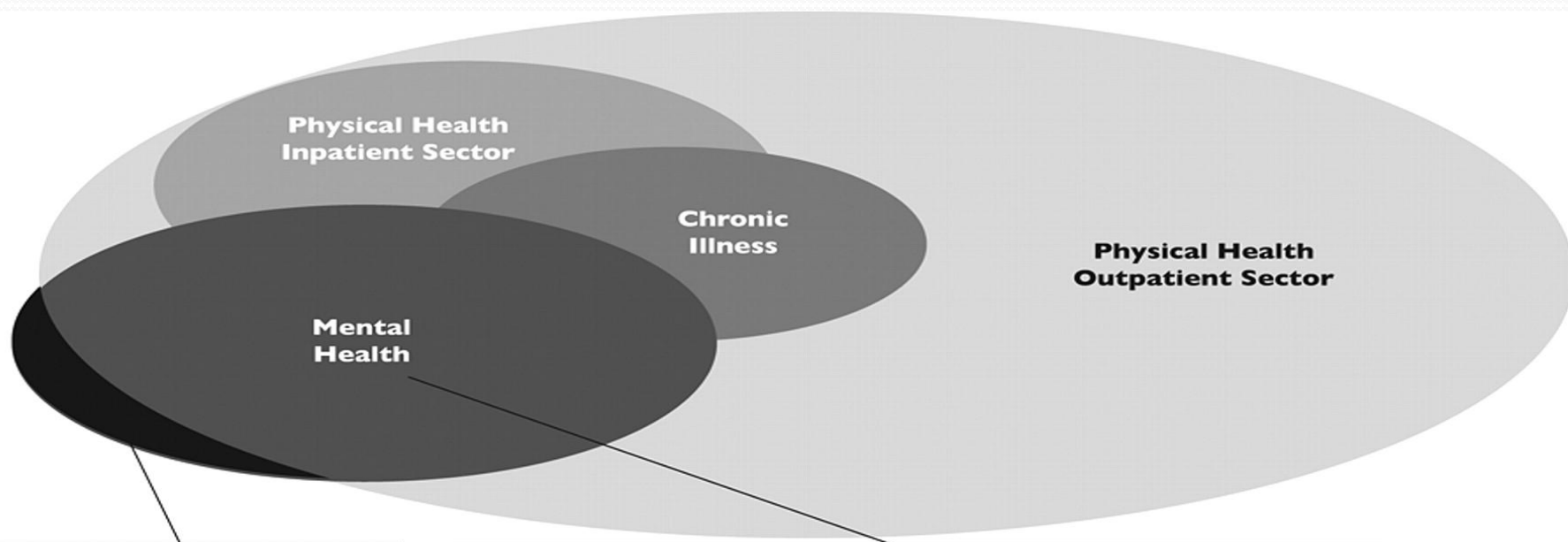
HE SAID IT WAS
PSYCHOSOMATIC, SO
I GAVE HIM AN
IMAGINARY CHECK.

J. Gromp
M. D.



Baloo

Future of Psychiatry



Mental Health Sector

- ~10% of mental health patients
- ~98% of mental health budget
- Mental health budget is only 2% to 4% of total health budget, excluding pharmacy
- Evidence-based treatment ~50%

Mental Health Treatment in the Physical Health Sector

- ~90% of mental health patients
- ~2% of mental health budget
- ~0% actually receive any mental health treatment
- 20% to 40% of total health budget is used for *physical health* services in mental health patients (80% of health services used by mental health patients)
- Evidence-based treatment ~10% (in only 30% treated)



Thank you