



Adherence and Mental Health

Kristin S. Vickers Douglas, Ph.D., ABPP, L.P.

Professor of Psychology
Mayo Clinic Department of Psychiatry and Psychology

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Nonadherence and Heart Failure

- Poor adherence to prescribed medication increases mortality and morbidity risk in patients with HF.
- Number of hospitalizations reported in nonadherent patients was >2.5 times higher than that among adherent patients.
- Lower medication adherence was significantly associated with an increased number of cardiovascular-related emergency department visits.
- Mortality rate in nonadherent patients was twice that of adherent patients at 72-month follow-up.
- Patients who did not take their medication on time were more likely to have an exacerbation of HF.

Wu et al., 2008, 2013



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Consequences of Depression for Medical Patients with Chronic Disease

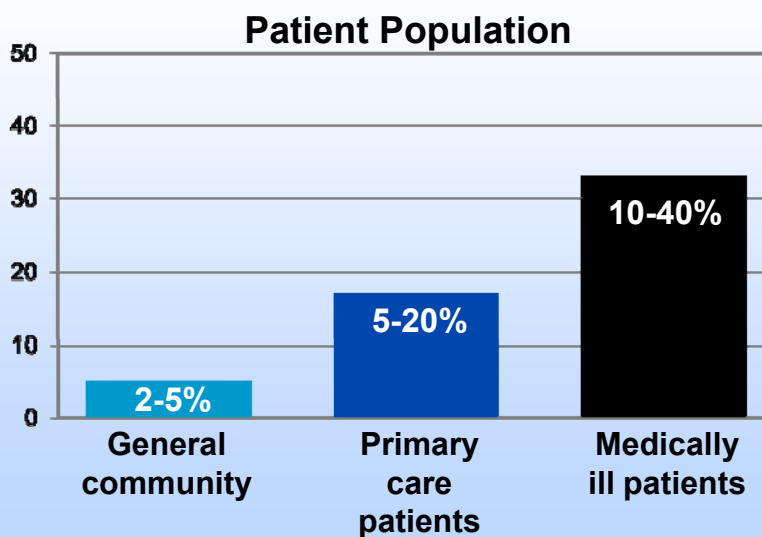
Depression is associated with:

- High medical care utilization
- Increased somatic symptoms and disability
- Less self-care
- Increased morbidity and mortality
- Poorer adherence to medical regimens



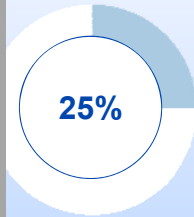
Katon & Sullivan. *J Clin Psychiatry*. 1990 Jun;51

Rates of Depression Higher in Patients with Medical Conditions

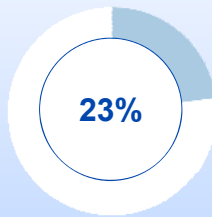


Rates of Depression in Patients with Chronic Disease

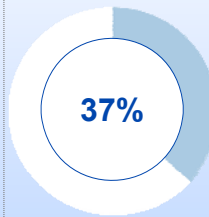
Patients with severe COPD
(van Manen et al. 2002)



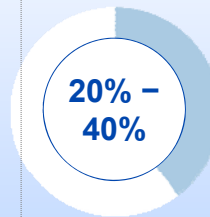
Hospitalized patients with CAD
(Gonzalez et al. 1996)



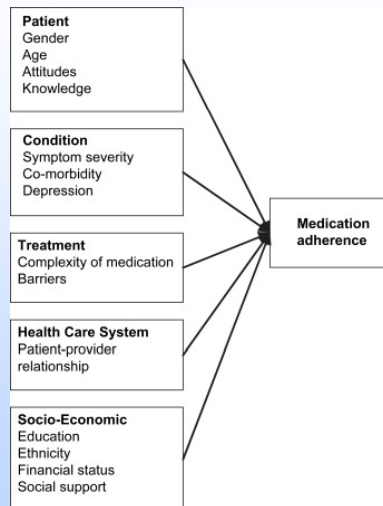
Hospitalized patients with CHF
(Koenig et al., 1998)



Patients with diabetes
(Anderson et al., 2001)



World Health Organization's multidimensional adherence model (MAM)



<http://dx.doi.org/10.1016/j.cardfail.2008.02.011>



Impact on Health Behavior

- Depressed medical patients
 - Less use of relapse prevention behavior
 - Less use of goal setting
 - Less use of problem-solving
 - Lower self-efficacy for health behavior
 - More cigarette smoking
 - Less exercise
 - Less positive expectations for exercise



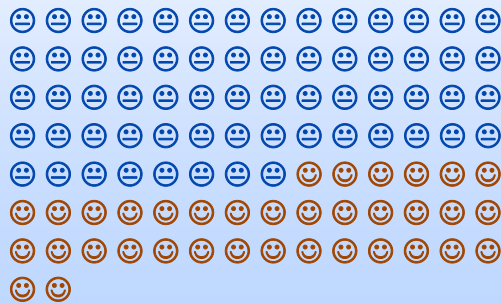
Vickers et al., 2006; *American Journal of Health Behavior*

Depression and Non-Compliance with Medical Treatment

Results of meta-analytic study

- Depressed are **3x** more likely noncompliant

Among 100 noncompliant patients (on average):



64 can be expected to be depressed

36 can be expected to be non-depressed



DiMatteo MR et al. "Depression is a risk factor for noncompliance with medical treatment." *Arch Intern Med.* 2000;160:210.

Which of These Symptoms of Depression Could Make Adherence Difficult?

- Sad, down, depressed mood
- Hopelessness, pessimism
- Feelings of guilt, worthlessness, helplessness
- Loss of interest or pleasure
- Decreased energy
- Difficulty concentrating, remembering, making decisions
- Sleep problems
- Appetite and/or weight changes
- Thoughts of death or suicide
- Restlessness, irritability



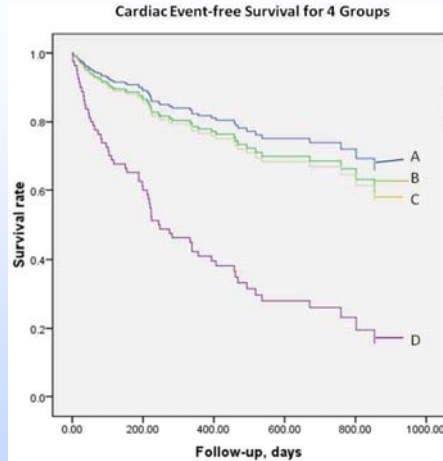
How Does Depression Impact Adherence?

- Greater feelings of hopelessness
- Socially isolated
- Cognitive impairment affects memory and decision-making
- Lack of energy to carry out treatment recommendations



Wing RR, Phelan S, Tate D. "The role of adherence in mediating the relationship between depression and health outcomes." *J Psychosom Res.* 2002 Oct;53(4):877-81.

Medication Adherence, Depressive Symptoms, and Cardiac Event-Free Survival in Patients with Heart Failure



A: Medication adherent without depressive symptoms

B: Medication adherent with depressive symptoms

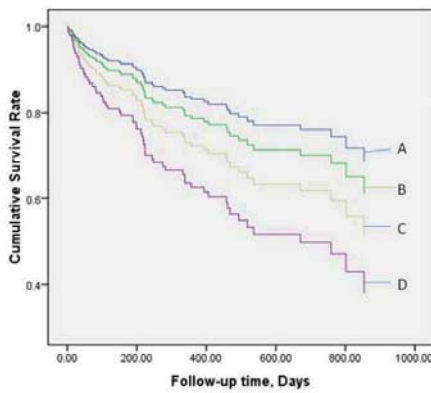
C: Medication nonadherent without depressive symptoms

D: Medication nonadherent with depressive symptoms

Wu et al. J Card Fail. 2013 May; 19(5): 317–324.
doi: [10.1016/j.cardfail.2013.03.010](https://doi.org/10.1016/j.cardfail.2013.03.010)



Cardiac event-free survival for 4 groups



A: Medication adherent with higher perceived social support (n = 70)

B: Medication adherent with lower perceived social support (n = 58)

C: Medication nonadherent with higher perceived social support (n = 40)

D: Medication nonadherent with lower perceived social support (n = 50)

Wu et al. (2013). Medication Adherence, Social Support, and Event-Free Survival in Patients with Heart Failure.



Case Example

- Married, retired lawyer, 70's, very bright
- Congestive heart failure, history of heart attack and cardiac surgery, type 2 diabetes, diminished kidney function
- Numerous medications
- Many previous hospitalizations and ED visits
- Cardiologist referred patient to pulmonologist for sleep test
- Patient left visit with pulmonologist **confused and upset**
- Frustration and **nonadherence** with recommended CPAP treatment



Selected References

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