Assessment of Depression in Cardiac Rehabilitation
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INTRODUCTION
Depression is highly prevalent among people with cardiovascular disease (CVD). It has been estimated that anywhere between 20% and 50% of the CVD population suffers from depression (Frasure-Smith, Lesperance, & Talajic, 1995; McDermott, Schmidt & Wallner, 1997). Not only is depression coincident with CVD, but it also appears that depression can contribute to the worsening of the disease. Evidence indicates that both self-reported negative affect and the clinical diagnosis of depression are associated with the development and progression of coronary artery disease (Ferketich, Schwartzbaum, Frid, & Moeschberger, 2000), and among patients with CVD depression predicts future cardiac events (Frasure-Smith & Lesperance, 1999) and hastens mortality (Schulz, Beach, Ives, Martire, Ariyo, & Kop, 2000). In addition to being an independent risk factor in the pathophysiologic progression of CVD, depression also adversely affects adherence to the sort of lifestyle changes and medication regimen employed in the treatment of CVD (Carney, Rich, Freedland, et al.,1988; Zeigelstein, Fauerbach, Stevens, Romanelli, Richter, & Bush, 2000).

Given these scientific facts and findings, it is recommended that all cardiac patients be screened for depression during their first contact with the cardiac rehabilitation program. Ideally, patients should be routinely assessed by a psychiatrist or clinical psychologist using an intensive structured clinical interview procedure. Several structured interview procedures are excellent for diagnoses of depression when employed by trained specialists (for details on specific examples, see Brown, DiNardo, & Barlow, 1994; Robins, Helzer, Croughgan, & Radcliff, 1981; or Spitzer, Williams, Gibbon, & First, 1990). However, due either to personnel or resource limitations, true structured interview procedures are often unfeasible as a first means of determining whether a patient might suffer from depression. Therefore, it is useful for cardiac rehabilitation clinicians to use instead a brief, reliable standardized questionnaire as a cost-effective means of indicating those cases in which it would be appropriate to refer a patient to a mental health professional for further assessment, and possible treatment, of depression.

A number of different questionnaire-type instruments have been developed and are available for use. Each one has some upsides and some downsides. Below, I review 5 such instruments, and discuss some of the relative advantages and disadvantages of each.

SCID SCREEN PATIENT QUESTIONNAIRE (SSPQ)
One questionnaire-type screening instrument attempts to incorporate elements of one particular structured interview procedure into a more standardized, self-administered format. This instrument is the SCID Screen Patient Questionnaire (SSPQ), an abbreviated computerized screening version of the Structured Clinical Interview for DSM-IV (SCID; Spitzer et al., 1990). The SSPQ collects depression-relevant information directly from the patient, in a Windows format. It is easy to use as the patient just answers "yes" or "no" to questions presented on the computer screen. These questions are relevant to all the major disorders that comprise DSM Axis I. It takes between 15 and 30 minutes for a patient to complete the program. The program is not designed to
produce definitive clinical diagnoses, but rather directs the user to problems that should be explored by a licensed mental health professional.

The SSPQ software costs about $200 to purchase, and can be used an unlimited number of times. This program is distributed by Multi-Health Systems.

The advantages of this program are that it is relatively inexpensive, easy to administer, and yet produces screening information about many Axis I DSM-IV disorders including depression.

**BECK DEPRESSION INVENTORY (BDI)**

The Beck Depression Inventory (BDI) is perhaps the most widely used "pencil-and-paper" questionnaire for assessing depression. The most recent version (the BDI-II; Beck, et al, 1996) includes 21 self-report items. It typically takes a patient approximately 5-10 minutes to fill out, and is easy to score. The great deal of existing data on the BDI also facilitates interpretation concerning the severity of depression indicated by any respondent’s score.

Psychometric studies indicate that the BDI is highly internally reliable (e.g., the coefficient alpha is in the high .80s for psychiatric patients) and, importantly the BDI does a good job of differentiating clinically depressed from non-depressed psychiatric patients – that is, scores on the BDI predict the diagnoses of trained clinicians using more intensive diagnostic procedures (see Steer, Beck & Garrison, 1986 for additional details.) The BDI was recommended by the 1995 Consensus Report of the Canadian Cardiovascular Society for use as a depression-screening tool during the post-MI period. Its use need not be limited to the post-MI period, of course. Given the important role that depression plays in both the development and exacerbation of CVD, the BDI can be an excellent screening tool for all patients in cardiac rehabilitation.

One practical downside of the BDI is that it is a copyrighted instrument and so costs money to use (current cost is CDN $1.85 per use; it is illegal to make copies and use the questionnaire without permission of the publisher.) The instrument can be ordered from the Psychological Corporation.

**CENTER FOR EPIDEMIOLOGICAL STUDIES DEPRESSION SCALE (CES-D)**

Another commonly-used self-report measure of depression is the Center for Epidemiological Studies Depression scale (CES-D; Radloff, 1977). This questionnaire was developed to serve as an tool to assessing depression rates within the general population. It is a 20 item pen-and-paper scale, and takes approximately 10 minutes for a patient to fill out. It is a public domain questionnaire, so there is no cost for using it.

Psychometric studies on the CES-D reveal that it has good internal reliability (e.g., the coefficient alpha is .85 for the general population, and .90 for a clinical population), and that it does a good job of predicting the prevalence of depression within a population (Radloff, 1977). While it is an excellent tool for epidemiological research, it is perhaps less useful as an individual diagnostic tool. The CES-D is typically used only to make dichotomous judgments about depression, but it is not clear whether scores usefully predict severity of depression. This limits it’s clinical usefulness. It is probably prudent not to use the CES-D to screen for depression among cardiac patients until specific research has been conducted to assess its use as an screening tool.
SINGLE-ITEM SCREENING QUESTION

In addition to standardized multi-item questionnaires for depression, in my own practice I have found that responses to a single question can be very useful for triaging cardiac rehabilitation participants. Patients are asked, "How much have your usual daily activities been limited by feelings of depression or sadness?" They respond on a four-point (0 – 3) rating scale with a score of 0 indicating "not at all limited" and 3 indicating "extremely limited." We have found responses to this question to show good test-retest reliability (.86 across 2 months, and .85 across 8 months). We have also found, across several samples, that responses to this single item correlate very highly (correlations between .81 and .84) with scores on the CES-D. It’s quick, and it’s free. However, it should be stressed that its utility is limited by the fact that it is just a single question, that there is no normative data to aid interpretation of patients’ responses, and that there is not yet much research assessing its validity.

CONCLUSION

All patients in cardiac rehabilitation programs should be routinely screened for depression, so that appropriate referrals can be made. I have reviewed several questionnaire-type measures that afford efficient screening for depression. There are advantages and disadvantages to each. The two tools I recommend most highly are the Beck Depression Inventory (BDI), and the SCID Screen Patient Questionnaire (SSPQ). Both are easy to administer and have been demonstrated by past research to be reliable and valid predictors of depression. Both entail some cost, but the costs are fairly minimal when weighed against their benefits.

References


