

# **DEPRESSION and HYPERTENSION**

By

**SOLIMAN GHAREEB MD.**

**Professor of cardiovascular medicine Cairo university**

## **Agenda**

- **assessment OF Depression**
- **Cardiovascular disease (CVD) and depression**
- **DEPRESSION AND HYPERTENSION**
- **DEPRESSION AND pulmonary HYPERTENSION**
- **NICE GUIDE LINE**
- **TAKE HOME MESSAGE**

## Depression assessment

done by psychiatric specialist Using

- Hamilton Depression Rating Scale (HAM-D) (Hamilton, 1959)
- a validated depression scale
- DMS 5

*The Hamilton rating scale*  
*For*  
*depression*

**1. DEPRESSED MOOD** (Sadness, hopeless, helpless, worthless)  
**0**= Absent  
**1**= These feeling states indicated only on questioning  
**2**= These feeling states spontaneously reported verbally  
**3**= Communicates feeling states non-verbally—i.e., through facial expression, posture, voice, and tendency to weep  
**4**= Patient reports VIRTUALLY ONLY these feeling states in his spontaneous verbal and non-verbal communication

**2.** ~~FEELINGS OF GUILT~~

**3.**

**4.**

**5.**

**6.**

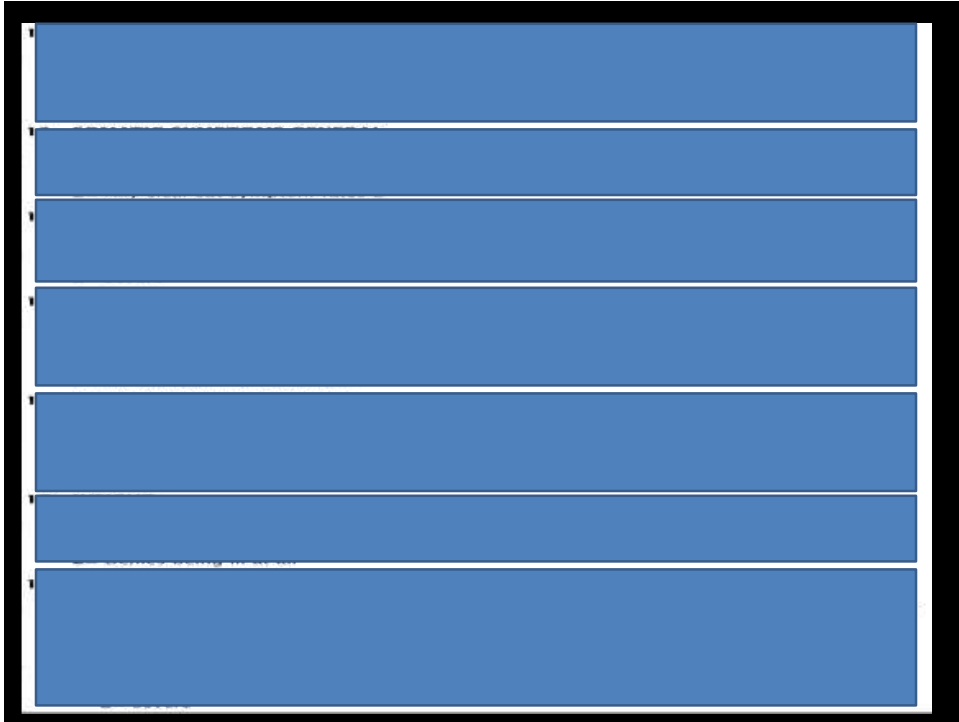
**7.**

**8.**

**9.**

**10.**

**11.**



- 
- 
- 
- 
- 
- 
- 

**no Arabic version of the questionnaires is available**

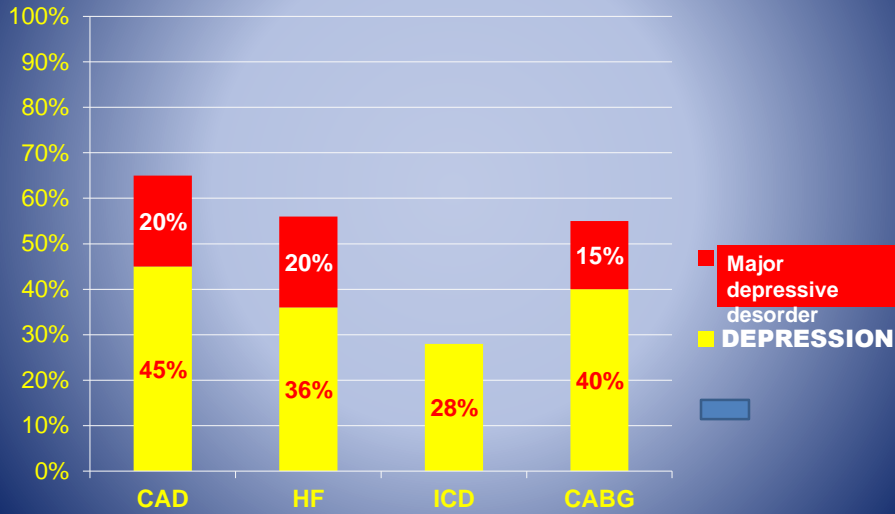
## Sum scores from the first 18 items.

- **0-7= Normal**
- **8-13= Mild depression**
- **14-18= Moderate depression**
- **19-22= Severe depression**
- **>23= very severe depression.**

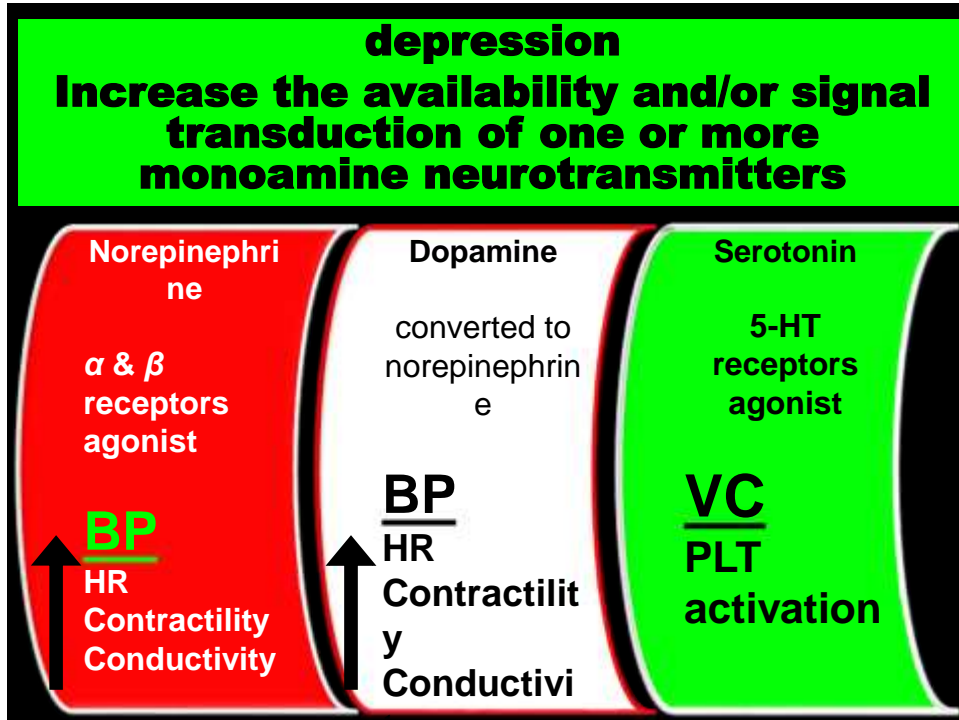
## **Cardiovascular disease (CVD) and depression**

- I. Persons with depression are more likely to eventually develop CVD and also have a higher mortality rate than general population.**
- II. There is a graded relationship; the more severe the depression, the higher the subsequent risk of mortality and the cardiovascular events ( *Jhansson et al,2013* ).**
- III. preventing and managing depression is important for cardiac patients who fulfill criteria for major depressive disorders . This require sensitive detection, accurate diagnosis, and careful management.**

## Prevalence of Depression in Cardiac Patients



# DEPRESSION AND HYPERTENSION



# Hypertension

Alberto Francisco Rubio-Guerra PhD FACP, Leticia Rodriguez-Lopez MD, German Vargas-Ayala MD, Saul Huerta-Ramirez MC, David Castro Serna MD, Jose Juan Lozano-Nuevo PhD

Exp Clin Cardiol Vol 18 No 1 **2013**

**Because hypertension and depression share common pathways, it is possible that each disease has an impact on the natural history of the other.**

## To determinate whether depression influences blood pressure control in hypertensive patients

- 40 hypertensive patients undergoing antihypertensive treatment, excluding beta-blockers and central-acting agents,
- their blood pressure several times a day for three days using a validated, commercially available device.
- All patients also completed the Zung Self-rating Depression Scale survey for depression.
- Associations between the results of the blood pressure and depression tests were

## RESULTS

- Of the 40 patients, 23 were depressed,
- and 21 of these 23 had poor control of their blood pressure.
- A significant correlation between systolic
- ( $r=0.713$ ) and diastolic ( $r=0.52$ ) blood pressure values and depression was found.

### CONCLUSION:

- Depression is common in patients with uncontrolled hypertension
- it may interfere with blood pressure control.
- Screening for depression in hypertensive patients is a simple and cost-effective tool that may improve outcomes.



**Depression Is Associated With  
Decreased Blood Pressure,  
but  
Antidepressant Use Increases the  
Risk for Hypertension**  
*Hypertension April 2009*

- study compared blood pressure levels between subjects with clinical anxiety and depressive disorders with healthy controls
- Participants were classified as
- controls (N590)
- or currently depressed or anxious subjects (N2028), of which 1384 were not and 644 were using antidepressants
- stage 1
- Users of noradrenergic and serotonergic working antidepressants were more likely to have hypertension stage 1.

- Higher mean diastolic blood pressure was found among the current anxious subjects (  $P=0.03$ ),
- although anxiety was not significantly related to hypertension risk. Remitted and current depressed subjects had a lower
- mean systolic blood pressure (1.74,  $P=0.04$  and
- and were significantly less likely to have isolated systolic hypertension than controls.
- Users of tricyclic antidepressants had higher mean systolic and diastolic blood pressures and were more likely to have hypertension

Effect of anxiety and depression on blood pressure:  
11-year longitudinal population study

British Journal of Psychiatry Jul 2008, 193 (2) 108-

- Data on 36 530 men and women
- aged 20–78 years participating in the Nord-Trøndelag Health Study (HUNT) in Norway
- in 1984–86 were re-examined 11 years later.

# Results

## A high symptom level of anxiety and depression at baseline predicted:

1. There was low systolic blood pressure) at follow-up
2. Change in symptom level of anxiety and depression between baseline and follow-up was inversely associated with change in systolic blood pressure.
3. For diastolic blood pressure, the findings were weaker or non-significant

## **30% of Pulmonary Hypertension Patients Experience Depression or Anxiety, JANUARY 25, 2018**

### Study Shows

- 77 % of the patients were women.
- their disease was PAH Class II or III according to the New York Heart Association
- Thirty percent reported symptoms of depression or anxiety.
- Sixteen percent reported symptoms of major depression
- and 9 percent symptoms of other depressive disorders.
- 8 percent Symptoms of panic disorder
- 4 percent symptoms of other anxiety disorders.

- percentage of patients with a major depressive disorder was higher than in the general population
- they wrote. “When applicable, PAH clinicians [doctors] should refer patients to a mental health professional, with ongoing evaluation of clinical outcomes.”

## **Conclusions of the study**

- Symptoms of anxiety and depression predicted lower blood pressure 11 years later.
- Whether symptoms of anxiety and depression contribute to the development of hypertension has been addressed in several studies, but with inconclusive results. A few studies using change in mean blood pressure as outcome found mostly no effect.

**Relationship Between Blood Pressure Values, Depressive Symptoms, and Cardiovascular Outcomes in Patients With Cardiometabolic Disease**

The Journal of Clinical Hypertension Vol 18 | No 10 | October 2016

- SBP and depressive symptoms at baseline were independent predictors of a MACE at 4 years in patients with existing cardiometabolic disease, while DBP at baseline did not have a significant effect

**The Association between Hypertension, and Depression and Anxiety Disorders: Results from a Nationally-Representative Sample of South African Adults**

May 2009 | Volume 4 | Issue 5 | e5552

- Data come from a nationally-representative survey of adults (n = 4351)
- There is a high prevalence of hypertension and mental health disorders in South Africa.

- Data come from a nationally-representative survey of adults  
(n = 4351)
- The Composite International Diagnostic Interview was used to measure DSM-IV mental disorders during the previous 12-months.
- depressive disorders and comorbid anxiety-depression were assessed including experience of trauma and other chronic physical conditions
  - 16.7% reported a previous medical diagnosis of hypertension,
  - 8.1% and 4.9% were found to have a 12-month anxiety or depressive disorder, respectively.
- **As a conclusion of the research :**  
There is a high prevalence of hypertension and

### **The relationship between hypertension and anxiety or depression in Hong Kong Chinese**

Exp Clin Cardiol Vol 10 No 1 2005

- Our study of individuals randomly selected from the community and patients from a hypertensive clinic
- we conclude that hypertension is associated with anxiety but not depression

**30% of Pulmonary Hypertension  
Patients Experience Depression  
or Anxiety, Study Shows**  
JANUARY 25, 2018

- 77 % of the patients were women.
- their disease was PAH Class II or III according to the New York Heart Association
- 30% reported symptoms of depression or anxiety.
- 16% reported symptoms of major depression
- 9% symptoms of other depressive disorders.
- 8 % Symptoms of panic disorder
- 4 % svmptoms of other anxietv

- The study showed that the percentage of patients with a major depressive disorder was higher than in the general population
- they wrote. “When applicable, PAH clinicians [doctors] should refer patients to a mental health professional, with ongoing evaluation of clinical outcomes.”

## **NICE guideline2018**

- I. consider treating the anxiety disorder first
- II. people with mild depression do not need an intervention
- III. Sleep hygiene : establishing regular sleep and wake times , avoiding excess eating



## Take home message

- Depression is extremely common in patients with Cardiovascular Disease with up 47% and pulmonary hypertension
- Depression is associated with increased risk of morbidity and mortality
- Arabic version of the questionnaires is mandatory
- Pharmacologic and psychotherapeutic interventions appear to be safe and could be effective in reducing depressive symptoms in patients with cardiac disease
- The impact on cardiac outcomes remains unclear
- There is obvious need for large-scale safety and efficacy trials in this field



# Thank You