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Abstract

Major Depressive Disorder (MDD) is a potentially disabling condition which adversely affects psychosocial functioning in the lives of many people. Individuals who are prelingually and/or profoundly Deaf are especially at risk of misdiagnoses, which in turn may prevent them from receiving the treatment needed to reach their full potential in independent living or vocational rehabilitation. This article reviews general depressive symptomology, followed by a discussion of challenges associated with diagnosing MDD in individuals who are Deaf. Suggestions for therapeutic interventions are also included. The article concludes with a summary of the implications of Deafness and MDD for independent living and vocational rehabilitation.

Keywords: deafness, depression, assessment, rehabilitation, independent living

Major Depressive Disorder (MDD) is a significant mental health disorder affecting people of all ages, ethnicities, and economic statuses, including individuals who are Deaf[1]. According to the U.S. National Institute of Mental Health (NIMH), about 14.8 million adults of all hearing statuses are diagnosed with MDD, and it is a leading cause of disability for people ages 15 to 44. The median age of onset is 32 years, and women are twice as likely as men to develop MDD, yet men are at a higher risk for suicide (NIMH, 2008). MDD has notable economic impact, costing about $43.7 billion per year. Of this estimate, approximately $23.8 billion results from absenteeism from work and reduced productivity during depressive episodes (Dardennes et al. 2000).

General Depressive Symptomology

In general, the symptoms of depression include changes in appetite, weight, sleep, and psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking, concentrating, or making decisions; or recurrent suicidal ideation (DSM-IV-TR; American Psychological Association

1 *Readers may assume that in the context of this article, the authors use the term "Deaf" to refer to individuals with prelingual and/or severe to profound hearing loss and who may identify themselves as members of Deaf culture.*

[APA], 2000). People experiencing major depressive episodes exhibit low mood and anhedonia as well as the inability to be interested in or experience pleasure in activities they formerly found pleasurable. In addition, people diagnosed with MDD may experience shorter life spans and be more prone to other medical illnesses. In particular, older patients with severe lengthy episodes of depression and anxiety have higher risk for persistent symptoms, as are individuals with avoidant coping styles (Enns & Cox, 2005).

Diagnostic Criteria

According to the *Diagnostic and Statistical Manual of Mental Disorders-4th Edition-Text Revision* (DSM-IV-TR; American Psychological Association [APA], 2000), MDD is characterized by one or more major depressive episodes, which is defined as at least two weeks of depressed mood or loss of interest, accompanied by at least four additional symptoms of depression, and not due to a general medical condition or the physiological effects of a substance. An MDD episode may develop over days or weeks and may include symptoms such as anxiety and mild depression which may last for months before the onset of a full major depressive episode. Clinically significant distress or impairment in social, occupational, or other important areas of functioning must accompany each episode (DSM-IV-TR; APA, 2000). MDD symptomology varies from person to person, and may include recurrent episodes that last for months to a lifetime, but to meet the full criteria for a major depressive episode, symptoms must persist for two or more years (Hensley, Nadiga, & Uhlenhuth, 2004).

Assessing Depression in Deaf Populations

For a variety of reasons, assessing depression- whether MDD or related diagnoses- with people who are prelingually and/or severely to profoundly Deaf is challenging. These individuals make up a historically misunderstood population. In 1969, Denmark and Elderidge found that in many cases, mental health professionals tended to attribute symptoms of depression to an individual's hearing loss when the hearing loss was in fact not causal. Yet in others cases, professionals incorrectly identified the communication difficulties associated with hearing loss as signs of mental illness. In a later related study, Denmark (1985) found that only 3.6% of Deaf individuals referred for mental health services actually had a psychiatric abnormality.

Due to the current lack of laboratory tests for MDD, physicians generally rely on physical exams, the clients' self-reports, any behavioral reports given by relatives or friends, and mental status exams (MSE) or interviews. Yet, even well-qualified professionals working with Deaf individuals often find their depressive symptomology notably different than that of hearing people. For example, hearing clients typically experience guilt, reproach, and other forms of self-deprecation, while Deaf clients typically exhibit more agitation with projective hostile and aggressive feelings (Kvam, Loeb, & Tambs, 2007; Scheetz, 2004). Thus, it is not unusual for Deaf individuals to remain undiagnosed or to be diagnosed differentially as "not otherwise specified" (Black & Glickman, 2006). As a further complication, Zazove, Meador, Aikens, Nease, & Gorenflo (2006) note that the Deaf community as a whole has been reluctant to acknowledge depression and people diagnosed with it, possibly resulting in significant stigma.

Selecting Assessment Instruments

Despite the preference for MSE interviews noted above (APA, 2000), information obtained from primarily verbal assessments is often not appropriate for diagnosing Deaf clients because they tend to measure the person's linguistic limitations rather the symptoms of interest (Mounty & Martin, 2005; Weinstock & Mounty, 2005). In addition, Deaf adults have also expressed concerns about how interpreters convey the personal information needed to facilitate diagnosis and therapy (Andrews, Leigh, & Weiner, 2004). However, standardized assessments also present difficulties for people who are Deaf. Issues such as low English literacy levels and limited life experiences, limited accessibility in American Sign Language (ASL), and non-Deaf normative groups are just a few factors that limit the use of standardized assessments for people who are Deaf (Black & Glickman, 2006; DeVinney & Murphy, 2002; Mounty & Martin, 2005; Zazove et al., 2006). Thus, an approach to evaluation in which standardized instruments are only a part of a more holistic assessment is advisable (Saladin, 2008), although not always practicable.

Recommended Instruments

When standardized instruments are required or preferred, the literature recommends several. As an initial starting point, Black and Glickman (2006) suggest using the Allen Cognitive Level Screen (ACL; Allen, 1990) as a tool for assessing any intellectual limitations that could influence an

accurate diagnosis of depression. The ACL was designed to specifically assess intelligence in individuals who are prelingually Deaf and use ASL as their primary language. In validation studies, its validity and an interrater reliability were between 0.90 and 0.99. The ACL correlates well with Wechsler Adult Intelligence Test (Wechsler, 1981; Wechsler, 1997), particularly in subtests for block design, object assembly, performance IQ, and functional abilities (Black & Glickman, 2006).

The Zung Self-Rated Depression Scale (ZSDS; Zung, 1965) is an appropriate instrument for assessing depression in prelingually Deaf clients who use ASL. It is available in both written and ASL formats (ZSDS-W and ZSDS-S, respectively). The ZSDS-W is useful for people with higher literacy, while the ZSDS-S is best for individuals with lower English literacy (Zazove, et al 2006). Notably, the ZSDS correlates highly with the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), a common instrument used with hearing populations. The Allen Cognitive Level Screen (ACL; Allen, 1990) is a helpful tool for clarifying which version of the ZSDS to use, according to Black and Glickman (2006)

The Diagnostic Inventory for Depression (DID; Zimmerman, Sheeran, & Young, 2004) is another useful measure. It is a reliable self-report scale based on the DSM-IV symptom criteria for a major depressive episode, as well as psychosocial impairment due to depression and subjective quality of life. It differs from other instruments used for diagnosing depression because it assesses symptom persistence and duration, as well as symptom severity. Because it is easily translated into ASL, it is an appropriate instrument for people who are prelingually Deaf (Zimmerman, Sheeran, & Young, 2004).

Therapeutic Options

Individuals who are Deaf with MDD can have difficulty accessing appropriate treatment and may face limited therapeutic options due to lack of qualified interpreter services, problems with professional sensitivity and knowledge of Deaf culture, availability of telecommunications, privacy, participation in service provision and assessment (DeVinney & Murphy, 2002). Yet despite these barriers, two therapeutic options are noteworthy.

Perhaps most promisingly, research suggests behavioral therapy is effective for clients who are Deaf and diagnosed with MDD (Graham & Martin, 2001; Hindley & Kitson, 2000). In general, behavioral approaches

avoid abstract concepts that don't translate well in ASL and focus instead on concrete, attainable goals with quantifiable outcomes. For instance, instead of a vague objective such as "better communication," specific behavior goals such as "The client will wear hearing aids for six hours a day" are typically determined. Graham and Martin (2001) note that behavior therapy allows goals to be broken down into achievable steps, with an emphasis on strengths rather than deficits (e.g. "The client will practice relaxation techniques" rather than "He cannot relax"). In addition, Hindley and Kitson (2000) suggest the positive reinforcement common to behavioral therapy can help clients committed to treatment.

Taking a somewhat different view, Hensley, Nadiga, and Uhlenhuth (2004) and Enns and Cox (2005) note that many people diagnosed with MDD have an increased awareness of their depressed mood, which perpetuates their depressive symptoms and interferes with their ability to adopt new behaviors and engage in problem solving. These authors suggest that cognitive therapy (CT), which addresses faulty thinking patterns, may best alleviate symptoms of MDD (Enns & Cox, 2005; Hensley et al., 2004). CT shares many key characteristics with behavior therapy, and is straightforward, problem focused, and relatively short term (Corey, 2009; Sharf, 2007). It has a heavy emphasis on learning and practical coping strategies (Corey, 2009; Enns & Cox, 2005) that translate well in ASL and have immediate therapeutic results.

Implications for Independent Living

Living with MDD has critical implications for people who are Deaf, and especially for elderly Deaf individuals. With therapeutic intervention, many people diagnosed with MDD function well, and have little to no difficulties with their activities of daily living (ADLs). However, individuals who are Deaf may experience higher levels of risk and disruption in ADLs than the hearing population. Werngren-Elgstrom, Dehlin, and Iwarsson (2003) found that people with more severe hearing losses reported significantly higher levels of depression, lower physical health, increased limitations in their ADLs, and a greater degree of fair or poor self-rated mental health.

In a related study, Black and Glickman (2006) found that Deaf individuals diagnosed with MDD are more dependent on professional or personal caregivers than other populations, relying on them as a major source of communication with hearing society. Furthermore, they have greater

propensity for hospitalization or psychological decompensation if care giving is disrupted due to illness, job changes, or death (Black & Glickman, 2006). Elderly prelingual Deaf people with depressive symptoms are especially at risk for difficulties in independent living. Werngren-Elgstrom, et al. (2003) found that among elderly Deaf people, communication problems associated with their disability may increase feelings of isolation and have a strong negative impact on well-being and functionality.

Implications for Vocational Rehabilitation

In addition to challenges in independent living, Deaf people with MDD are more likely than their hearing counterparts to need assistance with work-related issues (Black & Glickman, 2006). Thus, people who are Deaf and diagnosed with MDD may need and clearly benefit from vocational rehabilitation services (Boutin & Wilson, 2009). However, to maximize positive outcomes, rehabilitation counselors need meaningful training in service provision for this unique group. Perhaps most importantly, rehabilitation counselors working with people who are Deaf and have MDD need a thorough knowledge of Deaf culture and ASL (Senghas & Monaghan, 2002). In addition, counselors must be prepared to provide their Deaf clients with appropriate screening and assessment instruments (Blennerhassett, 2000; Rogers, 2005; Saladin, 2008). The counselor's level of proficiency in ASL, knowledge of Deaf culture, and experience in assessment and job placement are critical to the individual's successful rehabilitation (Rosengreen, Saladin, & Hansmann, 2009; Saladin & Hansmann, 2009).

Professionals who are not fluent in sign language are at a disadvantage when assessing the mental health of individuals who are Deaf because many assessments rely on language-based interactions and observation of the patient's behavior. Misunderstandings of the subtleties of some Deaf behaviors may lead to erroneous assessment results. Therefore, rehabilitation counselors are encouraged to utilize professionals who are experienced in working with Deaf clients for referred services such as vocational and psychiatric assessment whenever possible to minimize the risks of under, over, or misdiagnoses of MDD (DeVinney & Murphy, 2002; Mounty & Martin, 2005; Zazove et al., 2006).

Lastly but certainly not least, counselors working with the Deaf community are encouraged to solicit their involvement in improving mental health service delivery and reducing attitudinal, perceptual, and procedural

barriers that can limit quality employment outcomes (Boutin, 2009; Gilbride, Stensrud, Ehlers, Evans, & Peterson, 1997). Importantly, working with the Deaf community to develop an understanding of workplace expectations of potential employees who are Deaf and who have MDD may be facilitate positive vocational placements for this population (Rosengreen, Saladin, & Hansmann, 2009).

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