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On beyond urine: clinically useful assesment instruments in the treatment of drug dependence

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Abstract

Although there are a wealth of clinically useful, brief, and low-cost assessment instruments available for use with drug-dependent populations, relatively few are broadly used in clinical practice. With an emphasis on: (1) the multidimensional nature of drug users' problems; and (2) assessments that can be integrated into empirically validated treatments, clinically useful assessments in four general categories (evaluation and diagnosis of drug dependence, identifying concurrent disorders and problems, treatment planning, and evaluation of treatment outcome) are briefly summarized. Progress in the field of drug abuse treatment has been significantly hampered by the failure to adopt, across research and clinical settings, a common set of assessments.

Keywords

Clinical assessment; Substance abuse; Reviews

1. Introduction

Although not nearly as plentiful as the wide range of instruments that were developed to assess alcohol use and related problems, there is no shortage of assessment instruments that can be used to evaluate drug dependence. However, while many reliable and valid assessments have been developed and evaluated with drug abusers, comparatively few have bridged the gap from research to clinical practice and are widely used by the clinical community. Formal assessment using well-validated instruments is highly variable, and often minimal, in many clinical settings where drug abusers are treated. In this review, we will focus on low-cost, brief, clinically useful assessment instruments and strategies in the treatment of adult drug dependent populations, with emphasis on the multidimensional nature of drug abusers problems and the importance of integration of assessment instruments into the treatment process.

2. Why do formal assessment in clinical practice?

Given the comparative lack of emphasis on formal assessment in many clinical practice settings, it may make sense, first, to explore why assessment is not done more broadly or consistently. Clinicians treating substance abusers are typically very busy and have large caseloads. Time is at a premium, and any time spent, by the patient or clinician, in completing, scoring or, interpreting assessments must be well justified. Reimbursements for ongoing outpatient care are often minimal, and formal assessment is rarely reimbursed by

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third party payors. Therefore, assessments must come at no- or low-cost and be directly relevant to treatment planning or outcome.

Given the above, what is the incremental value of assessment in clinical practice with drug dependent populations? First, formal structured assessments are likely to be more sensitive than the unstructured clinical interviews used by many clinicians. For example, several studies have demonstrated that structured diagnostic assessments, even administered by lay interviewers, are more likely to detect psychiatric disorders than unstructured clinical interviews (Anthony et al., 1985; Helzer et al., 1985; Kranzler, Kadden, Babor, & Rounsaville, 1994; Schwartz et al., 2000). Thus, without formal assessment, many co-occurring disorders and problems of prognostic significance are likely to be missed.

Second, recent changes in the payor system for drug abuse have introduced increased pressure on clinicians to justify the treatments and services they provide. Thus, multidimensional assessment of drug users, which can identify the needs for specific interventions and services, enables clinicians to more easily justify their services to managed care companies and other payors. Third, recent evidence has strongly linked improved outcomes to the provision of services directly focused on the specific needs of individual drug users (McLellan, Arndt, Metzger, Woody, & O'Brien, 1993; McLellan, Grissom, Zanis, & Randall, 1997; McLellan, Luborsky, Woody, O'Brien, & Druley, 1983). Thus, assessment is an important strategy for evaluating the individual client's need for specific interventions and services, selecting treatment goals, and marking whether targeted goals have been met. Fourth, objective determination of outcomes is complicated, if not impossible, without at least minimal assessment of substance use outcomes (e.g., through ongoing urine toxicology screens and evaluation of related problems). Few payors are likely to justify further treatment merely on the basis of subjective reports that the client has 'improved'. Finally, many newly available behavioral therapies for drug dependence that have strong empirical support require the integration of specific assessments. These include repeated urine testing for verification of abstinence for contingency management (CM) (Budney & Higgins, 1998; Higgins, Budney, Bickel, & Hughes, 1993), delivery of objective feedback on drug use and consequences for Motivational Interviewing (MI) and other brief approaches (Miller & Rollnick, 1991), and evaluation of patterns of substance use and coping skills for functional analysis of substance use in cognitive-behavioral coping skills therapy (Carroll, 1998).

3. Clinically useful assessments for drug dependent populations

Following general framework established by Peterson and Sobell (1994), we will briefly summarize those with relevance to clinical assessment of drug users in four principal areas: evaluation and diagnosis of drug use disorders, identifying concurrent disorders and problems, treatment planning, and evaluation of treatment outcomes. More comprehensive reviews have been published previously (Rounsaville, Tims, Horton, & Sowder, 1993; Sobell, Sobell, & Nirenberg, 1988; Sobell, Toneatto, & Sobell, 1994).

3.1. Evaluation and diagnosis of drug use disorders

There are a wealth of strategies and well-validated instruments for evaluating severity of current drug use and establishing a formal diagnosis of a drug use disorder according to DSM or ICD criteria (see Babor, 1993 for a detailed summary). These include the Structured Clinical Interview for DSM-IV (SCID) (First, Spitzer, Gibbon, & Williams, 1995), the Diagnostic Interview Schedule (DIS) (Robins, Helzer, Croughan, & Ratcliff, 1981), and the Composite International Diagnostic Interview (CIDI) (Robins, Wing, & Helzer, 1983). In particular, the CIDI is brief (the substance abuse module of the CIDI, the CIDI-SAM, takes about 20-30 min to administer) and has been shown to be reliable in a number of

populations (Cottler et al., 1997; Cottler, Robins, & Helzer, 1989). Moreover, the CIDI has been used successfully in large-scale surveys of community treatment programs (Simpson, Joe, Fletcher, Hubbard, & Anglin, 1999), has a no-cost computer-assisted version that has been shown to be reliable (Rubio-Stipec, Peters, & Andrews, 1999), and may require less training time and specialized knowledge of drug abuse nosology than other symptoms and instruments. The DIS (NIMH Diagnostic Interview Schedule) has also been computerized, with a computer quick version (Erdman, Klein, Greist, & Skare, 1992; Robins & Helzer, 1994), and was the basis of the development of the CIDI. The cost of the computerized DIS, however, may not be feasible for many clinicians.

Severity of drug dependence is an important factor in evaluating drug dependence, as it can be important in determining the appropriate level of care. For example, the presence of tolerance or withdrawal is typically indicative of greater severity (Schuckit et al., 1999) and need for specialized treatment planning, such as detoxification. There are several strategies for assessing severity of drug dependence, including the newly developed Substance Dependence Severity Scale (Miele et al., 2000), a clinician-rated interview that has been shown to have good psychometric properties and to predict outcome. However, the SDSS requires specialized training and up to 40 min to administer. Alternatively, the Severity of Dependence Scale (SDS) (Gossop, Best, Marsden, & Strang, 1997) is a short (5-item) scale that can be used to measure severity of dependence across different classes of drug use (Gossop et al., 1995; Topp & Mattick, 1997). However, for clinical use, simple item counts from DSM-IV or ICD-10 criteria for substance dependence have been shown to work reasonably well as indicators of severity (Langenbucher, Morgenstern, & Miller, 1995).

Regarding screening instruments, in contrast to the alcohol literature, there has been somewhat less emphasis in the drug use literature on the development of valid screening tools such as the Michigan Alcoholism Screening Test (MAST) (Skinner & Sheu, 1982) or the Alcohol Use Disorders Identification Test (AUDIT) (Allen, Litten, Fertig, & Babor, 1997; Bohn, Babor, & Kranzler, 1995). However, the Drug Abuse Screening Test (DAST) (Skinner, 1982) is a 28-item self-report (a 10-item short version also exists) that has been shown to be a valid screener for drug use disorders, even in populations with severe mental illnesses in addition to drug abuse (Cocco & Carey, 1998; Maisto, Carey, Carey, Gordon, & Gleason, 2000). Another brief (18-item) screening instrument for alcohol and drug use disorders with strong psychometric properties in a large sample of severely mentally ill patients has recently been developed, the Dartmouth Assessment of Lifestyle Inventory (DALI) (Rosenberg et al., 1998). In addition, several MMPI substance abuse scales, the MacAndrew Alcoholism Scale—Revised (MAC-R), the Addiction Potential Scale (APS), and the Addiction Acknowledgement Scale (AAS) have been shown to be effective screening tools for some populations (Rouse, Butcher, & Miller, 1999; Stein, Graham, Ben-Porath, & McNulty, 1999).

3.2. Identifying concurrent disorders and problems

As noted above, it is rare that treatment-seeking drug users have problems solely with drugs themselves. The multidimensional nature of addicts' problems is well-established; that is, drug dependence is associated with a host of medical, psychiatric, legal, employment and social problems that complicate treatment and confer poorer prognosis if left untreated (Appleby, Dyson, Altman, & Luchins, 1997; Carroll, Powers, Bryant, & Rounsaville, 1993; McLellan et al., 1994; McLellan et al., 1983; McLellan, Luborsky, Woody, & O'Brien, 1980; Rounsaville, Tierney, Crits-Christoph, Weissman, & Kleber, 1982; Rounsaville, Weissman, Kleber, & Wilber, 1982). Moreover, it is often not drug use itself, but the medical, legal, social, and financial complications of drug use that lead drug abusers to seek treatment (Downey, Rosengren, & Donovan, 2001). It is also clear that treatments that assess and treat comorbid problems among drug users are typically more effective than those

that solely target drug use (McLellan et al., 1993; Leshner, 1999; McLellan et al., 1997; McLellan et al., 1999).

Thus, one of the most useful assessment tools in planning and assessing treatment outcome for drug-abusing populations is the Addiction Severity Index (ASI) (McLellan et al., 1992; McLellan et al., 1980). The ASI is a semi-structured interview that assesses history, frequency, and consequences of alcohol and drug use, as well as five additional domains that are commonly associated with drug use: medical, legal, employment, social/family, and psychological functioning. Higher scores on the ASI indicate greater severity and need for treatment in each of these areas. Thus, ASI scores on the six major domains may be used to profile patients' major problem areas and thus to plan effective treatment, where elevations in the psychological section indicate need for attention to psychological symptoms, elevations in the medical section indicate need for medical intervention, and so on. Although there is some evidence that reduction of substance use is associated with improved functioning in other domains (Carroll, Powers, Bryant, & Rounsaville, 1993; Kosten, Rounsaville and Kleber, 1986), several studies have demonstrated that patients who receive treatment services that target their problem areas have better outcome than those who do not (McLellan et al., 1997). While many clinicians or programs do not have the capacity to offer comprehensive services in each of these areas, significant elevations in an ASI domain should, at a minimum, indicate need for referral for such services.

The ASI has been used for over 20 years in a wide number of substance using populations and has strong support for its reliability and validity in an number of formats and settings (Alterman, Brown, Zaballero, & McKay, 1994; Alterman et al., 2000; Butler et al., 1998; Kosten, Rounsaville, & Kleber, 1983; Rosen, Henson, Finney, & Moos, 2000; Zanis, McLellan, & Corse, 1997), including predictive validity (Alterman, Bovasso, Cacciola, & McDermott, 2001; Bovasso, Alterman, Cacciola, & Cook, 2001). The ASI is available free of charge, and takes roughly 45-60 min to administer at baseline (although briefer version have been developed and the follow-up versions of the ASI to evaluate treatment outcome require only 15-20 min). Moreover, computerized versions of the ASI with computerized scoring and clinically useful summaries are available (McDermott, Alterman, Brown, & Zaballero, 1996).

In large part due to its clinical utility, use of the ASI has recently been mandated by a number of state- and privately funded health care systems, as well as the Veterans Administration, for the assessment of substance-using populations. It is also the backbone of the Drug Evaluation Network System (DENS) (Carise, McLellan, Gifford, & Kleber, 1999), which tracks trends and outcomes in large (200-300) samples of substance abuse treatment programs nationally. However, like other interviewer-administered instruments, reliability and validity require standardized implementation and training of interviewers (see Carroll, 1995), and it is not clear whether wide-spread use of the ASI without initial training and ongoing quality control will yield useful data.

Moreover, there are a number of domains not covered by the ASI that have clinical relevance in assessing the multidimensional nature of a particular patient's problems. In particular, comorbid psychopathology is common among drug-dependent populations (Regier et al., 1990) and generally confers poorer prognosis if untreated (McLellan & McKay, 1998). Moreover, many of the disorders that frequently co-occur with substance use are treatable, particularly affective and anxiety disorders (O'Brien, 1997), and thus accurate and timely diagnosis is crucial. Although the ASI provides a clinically useful continuous measure of psychological symptoms and history, it does not provide a specific psychiatric diagnosis. Thus, standardized diagnostic instruments such as the SCID, DIS, CIDI, or Psychiatric Research Interview for Substance and Mental Disorders (PRISM) (Hasin et al.,

1996) can be used to make diagnoses of concurrent psychiatric disorder. However, each of these instruments requires some clinician skills or judgment regarding differentiation of substance-induced symptoms from independent psychiatric symptoms and tends to be less reliable among substance-using populations. Strategies typically used to differentiate substance-induced from independent symptoms include detailed inquiry regarding presence of the symptom during extended periods of abstinence or prior to the onset of substance use.

In addition, because of the significance of negative affect, particularly depression, among substance users (Nunes et al., 1998; Kosten, Rounsaville, & Kleber, 1986), clinicians may find self-reports of depression, such as the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), quite useful for assessing and monitoring depression as treatment progresses. Moreover, depression should be re-assessed following stabilization or abstinence (see Husband et al., 1996; Strain, Stitzer, & Bigelow, 1991), as self-reports may overestimate depressive disorders, particularly early in treatment episodes when patients may be experiencing withdrawal.

Diagnosing personality disorders in substance users is challenging (see Ball, Rounsaville, Tennen, & Kranzler, 2001), but accurate identification of personality disorders may be important in treatment planning (Ball & Cecero, 2001) because personality disorders are common in drug users and generally confer poorer prognosis (Marlowe, Kirby, Festinger, Husband, & Platt, 1997; Ouimette, Gima, Moos, & Finney, 1999; Rounsaville et al., 1998). In addition, comorbid personality disorder among drug users has also been associated with greater severity of substance dependence, particularly in the case of antisocial personality disorder (Brooner, King, Kidorf, Schmidt, & Bigelow, 1997; Galen, Brower, Gillespie, & Zucker, 2000). While self-report measures of personality disorders, such as the Millon Clinical Multiaxial Inventory-II (MCMI-II) may be useful strategies for screening substance abusers for personality disorders, clinician interviews such as the SCID are generally seen as more reliable, although more time-consuming as well (Marlowe et al., 1997 Marlowe, Husband, Bonieskie and Kirby, 1997).

The measurement of drug craving is highly complex (see Sayette et al., 2000; Weiss et al., 1997), confounded with other symptoms such as depression, withdrawal, and recent drug use, and most importantly has not been found to be uniformly associated with drug use or outcomes (McMillan & Gilmore-Thomas, 1996; Robbins, Ehrman, Childress, Cornish, & O'Brien, 2000) because it is so unstable. However, craving scales with good psychometric properties have been developed (Tiffany, Singleton, Haertzen, & Henningfield, 1993) and may be clinically useful in some circumstances, particularly to clinicians using extinction of craving procedures.

3.3. Treatment planning

In recent years, greater acceptance of empirically validated treatments by the clinical community has also led to awareness of how assessment instruments can be incorporated into treatment. That is, assessments may be useful in planning and monitoring goals for treatment as well as matching patients to particular treatments. Further, objective feedback based on results of pretreatment assessments may stimulate the change process.

A major development in the treatment of substance use disorders was the transtheoretical model, which suggests that individuals attempting to change problem behavior go through a predictable series of stages of change, from precontemplation to contemplation to action and maintenance (Prochaska & DiClemente, 1982; Prochaska, DiClemente, & Norcross, 1992). A wide range of instruments has been developed to measure stages of change, motivation and related constructs. These include the University of Rhode Island Change Assessment (URICA) (DiClemente & Hughes, 1990), the Stages of Change Readiness and Treatment

Eagerness Scale (SOCRATES) (Miller & Tonigan, 1996), the Contemplation Ladder (Biener & Abrams, 1991), the Alcohol and Drug Consequences Questionnaire (ADCQ) (Cunningham, Sobell, Gavin, Sobell, & Breslin, 1997), the Recovery Attitude and Treatment Evaluator (RAATE) (Gastfriend, Filstead, Reif, & Najavites, 1995; Mee-Lee, 1988), and the Readiness to Change Questionnaire (Rollnick, Heather, Gold, & Hall, 1992). However, it should be noted that psychometric support for some of these instruments, and in particular for their predictive validity among samples of drug users, has been mixed (see Carey, Purnine, Maisto, & Carey, 1999) and their utility among treatment-seeking samples of drug users remains uncertain.

However, strong empirical support is emerging for treatment approaches based on the transtheoretical model, notably MI (Miller & Rollnick, 1991; Miller, Zweben, DiClemente, & Rychtarik, 1992) with a range of drug-using populations (Martino, Carroll, O'Malley, & Rounsaville, 2000; MTP Research Group, 2001; Saunders, Wilkinson, & Philips, 1995s; Swanson, Pantalon, & Cohen, 1999). MI and related approaches make extensive use of pretreatment assessments, in the form of objective feedback on the consequences of substance use. Such feedback typically includes comparisons of the patient's current frequency and intensity of drug use in comparison with age and gender norms, as well as other indicators of severity and consequences, such as dependence severity, family history of use, risk of HIV and other sexually transmitted diseases, negative consequences of substance use, neuropsychological functioning, age at onset of use, and so on.

For drug users, each of these indicators can be derived from existing assessment instruments. For example, the Time Line Follow-Back (TLFB) (Sobell & Sobell, 1992; Sobell et al., 1994) method is excellent for evaluating quantity/frequency information as well as understanding patterns of drug use (Westerberg, Tonigan, & Miller, 1998). The TLFB is very flexible in that it can be adapted for a wide variety of types of substance use and typically takes only 20 min to evaluate a 90-day period and 30 min for a 12-month follow back (Sobell et al., 1994). Dependence severity can be estimated from instruments described earlier, including the SDSS, the SDS, and DSM-IV criteria. A family history of substance use, which has been shown to indicative of higher severity (Merikangas et al., 1998) and poorer outcome (Pickens et al., 2001), can be derived from the ASI, but brief stand-alone instruments which provide more detailed information on family history are also available. One example is the Family History Screen, which collects information on 15 psychiatric disorders and suicidal behavior in patients and first-degree relatives and takes only 5-20 min (Weissman et al., 2000). There are a number of reliable instruments for evaluating HIV risk behaviors, with the Risk Assessment Battery (RAB) (Navaline et al., 1994) and the HIV Risk-Taking Behavior Scale (HRBS) (Darke, 1998; Darke, Hall, Heather, Ward, & Wodak, 1991) among the briefest. To assess negative consequences of drug use, the ASI can be used to assess the extent to which functioning in the medical, legal, social, psychological, and employment domains may have been affected by drug use. In addition, several specialized instruments have been derived from instruments first developed to assess negative consequences of alcohol use, such as the Short Inventory of Problems (SIP), which was derived from the Drinker Inventory of Consequences (DrINC) (Miller, Tonigan, & Longabaugh, 1995). To evaluate a patient's reasons for seeking treatment, the Reasons for Quitting Questionnaire, originally developed for smoking populations, has been successfully adapted for use with other groups of substance users (Downey et al., 2001). Commonly used and fairly brief tests of neuropsychological functioning with reasonable psychometric support among drug-using populations include the Trail Making Test (Davies, 1968; Reitan, 1958), the Shipley Institute of Living Scale (Shipley, 1967), and the Mini-Mental Status Examination (Folstein, Folstein, & McHugh, 1975). Age of onset, a strong predictor of severity in drug dependence as in alcohol dependence (Babor et al., 1992; Ball, Carroll, Rounsaville, & Babor, 1995), is easily evaluated through the ASI, SCID, CIDI, or

DIS. It is possible that the growing popularity of MI in the clinical community may foster greater recognition of the value of incorporating information from objective assessments into the treatment process, and thus to greater use of these assessments by the treatment community.

In recent years, evidence has also been accumulating supporting the efficacy of cognitive-behavioral approaches with drug-dependent populations (Irvin, Bowers, Dunn, & Wong, 1999). CBT approaches are grounded in functional analyses of drug use, that is, identification of those high-risk situations in which drug users are likely to use drugs and the development of individualized sets of coping skills aimed at the particular types of high risk situations most problematic to the patient (see Carroll, 1999). Thus, instruments which assess specific antecedents of drug use, such as the Inventory of Drug-Taking Situations (IDTS) (Turner, Annis, & Sklar, 1997) may be quite useful in treatment planning in CBT. For the purpose of conducting functional analyses and understanding patterns of substance use, the TLFB can be extremely useful, through, for example, identifying temporal patterns and clusters of drug use. In addition, adaptations of the Situational Confidence Questionnaire (Breslin, Sobell, Sobell, & Agrawal, 2000), originally developed to assess problem drinkers' confidence in their ability to resist urges to use, has been adapted for use with drug using populations (22 items) (Barber, Cooper, & Heather, 1991) and thus can be helpful in selecting and individualizing development of specific coping skills. The Drug-Taking Confidence Questionnaire (DTCQ) is a 50-item self-report developed to assess coping self-efficacy for a number of different types of drug and alcohol use (Sklar, Annis, & Turner, 1997). More recently, a short (8-item) version of the DTCQ has also been developed (Sklar & Turner, 1999) and has good psychometric properties. Much more complicated is assessment of a patient's coping skills, which is typically done through role-playing tests. These, although time-consuming, can help pinpoint specific coping deficits. Assessments of coping skills for drug abusers include the Cocaine Risk Response Test (CCRT) (Carroll, Nich, Frankforter, & Bisighini, 1999), which was adapted from the Situational Competency Test (Chaney, O'Leary, & Marlatt, 1978; Hawkins, Catalano, & Wells, 1986) and has been found to pinpoint the acquisition of treatment-specific coping skills.

Another behavioral approach with very strong evidence supporting its efficacy with a wide range of drug-dependent populations is CM (Budney & Higgins, 1998; Budney, Higgins, Radonovich, & Novy, 2000; Higgins, Budney, Bickel & Hughes, 1993; Petry, 2000; Silverman et al., 1996). This approach, grounded in principles of behavioral pharmacology, has four major organizing principles: (1) drug use and abstinence must be swiftly and accurately detected; (2) abstinence is positively reinforced; (3) drug use results in loss of reinforcement; and (4) emphasis on the development of competing reinforcers to drug use. Therefore, when this approach is used to reinforce abstinence, ongoing assessment of drug use is essential, and urine specimens are typically required three times weekly in order to systematically detect all episodes of drug use. The practicality of CM in clinical settings has been greatly enhanced by the availability of comparatively inexpensive, user-friendly, on-site urinalysis methods such as the TestCup and TestStik systems, which can provide immediate (less than 5 min) feedback on recent drug use. When CM is used to reinforce other behaviors (e.g. attendance at sessions, looking for a job) accurate, verifiable assessment of those behaviors is required (Petry, 2000).

3.4. Evaluating treatment outcome

In contrast to virtually all other psychiatric disorders and even other substance use disorders, clinicians who treat individuals for drug use disorders have access to readily available, easy to use, rapid-feedback, valid and sensitive assessments of the most pertinent symptoms and treatment outcome indicators. As drugs are metabolized and excreted through urine, analysis of urine specimens for metabolites of cocaine, opioids, marijuana, benzodiazepenes, and

several other drug classes are a practical and accurate strategy of monitoring recent drug use. Depending on the half-life of the particular drug, the clinician can, by varying the frequency with which urines specimens are obtained from a patient, detect almost all new episodes of use (Schwartz, 1988; Hawks & Chiang, 1986). Recent development of rapid (e.g. 5-min) on-site testing methods, which analyze for specific metabolites within the urine specimen collection cup itself, eliminate the need for the clinician to mix chemicals, and make monitoring of drug use simple, reliable, rapid, and comparatively inexpensive, even in office-based settings.

Although monitoring of recent drug use through urinalysis is an important strategy of assessing drug use and monitoring progress in treatment (Calsyn, Saxon, & Barndt, 1991), evaluating the efficacy of treatment (Blaine, Ling, Kosten, O'Brien, & Chiarello, 1994), predicting treatment outcome (Kampman et al., 2001; Preston et al., 1998) and is the backbone of effective behavioral strategies for treating drug dependence such as CM (Higgins et al., 1994; Petry, 2000), evaluation of treatment outcome is much more complex than assessment of recent drug use alone. Thus, evaluations of multiple dimensions of outcome, including functioning in the medical, legal, psychological, social, and employment domains are important in determining the efficacy and breadth of treatment effects. Thus, the ASI has become a widely used measure of treatment outcome (Cacciola, Alterman, O'Brien, & McLellan, 1997), and may be augmented with repeated administrations of the TLFB and other treatment-specific assessments described earlier.

4. Looking ahead: needs for the field

Earlier landmark reviews of the status of behavioral assessment for substance use disorders (Rounsaville, Tims, Horton, & Sowder, 1993; Sobell, Sobell, & Nirenberg, 1988; Sobell, Toneatto, & Sobell, 1994; Donovan & Marlatt, 1988) have noted that there is no shortage of brief, inexpensive, psychometrically sound assessment instruments for treatment planning and evaluation for drug users. Nevertheless, as noted earlier, formal assessment is rare in clinical practice, suggesting that although the field is well developed in several areas, important gaps remain. One is demonstration of the practical value of assessment in clinical practice. That is, although evidence is accumulating that assessment alone does not bring about change in drug abusers (McLellan et al., 1993; MTP Research Group, 2001), it is notable that the behavioral treatments with the strongest evidence for efficacy in substance abuse (e.g. MI, cognitive behavioral therapy, and CM) all require and make extensive use of formal assessment.

A second gap is a set of instruments that can be reliably used to efficiently assign patients to appropriate type and level of treatment. Again, while the ASI can be used to effectively match patients to needed services (McLellan, Grissom, Zanis & Randall, 1997), evidence that this occurs in actual clinical practice is lacking. Moreover, despite emerging evidence pointing to the effectiveness of specific behavioral therapies among drug users, clear prognostic indicators for these treatments are not yet available and evidence for the effectiveness of patient-treatment matching, at least on a micro-level has been disappointing (see Project MATCH Research Group, 1997). Thus, its not clear how clinicians should assess patients to determine if they are best suited for clinical management, MI, or CBT.

A third and perhaps most important, gap, is identification of a widely-accepted common or 'core' assessment battery that can be used to assess treatment needs and outcomes longitudinally in both clinical and research settings and with a range of patient types. The existence of such a battery (or single instrument) would have a number of advantages, including the ability to compare outcomes across clinical and research populations, improving capacity to identify emergent drug abuse problems and temporal trends in drug

use nationally, facilitating comparisons of patient groups and outcomes across clinics and clinicians, improving understanding of the nature of outcomes in substance abuse treatment, as well as fostering direct comparisons of the effectiveness of different treatment approaches. The basic process of advancing scientific knowledge through the successive testing of related hypotheses is greatly hampered by the lack of common measures (Rounsaville, 1993). While the field of drug abuse treatment has made a major step forward in approaching a common battery with the use of the ASI in major current initiatives such as the DENS study (Carise, McLellan, Gifford, & Kleber, 1999) and the Clinical Trials Network, the lack of a widely-accepted set of standard assessments has impaired greater progress in understanding and treating drug dependence.

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