



# Depression in Long Term Care



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# How big a problem?

- ❖ 454 new admissions to Baltimore nursing homes, followed for a year
- ❖ major depression: 12.6%
- ❖ depressive symptoms: 18.1%
- ❖ risk of death increased by 59% in 1 year for major depression
- ❖ most depressions were unrecognized and untreated by their treating physicians

Rovner BW, German PS, Brant LJ, Clark R, Burton L, Folstein MF. Depression and mortality in nursing homes. JAMA. 1991;265:993-996.

How big a problem is depression in nursing home residents?

Here is one study that followed newly admitted residents for a year. During that time, 12.6 developed a major depression; this increased their risk of dying by 59%!

Most of these depressions were not recognized by their treating physicians, and therefore not treated.



- ❖ Three reviews (1991-2) found point prevalence rates of all depressive disorders ranged from 9% to 75%
- ❖ Australia 1996: 43% of testable nursing home residents scored > 10 on GDS-30
- ❖ Hong Kong: 65.4% scored > 7 on GDS-15
- ❖ Netherlands 2006: major depression in 8.1% of residents in 14 nursing homes (DSM-IV); 14.1% minor depression
- ❖ a summary stated that there are 12-14% new cases of depression per year; half meet criteria for major depression

Llewellyn-Jones RH, Snowden J. Depression in nursing homes: ensuring adequate treatment. CNS Drugs. 2007;21:627-640.

Point prevalence rates for all depressive disorders in nursing homes range from 9% to 75%, depending on which study you read.

Here at Ste. Anne's, we use the Geriatric Depression Scale to screen for depression. An Australian study found that 43% of residents scored more than 10.



# Undertreatment

- ❖ Fewer than 25% of depressed patients were identified and treated by nursing home physicians
- ❖ a weekly educational course did not alter the identification and treatment of depression appreciably

Cohen CI, Hyland K, Kimhy D. The utility of mandatory depression screening of dementia patients in nursing homes. *Am J Psychiatry*. 2003;160:2012-2017.

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Here's an article we'll come back to, which appeared in the *American Journal of Psychiatry* in 2003. I picked the two points on this slide out of their mini-review of the literature.

First, only one quarter of depressed patients in nursing homes are likely to get treated by their doctors.

Second, even if I came here every week to talk about depression, it likely wouldn't change things much.



# Hip fracture

- ❖ Depressed hip fracture patients had increased risk of nursing home admission (adjusted odds ratio 3.53 at 1 month)

Givens JL, Sanft TB, Marcantonio ER. Functional recovery after hip fracture: the combined effects of depressive symptoms, cognitive impairment, and delirium. *J Am Geriatr Soc.* 2008;56:1075-1079.

Even before admission, depression plays an important role. This study looked at patients who had broken a hip at home. The ones who were depressed were over 3 times more likely to go to a nursing home instead of back home, after acute care hospitalization.



# Heart failure

- ❖ In ambulatory older adults hospitalized with heart failure, being depressed increased the risk of nursing home admission by more than 50%.

Ahmed A, Ali M, Lefante CM, Mullick MS, Kinney FC. Geriatric heart failure, depression, and nursing home admission: an observational study using propensity score analysis. *Am J Geriatr Psychiatry*. 2006;14:867-875.

The finding for patients with coronary artery disease was that they also had a higher risk of nursing home admission if they were depressed.



# Importance of depression in LTC settings

- ❖ increases cognitive impairment
- ❖ increases suffering of patients and families
- ❖ impairs function
- ❖ hastens institutionalization
- ❖ increases mortality
- ❖ can be treated!

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So, to summarize why depression is important:  
it worsens mental functioning,  
it causes a lot of suffering,  
depressed people are less able to do the things they could otherwise do,  
they're more likely to end up in nursing homes than non-depressed people,  
and they have a higher risk of dying.

And it's not like depression is an untreatable condition!



# Screening for depression

- ❖ Instruments:
  - ❖ Hamilton Depression Rating Scale (HDRS)
  - ❖ Neurobehavioral Rating Scale
  - ❖ Beck Depression Inventory (BDI)
  - ❖ Centre for Epidemiologic Studies - Depression Scale (CES-D)
  - ❖ Geriatric Depression Scale (GDS)
  - ❖ Brief Carrol Depression Rating Scale (BCDRS)
  - ❖ Columbia University Scale for Psychopathology in Alzheimer's Disease (CUSPAD)
  - ❖ Nurses' Observation Scale for Geriatric Patients (NOSGER)

Several years ago, in 2003, I was asked to give a talk on the assessment of depression in dementia, at the first annual McGill Interdisciplinary Geriatric Seminar. To prepare for this, I looked at about 15 different screening and diagnosis questionnaires or scales. Each of these instruments was designed to be used in a particular setting (eg in a clinic or in a nursing home), to be filled in by a particular type of individual (eg the patient, a nursing home caregiver such as a licensed practical nurse), an experienced clinician such as a nurse or physician, or an expert (for example, a geriatric psychiatrist). They were vastly different in terms of ease of use, and how much time they took. Some were designed for screening, some for making a diagnosis, some for measuring the effectiveness of treatments, and some purely for research. Some were designed for cognitively intact patients, others for individuals with dementia.



# More screening tools

- ❖ Informant Interview for the Diagnosis of Depression and Dementia in Older Adults (IDD-GMS)
- ❖ Canberra Interview for the Elderly
- ❖ short version of the Comprehensive Assessment and Referral Evaluation (SHORT-CARE)
- ❖ Cornell Scale for Depression in Dementia (CSDD)
- ❖ Dementia Mood Assessment Scale (DMAS)
- ❖ Minimum Data Set Depression Rating Scale (MDS-DRS)
- ❖ Psychogeriatric Assessment Scales (PAS)
- ❖ Single question

Here are some of the other instruments I looked at.

The bottom line: there is no such thing as one universally applicable instrument.

Let's focus on just a couple of these.



# Geriatric Depression Scale (GDS)

- ❖ to be asked of the patient
- ❖ 1-week time frame
- ❖ yes/no responses
- ❖ original version: 30 questions
- ❖ sensitive to change
- ❖ useful in nursing homes for both case-finding and severity, when  $MMSE \geq 15$
- ❖ abbreviated version with 15 questions (\*)

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When I gave this talk last month at CSSS Cavendish, I had the impression that about a quarter of the audience had been exposed to the Geriatric Depression Scale, which is the instrument used in our hospital.

There does not seem to be a universally accepted cutoff score; I've come across studies that use 10 as a cutoff, others that use 15.

While the GDS is great for people living at home, many nursing home residents are too cognitively impaired. Thus it may be helpful to use it only when the Mini Mental score is 15 or higher.

Many people wonder whether asking 30 questions really accomplishes anything useful when screening, so shorter versions have been developed.



1. \*Are you basically satisfied with your life?
2. \*Have you dropped many of your activities and interests?
3. \*Do you feel that your life is empty?
4. \*Do you often get bored?
5. Are you hopeful about the future?
6. Are you bothered by thoughts you cannot get out of your head?
7. \*Are you in good spirits most of the time?
8. \*Are you afraid that something bad will happen to you?

These 4 slides show the questions in the 30-item GDS. Those questions with asterisks are the ones that were retained for the 15-item GDS.

Personally, I think that a number of the questions are poorly worded. For example, #2, Have you dropped many of your activities and interests? Someone who just broke their hip might answer yes, even if they aren't depressed. I would prefer a question like, "have you lost interest in your usual activities?"



9. \*Do you feel happy most of the time?
10. \*Do you often feel helpless?
11. Do you often get restless and fidgety?
12. \*Do you prefer to stay home, rather than going out and doing new things?
13. Do you frequently worry about the future?
14. \*Do you feel you have more problems with memory than most?
15. \*Do you think it's wonderful to be alive now?

What about #15, do you think it's wonderful to be alive now?" Are we talking to PollyAnna? Come on, the politicians are fighting, our retirement savings are plummeting. That's not depression, that's reality.



16. Do you often feel downhearted and blue?

17. \*Do you feel pretty worthless the way you are now?

18. Do you worry a lot about the past?

19. Do you find life very exciting?

20. Is it hard for you to get started on new projects?

21. \*Do you feel full of energy?

22. \*Do you feel that your situation is hopeless?

23. \*Do you think that most people are better off than you are?

And how about #21? Only manic people are likely to say “yes”! A more realistic question might be, “Do you feel you have a good level of energy?”

And #22 is just the inverse of #5: “Are you hopeful about the future?”



24. Do you frequently get upset over things?

25. Do you frequently feel like crying?

26. Do you have trouble concentrating?

27. Do you enjoy getting up in the morning?

28. Do you prefer to avoid social gatherings?

29. Is it easy for you to make decisions?

30. Is your mind as clear as it used to be?



# GDS-12R (Residential)

- ❖ Some GDS-15 items are often misunderstood or seem irrelevant to very elderly nursing home residents
- ❖ Internal reliability of the GDS-15 is highest when 3 items are removed:
  - ❖ Prefers to stay in
  - ❖ More problems with memory than most
  - ❖ Most people better off than self

Sutcliffe C, Cordingley L, Burns A et al. A new version of the geriatric depression scale for nursing and residential home populations: the geriatric depression scale (residential) (GDS-12R). *Int Psychogeriatr*. 2000;12:173-181.

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Even with the 15-item GDS, it turns out that some of the items are difficult to understand or make little sense to elderly nursing home residents, in particular, three items:

1. Do you prefer to stay home, rather than going out and doing new things?
2. Do you feel you have more problems with memory than most?
3. Do you think that most people are better off than you are?

By removing these three items, you can improve the performance of the GDS, at least for patients in residences and nursing homes.



# Minimum Data Set (MDS)

- ❖ 16 mood indicators
  - ❖ 9 verbal
  - ❖ 7 non-verbal
- ❖ scoring (based on past 30 days)
  - ❖ 0 = resident did not exhibit symptom
  - ❖ 1 = up to 5 days per week
  - ❖ 2 = symptom occurred 6 or 7 days / week

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Let's turn to another way of screening for depression. The Minimum Data Set is a tool which documents all aspects of a nursing home resident's health status and functional capacity. It is typically filled in by auxiliary nurses, initially on admission and then every 3 months. It has been mandatory in the U.S. since 1987, and in Ontario since 1996. It is also required in Alberta.

In the 11 page questionnaire, there are 16 items which indicate mood, 9 verbal and 7 nonverbal.

Each item is scored 0, 1, or 2 based on how often symptoms occurred in the past 30 days. 0 is for no symptoms, 1 is for symptoms occurring from 1 to 5 days per week, and 2 if the symptoms occurred more than 5 days per week.



# verbal expressions

- ❖ negative statements
- ❖ repetitive questions
- ❖ repetitive calls for help
- ❖ persistent anger
- ❖ self-deprecation
- ❖ unrealistic fears
- ❖ panic
- ❖ repetitive health complaints
- ❖ repetitive anxious complaints

The nine verbal expressions of mood are on this slide:

**Negative statements** includes passive suicidal ideation, eg “nothing matters; would rather be dead; what’s the use; regret having lived so long; let me die”;

**Repetitive questions**, eg, “where do I go; what do I do?”;

**Repetitive calls for help**, eg, “God help me”;

**Persistent anger** or irritability with self or others, eg easily annoyed, anger at nursing home placement, anger at care received;

**Self-deprecation**, eg, “I am nothing; I am of no use to anyone”;

Expressions of what appear to be **unrealistic fears**, eg fear of being abandoned, left alone, of being with others;

Expressions of **panic** or recurrent statements that something terrible is about to happen, eg believes he or she is about to die, have a heart attack;

**Repetitive health complaints**, eg, persistently seeks medical attention,, obsessive concern with body functions;

**Repetitive anxious complaints**, non-health related, eg persistently seeks attention or reassurance regarding schedules, meals, laundry, clothing, relationship issues.



# non-verbal expressions

- ❖ diurnal mood variation
- ❖ sleep disturbance
- ❖ sad, pained, worried facial expression
- ❖ crying, tearfulness
- ❖ repetitive physical movements
- ❖ withdrawal from activities of interest
- ❖ reduced social interaction

Nonverbal expressions of mood are:

**Diurnal mood variation**, eg, unpleasant mood in the morning;

**Sleep disturbance** eg, insomnia, or change in usual sleep pattern;

**Sad, pained, worried facial expression** eg, furrowed brows;

**Crying, tearfulness** but not crying is not necessarily sadness; there can be angry tears;

**Repetitive physical movements** are signs of agitation, such as pacing, hand wringing, restlessness, fidgeting, picking;

**Withdrawal from activities of interest** eg, no interest in long standing activities such as shopping outings or card games;

**Reduced social interaction** such being with family or friends.



# MDS-DRS

- ❖ Starting point: 16 mood & behavior items
- ❖ retained those 7 items which correlated best with the HDRS and the Cornell (CSDD)
  - ❖ negative statements
  - ❖ persistent anger
  - ❖ unrealistic fears
- ❖ repetitive health complaints
- ❖ repetitive anxious complaints
- ❖ sad, pained, worried facial expression
- ❖ crying, tearfulness
- ❖ Usual cutoff:  $\geq 3$

Burrows AB, Morris JN, Simon SE, Hirdes JP, Phillips C. Development of a minimum data set-based depression rating scale for use in nursing homes. *Age Ageing*. 2000;29:165-172.

Similar to what was done for the GDS, it is possible to improve the performance of the 16-item MDS questionnaire as a screening tool for depression. These researchers found that 7 out of the 16 items gave good performance.

The maximum possible score is 14. The cutoff point for depression screening is 3 or higher.



# MDS-DRS vs GDS

- ❖ The MDS-DRS and the GDS appear to measure different things; they were uncorrelated in this study
- ❖ The MDS-DRS appears better suited to pick up “conspicuous depression”

Koehler M, Rabinowitz T, Hirdes J et al. Measuring depression in nursing home residents with the MDS and GDS: an observational psychometric study. BMC Geriatr. 2005;5:1.

This study compared the Geriatric Depression Scale and the Minimum Data Set Depression Rating Scale. Basically, both picked up depression, but they seemed to pick up different kinds of depression. That doesn't make one better than another for screening, because we do want to pick up all the depression cases, not just certain kinds.



# Single question

- ❖ The single question “Are you depressed?”
- ❖ outperformed both a visual analog scale and the Beck Depression Inventory in a group of terminally ill patients

Chochinov HM, Wilson KG, Enns M, Lander S. "Are you depressed?" Screening for depression in the terminally ill [see comments]. *Am J Psychiatry*. 1997;154:674-676.

My favourite screening tool for detecting depression is the simple question, “are you depressed?” This is fast and easy. Most patients are able to answer this question, and only a few want to know what I mean.

This single question has been shown more effective than the Beck Depression Inventory or a visual analogue scale, at least in terminally ill patients.



# Comparison of screening tools

- ❖ 102 rural nursing home residents in Australia
- ❖ Resident self-report:
  - ❖ “Do you think you suffer from depression?”
- ❖ Nursing report:
  - ❖ “Based on your professional opinion and regardless of current major medical diagnosis/diagnoses, do you believe this participant suffers from depression?”

Johnston L, Reid A, Wilson J, Levesque J, Driver B. Detecting depression in the aged: is there concordance between screening tools and the perceptions of nursing home staff and residents? A pilot study in a rural aged care facility. *Aust J Rural Health*. 2007;15:252-256.

This study looked at how much agreement there was between four different ways of screening for depression in nursing home residents. It was done in rural Australia. How applicable would that be to the city of Montreal?

One way of screening was to simply ask the resident, “Do you think you suffer from depression?” As I said earlier, I prefer the even simpler, “Are you depressed?”

Nurses were also asked a single question.

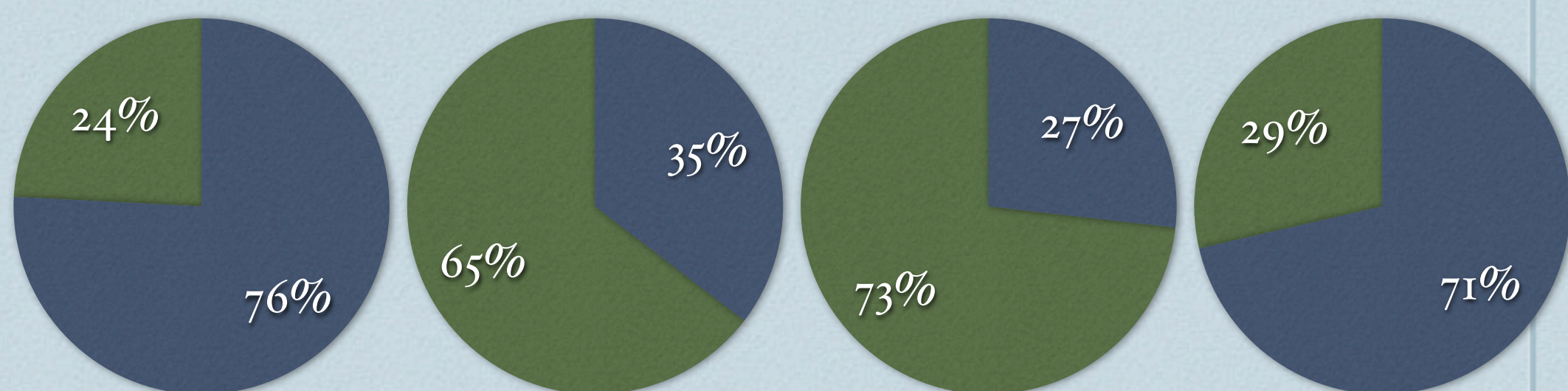


- ❖ Screening tools:
  - ❖ HDRS-17 (Hamilton Depression Rating Scale; 17-item form)
  - ❖ GDS-12R (Geriatric Depression Scale - Residential)

The third and fourth ways of screening used in this study were more traditional tools, including the 17-item Hamilton Depression Rating Scale, and the 12-item residential version of the Geriatric Depression Scale.



Presence of Depression	Resident self-report	Nurse report	Hamilton Depression Rating Scale	Geriatric Depression Scale-12R
Yes	75.8	35.4	26.8	71.4
No	24.2	64.6	73.2	28.6



Johnston L, Reid A, Wilson J, Levesque J, Driver B. Detecting depression in the aged: is there concordance between screening tools and the perceptions of nursing home staff and residents? A pilot study in a rural aged care facility. *Aust J Rural Health*. 2007;15:252-256.

You can see that there was a marked lack of consensus between these different methods of screening. On the pie charts, blue is for the presence of depression, and green is for no depression. The numbers range from finding just over a quarter of the residents as being depressed, to more than three quarters being depressed. The two tools based on resident information reported a prevalence of depression much higher than the tools based on nursing reports.

What's more, while there was moderate agreement between the two observer tests, and also between the resident tests, there was a lack of agreement between residents and observers. In other words, observers and residents identified depression in different groups of people.

Bottom line: there is no gold standard for depression screening in nursing home populations.



# does screening help?

	before	after
patients with Cornell $\geq 5$ getting antidepressants	16%	36%
proportion of depressed nonwhites receiving antidepressants	9%	27%

Cohen CI, Hyland K, Kimhy D. The utility of mandatory depression screening of dementia patients in nursing homes. Am J Psychiatry. 2003;160:2012-2017.

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So there is no such thing as a single screening tool that fits all patients. But even if there were, would it be worthwhile to use? Here is a study that addresses that question.

This study looked at 4 nursing homes; in two of them, mandatory screening using the Cornell Scale for Depression in Dementia was instituted. Scores of 5 or greater were referred for psychiatric assessment, and 100% of these patients were seen by psychiatry.

If we look at the before and after in the two experimental nursing homes where mandatory screening was implemented, we find that the number of depressed patients actually receiving antidepressants more than doubled. In fact, for the nonwhite patients, the number receiving antidepressants tripled.

Of course, there are other treatments for depression besides medication, but looking at prescriptions is easy and works well.



# does screening help? - 2

	experimental	comparison
Change in Cornell scores at the 12 week follow-up in patients with Cornell $\geq 5$ getting antidepressants	22% ↓	9% ↑
patients showing at least a 50% decline in depressive symptoms	28%	0%

Cohen CI, Hyland K, Kimhy D. The utility of mandatory depression screening of dementia patients in nursing homes. Am J Psychiatry. 2003;160:2012-2017.

If we compare the two nursing homes where mandatory screening was introduced (the experimental group) with the other two nursing homes (the comparison group) we find that in depressed patients getting antidepressants, there was a 22% decrease in scores on the Cornell scale for the experimental group, versus a 9% increase in scores for the comparison group. The experimental group had 28% of its patients showing at least a 50% decline in depressive symptoms, vs none in the comparison group.



# does screening help? - 3

	starting dose	“average” 6-week target dose
Before the intervention (all patients on antidepressants)	30%	55%
After 12 weeks of treatment (experimental group)	72%	

Cohen CI, Hyland K, Kimhy D. The utility of mandatory depression screening of dementia patients in nursing homes. Am J Psychiatry. 2003;160:2012-2017.

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It is important to note that, before the intervention, 30% of all the patients receiving antidepressants in both groups were on starting doses, and 55% were receiving “average” 6-week target doses. And in the experimental group, after 12 weeks of treatment, 72% of the patients were still receiving starting doses of medication. In other words, if the antidepressant medication was celexa, three quarters of the patients getting it would still be getting only 10 mg a day 3 months after starting the medication.

You’ve heard the dictum “Start low and go slow” when it comes to medication dosing in elderly patients, but the doctor needs to keep going! These patients often require the same final doses as younger patients, perhaps 30 or 40 mg of celexa, sometimes even 60 mg.



# Recommendations for screening

- ❖ Use 3 sources of information to identify possible cases of depression:
  - ❖ resident
  - ❖ clinician observer (eg, nurse)
  - ❖ non-clinician observer (nurse assistant, P.A.B.)

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So it's clear that screening can increase the number of depressed patients who are identified. And if a positive screen requires getting a psychiatric consultation, then the numbers of depressed patients who get treatment will go up, and their depressive symptoms will decrease.

So my recommendation is for mandatory screening of all nursing home residents.

What should the screening consist of?

As we've already seen, not only do you get different prevalences depending on whether you ask the resident or the resident's nurse, you also will identify different groups of patients. And if you include nurse assistants or other caregiver staff in the screening, you can identify still other depressed patients. So I suggest you include all three.



# Quick screening

- ❖ Ask the resident “Do you think you are depressed?” or “Do you think you suffer from depression?”
- ❖ Ask the nurse “Do you think this resident suffers from depression?”
- ❖ Have the assistant nurse or PAB fill in the 7-item MDS-DRS; use a cutoff of 3 or greater

If your institution is short-staffed, keep the screening simple and quick. Use the single-question screen for the resident and for the nurse.

The single-question screen for the nurse, to be complete, goes like this:  
“Based on your professional opinion and regardless of current major medical diagnosis or diagnoses, do you believe this resident suffers from depression?”

To use the MDS-DRS successfully requires some training, and I suggest that this be done in the context of training to fill in the whole Minimum Data Set for nursing homes. Sooner or later, filling in the MDS on admission and then every 3 months will become mandatory in Quebec. Among other benefits, we will then be able to compare our nursing home performance directly with homes in Ontario, Alberta, and the U.S. On the other hand, that may be a good reason NOT to adopt the MDS!



# Obsessive screening

- ❖ Resident: Geriatric Depression Scale - Residential (GDS-12R) with a cutoff of 5 or higher
- ❖ Clinician observer: either the Hamilton Depression Rating Scale (HDRS) or the Cornell Scale for Depression in Dementia (CSDD)
- ❖ Non-clinician observer: MDS-DRS

For better-staffed institutions, or those with a culture of obsessiveness, you may want to use a more comprehensive instrument than the single-question screen. I suggest, the 12-item Geriatric Depression Scale, Residential version, along with either the Hamilton Depression Rating Scale or the Cornell Scale for Depression in Dementia. Which one you use for a given resident should be determined by that resident's mini-mental score. Again, use the 7-item Minimum Data Set Depression Rating Scale as a 3rd screen.



# What happens next?

- ❖ If the single-question screens were used, do the full instruments
- ❖ Get a psychiatric consultation
- ❖ Act on investigation and treatment recommendations
- ❖ Follow up!
  - ❖ dose adjustments for medication
  - ❖ repeat the depression rating scales periodically
- ❖ Consult psychology

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What should be done if any of the 3 screens comes back positive?

If you used the single-question screens, I would then do the full versions. The purpose is to establish a severity baseline, to get a number so you can see whether the depression improves or not.

Ideally, a positive screen should trigger a psychiatric consultation.

In the best of all worlds, your psychiatric consultant will do an assessment which includes not only biological factors but also the social and psychological situation, and make recommendations in all 3 spheres.

Also consider a consult to psychology.

Very important: follow up, and make dose adjustments of medication when indicated.



# Severe depression

- ❖ Consider transfer to an acute care psychiatric unit if:
  - ❖ the patient is suicidal
  - ❖ there is a danger to other patients, staff, or visitors
  - ❖ observation required to make a diagnosis
  - ❖ observation required for treatment
  - ❖ a treatment is only available in an acute care facility

There may also be grounds to consider transferring the patient to an acute care hospital for psychiatric treatment. For example, if the patient is a danger to himself or to others. Some treatments can only be done in certain settings, for example, electro-convulsive therapy, or magnetic stimulation.

But the doctor may opt to initiate antidepressant treatment himself or herself. Everyone else now has to monitor to make sure that there is improvement; if there is no decrease in the rating scale scores after, say, 4 weeks, then the treatment needs to be modified.



# What can you do?

- ❖ exercise
- ❖ light
- ❖ omega-3s
- ❖ coffee
- ❖ sleep patterns
- ❖ cognitive-behavioural therapy

When all else fails, or even when it doesn't, there are a number of things outside of the medical sphere that can act on your patient's depression.

Here are some of them. But before talking about these treatments, it may be worthwhile to talk a bit about what depression is and what causes it.

Who here can tell me what causes depression?

Medical science tends to think that when a disease is common, that it may serve a useful purpose. For example, sickle cell trait helps to protect against malaria.

Depressive symptoms are common. Are there any situations where having these symptoms could be useful to an organism?



Sickness syndrome	Depressive symptoms
↓ general activity	fatigue, lack of energy
↓ exploratory behaviour	withdrawal
↓ social interaction	isolation
↓ sexual interaction	loss of interest in sex
↓ food and water intake	loss of appetite
↓ preference for sweets	anhedonia
altered sleep	insomnia or hypersomnia
impaired learning	impaired cognition
hyperalgesia	fibromyalgia symptoms

In animals and in humans, there is a phenomenon known as “sickness syndrome” which can be induced by injecting substances that produce an immune response, such as interferon. In addition to a fever, there are behavioural symptoms, as in this table.

You will recognize that these are the same symptoms that depressed people have.

What we know is that certain substances that immune systems cells use to communicate with each other, called cytokines, are involved in this sickness syndrome. These cytokines are part of the inflammatory response, which the physiologists call the “acute phase response”.



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This group of symptoms, it doesn't matter whether you call them sickness syndrome or depressive symptoms, since they occur so commonly, should provide some sort of benefit to the organism.

The sickness syndrome is usually seen as a way for the organism to conserve energy when there is an infection, but that sounds like a weak explanation to me. Can you guys think of any other rationale?

What about this: suppose you're a wild animal, out in the woods, and you get into a fight. Say you're a wolverine, and in this fight you get slashed from your shoulder down to your groin, a cut right down to the bone. What do you do?

Well, obviously, go to your vet for some stitches!

Seriously, though, the important thing is to move as little as possible, so that your wound has an opportunity to knit together. Move too much, the wound opens up, and you either bleed to death or die from infection. So you find a place where you can curl up and go to sleep.



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Now these behavioural symptoms start to make sense. If you have no appetite, you won't get up to go looking for food. No sex drive, ditto for finding a mate. Fatigue and lack of energy – ohhh, it's too much work to get out of my nest. Even pain – if it hurts just to move, as in fibromyalgia-type pain, you won't want to move.

Here's what I think happens: an acute injury causes inflammation, this inflammatory response stimulates immune cells to produce cytokines, some of these cytokines induce sleep, and excessive sleep causes the behavioural manifestations of the sickness syndrome.

You can bypass the whole injury and inflammation bit, just by sleeping excessively. In other words, too much sleep causes depressive symptoms.



- ❖ [link to: Does too much sleep cause depression?](#)
- ❖ [website: henry.olders.ca](#)

Any of you have teenagers that sleep til noon on weekends? What do they do when they get up?

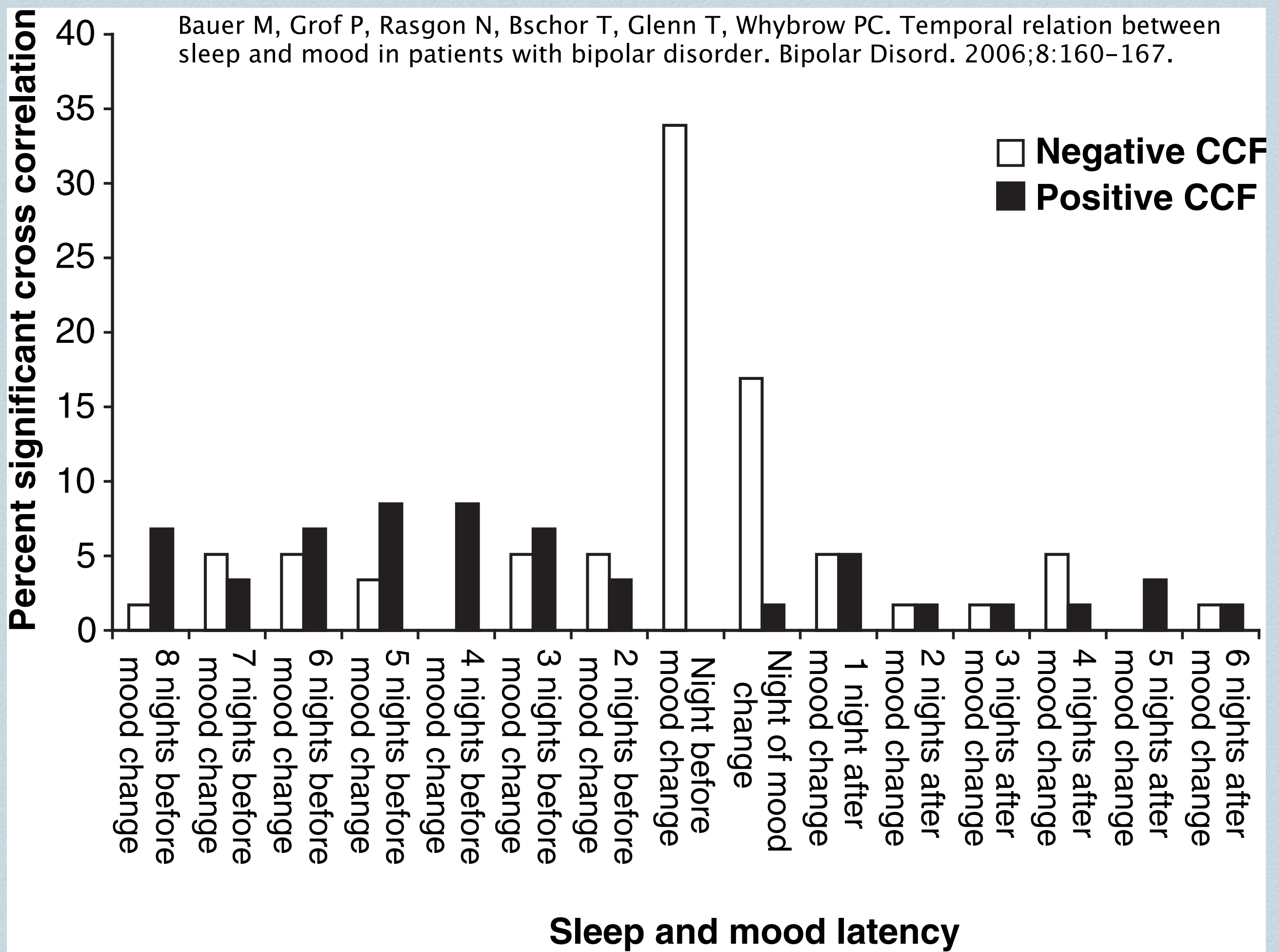
We don't have time to go into this today, but I did a presentation which goes into this in detail. It's on my website

I first became interested in the connection between sleep and mood when I was a resident in psychiatry at Douglas Hospital. I was following this woman with manic-depressive illness, stable on her medication, who all of a sudden, literally overnight, became floridly manic. The trigger was having been up all night at the bedside of her sister who had been admitted the previous day to an intensive care unit.

It turns out there is a large literature on using sleep deprivation to treat depression. It is as effective as medication, and works much faster, typically the same day. Who would have guessed that sleeping less is actually good for you!

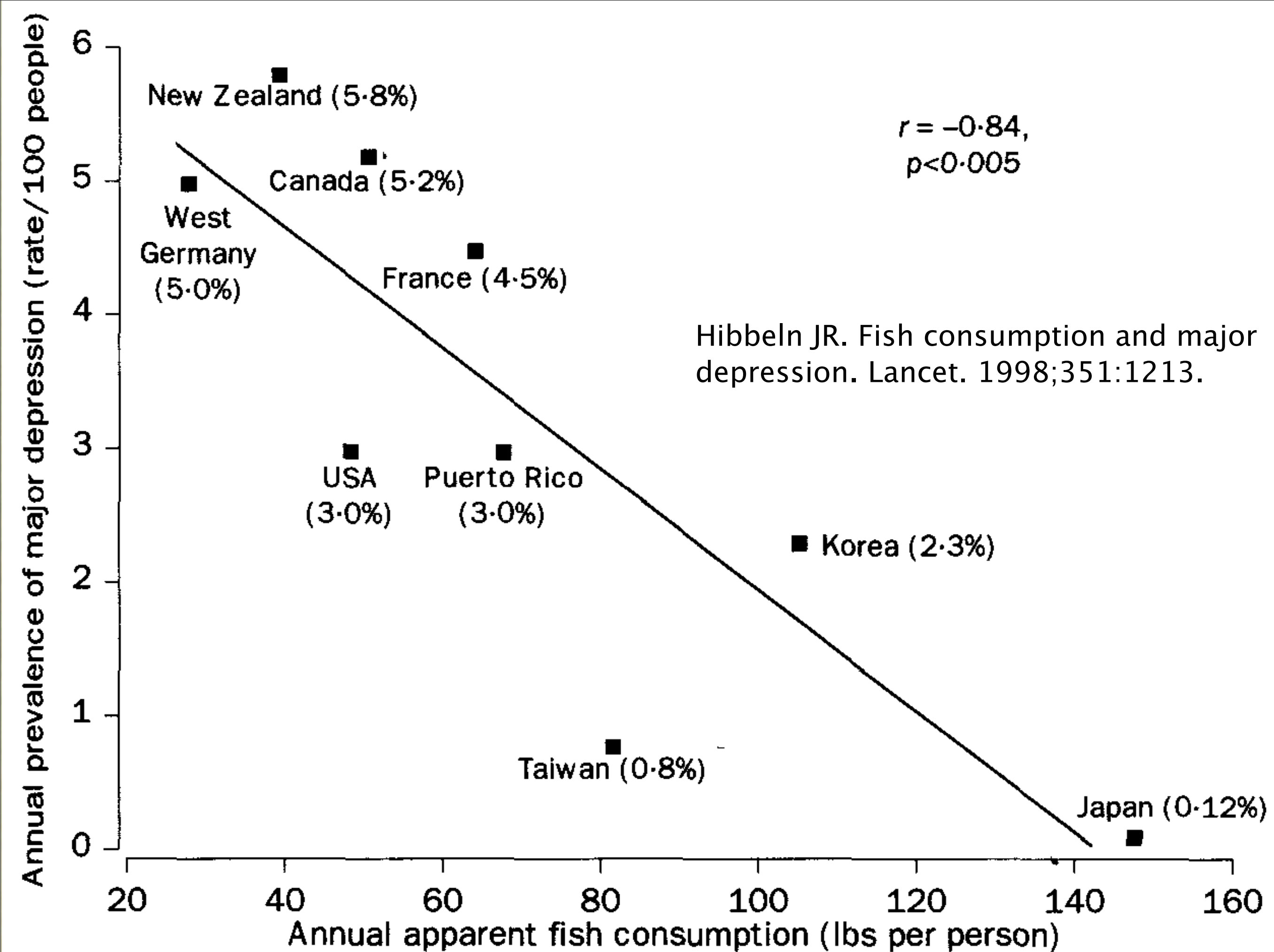


Bauer M, Grof P, Rasgon N, Bschor T, Glenn T, Whybrow PC. Temporal relation between sleep and mood in patients with bipolar disorder. *Bipolar Disord.* 2006;8:160–167.



Here is a recent article which demonstrates the connection between sleep and mood. This study looked at the daily sleep, bedrest, and mood of 59 bipolar outpatients receiving their usual treatment. They collected on average 169 days' worth of data for each patient. They then performed what is called a cross-correlation to determine what the latency is between changes in sleep and bedrest, and changes in mood. This graph shows the results, for sleep plus bedrest cross-correlated with mood. The strongest correlations occurred the night before or the night of a mood change. About 35% of patients had a significant negative correlation between mood change and change in sleep plus bedrest the night before the mood change; in other words, if they stayed in bed longer, they were likely to have a deterioration in mood the following day; less time in bed predicted an improvement in mood the following day.





I wouldn't want to imply that the only thing that matters for depression is your sleep pattern. Many studies show that there is a strong genetic component, and another important factor appears to be the omega-3 fatty acid content of your diet. This graph compares depression prevalences with annual fish consumption, for a number of countries around the globe. Look where Canada sits.

On one of the units where I work, the nursing staff took the initiative to provide a daily afternoon snack of sardines on crackers.

If you have any influence over the menu, you could push to have more fatty fish, like salmon or salmon trout, served, preferably twice a week.

Finally, since fish oil is not a pharmaceutical, get family members to bring in fish oil capsules for your depressed patients. Make sure, however, that the doctor is aware, because omega-3s can increase the risk of bleeding in patients on coumadin or other anti-coagulant medications.



# What can you do?

- ❖ exercise
- ❖ light
- ❖ omega-3s
- ❖ coffee
- ❖ sleep patterns
- ❖ cognitive-behavioural therapy

So, let's go back to, what can you do?

To see how and why to use these various treatment approaches, it helps to break down depression into subtypes.



# Depression subtypes

- ❖ Retarded depression
- ❖ Agitated depression

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In my experience, most cases of depression, especially in the elderly, fit more or less into one of two patterns, retarded depressions or agitated depressions.

The distinction was particularly clear when I was looking after psychogeriatric inpatients on 4 east at the Jewish General Hospital. Who here has visited 4 East?

The physical layout means that to get to my office, I would have to walk by the nursing station, where there were several chairs in the hallway.

My agitated depressed patients would often be sitting there. And when I walked by, he or she would jump up, stand in front of me, once even grabbing the lapels of my white lab coat, and say, "Doctor, doctor, do something! I can't stand it, I'm so depressed!" These patients would often pace, they would be irritable and short-tempered, and they would talk, often rapidly.

On the other hand, the retarded depression patients could invariably be found in their room, in or on the bed, blinds drawn, lights out, face to the wall. If I came in, they would give the clear message, either verbally but often just by their behaviour, that they wanted to be left alone.



# Depression subtypes

- ❖ Retarded depression
- ❖ Agitated depression

Can you recognize these two types, in the patients you look after?

The retarded depression type has the classical “sick syndrome” behaviour pattern. I think it is triggered and maintained in people with a genetic predisposition, by too much sleep, in particular, too much rapid eye movement sleep.

The agitated depression type has a number of features which you may recognize as symptoms of mania: the irritability, sometimes aggression, the restless energy which shows up as pacing, the rapid speech, sometimes jumping from one thought to another. Talk about aggression: I remember this one patient, a short fellow, only about 5’2”, who walked with a cane. When he was depressed and angry, though, watch out! He would swing that cane hoping to hit you!

So how do we have depression with manic symptoms? It’s variously called agitated depression, dysphoric mania, or a mixed state, but it appears to be a subtype of bipolar affective disorder, what used to be called manic depressive illness.



# Retarded depression

- ❖ Go to bed early
- ❖ Get up late
- ❖ Lie down or nap during the day
- ❖ Often complain of insomnia
- ❖ Often on sedating medication
- ❖ Nursing home routines may contribute



# Agitated depression

- ❖ Antidepressants without a mood stabilizer worsen agitation
- ❖ Often have highly variable bedtimes and rising times
- ❖ May see day-night reversal of their sleep pattern
- ❖ Lack of routine contributes