

Assessment and Treatment of Deaf Adults with Psychiatric Disorders: A Review of the Literature for Practitioners

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Many deaf individuals comprise a unique cultural and linguistic minority group. This article reviews the current research literature related to the evaluation, diagnosis, and treatment of culturally Deaf individuals suffering from mental disorders. Appropriate psychiatric assessment and treatment requires that clinicians be sensitive to issues of language and differences in social norms and cultural values. Emerging trends in research indicate greater diagnostic specificity and a broader range of diagnoses being assigned in services that are specialized for the treatment of deaf people with mental health issues. Culturally sensitive evaluation and treatment involves a thorough assessment of language modality and language fluency, deafness/audiological history, and cultural identification. Failure to consider these factors during the mental status exam can lead to misdiagnosis. Important issues that confound differential diagnosis and psychiatric treatment of the deaf population are highlighted and discussed. Recommendations for the provision of culturally and linguistically appropriate care are provided. (*Journal of Psychiatric Practice* 2013;19:87-97)

KEY WORDS: Deaf, mental illness, epidemiology, psychiatric treatment, assessment, mood disorders, psychosis, interpreters, American Sign Language

INTRODUCTION

Deaf individuals comprise a cultural and linguistic minority group within the United States, and culturally and linguistically appropriate psychiatric treatment must reflect these differences. Current literature on the evaluation, diagnosis, and treatment of culturally Deaf individuals suffering from mental illness is reviewed.

Terminology

There are several terms with which clinicians working with the Deaf community should become famil-

iar. The term “hearing impaired” is more likely to be used by people who have acquired deafness in adulthood than by those who have grown up deaf. Those who identify with the Deaf culture typically reject the label “impaired” and other labels that imply that deafness is pathological, viewing it instead as a locus of pride and identity.¹ The term “deaf” is more widely accepted by the Deaf community. However, there are distinct usages for this term. The word “deaf” (with a lower case d) refers to the physical condition of hearing loss.¹ In contrast, the term “Deaf” (with an upper case D) refers to cultural membership in a group composed mainly of people who are deaf and who form a social community with distinct values, traditions, and a common language, American Sign Language (ASL).² Other people with hearing loss may prefer the term “hard-of-hearing.” Whether one prefers to be referred to as “hard-of-hearing” or “deaf” is a matter of self-identification and may relate to the social community with which the individual shares a stronger sense of belonging and identification. The term “prelingual” deafness is generally defined as onset of deafness prior to age 3 years.

Etiology and Epidemiology of Deafness

Numerous factors can contribute to hearing loss, including genetics, illness/infections (e.g., otitis media, congenital rubella syndrome, measles) and environmental factors (e.g., noise exposure). Genetic conditions account for 50% of the cases of childhood hearing loss, with syndromic conditions associated with other clinical signs and symptoms accounting for one-third of the cases and non-syndromic condi-

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tions accounting for the other two-thirds.³ Data from the Survey of Income and Program Participation (SIPP) indicate that approximately 1.2 million Americans are functionally deaf (unable to understand vocal communication even with the use of hearing aids).⁴

EPIDEMIOLOGY OF PSYCHIATRIC DISORDERS IN DEAF ADULTS

Inpatient Studies

Early studies showed rates of psychotic disorders in the deaf inpatient psychiatric population of 52%–54% in the late 1950s and early 1960s, but with rates declining to 21%–28% in the late 1960s and 1970s.⁵ In contrast to the decline in diagnoses of psychotic disorders, rates of mood disorder diagnoses have increased over time. Studies from the 1950s and 1960s reported mood disorders in deaf inpatients at a rate of 3%–8%, whereas studies in the 1970s reported rates of mood disorders in the range of 17%–20%.⁵ However, it is difficult to draw any conclusions from this literature because much of this early epidemiological research is flawed due to poor controls for comorbid general medical brain disorders and cultural and linguistic biases (i.e., diagnoses assigned by clinicians unfamiliar with ASL, qualified ASL interpreters rarely utilized during assessments, unique experiences and culture of Deaf people not considered).

Five recent reports from inpatient units in the United States have found a broad range of psychopathology in deaf inpatients.^{6–10} Sample sizes in these studies were small (ranging from 28 to 94 patients), and each of the studies utilized a retrospective design that involved analysis of medical records rather than a prospective design. Nevertheless, three of the five reports originated from inpatient units specialized to treat deaf patients with clinicians fluent in ASL and knowledgeable about Deaf culture.^{7–9} These three reports documented rates of psychotic disorders in deaf inpatients ranging from 28% to 48%, rates of mood disorders ranging from 39% to 42%, rates of substance use disorders ranging from 26% to 51%, and rates of intellectual disabilities ranging from 16% to 19%. The other two studies, which were conducted on deaf patients who were housed on general or combined units, highlighted the challenges of diagnosing this

population when the diagnosing clinicians are neither fluent in ASL nor aware of Deaf cultural norms.^{6,10} In both studies, there was evidence that deaf patients were misdiagnosed or given “not otherwise specified” diagnoses, indicating that diagnostic uncertainty was present. Of the five reports, only two (both involving data concerning patients from the same inpatient unit) provided data on language fluency and communication skills, which have been suggested as key potential confounding factors in the accurate assessment of mental illness, particularly psychosis, in deaf people.^{8,9}

Collectively, the inpatient studies demonstrate a change over time in the breadth and specificity of psychiatric diagnosis of deaf people. These changes are due to increased clinician knowledge and sensitivity to the role of language and culture in a deaf person’s experience and their impact on the assessment process. Language fluency, in particular, remains a significant confounding variable in accurate diagnosis in the inpatient deaf population, because such a large number of deaf inpatients have been shown to possess significant language deficits. Future inpatient work needs to be well controlled for clinician knowledge and ASL fluency and needs to include thorough assessments of patients’ language and communication skills in order to better inform differential diagnosis by untangling communication deficits related to language deprivation from deficits due to general medical brain disorders and symptoms due to psychiatric disorders.

Outpatient Studies

Very few outpatient studies of the deaf adult psychiatric population in the United States have been done. A study of 544 deaf outpatients revealed a restricted range of diagnoses for deaf people compared with the hearing population.¹¹ Significantly, more deaf outpatients received diagnoses that were “deferred” or “missing.” Deaf outpatients demonstrated significantly lower rates of substance use disorders and childhood disorders, but higher rates of mental retardation. In a recent study, the diagnoses of deaf outpatients ($N = 244$) from the midwestern United States receiving services from a specialized mental health program for the deaf were compared with those of hearing outpatients (Diaz, Landsberger, Povlinski et al., unpublished manuscript). Overall, the deaf and hearing groups did not

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differ in rates of psychotic, depressive, adjustment, or personality disorders. Nevertheless, the deaf sample was diagnosed with higher rates of ADHD, pervasive developmental disorders, and intellectual disabilities. Individuals in the deaf sample were much less likely to have diagnoses of anxiety, bipolar, and substance use disorders.

Many of the methodological problems that had an impact on the validity of the inpatient epidemiological work also apply to the outpatient studies. Although the outpatient studies have much larger sample sizes, all of the studies are retrospective in design and lack controls for language dysfluency (many deaf persons are “dysfluent,” that is, they manifest considerable limitations in sign as well as spoken language fluency) resulting in prevalence data that is potentially unreliable due to inaccuracy and misdiagnosis.

Overall, given the methodological issues in the past research, it is difficult to draw firm conclusions regarding the prevalence of various psychiatric diagnoses in deaf psychiatric patients. A recent review of studies of mental health issues in deaf people in the United States and internationally concluded that there is sufficient evidence of a greater prevalence of mental health issues in the deaf population than in the hearing population.¹² Tentatively, the U.S. data suggest a trend towards greater diagnostic specificity and a broader range of diagnoses when deaf patients are served by ASL-fluent clinicians with cultural competence. Nevertheless, diagnostic rates observed in individual studies remain somewhat conflicting. Well controlled epidemiological research is still needed in order to obtain reliable estimates of the prevalence of psychiatric disorders in the deaf population.

ASSESSMENT

Communication/Language

The first step in the assessment of deaf individuals is to determine their preferred mode and fluency of communication. This depends on many factors, including extent of exposure to language (sign language and/or spoken language) and at what age exposure began, family of origin (deaf vs. hearing), educational experiences (deaf residential school vs. mainstreaming), and involvement in the Deaf community. Many different communication systems and languages are used by deaf people. Those educated

primarily with oral methods may use English as a primary language and thus rely on speech-reading and written English for receptive communication and spoken English for expressive communication. Many deaf people use American Sign Language (a manual language with its own grammar, syntax, and vocabulary) as their primary mode of communication.¹³ Others may use one of the systems of Manually Coded English (i.e., manual signs combined with an English-based grammatical structure to provide a visual version of English), a combination of English and ASL referred to as “pidgin” sign, or Cued Speech (handshapes combined with mouth movements to distinguish different English phonemes). A subgroup of deaf people who had inadequate exposure to fluent signers of ASL over the course of their lives may have no formal language or systematized communication method and instead rely on a combination of simple signs, gestures, and mime to communicate.

Ideally, a communication assessment is recommended to assess for language fluency, particularly if there is reason to suspect a delay in or inconsistent language exposure. In two reports on deaf inpatients, researchers found dysfluency rates to be between 66% and 75%.^{8,9} However, in practice, a formal evaluation of a patient’s language skills by a language specialist as part of a psychiatric evaluation is not always possible. A certified ASL interpreter is qualified to provide general comments about a patient’s sign language use and can be helpful to a clinician when assessing a patient’s signing skills. Clinicians should be aware of the wide variability in language fluency in the deaf population and be prepared to consider the role of language in a patient’s presentation and self-report of psychiatric symptoms when conducting an assessment.

Use of Interpreters During Assessment

For a non-signing clinician working with a deaf patient who is fluent in ASL, a certified interpreter with specialized training in mental health interpreting is recommended. Patients who are language dysfluent may require the use of a second interpreter, a certified deaf interpreter (CDI), who is trained to attempt to gather the intended message from the patient’s gestural communication or non-fluent ASL and put that message into grammatically correct ASL which is signed to a certified ASL interpreter

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who then interprets the signed message into English for the hearing clinician.

Trained, certified interpreters are an asset during an evaluation for the non-signing clinician. Interpreters not only translate information from one language to another but can also act as bicultural mediators and tools for bringing interpersonal and intercultural relationships into focus. It is advisable that, before an assessment is initiated, the interpreter and clinician (especially if working together for the first time) should discuss their roles and expectations to avoid inadvertent adverse effects on treatment and to familiarize the interpreter with the aims and terminology of a psychiatric assessment.

Although the presence of an interpreter facilitates communication between the deaf individual and the clinician, one must bear in mind potential problems that may arise in cross-cultural and multilingual communication. The interpretation process is not merely the direct translation of the exact content of a message from one language into another. Clinicians naïve to ASL interpretation may be unaware that a message, especially when going from English to ASL or visa-versa, cannot be interpreted “word for word.” Rather, the role of the interpreter is to extract the meaning from a message delivered in one language and to provide the “intent” of the original message in ASL. When a naïve clinician employs an untrained or unqualified interpreter, bias, error, and suggestibility may occur during an evaluation or therapy session.¹⁴ Interpreters without specialized training in mental health interpreting may have a limited understanding of the nuances of psychiatric assessment and may be unfamiliar with the specialized vocabulary used by providers. Both clinicians and interpreters also need to have a full appreciation of how the presence of a third party may affect the provider-patient relationship.

Finding an interpreter with specialized training in mental health can be a daunting task, since specialized training in mental health interpreting is not required to become an interpreter in psychiatric settings in most states. Significant issues can arise when using an unqualified interpreter who is naïve to mental health practice. For example, bizarre statements or disordered language may be made more “understandable,” or hostile or angry statements may be neutralized, thereby depriving an assessor of important information needed to make a diagnosis. As a result, clinicians should educate themselves

about psychiatric work involving interpreters and attempt to ensure interpreter competency by hiring interpreters who are certified and trained. Practice guidelines for mental health interpreting have been published.^{15,16} Moreover, a mental health interpreting curriculum and a workshop on interpreting in mental health settings are available to provide guidance and training to interpreters.^{17,18}

Deafness History

When working with a deaf patient, one must assess the etiology of his or her deafness and the patient’s communication history and level of cultural identification with the Deaf community. These factors comprise the patient’s “deafness history” and can significantly influence psychiatric treatment.

Cultural identity. “Deaf identity” is a complex, multi-faceted concept, and thus clinicians should not assume there is a single “deaf experience.”¹⁹ Nevertheless, many patients identify with a common “Deaf culture,” which serves to unite this otherwise diverse minority.^{1,20} Membership depends on shared values, including but not limited to respect and support for manual language, general dissociation from speech, and identification with, as well as a sense of pride in, associating with other deaf individuals.²¹ These individuals do not see themselves as handicapped or disadvantaged, and a significant portion has little desire to be hearing.²¹ Due to historical oppression and disempowerment of deaf people by the hearing majority, some members of the Deaf community may view hearing clinicians with distrust, which in turn can limit help-seeking and impair rapport building. Therefore, it is important for clinicians to assess a patient’s level of cultural identification, considering how his or her involvement in the Deaf community may influence understanding and acceptance of psychiatric treatment.

Audiological and communication history. The chronology of the onset of deafness, the environment in which the person was educated, and language exposure significantly influence a deaf individual’s communication. Assessments are most valid when completed in the patient’s primary language.²² The two most commonly used modes of communication within the Deaf community are sign language and oral communication, though fluency levels vary wide-

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ly across the population.²³ The majority of deaf children (> 90%) are born to hearing parents and language deprivation is common. Language dysfluency complicates psychiatric diagnosis and treatment.⁹ Frequently, dysfluent deaf persons are limited in their ability to describe their thoughts, experiences, and emotions and thus may have difficulty participating in psychiatric treatment.²⁴ Even deaf people with good ASL fluency have been found to be at high risk for low health literacy and subsequent health problems due to lack of access to health information.²⁵

Mental Status Exam

Psychosis. One of the most challenging areas of psychiatric assessment for non-signing clinicians is the evaluation of psychotic symptoms in prelingually deaf patients. Psychotic disorders are primarily diagnosed on the basis of a patient's language (both process and content), and observed or self-reported perceptual experiences and behavior. Assessors should look for multiple indicators of a psychotic process and use multiple sources of information before diagnosing a deaf patient with a psychotic disorder.²⁶

A standard question in the psychiatric interview concerns the experience of hallucinations. Evaluation of hallucinations, particularly auditory, is understudied in the deaf psychiatric population and the literature is inconclusive. Although some studies suggest that profoundly deaf patients report experiences analogous to auditory hallucinations, methodological differences and limitations make these studies difficult to interpret. Researchers have argued that mixed findings in this area may be due to the manner in which interviewers ask questions about hallucinated "voices," a concept that is likely to be confusing to many profoundly prelingually deaf people who don't have experience with the auditory qualities of actual speech, much less have the ability to differentiate real from hallucinated speech.²⁷ The hallucinatory concept of "hearing voices" is a challenge to interpret into ASL and may introduce significant subjectivity based upon the interpreters' understanding of the concept.²⁷ Detailed questioning by clinicians has revealed that, in some cases, the phenomena described by a deaf patient are non-auditory experiences, such as experiencing the vibrations of sound or having the perception of being signed to in one's mind, or they may stem from a delusional belief about being able to hear.^{28,29} Another potential confounding factor is how residual

hearing, tinnitus, and other experiences with sound are understood and explained by deaf patients.^{26,30,31} In a study of 27 deaf people with schizophrenia, patients with some experience with speech/sound prior to the onset of deafness or with residual hearing were more likely than patients who were born profoundly deaf to report auditory features in their hallucinatory experiences.³¹ Thus, rather than asking whether deaf people can experience auditory hallucinations, the more appropriate question may be "Which deaf people experience auditory hallucinations?" Until the perceptual experiences of deaf patients are better understood, assessment of hallucinatory experiences should not be limited to the typical questions (e.g. "Do you hear voices?") but instead should be open-ended and allow for exploration of a wide-range of perceptual phenomena.³² Even with thorough assessment, clinicians, particularly those with limited experience with deaf patients, should draw conclusions cautiously.

A second major challenge in evaluating deaf patients is the assessment of thought disorganization. Rates of language dysfluency due to language deprivation or neurological issues in deaf psychiatric inpatients are high.^{8,9} These patients pose tremendous diagnostic challenges for clinicians because language deficits due to language deprivation are easy to misconstrue as symptoms of thought disorganization. Analyses of the language of thought disordered and non-thought disordered, dysfluent deaf people reveal similarities and differences.^{27,33,34} The language of dysfluent deaf people who do not have thought disorganization may display several of the following characteristics: impoverished vocabulary, repetition, incorrect sign use, incorrect grammar, and missing referents to time.²⁷ These characteristics can result in sign language that is poorly organized and mimics disorganized language resulting from psychosis. To differentiate disorganized language resulting from language deprivation from psychosis, assessors should complete a deafness and language history, look for developmental history of language issues, and attend to differences in behavioral presentation.²⁷ Specifically, nonpsychotic language-deprived patients will generally demonstrate emotional connectedness to others, display appropriate affect, lack disorganized behavior, be more likely to use gesture and mime to "fill in" gaps in vocabulary, and the "gist" of their communications will be non-bizarre and centered around a main theme.²⁷

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Mood disorders. It has long been suspected that symptoms of mood disorders and distress may be associated with deafness, and a few large scale population-based studies provide evidence for this.^{35,36} Overall, there is no evidence that mood disorder symptoms differ between the deaf and hearing populations. Therefore, the primary challenge in the accurate assessment of mood disorders stems from linguistic and cultural factors.

Few guidelines exist for assessing bipolar disorder in deaf patients. One recommendation is to monitor and document the speed and intensity of a patient's signing and watch for changes over time. Increased rapidity and demonstrativeness, along with difficulties interrupting the patient, may correspond to the equivalent of increased and pressured speech in a hearing patient.³⁷ A common pitfall is pathologizing the normative expressive signing characteristic of ASL as evidence of mania or disinhibition.³² Obviously, for clinicians unfamiliar with ASL and the Deaf culture, this may be a particular challenge. In such cases, clinicians need to employ the services of a certified ASL interpreter with specific training and experience in mental health who can provide information on normative signing patterns. Historically, flight of ideas has often been misinterpreted as psychosis rather than attributed to mania. A second recommendation is that clinicians should carefully balance behavioral manifestations of symptoms (e.g., rapid signing) with other known symptoms (i.e., insomnia, change in eating patterns, distractibility) to avoid misdiagnosis.⁶

Whereas the association between major depression and late-onset deafness has been well documented, major depression in prelingually deaf adults has received limited attention.³⁸ Overall, deaf adults have been found to report the same cluster of physical, emotional, and cognitive symptoms that are experienced by hearing people with depression.³⁹ Nevertheless, due to low mental health literacy, some deaf patients may not connect their symptoms with depression and may not possess the signs or the English fluency to describe symptoms of depression.³⁹ Therefore, it is recommended that clinicians ask about each symptom directly and individually and check for comprehension. Clinicians should also be aware that facial expressions, body language, and agitated, emphatic gestures are used to modify descriptions of emotions and adjectives in ASL. These modifiers may be per-

ceived differently from one ASL interpreter to another, and this subjectivity can introduce significant bias into clinical impressions. Clinicians should not mistake this expressive signing as evidence of an absence of depression.

Suicide risk assessment is a crucial part of a psychiatric evaluation. Exact rates of suicide attempts vs. completions as well as specific risk factors for suicide in the deaf population are unknown. Studies included in a review of suicide in the deaf population provided estimated rates of suicidal behavior ranging from 6.2% to 30%, with no reports of completed suicides.⁴⁰ These studies varied widely in their methodology, employed small under-representative samples (e.g., college students vs. high school students), and used a variety of different suicide measures, making comparisons and generalization across studies difficult. A recent study, which was not included in this review, administered a health survey in ASL to a community-based sample of 336 deaf people.⁴¹ Overall, 14.6% of the deaf sample endorsed ever attempting suicide. In the previous year, 2.2% of the deaf sample endorsed having made a suicide attempt versus 0.4% of the hearing population in the same community.

Substance use disorders. A community-based survey of 362 deaf and hard-of-hearing adults found that patterns of alcohol and drug use in the Deaf community were similar to those in the hearing community.⁴² Approximately 64% of the deaf and hard-of-hearing sample endorsed ever consuming alcohol, 40% endorsed marijuana use, 13% endorsed cocaine use, 5% endorsed crack use, 2% endorsed heroin use, 6% endorsed hallucinogen use, and 7% endorsed other drug use.

The key difference in assessing substance use disorders in deaf people compared with hearing people relates to communication problems.⁴³ Common screening tools have been found to be problematic for deaf individuals due to lack of familiarity with English vocabulary and idioms such as "cut down", "hangover," and "eye opener."⁴⁴ Therefore, new screening tools utilizing ASL have been developed.^{43,45} Similar communication issues arise during a face-to-face interview with a deaf patient. Some terms commonly used in the English-speaking hearing community may require additional explanation and checks for comprehension when assessing a deaf patient. Failing to do so may lead

to inaccurate endorsement or denial of a symptom, because, while few deaf patients will ask for clarification of terminology, they may go ahead and respond to the question without fully understanding it.³⁸ Clinicians should not assume that employing an ASL interpreter will resolve all potential communication issues. Few interpreters have training in psychiatric issues and even fewer have knowledge of the specialized substance abuse vocabulary.⁴³

There is also a general lack of information in the Deaf community about signs and symptoms of substance abuse and available treatments.⁴⁶ Because of linguistic barriers and a lack of ASL-fluent trained providers and accessible educational materials, substance abuse education and prevention efforts in the Deaf community lag behind those in the hearing community. Fears about stigma from within the Deaf community may also decrease an individual's willingness to disclose substance abuse or may have a negative influence on an individual's decision to enter treatment.⁴⁷ Spouses and family and friends may unwittingly contribute to the problem by having lower expectations for deaf relatives or by "normalizing" substance use symptoms.⁴⁷

Posttraumatic stress disorder/trauma history.

Children with disabilities are 3.4 times more likely to be abused than children without disabilities.⁴⁸ Deaf and hard-of-hearing children and adolescents may be twice as likely to experience emotional abuse and neglect.⁴⁹ Prevalence rates of physical abuse in deaf children are higher than in hearing children and rates of sexual abuse in deaf children have been reported to be as high as 50%.⁵⁰

Despite these statistics, posttraumatic stress disorder (PTSD) is underdiagnosed in the deaf population. In a study of 79 deaf adults, 44.1% of men and 53.3% of women reported a history of sexual assault, and 73.5% of men and 71.1% of women reported having experienced a physical assault, yet only 19.5% of the sample met full criteria for PTSD.⁵¹ This may have been due in part to the fact that some of the criteria for diagnosing PTSD (e.g., exaggerated startle response, detachment from others) were not found to be relevant to the deaf population. In contrast, trauma-related symptoms reported by deaf people reflected a greater degrees of intensity and more symptoms of dissociation than those reported by hearing populations.⁵¹

TREATMENT

Culturally Competent Providers

Understanding cultural differences is imperative to case conceptualization, gaining patient trust, and successful treatment of deaf patients. Many deaf adults have low health literacy due to a lack of access to general health information, which may contribute to deaf people's feelings of distrust and fear in medical settings.^{52,53} This problem is compounded in the field of psychiatry by patients' very limited exposure to or knowledge of mental health disorders and treatment, combined with a negative view of mental health care providers.⁵⁴ Deaf patients rate culturally competent clinicians as more credible, caring, and effective than professionals who are unaware of Deaf culture,²² and they report being more satisfied with their interactions with these "deaf-savvy" physicians.⁵³ Ideally, clinicians most suited to working with the Deaf population are those who are fluent in ASL, have had significant exposure to the Deaf community, and understand Deaf cultural values. Studies show that clinicians who have been exposed to Deaf cultural norms and have been educated concerning deaf patients' rights to communication access had an improved ability to care for deaf patients competently.⁵⁵

Unfortunately, only a handful of providers meet these criteria. Most physicians have had little or no training in the provision of culturally and linguistically appropriate care for deaf patients.^{53,56} For inexperienced clinicians, a "shock-withdrawal-paralysis" reaction can occur in which the clinician feels bewildered and uncomfortable when presented with a deaf patient, which can result in a suboptimal clinical encounter.⁵⁷ As with any cultural minority, providers should seek specific training and education in order to become culturally competent providers to deaf people. At a minimum, clinicians who have large numbers of deaf patients in their caseloads should be knowledgeable about Deaf culture and become fluent in sign language.

Psychological Testing: Intellectual, Personality, and Cognitive

Psychological tests must be used with caution with deaf people. There are no widely distributed standardized tests of intellectual ability or personality

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that are normed for deaf adults. Researchers have warned clinicians about problems applying and interpreting psychological tests designed for hearing, English-speaking populations in deaf individuals.⁵⁸ In practice, the intellectual ability of deaf adults should be assessed using multiple measures of non-verbal intelligence to reduce potential confounds, but even these measures should be interpreted with some caution.²¹ Similarly, objective questionnaire-type personality tests should not be used with deaf individuals unless a high level of English proficiency is demonstrated.

Psychotherapy

As in any minority group, a wide range of educational experiences, intelligence levels, and levels of cultural identification exists within the Deaf community. For this reason, it is important to adapt any therapeutic measures to the linguistic, intellectual, and cultural needs of the deaf patient.

Evidence-based psychotherapy. There is an absence of controlled studies of psychotherapy outcomes in deaf patients. One very small study ($n = 3$) found promising results with solution-focused brief therapy (SFBT) in depressed deaf adults, with depressive symptom ratings moving from clinical to nonclinical ranges in all three cases.⁵⁹ However, larger well controlled studies utilizing SFBT with deaf patients are needed before any conclusions can be drawn.

Modifications to psychotherapy. The primary issue in implementing evidence-based manualized psychotherapies, such as cognitive-behavioral therapy (CBT) and dialectical behavioral therapy (DBT), is their applicability to deaf patients. Due to language issues, most manualized psychotherapies require significant modification for ASL users. For example, clinicians who work with deaf patients suggest that DBT be adapted from a largely didactic-based treatment to a dialogical approach utilizing stories, visual metaphors, and practical examples.⁶⁰ Written materials must be adapted to the patient's level of reading comprehension, metaphors and mnemonic devices must be made culturally appropriate, and more time should be allotted for grasping concepts that are difficult to translate into ASL. For psychologically unsophisticated patients, therapy

may need to be adjusted even more significantly. For these patients, it is most reasonable to use sensory-based activities as a means of coping and self-regulation and to teach CBT-based concepts and skills via stories, metaphors, and role-playing.⁶¹

Role of interpreters in psychotherapy. Clear communication is essential to the therapeutic process. Nevertheless, some psychotherapists do not feel comfortable including an interpreter in therapy sessions; many report a sense of losing direct contact with the patient, as well as a fear of misinterpretations. Others worry transference and/or countertransference may occur between the interpreter and the patient, or that the two ASL-users will form a coalition that interferes with the therapeutic alliance. A therapeutic triad (therapist-interpreter-deaf patient) is to some degree unavoidable and the presence of an interpreter can have an impact on the therapeutic alliance between clinician and patient in subtle ways. Moreover, it is important to note that the presence of an interpreter does not guarantee that treatment is "deaf-friendly." Particularly in group settings with an interpreter, there is little opportunity for dialogue and questions, and multiple participants commenting at once cannot be interpreted fully or efficiently.⁶⁰

However, if used appropriately, interpreter services may actually enhance the therapeutic process. This is not to imply that an interpreter should be utilized in place of an ASL-fluent clinician when one is accessible, but rather to suggest that a skilled interpreter may act as a conduit between a hearing clinician and deaf patient, allowing for meaningful communication and successful therapy. An ASL interpreter who is well-versed in both Deaf culture and the mental health environment will assist the clinician in understanding important cultural differences and the patient in understanding therapeutic goals. Furthermore, using an interpreter ensures that the clinician can focus on the content of the patient interview, rather than the manner in which the information is presented.

Pharmacotherapy

No studies have evaluated psychopharmacologic treatments in patients who are deaf, and no literature suggests the use of particular psychotropic agents to treat mental disorders in this population.

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FUTURE DIRECTIONS

Much research concerning mental health care in individuals who are deaf is needed. The literature is sparse and there is a dearth of well controlled studies using culturally and linguistically appropriate measures. First, population-based epidemiological studies of psychiatric disorders in the Deaf community are sorely needed. Such studies would provide better estimates of prevalence rates of mental disorders and allow for more effective allocation of resources. To address limitations of previous studies, future work should utilize ASL-fluent assessors and provide data on audiological status, preferred communication mode, language fluency, and cultural identification of the participants. Methods for adapting population-based surveys to a computerized, accessible format for ASL users should be employed.⁶² Second, there is an urgent need for research to develop culturally and linguistically appropriate assessment tools. ASL-based, structured clinical interviews, symptom inventories, screening measures, and tests of cognition developed for and normed on deaf people are needed. Dysfluency due to language deprivation and the unique challenges this presents for assessment also need further examination. Third, studies examining symptom manifestation in deaf patients are needed to sort out the confounding role of language exposure and culture. Imaging studies, particularly concerning hallucinatory phenomena, would be particularly useful in understanding how these symptoms may present in deaf people and may possibly increase understanding of the mechanisms underlying them.³⁰ Fourth, well controlled studies of empirically validated psychotherapies with modifications for deaf patients are also needed. Several authors have proposed alterations to widely used therapies such as CBT, SFBT, and DBT to make them sensitive to cultural norms and linguistic needs.⁵⁹⁻⁶¹ Controlled outcome studies are needed to test the validity of these modifications in clinical samples. Finally, research on provider training is needed. Information on the Deaf culture and the challenges involved in assessing the deaf patient population should become a standard part of the diversity-related curriculum of physician training programs.

CONCLUSIONS

Deaf patients with psychiatric illnesses have been chronically understudied and have frequently not

been considered in the structure of many hospital and outpatient psychiatric treatment programs. Opportunities for a more inclusive approach abound and creativity is needed in an age of decreasing financial resources. In addition, psychiatrists and other mental health providers should be aware of the opportunities, challenges, and accommodations needed to provide culturally sensitive and relevant treatment to deaf individuals.

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