

Group 21 CAT Assignment (Critically Appraised Topic)

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Title: "Gold Standard" Diagnosis of Major Depression in Aged-Care Settings

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1. Clinical Question: In older people, who are known to underreport depressive symptomatology, will the prevalence of diagnosed major depressive disorder (MDD) change if an informant interview is added to the "gold standard" individual clinical interview?

PICO Parts:

P –one hundred and sixty eight aged care residents with normal cognitive function in low-level aged-care residential living facilities in Melbourne

I –use of an informant interview as an adjunct

C –use of an informant interview as an adjunct vs. using only the "gold standard" individual clinical interview

O –prevalence estimations of MDD in an aged-care sample

2. Search Strategy:

a. Database(s) searched: Ovid

b. Keyword Search Terms used: *Depression[MeSH]/di [Diagnosis] AND Aged[MeSH] AND limit to (english language, humans and clinical trial)

c. MeSH Search Terms used: Depression, Aged

3. Methods:

a. Setting: Low-level aged care residential facilities in Melbourne sometime before 2008 (we do not know the exact date; this will be discussed further in the translational application)

b. Population: Aged-cared residents with normal cognitive functioning

c. Sample Size: The initial group of 282 aged-care residents were determined eligible for the study by the facility managers based on the absence of cognitive impairment defined as a score of at least 24 out of 30 on the Standardized Mini Mental State Examination 24 (SSMSE 24). 246 of the aged-care residents gave informed consent, but 69 of the residents were excluded from the study based on cognitive impairment determined by the researchers according to SSMSE 24. In addition, nine of the residents did not complete the full assessment and were excluded from the study. The final sample size consisted of 168 aged-care residents; 129 women and 39 men with ages ranging from 67 to 97 (mean age of 84.68 years; SD = 6.16 years)

d. Study Design: Cross-sectional study

4. Methods Interpretation (Validity):

The adjunct of an informant interview was compared with the gold standard approach of conducting a standardized clinical interview. Psychiatric diagnosis are generally made using solely these clinical interviews and self-rated screening instruments. The study is non-blinded because both the subjects and the investigators know the treatment. In terms of the results, however, the research assistant and the clinical physician (which both conducted interviews on the patients) were blinded from one another's results and assessment of the patients.

- b. Did the sample include an appropriate spectrum of patients to whom the diagnostic/screening test will be applied in clinical practice?

The purpose of the study was to determine if an addition of an informant interview would better diagnose depression in the typically underdiagnosed population of elderly patients. The sample of this study included this population of elderly patients and took account the wide variability that comes along with this population. The final sample size consisted of 168 aged-care residents. This took into account a wide range of ages (with the median age of 84.68 and the standard deviation of 6.16 years) and also included both men and women.

- c. Did the results of the diagnostic/screening test being evaluated influence the decision to perform the reference standard?

The reference standard was performed as a part of the diagnostic screening test being evaluated. Consequently, ours was a little different scenario than normal. Having the reference standard test as a part of the test being evaluated inherently introduces bias because there is no independent comparison available. For example, if more people are diagnosed with depression using the new test, how do the investigators know that those people are actually depressed and not just false positives?

- d. Were the methods for performing the diagnostic/screening test described in sufficient detail to permit replication?

For the most part, yes. Exclusion criteria were well-defined (cognitive impairment/dementia, previous diagnosis of psychotic disorder or intellectual disability, age <65, non-English speaking, severe hearing impairment). The statistical analysis was well explained. The procedure was well-explained also. While reading the study, we wondered whether the patients were informed about the interview between their caregiver and an investigator. We felt they should have included this information in the methods section as it could bias the patients' responses.

5. Results:

The study found that the two methods had a high agreement of diagnosis. However, of the total cases of depression (N=37), ten cases could only be diagnosed when an informant interview was included along with the individual SCID (27%). This decreased the sensitivity of the GDS-15 (cutoff 6) from 85% (95% CI: 66-96) to only 65% (95% CI:

48-80) identified if an informant was used along with the individual SCID. The specificity of the GDS-15 was only very minorly affected when the methodology used to diagnose MDD was altered. Additionally, to further examine the underreporting of depression symptoms, the study evaluated the qualities of the ten patients who could only be identified using the new method of diagnosis and compared them to the larger group of all patients diagnosed with MDD through the individual interview. They found that there was no significant difference between groups in gender, age, length of time residing in the facility, or cognitive function. The groups did differ in how they scored on the GDS-15, with the ten only diagnosed with the addition of an informant interview scoring significantly lower than the other patients diagnosed with MDD.

6. Translational applications (How does this study apply to your patients?):

The study was adequate and provided statistically significant results. Some of the major translational applications of the study lie in the redundancy of the interview which allowed for a second observer to confirm depressed affect in the patient especially when the patients was less forthcoming or denied symptoms of depression. It is important to note that the informants were used as an aid in diagnosis of depression and not as a second diagnosis. With the addition of the informant in the incorporation of the GDS-15, the sensitivity of the GDS-15 dropped by 20%. This implies that self reporting screening tools have more false negative assessments than previously thought. Therefore addition of the informant does have clinical significance, however methodological problems do exist within the study.

- The authors do not describe the vetting process of the informants any more than that they were senior level caretakers that knew the patients well.
 - A better qualification or standardization of the caretaker-patient relationship is necessary to fully understand the effect of having informants that can attest to patient depressive affect.
- In addition, the authors do not inform the reader of when the study took place.
- Researchers recognized previously that clinical judgement would be necessary and therefore physicians using this study must accept the bias that is created by subjective assessment.
- Testing was done on one subset of the population of aged individuals in low-level care facilities and therefore restricts the clinical application of this test to individuals of little cognitive impairment and old age.
- Patients with cognitive limitations that are subtle but may be noticed through prolonged observation are unlikely to be counted as one of the criteria in this study because the length of time the aged-care patient had been experiencing depressive symptoms according to the informant is limited to 2 weeks prior to the interview.

7. Reference:

Davidson TE, McCabe MP, Mellor D. An Examination of the "Gold Standard" Diagnosis of Major Depression in Aged-Care Settings. *Am J Geriatr Psychiatry*. 2009 May; 17(5): 359-67.