

DEPRESSION IN PATIENTS UNDERGOING DIALYSIS

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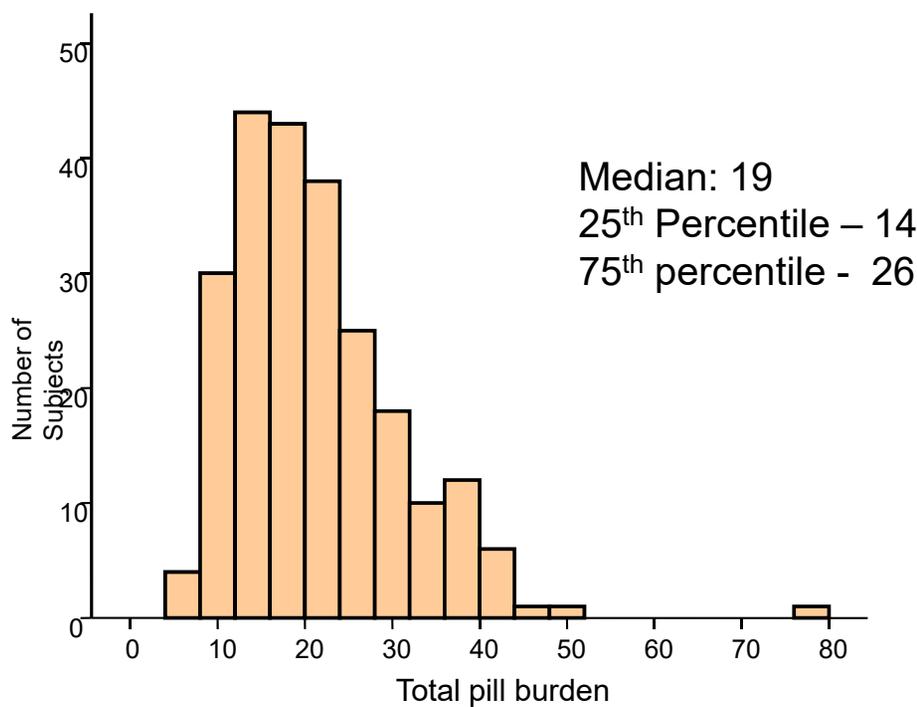
The Plate of People with Kidney Failure is Full

- Most people have other health problems such as diabetes, high blood pressure, heart problems:
 - Many legally blind or with amputation or functionally dependent
- They are admitted to the hospital about twice every year, and on average spend 12 days every year in a hospital
 - 30% of people on dialysis are readmitted within 30 days
 - Numerous transitions in care, neither patients nor the healthcare system handles these transitions well
- Many report low quality of life

Treatments Ask a Lot from Patients

- Dialysis:
 - In-Center Hemodialysis: Three times weekly, 3-4 hour treatments require 4-5 hours of commitment
 - Peritoneal Dialysis: Daily treatments
 - Home Hemodialysis: 5-7 times a week
- Diet:
 - Cannot take too much salt, potassium, phosphorus, fluids
 - But need to eat a high-protein diet
- Medications

Patient Pill Burden



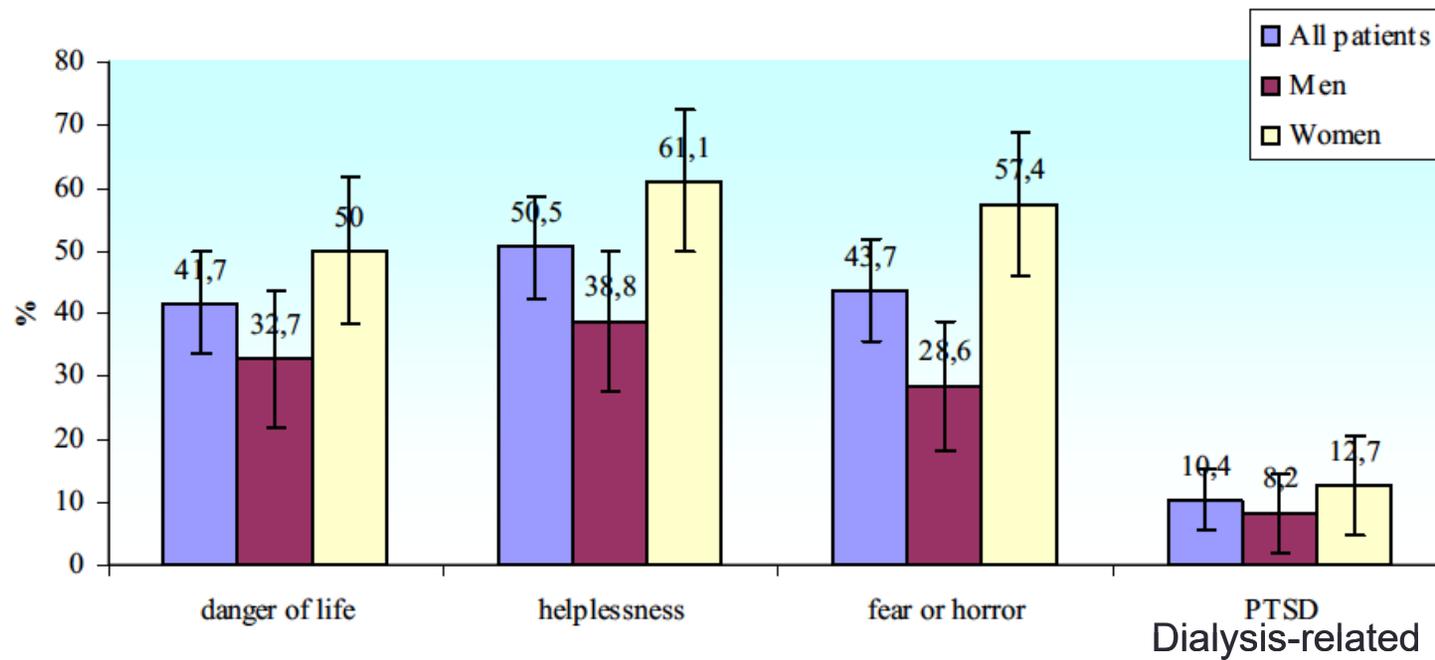
A person on dialysis takes, on average, 19 pills every day

Add to the Mix: Mental Health Issues

- Anxiety
- Post-traumatic stress disorder
- Depression

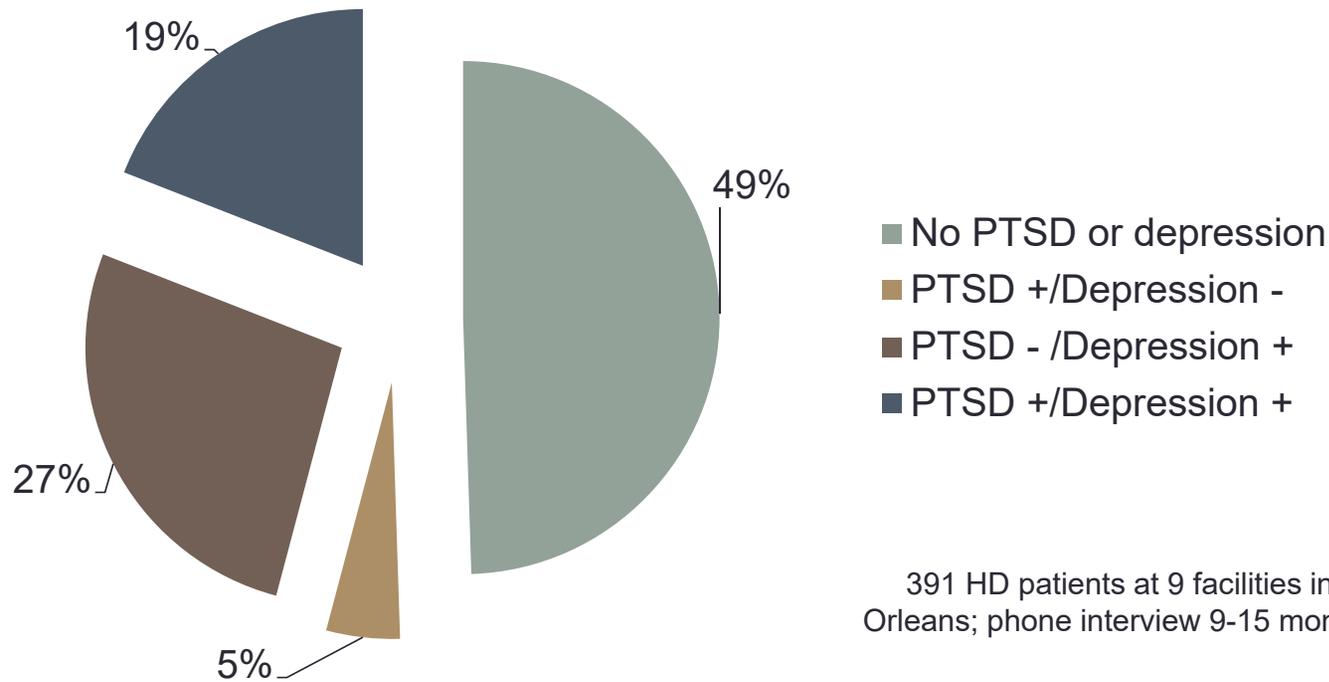
Many Traumatic Experiences

Many Related to or From Need for Dialysis



Tagay et al, Am J Kidney Dis 2007; 50: 594-61

Aftermath of Hurricane Katrina



Our recent snowmageddon similar albeit on a smaller scale

391 HD patients at 9 facilities in New Orleans; phone interview 9-15 months later

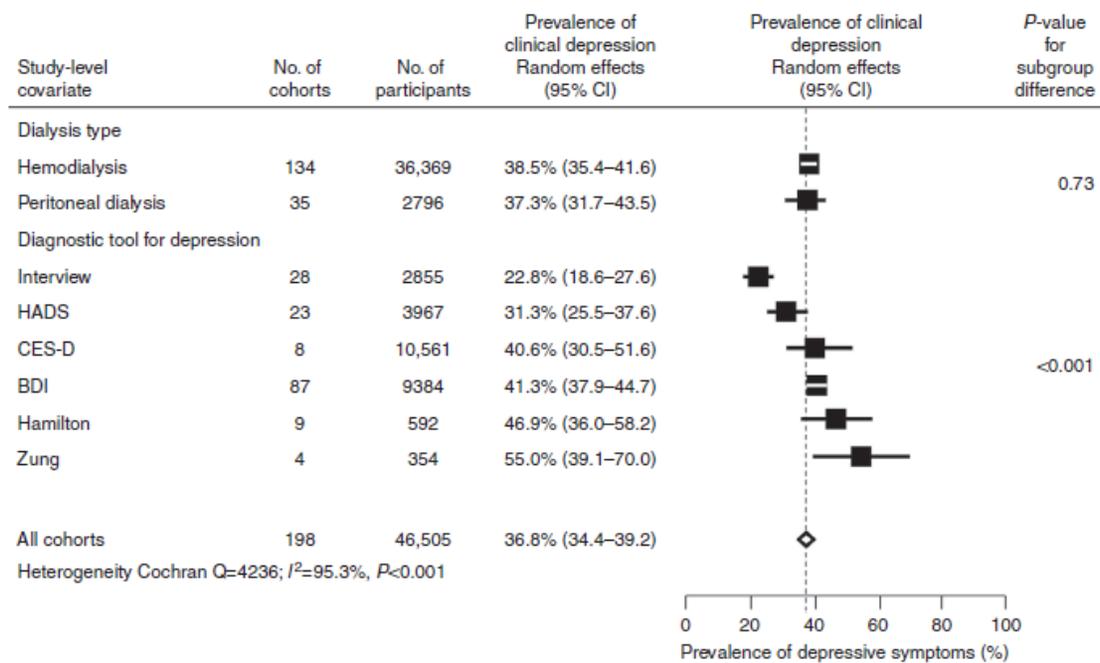
Edmondson et al, Am J Pub Health, 2013; 103: e130-7

Poll Question 1

What percentage of dialysis patients suffer from depression?

- a. 5%
- b. 10%
- c. 30%
- d. 60%

Add to That - Depression



At any time point, one of out of every three person on dialysis has depression

Palmer et al, *Kidney Int* 2013; 84: 179-91

Poll Question 2

- What is the difference between depression and sadness?
 - a. Depression is a disease, while sadness is a normal emotional state in humans
 - b. Sadness is short-lived, but depression is persistent and long-term
 - c. There are many types of depression, while sadness is something normal and specific to recent circumstances or events
 - d. All of the above

Diagnosis of Depression

- General Characteristics
 - Depressed mood or loss of interest or pleasure in daily activities for **more than two weeks**;
 - Mood represents a change from a person's baseline; and
 - It results in impaired function: social, occupational, educational

Poll Question 3

- Is grief and loss related to treating dialysis patients a permanent or temporary part of depression?
 - a. Grief is a feeling of sadness, numbness, and/or anger that follows a major loss
 - b. Loss of a loved one, receiving a diagnosis of end-stage renal disease, loss of a job, or the demise of a relationship can lead to grief
 - c. Grief and mourning are normal reactions to losing something or someone important
 - d. Although grief and loss can trigger major depression, the two mental health conditions do not have exactly the same symptoms and involve different therapeutic approaches

Poll Question 4

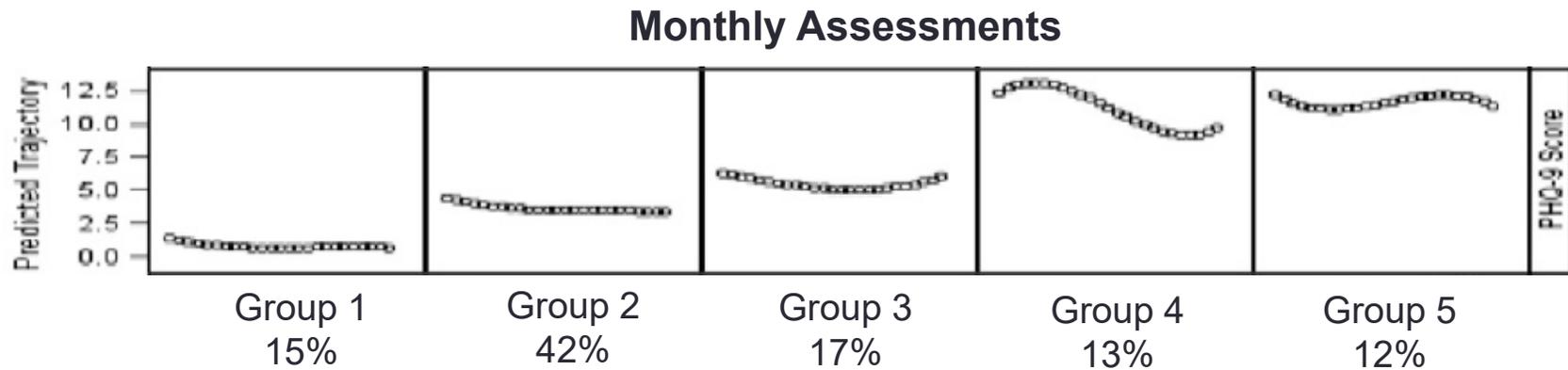
- Symptoms and Signs of Depression include:
 - a. Always feeling sad
 - b. Loss of interest
 - c. Changes in appetite
 - d. Trouble sleeping
 - e. Loss of energy
 - f. Feeling worthless
 - g. Difficulty thinking
 - h. Thoughts of death or suicide

Major Depressive Disorder

DSM Manual

- Five of the 9 symptoms, present nearly every day for ≥ 2 weeks:
 1. **Depressed mood or irritable** most of the day, nearly every day, as indicated either by objective report or observation made by others
 2. **Decreased interest or pleasure** in most activities, most of the day
 3. **Significant weight change (5%) or change in appetite**
 4. **Change in sleep:** insomnia or hypersomnia
 5. **Change in activity:** psychomotor agitation or retardation
 6. **Fatigue or loss of energy**
 7. **Guilt/worthlessness**
 8. **Concentration:** diminished ability to think or concentrate, or more indecisiveness
 9. **Suicidality:** Thoughts of death or suicide, or has suicide plan

Depression Does not Just Go Away



Without treatment, people's mood generally remains the same month after month

People who are depressed are not able to do everything they need to do for kidney failure

Study Population	Studies	Median r	Mean weighted r	Odds Ratio
ESRD	6	-0.34	-0.22 (-0.33, -0.11)	3.44 (1.26, 8.10)
Non-ESRD	6	-0.24	-0.21 (-0.30, -0.11)	2.77 (1.43, 5.44)

It makes it difficult to show up for dialysis, to complete the full treatment, take medicines as you are supposed to, or pay attention to every detail about your diet

What Have I Said So Far?

- Many people on dialysis are depressed
- Depression does not just go away
- Depression makes it hard for patients to do all that they need to do to manage their kidney failure

Depression: What Should You Know?

- If depression is not treated, it leads to more problems with people's health
- In people with kidney failure, depression can be difficult to diagnose
- Depression is treatable and reduces suffering

Poll Question 5

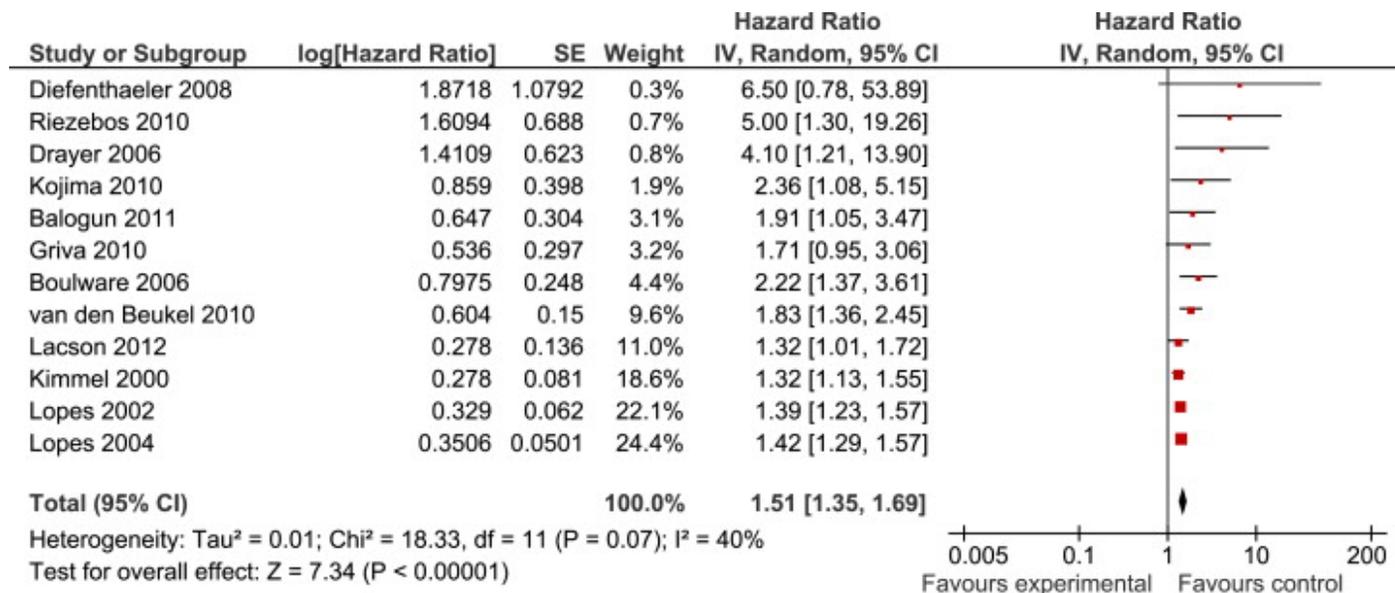
Depression can affect which of the following (select all that apply)

- a. Patient functional status
- b. Patient quality of life
- c. Treatment adherence
- d. Decision-making about dialysis care
- e. Risk of hospitalization
- f. Mortality

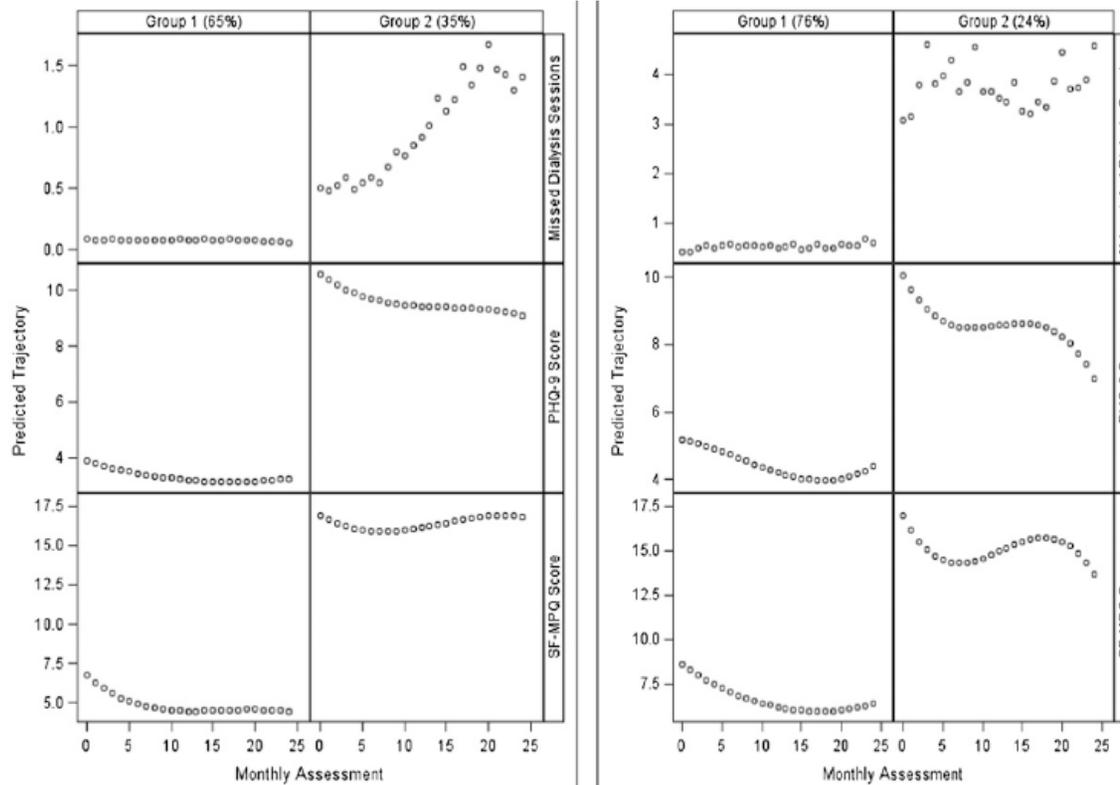
Health Consequences of Depression

- Depressive symptoms, in and of themselves, cause considerable suffering to an individual
- The consequences are even greater when it happens in people with kidney failure undergoing dialysis

Associates with Mortality



Depressed People More Likely to Skip Dialysis



For every 5-point higher PHQ-9 score, adjusted incident rate ratio for:

- Missed HD: 1.21 (1.10, 1.33)
- Abbreviated HD: 1.08 (1.03, 1.14)

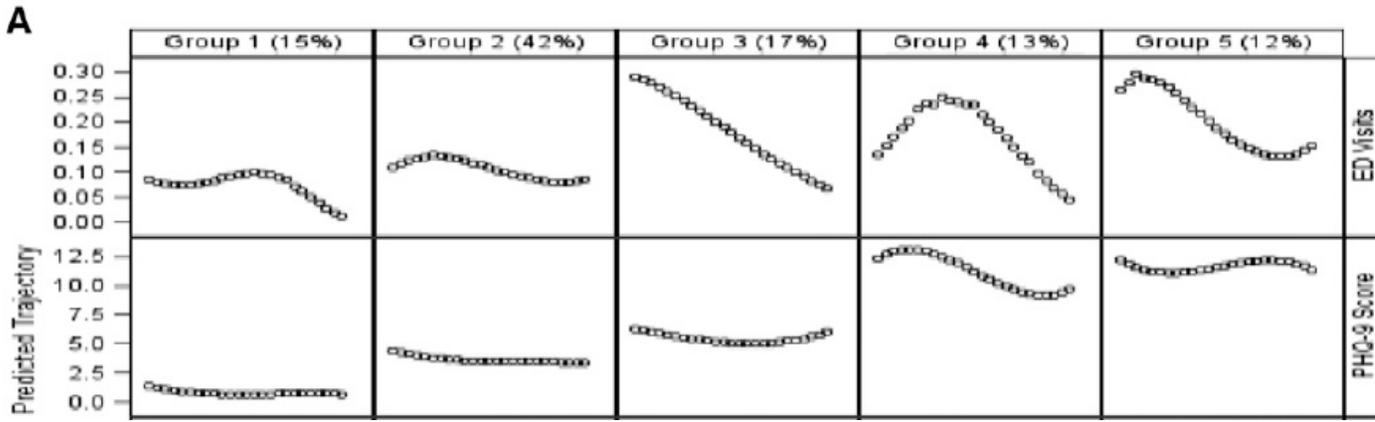
Depressed People More Likely to Get Peritonitis with PD

	Risk Ratio	95% confidence interval
BDI \geq 11	2.7	1.23-6.03
Age \geq 65 y	0.8	0.29-1.48
Diabetes Mellitus	1.0	0.46-2.17
Coronary Artery Disease	0.6	0.39-1.79
Race	0.9	0.39-2.35

162 patients assessed using Beck
Depression Inventory

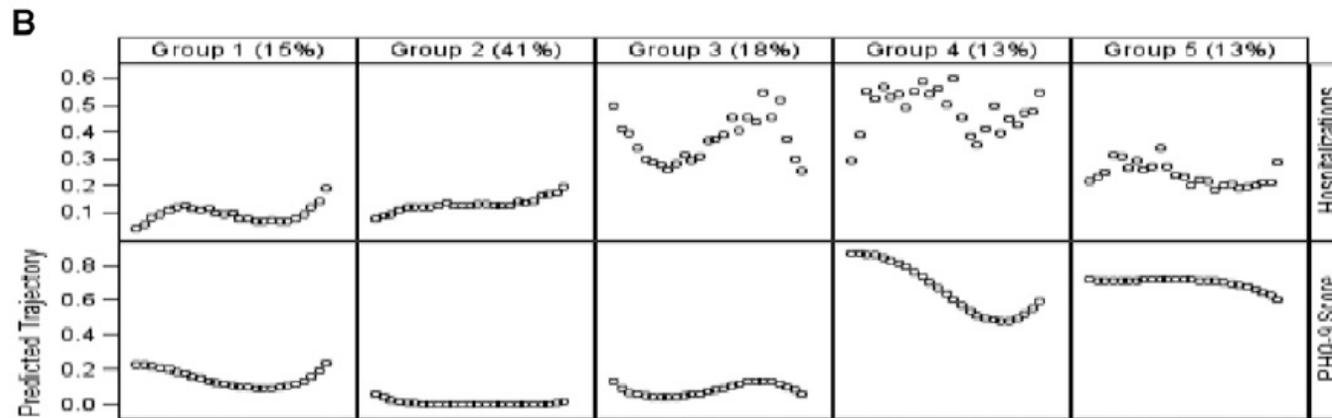
Troidle et al, Am J Kidney Dis 2003; 42: 350-4

Depressed People More Likely to Need to go to ER



For every 5-point higher PHQ-9 score, the adjusted incidence rate ratio for ED visits: 1.24 (1.12, 1.37)

Depressed People More Likely to Be Admitted to Hospital



For every 5-point higher PHQ-9 score, the adjusted incidence rate ratio for hospitalizations: 1.19 (1.10, 1.30)

Weisbord et al, Clin J Am Soc Nephrol 2014; 9: 1594-1602

Health Consequences of Depression with Kidney Failure

- Low mood is suffering enough
- Higher Mortality
- Missed Dialysis or Shortened Treatments
- Peritonitis
- ED Visits
- Hospitalizations

Diagnosing Depression with Kidney Failure

- Some of the symptoms of depression are the same as those from kidney failure or could be confused with side-effects of the many medicines people on dialysis need to take:
 - Difficulty sleeping
 - Not having enough energy to get through the day
 - Not feeling hungry

Medicare Requires Every Dialysis Unit to Screen Every Patient for Depression

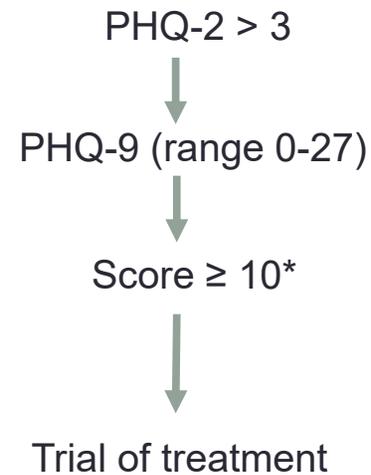
- Facilities must report for every patient if the screening test for depression was:
 - Positive or negative or not done and
 - If positive, whether or not there is a plan for treatment
- Need to have plan for screening and develop follow-up plan

Screening for Depression

PHQ-2

Over the last <i>2 weeks</i> , how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3

A General Approach for Using Results



What More Have I Said?

- Depression in and of itself causes suffering to the person
- It adds to the other health problems – skipped dialysis, ED visits, hospitalizations, and peritonitis
- Depression is hard to diagnose in people with kidney failure:
 - It helps to use a test like PHQ-2 which is now done routinely at least once a year

Co-Morbid Depression Often Not Identified

Depression Indicator	Prevalence of Depression			Kappa Index	
	Europe (n=2401)	United States (n=2855)	Total (n=5256)	“Downhearted and Blue”	“So down in the dumps”
Physician- diagnosed by medical record	16%	19%	18%	0.17	0.16
Self reported “Downhearted and blue”	25%	19%	22%	-	0.60
“So down in the dumps that nothing could cheer you up”	23%	17%	20%	-	-

142 US facilities (July 1996 through December 1997)
101 European facilities (May through Nov. 1998)

And When Identified, Often Not Treated

	Feedback Arm (n=120)	Nurse Management Arm (n=100)
Instances Symptoms Reported	37	28
Letters mailed to Provider	37	
Conversations with patient about symptom		28
Nurse recommendations made to and accepted by patient		22 (79%)
Nurse recommendations for new treatment made to provider		11 (39%)
Treatment Implemented	11 (30%)	6 (21%)

Treatment Options for Depression

- **Pharmacologic Therapy**
 - Selective Serotonin Receptor Uptake Inhibitors (SSRIs)
 - Serotonin Norepinephrine Reuptake Inhibitors
- **Psychotherapy**
 - Acceptance and Commitment Therapy; Cognitive Therapy; Cognitive Behavioral Therapy; Interpersonal Therapy; Psychodynamic Therapy
- **Complementary and Alternative Medicine**
 - Acupuncture; meditation; ω -3 fatty acids; S-adenosyl-L-methionine; St. John's wort; yoga
- **Exercise**

Poll Question 6

Which treatment options does your dialysis facility offer for patients with depression?

- a. Cognitive behavioral therapy
- b. Antidepressant medication
- c. Peer mentoring
- d. Support groups
- e. Other
- f. None

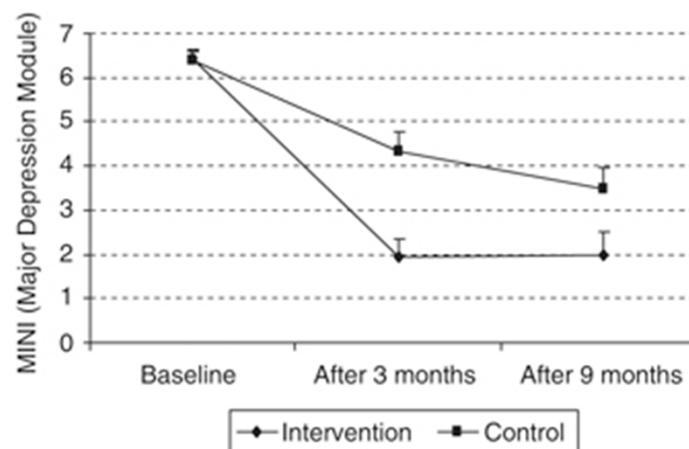
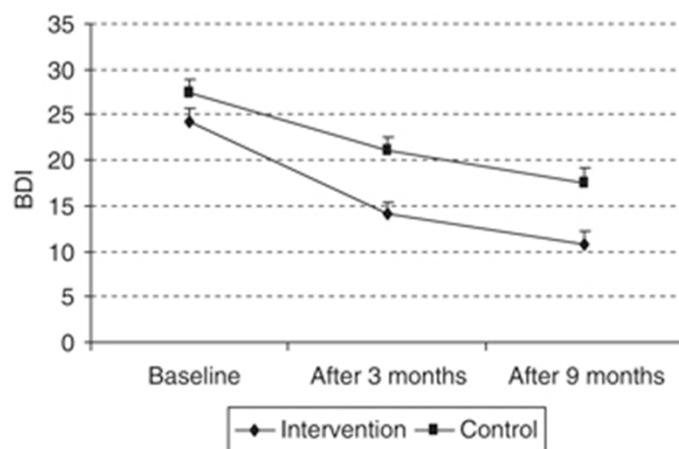
Challenges with Treating Depression in HD Patients

- There remains a stigma with the diagnosis of depression as in the general population
- Not many studies have been done to see what treatments work for people on dialysis
- Unique challenges with each form of treatment in patients undergoing hemodialysis
- CBT: Patients need to go to the therapist once a week for three months in addition to the three times a week they need to go for hemodialysis
- Drugs: Patients take, on average, 19 pills every day and this will add to the number of pills; also, there is concern about side effects with the medication

Limited Data on Treatment in ESRD

Group CBT

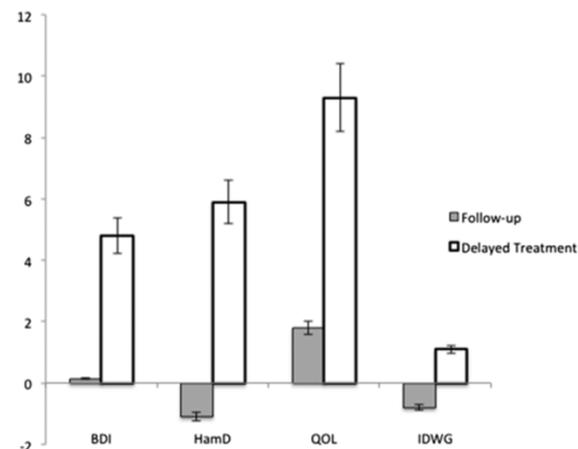
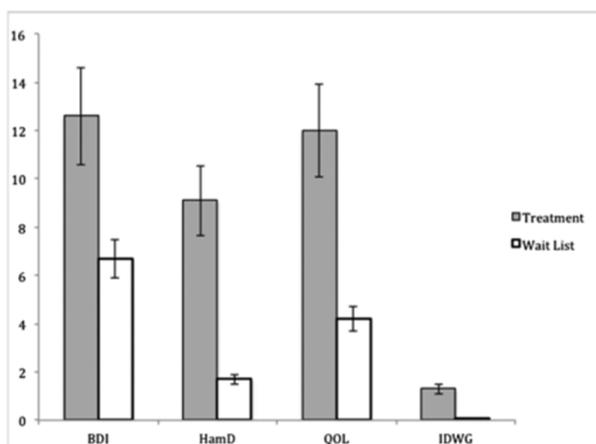
- 90 HD patients at two dialysis facilities randomized to group CBT or usual care:
 - Re-evaluation at 3 months, 85; at 9 months, 74



Improved perception of burden of kidney disease, quality of social interaction, sleep, and mental component summary of health-related quality of life

Limited Data on Efficacy of Treatment Individual CBT

- 65 HD patients at two dialysis units randomized to immediate individual CBT in dialysis facility and wait-list for treatment; 55 completed the intervention



Limited Data on Efficacy of Treatment Drug Therapy

Author, year	Drug	N	Depression Scale	Key Results
Blumenfield, '97	Fluoxetine	14	Ham-D and others	No significant difference between fluoxetine and placebo
Yazici, '12	Escitalopram	62	DSM-IV	Significantly lower depression scores compared with placebo
Taraz, '13	Sertraline	50	BDI-II	Significantly greater improvement with sertraline than placebo
Friedli, '17	Sertraline	30	BDI-II and others	Scores improved with both sertraline and placebo; no difference between the two groups

Blumenfield et al, Int J Psych Med 1997; 27: 71-80
Yazici et al, Klinik Psikofarmkoloji Bulteni 2012; 23-30
Taraz et al, Int Immunopharmacol 2013; 17: 917-923
Friedli et al Clin J Am Soc Nephrol 2017; 12: 280-286



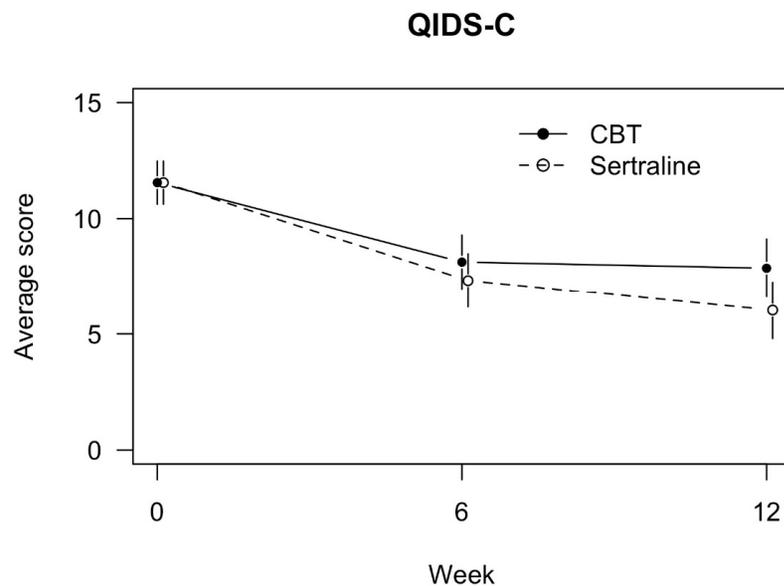
Comparative Efficacy of CBT and Drugs ASCEND

- Multi-center randomized controlled trial in patients undergoing in-center hemodialysis primarily to compare the efficacy of 12-week treatment with CBT and anti-depressant drug therapy
- Conducted in three metropolitan areas – Albuquerque, Dallas, and Seattle – in 41 different dialysis units:
 - In Seattle, we enrolled patients from NKC, PSKC, OPKC, and DaVita
- Approached 2857 patients undergoing hemodialysis for at least three months and asked them to complete a screening instrument for depression, BDI-II; 2569 (90%) agreed and 120 randomized to treatment

ASCEND

- CBT was conducted in the dialysis unit by a therapist while the patient was undergoing hemodialysis:
 - Patients were given the choice to do it outside the dialysis unit, but few selected that choice
- Drug therapy was started at a low dose and changes in dose were made based upon periodic assessment of depressive symptoms and side-effects of drugs using “Measurement Based Care”

ASCEND Results



- Depression scores decreased with both treatments
- At least 50% decrease in scores:
 - CBT, 36% (95% CI, 24%, 49%)
 - Sertraline, 43% (95% CI, 30%, 56%)
- Remission:
 - CBT, 29% (95% CI, 17%, 41%)
 - Sertraline, 40% (27%, 52%)
- Serious adverse event rate similar; other adverse events more frequent with sertraline

ASCEND

Other Lessons

- Many people who have high scores on screening instruments do not have depression and don't need treatment
- A lot of people are treated for depression but do not get enough medications in doses high enough for them to work.
- A lot of people still feel there is a stigma with the diagnosis of depression and do not like to be given the label of depression
- Both medicines and CBT work similarly with medications slightly better but with more side effects:
 - Patients should be treated based on what is available, how much it may cost a patient, and what they prefer

Summary and Conclusions

- At any time point, one out of every three person on dialysis has depression:
 - It does not just go away and it makes it even more difficult for patients to do what they need to do to take care of themselves
- In addition to suffering from symptoms themselves, it worsens overall health
- Both behavioral therapy and medicines improve depressive symptoms in people on dialysis – people can choose either of the two based on their choice, what is available, and what the cost of treatment would be