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The Validity of the Beck Depression Inventory-7
in the Crisis Center Setting

by
Ross Feld

A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree in the Graduate Division
of Rowan College
5/6/96

Approved by _____
Professor

Date Approved. 5/6/96

Abstract

Ross Feld

The Validity of the Beck Depression Inventory-7 in the Crisis Center Setting

1996

Dr. Dihoff

School Psychology

The purpose of this study was to test the effectiveness and validity of the Beck Depression Inventory-7, a seven question multiple choice self report questionnaire that measures the severity of depression in a crisis center setting. In order to lend support to whether or not a patient's self report of symptoms matches a clinical evaluation of their chief complaint, done with the Prime MD Mood Module. The sample consisted of fifty subjects, 23 females and 27 males. All subjects presented to the emergency room an initial chief complaint of depression, suicidal ideation or a suicide attempt. Upon arrival in the crisis center, the patient was given a BDI-7 to fill out. The patient was then evaluated with a full psychiatric interview. The Prime MD was administered during the mental status part of the interview. At a 0.01 level of significance, with a critical value of 9.21, chi squared equaled 24.49. The data strongly supports the hypothesis that the BDI-7 is consistent with the Prime MD Mood Module. The patient's self report of symptoms matched the clinical evaluation of the chief complaint. Therefore, it can be concluded that the BDI-7 is a valid measure in a crisis center setting.

Mini-Abstract

Ross Feld

The Validity of the Beck Depression Inventory-7 in the Crisis Center Setting

1996

Dr. Dihoff

School Psychology

The purpose of this study was to test the effectiveness and validity of the Beck Depression Inventory-7 in a crisis center setting by comparing it to the Prime MD Mood Module. At a 0.01 level of significance, with a critical value of 9.21, chi squared equaled 24.49. The data strongly supports the hypothesis that the BDI-7 is valid in the crisis center setting.

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Chapter 1: The Problem

Need

Psychology and psychiatry are unique as compared to other medical fields in that there is no one test or battery of tests that can lead to a definitive diagnosis. They are fields that rely greatly on clinician observation and upon patient self-reporting as well as information from outside observers such as family members or friends. In a psychiatric emergency, the job of the clinician becomes even more difficult due to time limitations and the lack of good collateral information from outside sources. In order to try to make the screening process more efficient, the effectiveness of self-report surveys in a crisis setting is an area that is well worth studying. In this study, the Beck Depression Inventory-7 was tested in order to examine its effectiveness and validity in the crisis center setting. If it is determined to be valid, the benefit is not only to the crisis clinician but also to the agency that the patient is then referred. This way there is a reference point as to the state of the patient before therapy began as compared to his or her mental state after a period of time in therapy.

Purpose

The purpose of this study is to test the effectiveness and validity of the Beck Depression Inventory-7 in a crisis center setting in order to lend support to

whether or not a patient's self report of symptoms matches a clinical evaluation of his or her chief complaint.

Hypothesis

The scores on the Beck Depression Inventory-7 will be consistent with the results of the patient's Prime MD Mood Module. Therefore, the Beck Depression Inventory-7 will prove to be valid in the crisis center setting.

Rational

In times of a psychiatric emergency, it is often difficult to find the right place to turn. According to New Jersey state law, all geographic areas must have available a crisis center which should be able to provide clinical assessment and crisis stabilization. This also includes involuntary commitment, voluntary psychiatric admission, outreach services, and referral and linkage services. It is the job of a crisis counselor to carry out these functions.

When a psychiatric emergency occurs, the patient is brought, willingly or unwillingly, to an emergency room that is equipped with a crisis center. The emergency room doctor and nurse make sure the patient has no acute medical problem that needs attention before medically clearing the individual for a psychiatric evaluation in the crisis center. Once in the crisis center, the patient is given a full clinical evaluation in order to determine the extent of his or her emergency. Often the counselor relies upon information from family members or other people who witnessed the patient's behavior in order to make the proper disposition.

In this process, there are many factors which can limit making the proper disposition. In other forms of medicine, there are blood tests, x-rays, scans, and even exploratory surgeries which can aid in making a diagnosis. Psychiatry does not offer any kind of specific test that could achieve that. Therefore, clinicians must rely heavily upon the clinical interview. Often patients are unwilling to provide many personal details. Some patients are manipulative, and will answer questions the way they feel are appropriate in order to gain a desired outcome. There are also times when patients do not understand the questions being posed, and therefore respond inappropriately. This places an enormous burden on the clinicians, who must take all factors into account before making any decision, since ultimately they are responsible for the safety of any patient who is released, as well as the safety of those who come in contact with the individual.

These problems are not limited to just emergency psychiatry. Clinicians in all areas of psychiatry and psychology must face them. In order to help combat these discrepancies, psychologists developed self-report surveys. These are easily administered questionnaires in which the patient chooses the best response to a series of questions related to him or her self. These surveys are available for many types of psychological disorders that clinicians face. However, most are not recommended for use as a diagnostic tool, but merely as an aid in symptom analysis. They are still widely used in both an inpatient and outpatient basis by many clinicians in order to help gain a clearer understanding of the patient's clinical picture.

It is felt by this researcher that self report surveys could be very beneficial if used in a crisis center, where dispositions must be made quickly and under adverse conditions. As an initial test of their effectiveness, the Beck Depression

Inventory-7, which is used to measure the severity of depression, is to be tested. This test, if successful, coupled with the clinical interview, can be an invaluable tool in successfully screening the patient.

Another benefit of self report inventories in the crisis center is found in the follow up treatment of the patient. For example, if the patient is hospitalized on a mental health unit, another test could be given to the patient at various times in order to check on improvement in the patient, thus helping to identify an appropriate time for discharge. If the patient was not hospitalized, and instead referred to outpatient counseling, improvement again can be tested by giving a retest of the form that patient took while in a crisis situation.

Definitions

Client or patient. Person to whom crisis services are being rendered.

Clinical Interview Psychiatric interview of the patient which consists of the following components; the chief complaint, identifying data, history of the present illness, social history, drug and alcohol history, employment, education, legal history, past psychiatric history, medical history, mental status and disposition.

Crisis Center. (also known as a designated screening center) "a public or private ambulatory care service designated by the Commissioner, which provides mental health services including assessment, screening, emergency and referral services to the mentally ill persons in a specified geographical area. A designated Screening Center is the facility in the public mental health

care treatment system wherein a person believed to be in need of commitment to a short-term care, psychiatric facility or special psychiatric hospital undergoes an assessment to determine what mental health services are appropriate for the person and where those services may be most appropriately provided.”
(Division of Mental Health and Hospitals, 1993)

Crisis counselor. One who carries out the duties of the crisis center.

Depression: “An emotional state marked by great sadness and apprehension, feelings of worthlessness and guilt, withdrawal from others, loss of sleep, appetite, and sexual desire, or interest and pleasure in usual activities; and either lethargy or agitation.” (Davison and Neal, 1990)

Disposition. The referral made for the proper care of the patient.

Screening. The assessment process or psychiatric interview.

Self-report survey. a questionnaire in which clients are asked whether or not certain statements apply to them.

Assumptions

1-The ability of certain patients to read and interpret the BDI-7 may be limited by education and language ability. Only those who can read English on at least a fourth grade level can take the test.

2-There will be continuity of assessment procedures and techniques given to the patients by the different clinicians administering the test.

3-The only subjects used were those who originally presented to the emergency room a chief complaint of either depression, suicidal ideation, or a suicide attempt.

4- Only those subjects willing to participate in the study will be asked to complete the BDI-7.

5- Patients who are felt to be unable to properly participate in the study by the clinician for safety reasons will be excluded even if they meet the initial criteria.

6-Confidentiality and anonymity of all subjects will be assured.

Limitations

These results can only be generalized for use of one kind of self-report survey, the BDI-7, in a crisis center setting. It was also only tested for those who presented to the emergency room either a suicide attempt, suicidal ideation or depression, and who can speak and read English, on at least a fourth grade level, not for those who may be experiencing those same problems or symptoms but presented themselves differently, or who either refused or were unable to participate in the study.

These results also only pertain to the validity of the BDI-7 in a crisis

center setting. Its validity in other settings still must be determined.

Overview

This chapter furnished some pertinent background information in order to understand the rationale and reasoning of the study. In chapter two a literature review will be provided that shows all pertinent research to the BDI-7 and self-report surveys in general in a crisis setting as well as a brief overview on the characteristics of depression. In chapter three, the actual design of the study, that includes the specifics of the sample and the measures used, will be presented. This will be followed in chapter four with an analysis of the results.

Chapter 2

Review of research

In this chapter, the previous studies that have been done, which are relevant to the area of study, will be reviewed. The focus will be on mood disorders (specifically depression), self-report surveys in general, the Beck Depression Inventory and its history, and clinical assessments in diagnosing mood disorders.

Mood Disorders

The Diagnostic and Statistical Manual Four (DSM-4), published by the American Psychiatric Association, divides the mood disorders into three distinct sections: depressive disorders, bipolar disorders, and a mood disorder due to either a general medical condition or a substance induced condition. The depressive disorders consist of Major Depressive Disorder, Dysthymic Disorder and Depressive Disorder Not Otherwise Specified. The bipolar disorders consist of Bipolar I Disorder, Bipolar II Disorder, Cyclothymic Disorder and Bipolar Disorder Not Otherwise Specified. The distinguishing factor between depressive disorders and bipolar disorders is that in a depressive disorder there is no history of ever having a Manic, Mixed or Hypomanic episode (American Psychiatric Association, 1994). Depression is one of the most debilitating and widespread of all mental disorders (Leshner, 1992). Nearly one in eight people may require treatment for it in their lifetime (U.S. Department of Health and Human Services, 1993). All of the depressive

disorders contain some or all of the nine major symptom criteria described by the DSM-4 for a major depressive episode. The nine criteria are;

* (1) depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). Note: In children and adolescents, can be irritable mood.

(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others)

(3) significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. Note: In children, consider failure to make expected weight gains.

(4) insomnia or hypersomnia nearly every day

(5) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)

(6) fatigue or loss of energy nearly every day

(7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)

(8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)

(9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide" (American Psychiatric Association, 1994).

It is important not to confuse a depressive disorder with a sad or depressed mood associated with the normal response to specific life circumstances such as death, losses or disappointments (U.S. Department of Health and Human Services, 1993).

Suicide and depression are highly associated. Depressed people make up the largest group of all completed suicides (Kaplan and Sadock, 1995).

Depression is a factor in up to 70% of all cases of suicide in the U.S. (Leshner, 1992). Suicidal gestures, self destructive behaviors, and repeated unnecessary risk taking are also very common in people suffering from depressive disorders (Kaplan and Sadock, 1995).

Self-Report Surveys

Self-report surveys originated during the time of World War One, when Woodworth developed the personal data sheet. This was designed as a screening instrument for identifying seriously disturbed men who should be disqualified for military service (Anastasi, 1988). The survey's popularity has increased over time because they are easily administered, usually at a low cost, and are valuable tools in helping clinicians detect pathology. In terms of self-report for depression, they have been found to be sensitive in picking up depressive symptoms and in detecting milder mood conditions, however they are not to be used as a means of diagnosing (U.S Department of Health and Human Services, 1993).

In terms of reliability, Davison and Neale point out those who are involved in the making of self-report surveys are well schooled in the principles of test construction and standardization. It is therefore rare that one would lack reliability. However they feel that the validity may present some problems. There is a phenomenon known as social desirability where the responder may have the tendency to give an answer that he or she feels to be socially acceptable even if it is not accurate (Davison and Neale, 1990). Eisen, Dill and Grob also found this effect to be true, and found another limitation in using patients who are "too psychotic, confused or otherwise unable to respond appropriately to the interview" (Eisen, Dill and Grob, 1984). They nevertheless, advise certain steps should be done in order to minimize these effects. These steps include: the assurance of anonymity and confidentiality, using evaluators who are not part of the treatment team, and "thoroughly explaining the goals and procedures of the evaluation process to the patients" (Eisen, Dill and Grob,

1984). However, Deluty, Deluty and Carver found that even severely disturbed inpatients are capable of providing both reliable and valid self-report surveys with regards to anxiety and depression (Deluty, Deluty and Carver 1986). They also recommend steps which can be taken in order to insure the best results. Spend as much time as possible to establish rapport, use only highly reliable surveys, and conduct a clinical interview which is "structured, symptom specific, and goal directed" (Deluty, Deluty and Carver, 1986).

In an article titled "Suicide Assessment: Clinical Interview Vs. Self-Report", Kaplan et Al found a high level of agreement between a patient's disclosure of suicidal behaviors on a self-report instrument and clinician face to face interviews. However, they found people had the tendency to admit to current suicidal ideation on the self-report questionnaire more than during the interview. They postulated two possible reasons for this discrepancy. One is that many people might have felt that a positive response during the interview might lead to an unwanted hospitalization. The other is that people might have ambivalence to admitting thoughts of suicide because the thoughts fluctuate with even the slightest changes in a person's mood or environment. The authors felt that "if the suicide-related information derived from a self-rating instrument is at least equivalent to what can be obtained from posing the same questions during a clinical interview, then such assessments could serve as a useful screening tool and supplement to clinician's assessments" (Kaplan et Al, 1994).

Beck Depression Inventory

Because of the low degree of interclinician diagnosis at the time, in 1961, Beck, Ward, Mendelson and Erbaugh introduced the Beck Depression

Inventory (BDI) to the world. They created a test that was to be a reliable and valid method of defining depression. The instruments available then were felt to be inadequate for measuring depression in all populations. In the original study, the BDI was found to be both highly reliable and valid. The test helps the clinician to discriminate effectively varying degrees of depression in a qualitative manner (Beck, Ward, Mendelson and Erbaugh, 1961).

The original BDI, which is now the most widely used self-report measure of depression (Deluty, Deluty and Carver, 1986 also Margo, Dewan, Fisher and Greenberg, 1992) is based upon the descriptions of symptoms described by depressed psychiatric inpatients contrasted with symptoms that nondepressed psychiatric inpatients infrequently described as well as with clinical observations. The test consisted of twenty-one items scored on a four point scale ranging from zero to three. In 1971, a modified version was created which changed some of the wordings of the questions as well as reducing the number of responses from four to three. The twenty one symptoms and attitudes assessed by the original BDI are; mood, pessimism, sense of failure, self-dissatisfaction, guilt, punishment, self-dislike, self accusations, suicidal ideas, crying, irritability, social withdrawal, indecisiveness, body image change, work difficulty, insomnia, fatigability, loss of appetite, weight loss, somatic preoccupation, and loss of libido (Beck and Steer, 1987). It was shown that the internal consistencies of both the original BDI and the revised BDI are comparable (Beck and Steer, 1984) In 1972, Beck and Beck developed a thirteen item version of the BDI which correlated .96 with the original version (Deluty, Deluty and Carver, 1986). The BDI has been found to measure a general construct of depressive symptoms rather than anything specific. The symptoms of depression that are measured are similar in nature for both patient

and non-patient populations (Welch, Hall and Walkey, 1990). It has also been shown that the BDI is a powerful tool in differentiating depressive disorders from anxiety disorders which others have found difficult to do. Because anxiety and depressive symptoms are seen together so commonly, it is hard to identify which symptom is truly indicative of which disorder (Steer, Beck, Riskind and Brown, 1986).

The seven question version of the Beck Depression Inventory being used for this study is not yet on the market for use in the general population because it is still being validated. Therefore there has been nothing published on the test to date.

Clinical Assessments

In 1994, Spitzer et Al introduced the Prime MD (Primary Care Evaluation of Mental Disorders) in order to allow primary care physicians a procedure for the rapid and accurate diagnosis of the most common mental disorders that are seen in primary care. These disorders include the following categories; mood, anxiety, somatoform, alcohol related, and eating disorders. The Prime MD is a standardized but brief diagnostic assessment procedure which consists of two components. The first part is a one page questionnaire that the patient fills out, the PQ. The second is a twelve page clinician evaluation guide, the CEQ, which is a structured interview form that the physician uses to follow up the positive responses on the PQ.

In assessing the validity of the Prime MD, all patients who were studied with the assessment by their primary care physician (PCP) were given a follow up interview with a specially trained mental health professional (MHP), who

conducted a full psychiatric clinical interview. Because only the mood disorders CEQ will be used in this thesis, the only results which are germane are those concerning the mood disorders. The proportion of cases given an MHP diagnosis correctly identified by the PCP, or the sensitivity was 67%. The specificity, or the proportion of MHP cases not given the diagnosis correctly identified by the PCPs was 92%. The positive predictive value, or proportion of cases given the diagnosis by the PCPs that were correctly identified was 78%. The overall accuracy rate, or the proportion of total patients correctly identified by the PCPs as having or not having the diagnosis was 84%. K coefficients, the index of agreement between the PCPs and the MHPs for the diagnosis, correcting for agreement due to chance was 0.61. The prevalence showed that neither the MHPs or PCPs had a systematic tendency to over diagnose or under diagnose and psychiatric disorder (Spitzer et Al. 1994). The data provides considerable support for the utility and validity of the Prime MD system.

Summary

Depression is one of the most debilitating and widespread of all mental disorders (Leshner, 1992). The Diagnostic and Statistical Manual has defined depression as consisting of distinct symptoms including a depressed mood, diminished interest or pleasure in activities, weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation, loss of energy, feelings of worthlessness or guilt, diminished ability to concentrate or think and thoughts of suicide or death (American Psychiatric Association, 1994). Self report surveys have been found to be sensitive in picking up these depressive symptoms (United States Department of Health and Human Services, 1993). In 1961, Beck, Ward, Mendelson and Erbaugh introduced the Beck Depression

Inventory as a means to discriminate effectively varying degrees of depression in a qualitative manner (Beck, Ward, Mendelson and Erbaugh, 1961). The BDI and its several revised editions is now the most widely used self report measure of depression (Deluty, Deluty and Carver, 1986 also Margo, Dewan, Fisher and Greenberg, 1992). The newest of these revisions, the Beck Depression Inventory-7, which is being used for this study, is not yet on the market because it is still being validated. Therefore, there has been nothing published on the test to date. In order to study its validity, the BDI-7 is being compared to the Prime MD (Primary Care Evaluation of Mood Disorders). This was developed to allow primary care physicians a procedure for the rapid and accurate diagnosis of the most common mental disorders. The overall accuracy rate for this procedure was found to be 84% (Spitzer et Al, 1994). The data provided considerable support for the utility and validity of the Prime MD system.

Chapter 3

Design of the Study

Design

This study is a correlational study to determine the relationship between the Beck Depression Inventory -7 and the PRIME MD in determining mood disorders. The analysis used for this will be the Chi Square test. Its purpose is determine the validity of the BDI-7 in the crisis center setting in order to lend support to whether a patients self report of symptoms matches a clinical evaluation of their chief complaint.

Subjects

Subjects will be limited to only specific presenting problems. Only people who present to the emergency room an initial chief complaint of either depression, suicidal ideation or a suicide attempt will participate. Also all subjects will be able to speak and read basic English (approximately on a fourth grade level). The sample consisted of fifty subjects. There were 23 females and 27 males whose ages ranged from 13 to 74. Of the subjects, 48% were White, 34% were Black and 18% were Hispanic.

Setting

Two crisis centers in a southern New Jersey county will be used for this experiment. One is located in a poor urban city, the other in a wealthy suburban city.

Materials

1) The Beck Depression Inventory -7

The BDI-7 is a seven question multiple choice test which has four answers to choose from for each question. The questions deal with topics on sadness, pessimism, sense of failure, sense of pleasure, self-like, self-blame, and suicidal ideation. The answer choices are labeled from zero to three, and score is determined by adding together the totals.

2) The Prime MD mood module

The Prime MD mood module comes from the PRIME-MD (Primary Care Evaluation of Mental Disorders). It is one part of the 12 page clinical evaluation guide that a physician uses as a follow up if there is any indication of a mental disorder on the patient questionnaire that is filled out prior to seeing the physician. The items in the test were developed from the criteria that the American Psychiatric Association set in the *Diagnostic and Statistical Manual, Revised Third Edition*. Because of the limitations on subjects used in this experiment, those who initially present with depression, suicidal ideation or a suicide attempt, only the mood module will be used. The authors of the test do state that the clinician evaluation guides can be used without the patient questionnaire if an area of particular interest wants to be isolated (Spitzer et Al, 1994). The module itself is a structured interview that consists of seventeen yes or no questions that operates as a flow sheet. After each question is answered, the module states the next question to be asked, or else comes up with a preliminary diagnosis that the reported symptoms match. The module comes up with seven potential diagnoses; no diagnosis made, Major Depressive Disorder, Partial Remission of Major Depressive Disorder, Dysthymia, Minor Depressive Disorder, Rule Out Bipolar Disorder, and Rule Out Depressive

Disorder Due to Physical Disorder, Medication or Other Drug.

Procedure

Once a patient who presented to the emergency room with a chief complaint of depression, suicidal ideation or a suicide attempt is brought to the crisis center, he or she will be asked to complete a BDI-7. The patients will be told not to fill their names in on the sheet, thus assuring their anonymity. While the patient is completing this, the clinician will review the emergency room chart, and set up the crisis chart. Thus giving the patient privacy to complete the form. Once the patient has completed the form, the clinician will put the BDI-7 aside, to be scored at a later date. The clinician will then take the patient into a private room, where he or she will complete a full clinical interview. A clinical interview consists of the following components: the chief complaint, identifying data, history of present illness, social history, drug and alcohol history, employment, education, legal history, past psychiatric history, medical history, mental status, and disposition. During the determination of the mental status, the clinician will ask the Prime MD mood module questions in order to determine the presence of a mood disorder. After the interview is complete, and the patient's needs are met, the clinician will attach the Prime MD to the BDI-7, and place them in an folder. All forms will be scored at a later date by a master's student in psychology regardless of the clinician who completed them.

The BDI-7 will be scored by totaling the number circled by the patient for each question. Any question that is left blank, will be scored as a zero. In the event that more than one item is circled, the item with the greater number will be factored. For this study, a BDI-7 score of three or above will be considered indicative of a mood disorder. The actual breakdown of scores has not been

established as of this writing.

Chapter 4

Analysis of Results

Hypothesis

The scores on the Beck Depression Inventory-7 will be consistent with the results of the patient's Prime MD Mood Module. Therefore, the Beck Depression Inventory-7 will prove to be valid in the crisis center setting.

Results

Fifty subjects participated in the study. The average BDI-7 score was 13.34, with a range of 2 through 21. These corresponded with the following Prime MD diagnosis; 2 subjects-No diagnosis made, 13 subjects-Major Depressive Disorder, 3 subjects- Major Depressive Disorder, rule out Bipolar Disorder, 7 subjects- Major Depressive Disorder, rule out due to Drug Abuse, 2 subjects- Major Depressive Disorder, rule out due to Drug Abuse and Bipolar Disorder, 10 subjects-Dysthymia, 8 subjects-Dysthymia, rule out due to Drug Abuse, 4 subjects- Dysthymia, rule out Bipolar Disorder, and 1 subject-Partial Remission of Major Depressive Disorder. 49 out of the 50 subjects's BDI-7 scores were consistent with the Prime MD diagnosis made. A complete summary of the results can be found in Table 3.1 on pages 21-22.

A chi squared analysis was done and the results were found to be very significant at a 0.01 level of confidence (At the 0.01 level of confidence, with two degrees of freedom, the critical value is 9.21. Chi squared equaled 24.49.). Thus the null hypothesis was rejected.

Table 3.1- Subject Information and Results

subject	date	male/female	age	race	BDI-7 score	Prime MD diagnosis
1	12/12/95	female	13	black	11	major depressive d/o
2	12/12/95	female	30	black	13	dysthymia
3	12/12/95	female	32	white	15	major depressive d/o
4	12/13/95	male	57	white	2	no diagnosis made
5	12/13/95	female	42	hispanic	21	major depressive d/o, r/o due to DA
6	12/15/95	male	36	white	15	dysthymia
7	12/25/95	male	26	black	14	dysthymia
8	1/2/96	female	42	black	14	MDD, r/o bipolar, r/o due to DA
9	1/3/96	female	46	white	16	major depressive d/o
10	1/5/96	female	39	white	14	major depressive d/o
11	1/8/96	male	17	white	6	major depressive d/o, r/o bipolar
12	1/15/96	female	48	white	12	major depressive d/o, r/o bipolar
13	1/15/96	female	27	hispanic	16	dysthymia
14	1/16/96	male	41	black	11	major depressive d/o
15	1/16/96	female	40	white	10	MDD, r/o due to drug abuse
16	1/16/96	male	41	black	18	dysthymia, r/o due to drug abuse
17	1/19/96	male	39	white	21	MDD, r/o bipolar, r/o due to DA
18	1/19/96	male	32	white	11	major depressive d/o
19	1/19/96	male	51	white	15	dysthymia, r/o due to drug abuse
20	1/22/96	male	28	white	15	major depressive d/o
21	1/22/96	male	27	hispanic	18	major depressive d/o, r/o due to DA
22	1/29/96	female	29	hispanic	4	no diagnosis made
23	1/29/96	male	28	hispanic	15	dysthymia, r/o bipolar
24	1/29/96	male	39	hispanic	4	dysthymia
25	2/6/96	female	34	white	16	dysthymia, r/o bipolar
26	2/6/96	male	38	black	12	dysthymia, r/o bipolar
27	2/7/96	female	41	black	13	dysthymia, r/o bipolar
28	2/7/96	female	31	white	8	major depressive d/o
29	2/7/96	female	35	hispanic	17	dysthymia
30	2/7/96	female	52	white	14	dysthymia
31	2/9/96	male	35	white	12	dysthymia
32	2/9/96	male	74	white	21	dysthymia, r/o due to drug abuse
33	2/20/96	male	45	black	4	minor depressive d/o
34	2/21/96	male	37	white	17	major depressive d/o, r/o due to DA
35	2/23/96	female	42	black	8	major depressive d/o
36	2/26/96	male	29	white	19	major depressive d/o
37	2/26/96	male	20	white	4	major depressive d/o, r/o bipolar

Key: d/o = disorder, r/o = rule out, DA = Drug abuse, MDD = Major Depressive Disorder

 Table 3.1 (continued)- Subject Information and Results

38	2/27/96	male	34	black	13	partial remission of MDD
39	3/8/96	female	33	hispanic	16	major depressive d/o, r/o due to DA
40	3/11/96	male	23	white	16	dysthymia, r/o due to drug abuse
41	3/11/96	female	41	white	17	dysthymia
42	3/12/96	female	24	black	19	dysthymia, r/o due to drug abuse
43	3/12/96	male	24	white	9	major depressive d/o
44	3/12/96	male	32	black	14	dysthymia, r/o due to drug abuse
45	3/13/96	female	50	black	20	dysthymia
46	3/14/96	male	34	black	13	major depressive d/o, r/o due to DA
47	3/14/96	male	51	white	14	dysthymia, r/o due to drug abuse
48	3/14/96	female	18	black	13	major depressive d/o
49	3/15/96	female	61	black	20	major depressive d/o, r/o due to DA
50	3/15/96	male	28	hispanic	7	dysthymia, r/o due to drug abuse

Key: d/o = disorder, r/o = rule out, DA = Drug abuse, MDD = Major Depressive Disorder

Summary

At a 0.01 level of significance, with a critical value of 9.21, chi squared equaled 24.49. The data strongly supports the hypothesis that the Beck Depression Inventory-7 is consistent with the Prime MD Mood Module in a crisis setting.

Chapter 5

Summary and Conclusions

Summary

Psychology and psychiatry are unique as compared to other medical fields in that there is no one test or battery of tests that can lead to a definitive diagnosis. They are fields that rely heavily on clinician observation and upon patient self reporting as well as information from outside observers such as family or friends. In a psychiatric emergency, the job of the clinician becomes even more difficult due to time limitations and the lack of good collateral information from outside sources. The purpose of this study was to test out the effectiveness and validity of the Beck Depression Inventory-7, a seven question multiple choice self report questionnaire that measures the severity of depression, in a crisis center setting, in order to lend support to whether a patient's self report of symptoms matches a clinical evaluation of their chief complaint. It was hypothesized that the scores on the BDI-7 will be consistent with the results of the patient's Prime MD Mood Module, a structured interview flow sheet designed for physicians for the rapid and accurate diagnosis of depression in primary care. Therefore, the BDI-7 will prove to be valid in the crisis center setting.

Depression is one of the most debilitating and widespread of all mental disorders (Leshner, 1992). The Diagnostic and Statistical Manual has defined depression as consisting of distinct symptoms including a depressed mood, diminished interest or pleasure in activities, weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation, loss of energy, feelings of

worthlessness or guilt, diminished ability to concentrate or think and thoughts of suicide or death (American Psychiatric Association, 1994). Self report surveys have been found to be sensitive in picking up these depressive symptoms (United States Department of Health and Human Services, 1993). One of the most widely used of these self report measures for depression, including its various revisions, is the Beck Depression Inventory. The newest of these revisions, the BDI-7, is still being studied to show its effectiveness. In order to study its validity in the crisis center setting, the BDI-7 was compared to the Prime MD Mood Module, which has already been tested and shown to be a valid measure of depression, in a correlational study.

The sample consisted of fifty subjects, 23 females and 27 males, whose ages ranged from 13 to 74. All subjects presented to the emergency room with an initial chief complaint of depression, suicidal ideation or a suicide attempt. After receiving medical clearance from the emergency room doctor, the patient was presented to the crisis center. There were two crisis centers used for this study, one located in a poor urban city, the other in a wealthy suburban city. Upon arrival at the crisis center, the patient was given a BDI-7 to fill out while the clinician was reviewing the emergency room chart. The patient was then evaluated with a full psychiatric interview. The Prime MD was administered during the mental status part of the interview. The two measures were scored at a later date.

Conclusions

At a 0.01 level of significance, with a critical value of 9.21, chi squared equaled 24.49. The data strongly supports the hypothesis that the BDI-7 is consistent with the Prime MD Mood Module. The patient's self report of

symptoms matched the clinical evaluation of the chief complaint. Therefore, it can be concluded that the BDI-7 is a valid measure in a crisis center setting.

Discussion

The results of this study lend support to the Beck Depression Inventory-7's validity in a crisis center setting as was originally hypothesized. However, it is important to remember that the instrument should not stand on its own for making a diagnosis, nor was it ever intended to do so. It can not distinguish whether or not the symptoms presented are the result of drug abuse, as was seen in 34% of the patients in the study, or the result of patient manipulation, which is a common phenomenon in crisis centers. The BDI-7 is nevertheless a useful screening tool and supplement to the clinical interview.

In addition, it is felt that using a self report instrument in the crisis center has benefits other than just as a screening tool. It allows the patients to feel like they are actively taking part in the screening process, especially during the delay period from when they are first brought to the crisis center until they begin the clinical interview. The patients are put somewhat at ease by seeing in print some of the symptoms that they are experiencing, and realize that they are not the only ones to have felt this way. It also makes it easier for the patient to talk about the symptoms that were addressed with the BDI-7.

One common problem found with the subject's responses to the BDI-7 was found in those who circled more than one answer, or even in one case, a subject wrote in her own answer. As Kaplan et Al found, patient's thoughts can fluctuate with even the slightest changes in mood or environment (Kaplan et Al, 1994). Thus, there can be more than one response that matches the subject's feelings. The test controls for this by erring on the side of caution, and scoring

only the highest numbered response if more than one response is given.

In order to attain the best results with a self report instrument in this setting, the recommendations of Eisen, Dill and Grob and Deluty, Deluty and Carver should be followed. That is, patient's anonymity and confidentiality must be assured, those evaluating the patient should not be a part of the treatment team, the goals and procedures of the process should be explained, rapport should be established, and it should be done with a structured, goal directed clinical interview (Eisen, Dill and Grob, 1984 and Deluty, Deluty and Carver, 1986).

Implications for Future Research

This researcher feels that the primary benefit to using self report surveys in a crisis center setting is in the patient's follow up care. Future research should focus on the comparison of the patient's score on a particular self report measure given in the crisis center, to that given again after a period of time in the treatment option where the patient was referred. This gives both the clinician and the patient an opportunity to measure the progress of therapy.

The validation of other self report instruments in the crisis center setting would also be a beneficial area of study. This would enhance the assessment procedure in patient's with complaints other than depression.

Future research should, in addition, focus on the Beck Depression Inventory-7 in settings other than crisis centers.

References

1. American Psychiatric Association: Diagnostic and Statistical Manual Of Mental Disorders, Fourth Edition. Washington D.C., American Psychiatric Association, 1994.
2. Anastasi, Anne, 1988, Psychological Testing, Sixth Edition, New York, Macmillan Publishing Company.
3. Beck, Aaron and Steer, Robert, 1987, *Beck Depression Inventory Manual*, New York, The Psychological Corporation.
4. Beck, Aaron and Steer, Robert, 1984, *Internal Consistencies of the Original and Revised Beck Depression Inventory*, *Journal of Clinical Psychology*, 40, 1365-1367.
5. Beck, A.T., Ward, C.H., Mendelson, M., Mock, J. and Erbaugh, J., 1961, *An Inventory for Measuring Depression*, *Archives of General Psychiatry*, 4, 561-571.
6. Davison, Gerald and Neale, John, 1990, Abnormal Psychology, Fifth Edition, New York, John Wiley and Sons.
7. Division Of Mental Health and Hospitals, 1993, *Proposed Rules Screening and Screening Outreach*, New Jersey Division of Mental Health and Hospitals.
8. Deluty, Barbara, Deluty, Robert and Carver, Charles, 1986, *Concordance Between Clinicians' and Patients' Ratings of Anxiety and Depression as Mediated by Private Self-Consciousness*, *Journal of Personality Assessment*, 50(1), 93-106.
9. Eisen, Susan, Dill, Diana and Grob, Mollie, 1994, *Reliability and Validity of*

- a Brief Patient- Report Instrument for Psychiatric Outcome Evaluation*,
Hospital and Community Psychiatry, 45(3), 242-247.
10. Kaplan, M., Asnis, G., Sanderson, W., Keswani, L., DeLecuna, J. and Joseph, S., 1994, *Suicide Assessment: Clinical Interview VS. Self-Report*, Journal of Clinical Psychology, 50(2), 294-298.
 11. Kaplan, Harold and Sadock, Benjamin, 1995, Comprehensive Textbook of Psychiatry, Sixth Edition, Volumes I and II, Baltimore, Williams and Wilkins.
 12. Leshner, Alan, July 1992, *Winning the War Against Clinical Depression*, USA Today, 86-87.
 13. Margo, G., Dewan, M., Fisher, S. and Greenberg, R., 1992, *Comparison of Three Depression Rating Scales*, Perceptual and Motor Skills, 75, 144-146.
 14. Spitzer, R., Williams, J., Kroenke, K., Linzer, M., Verloin deGruy, F., Hahn, S., Brody, D., and Johnson, J., 1994, *Utility of a New Procedure for Diagnosing Mental Disorders in Primary Care, The Prime-MD 1000 Study*. Journal of the American Medical Association, 272(22), 1749-1756.
 15. Steer, R., Beck, A., Riskind, J. and Brown, G., 1986, *Differentiation of Depressive Disorders from Generalized Anxiety by the Beck Depression Inventory*, Journal of Clinical Psychology, 42(3), 475-478.
 16. Welch, Garry, Hall, Anne and Walkey, Frank, 1990, *The Replicable Dimensions of the Beck Depression Inventory*, Journal of Clinical Psychology, 46(6), 817-827.
 17. United States Department of Health and Human Services, 1993, Depression in Primary Care: Volumes I and II, Maryland, U.S.

Department of Health and Human Services.