Assessment of School Assessors' Knowledge and Competence on Diagnostic Overshadowing for Appropriate Placement of Children with Intellectual Disability in Cross River State, Nigeria

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Abstract: This study assessed the knowledge and competence of special teachers and psychologists in diagnostic overshadowing and differential diagnosis in children with intellectual disability in Cross River State, Nigeria. A descriptive research design was adopted. Sixty (60) respondents comprising teachers and school psychologists were purposively selected from three main special schools in Cross River State. Two research questions were raised to guide the study. A rating scale titled 'Mental Health Diagnosis Competency Scale (r=0.91)' was used for data collection. The instrument was used to assess the knowledge and competence of special teachers and school psychologists in diagnostic overshadowing and differential diagnosis in children with intellectual disabilities. The data collected were statistically analyzed using percentages, frequency count, and bar chart. The findings revealed that most teachers and school psychologists have no knowledge of psychiatric symptomatology in children with intellectual disabilities. Respondents also lack adequate competence in differential diagnosis, leading to wrong special education placement and inadequate intervention plans for such children. It was recommended, among others, that the government provide in-service training for teachers and psychologists to equip them on current issues and practices in special education, such as differential diagnosis and collaborative partnership within a transdisciplinary approach.

Keywords: Diagnostic overshadowing, differential diagnosis, intellectual disability.

INTRODUCTION

Recently, many experts in the field of intellectual disability (ID) believed that mental health issues could not occur in persons with ID. Various explanations for this position existed, including a lack of insight and communication ability on the part of the patients. These attitudes and ill practices were a major impediment to developing an effective and appropriate diagnosis, program design and special education placement, and need-based intervention plan for such children with ID. However, towards the turn of the 21st century, professionals began to recognize that psychopathology and ID co-exist and are expressed somewhat differently from the general population. Thus, children with ID were treated as a homogenous group with a one-size-fits-all educational and social intervention plan. The nature of these conditions, how they developed, and what caused them also went completely masked and unresolved.

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Moreover, persons with ID are much more likely to suffer from mental health issues and at rates perhaps 4–5 times as often as the general population due to some biological, social, and psychological factors such as genetic anomalies, social marginalization, inability to express emotions among others [1, 2]. Intellectual disability, as defined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V), is a neurodevelopmental disorder that begins in childhood and is characterized by ID as well as difficulties in conceptual, social, and practical areas of living [3]. It manifests in poor cognitive and social abilities, language, motor dysfunction, poor sensory abilities, community integration, and judgment of situations and circumstances in the environment. A mental disorder or psychiatric disorder, on the other hand, is a behavioral or mental pattern that causes significant distress or impairment of personal functioning in every area of life [4, 5]. Such features may be persistent, relapsing and remitting, or occur as a single episode. This manifests in depression, anxiety, mania, aggression, self-injurious

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behavior (SIB), attentional problems, schizophrenia, and bipolar disorder, among others. A mental disorder is characterized by a person's inability to fulfill several key functions/activities, such as the ability to feel, express, and manage a range of positive and negative emotions. They may also lack the ability to form and maintain good relationships, experience loss of contact with reality, and display poor judgment of situations and poor community integration. The close similarity in the presentations of the two conditions often makes deficits in adaptive behavior mask the presence of psychiatric disorders resulting in diagnostic overshadowing.

Diagnostic overshadowing is the tendency for assessors to attribute symptoms or behaviors of a person with ID to their underlying cognitive deficits and hence under-diagnosed the presence of co-morbid psychopathology. Simply put, it is the observed tendency for school assessors to overlook symptoms of a mental health disorder in children with ID and consider these symptoms part of the client's disability. Also, it is the tendency that professionals have to inaccurately assess the degree of concomitant psychopathology evidenced by people with cognitive deficits when compared to people without such deficits [6]. The failure to recognize such psychopathology often stems more from the assessor's perception of the client's cognitive disability than from the difficulty inherent in sorting out multiple disabilities. Teachers and school psychologists in this study are referred to as school assessors with the primary and professional responsibility of assessing children with disability, inclusive of ID. Most often, they attribute all forms of behavior difficulties to the person's (ID) special need condition and fail to consider that some behaviors may be a symptom of mental illness. Multiple studies consistently support the view that overshadowing is a common school assessors' bias occurring during assessing children with ID and mental illness [7,8]. Mental health problems are hard for teachers and school psychologists to recognize in children with ID, and they often assume such conditions do not co-exist. The reason is children with ID present particular challenges to the assessment of mental health problems, and these challenges have a fundamental role in determining where instruments should focus and what their characteristics needs should be. Some of the key reasons for psychiatric masking among children with ID on the part of the children themselves are the problem of communication, problems with abstract concepts such as "feeling anxious" or "depressed", attention span, their ability to aggregate experience over a period of time to answer questions about the significance of symptoms, degree of cognitive impairment, their suggestibility, assertiveness, and acquiescence. While on the part of the assessor, possible reasons for diagnostic overshadowing may include years of experience, cognitive complexity (the tendency of an assessor to view a presenting problem in a multi-dimensional fashion), and professional background [7]. Diagnostic overshadowing is still a relatively unpopular term among special educators and school psychologists in the Nigerian school system. Sometimes when these atypical ID characteristics are recognized in the diagnosis, assessors tend to focus on a more significant' presentation of (ID), neglecting the psychiatric presentations and emotional issues, believing that any improvement in intellectual functioning may result in an improvement in the client's mental health. Thus, psychiatric comorbidities in most children with ID in Nigerian classrooms are underdiagnosed or misdiagnosed, and this consequently leads to inappropriate placement in the school system presumptuously because school assessors (teachers and school psychologists) are ill-equipped with inadequate knowledge and competence in the co-existence of dual diagnosis in ID.

For the past few decades, the psychiatric, clinical, social, and educational fields in developed countries, like the UK, USA, and Australia, have done more to identify the psychiatric needs of people with ID through the process of differential diagnosis, which has allowed physicians, psychiatrists, and educationist to provide appropriate educational and mental health services within an appropriate special education placement to these children [9]. According to Dykens and Kasari [10], differential diagnosis is the process by which a clinically significant problem or set of symptoms is evaluated and distinguished from other conditions, usually associated with similar clinical features. In the case of ID, many neurodevelopmental and psychiatric disorders can mimic or accompany the (ID) diagnosis. It is often challenging for teachers and psychologists to distinguish between ID and other psychiatric disorders with similar signs and symptoms. In addition, when these other disorders are present in addition to (ID), they may make the assessment of intellectual and adaptive functioning even more complicated than it frequently is [11,12]. Transdisciplinary evaluations must consider these complex factors in such cases and draw conclusions based on objective data and best clinical and educational practices.

The first and most significant reason in favor of differential diagnosis is that it facilitates treatment and

access to resources. Differential diagnosis can provide admittance to specific interventions and community services, especially in developing countries where funding is often required to travelled to developed nations for formal diagnosis. It can also allow practitioners to figure out what to look for in individuals to determine their unique needs and thus tailor support, classroom, and behavioral interventions [13 14]. Dykens and Kop [15], for example, recommended that children with ID and associated mental health conditions receive instructional emphasis on contextual learning and both psychological and pharmacologic intervention to help the child realize their potential and live acceptably with others. Additionally, the value of differential diagnosis is that labels lead to increased knowledge among team members and can promote understanding of specific challenging learning difficulties and atypical behavioral presentations in a child with ID [14]. Diagnosis of a specific disability may lead to increased familial or teacher understanding of the child's behavioral uniqueness [16]. This also facilitates need-based intervention through the Individualized Education Programme (IEP) and appropriate special education placement for quality education and social interaction in the school/community.

Therefore, to arrive at a correct diagnosis for special education placement and development of IEP, a trans-disciplinary assessment team evaluates the client's signs and symptoms and compares them to those of other similar conditions. Additional information is then gathered to rule out possibilities systematically until a valid diagnosis can be made. It is particularly important to make these distinctions when selecting treatments and develop plans for education, habilitation, and vocational training. Diagnostic information is used in making different types of decisions in clinical, educational, and vocational settings. In educational settings, it is critical to determine if a condition other than mental retardation (like a specific learning disability or sensory, motor, or psychiatric impairment) is causing or contributing to poor performance. These differential diagnoses have direct implications for developing individualized plans of treatment and instruction to encourage learning. In clinical settings, arriving at the correct differential diagnosis determines appropriate and effective treatment and prevention strategies. In this context, the explicit focus is on eligibility for support for such identified children in a designated special educational placement. From the preceding, it has become imperative for teachers and psychologists referred to as school assessors to be schooled and skilled in diagnosing these twin conditions without misrepresenting each other for an appropriate placement, intervention, and related services.

Special education placement is a designated setting and or a comprehensive package of programs and related/support services for a child or group of children with special needs based on the identified problem(s) in order to provide an individualized and need-based intervention using appropriate resources. Appropriate placement in this field is of significant practical importance for the provision of services, and it significantly impacts the social and emotional functioning of children with ID. Right placement can benefit the child socially, academically, and emotionally due to the opportunities to seek timely and appropriate psycho-educational interventions and support services for effective management and remediation of the child's condition and possibly avoid deterioration of the condition [17, 28]. It is important that accurate diagnosis is carried out on a child to recommend appropriate special education placement where treatment of the underlying psychiatric disorder is sought, and additionally incorporate behavioral approaches to teaching more socially acceptable behaviors. When misdiagnosis or underdiagnosis results in wrong special education placement, a situation that leads to poor learning outcomes and quality of life in such a child. Diagnosis informs the component programs and services in an IEP of a child. Thus, diagnostic overshadowing leads to treatment overshadowing as well. This is why detecting these conditions early is so important and ensuring the person is properly treated and supported within an appropriate special education placement.

Poor diagnosis and special education placement in Nigerian schools may be due to a lack of knowledge on the comorbidity of ID and mental health issues and how a psychiatric condition may present in children with ID, poor diagnostic culture in the Nigerian school system, the degree of the problem, lack of appropriate instruments that recognize psychopathology in ID, high level of illiteracy among caregivers or informants among others. This study, therefore, becomes necessary to assess school assessors' knowledge of dual diagnosis and competence in the differential diagnosis.

Research Questions

Two research questions were raised to guide the study:

1. What level of knowledge do school assessors possess on the comorbidity of ID and mental health disorders?

2. What is the competence of school assessors on the differential diagnosis of mental health disorders in ID?

METHOD

Design

For this study, the descriptive research design was adopted to assess the knowledge and competence of school assessors on diagnostic overshadowing for placement of children with ID in Cross River state.

Study Participants

The purposive technique was used to select all special education teachers for children with ID and psychologists in the three available community special schools for persons with disabilities in Cross River State. A total of sixty respondents made up of teachers, and school psychologists were selected. Eligibility criteria for study participants were availability, being a teacher of children with ID in the school.

Study Variables

In this study, the variables studied were school assessors' knowledge and competence (Independent variable) and diagnostic overshadowing assessment and differential diagnosis (Dependent variable) of ID.

Instrument

A self-design 12-item rating scale titled Mental Health Diagnosis Competency Scale (r=0.91) was used for data collection. The instrument was administered to teachers and psychologists to self-rate their knowledge of dual diagnosis and competence in the differential diagnosis. The items that made up the questionnaire covered the two variables under study. The questionnaire was broken down into two different parts. The first part attempted to gain information pertaining to the respondents' knowledge of comorbidity of ID and mental health disorders. Items in this part focused on diagnostic overshadowing in ID. The second part of the questionnaire concentrated on the respondents' skills in the differential diagnosis of mental health disorders in ID. This focused on the recognition and diagnosis of psychiatric symptomatology in children with ID. It was an honest self-rated questionnaire with a Likert-type response format (0–4). 0= Not knowledgeable, 1= Somewhat not knowledgeable, 2= Somewhat knowledgeable, 3= Averagely knowledgeable, 4= Highly knowledgeable. The instrument was validated by psychology and special education experts from the University of Calabar. A pilot study with special teachers and psychologists in another similar setting was carried out to provide initial support for the instrument's reliability to assess teachers' knowledge and skills in the diagnostic assessment of children. The test had a good internal consistency of 0.91.

Ethical Approval

Permission for this study was obtained from the management of the three selected special schools for the study. Individual consent to participate in this study was obtained from each respondent after explaining the study objectives. Participants voluntarily participated with the assurance of confidentiality responses.

Analysis

Data from questionnaires were obtained and transferred into PASW to be analyzed descriptively using percentages and bar charts.

RESULTS

Research question 1: What level of knowledge do school assessors possess on the comorbidity of ID and mental health disorders?

The analysis indicates that school assessors possess little or no knowledge about the common characteristics and psychiatric disorders manifested by children's ID. School assessors possess little or no knowledge of factors that moderate diagnostic overshadowing and resolve issues of misdiagnosis/under-diagnosis to prevent wrong special education placement. As a result, they lack adequate knowledge for appropriate educational placement of children with a two-factor diagnostic condition.

Analysis from Figure **1** shows that 38.05% of school assessors are not knowledgeable about the concepts of dual diagnosis and diagnostic overshadowing in ID. This often leads to wrong placement, which prevents children with this two-factor condition from accessing the right intervention care that fosters quality learning outcomes. Similarly, 30.6% of the respondents in the study rated themselves as somewhat not knowledgeable about diagnostic overshadowing in the

assessment of children with ID. This implies that about 68.6% of school assessors lack knowledge of psychopathology in ID. The analysis indicates that only 3.6% and 4.4% of teachers and school psychologists rated them averagely and highly knowledgeable in the concepts of dual diagnosis and diagnostic overshadowing in ID. These findings imply that more children with conditions of dual diagnoses are vulnerable to misdiagnosis, wrong special education placement, and access to inappropriate intervention care plans and individualized education programs. This educational injustice is evident in poor learning outcomes, community integration, and quality of life among these children.

Research question 2: What is the competence of school assessors in the differential diagnosis of mental health disorders?

The analysis of research question 2, as shown in Table **2** and Figure **2**, indicates that school assessors possess little or no skills in the differential diagnosis in children with ID. They are not equipped with the skills to recognize psychiatric symptomatology in children with ID. The analysis also shows that school assessors do not possess adequate competence in the use vignette approach, and some scales such as Psychiatric Assessment for Adults with Developmental Disabilities (PAS-ADD), Psychopathology Inventory for Mentally Retarded Adults (PIMRA), and Reiss Scales for Children's Dual Diagnosis (RSCDD) among others in the differential diagnosis. Assessors also noted that they lack sufficient competence in both the referral process and transdisciplinary collaboration with other relevant professionals whose services are crucial to the differential diagnosis of children with ID.

The analysis also revealed that 75% of teachers and psychologists possess no competence in the differential diagnosis of children with ID, while only 11% of teachers and psychologists possess competence in

Table 1: Showing Percentage Rating of School Assessors' Knowledge Level on the Comorbidity of Intellectual Disability and Mental Health Disorders

S/No	*I have knowledge on*	0(%)	1(%)	2(%)	3(%)	4(%)
1	Diagnostic overshadowing in children with intellectual disability	18.3	66.7	6.7	5	3.3
2	Common characteristics of mental health disorders that manifest alongside intellectual disability.	31.6	51.7	6.7	5	5
3	Common mental health disorders among children with intellectual disability	46.7	26.7	20	3.3	3.3
4	Factors moderating diagnostic overshadowing	55	33.4	3.3	3.3	5
5	How to resolve issues of misdiagnosis/under-diagnosis to prevent wrong special education placement	35	40	16.7	3.3	5
6	Appropriate special educational placement options for children with intellectual disability with co-morbid mental health disorders	41.7	35	13.3	5	3

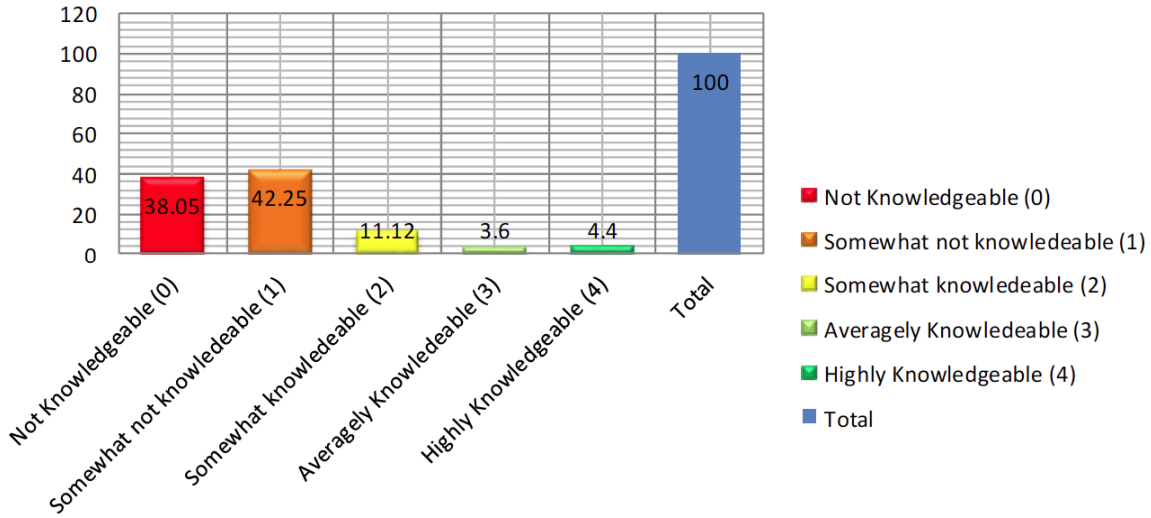

Figure 1: Bar chart showing percentage summmary of assessors' knowledge.

Table 2: Percentage Rating of School Assessor's Competence in the Differential Diagnosis of Mental Health Disorders in Intellectual Disability

S/No	*I am skilled in*	0(%)	1(%)	2(%)	3(%)	4(%)
1	Differential diagnosis in children with intellectual disability	68.4	18.3	8.3	3.3	1.7
2	Collaboration with psychiatrists and other professionals for differential diagnosis	38.3	30	15	10	6.7
3	Recognition of psychiatric symptomatology in children with intellectual disability	33.4	35	20	3.3	8.3
4	The use vignette approach in the differential diagnosis	50	40	6.7	3.3	0.00
5	The use of at least one of the following tests of psychopathology in intellectual disability (PAS-ADD, RSCDD, PIMRA), etc.	53.3	41.7	5	0.00	0.00
6	Referral to a psychiatrist over a child with atypical intellectual disability behavior within a transdisciplinary approach	25	18.3	15	20	21.7

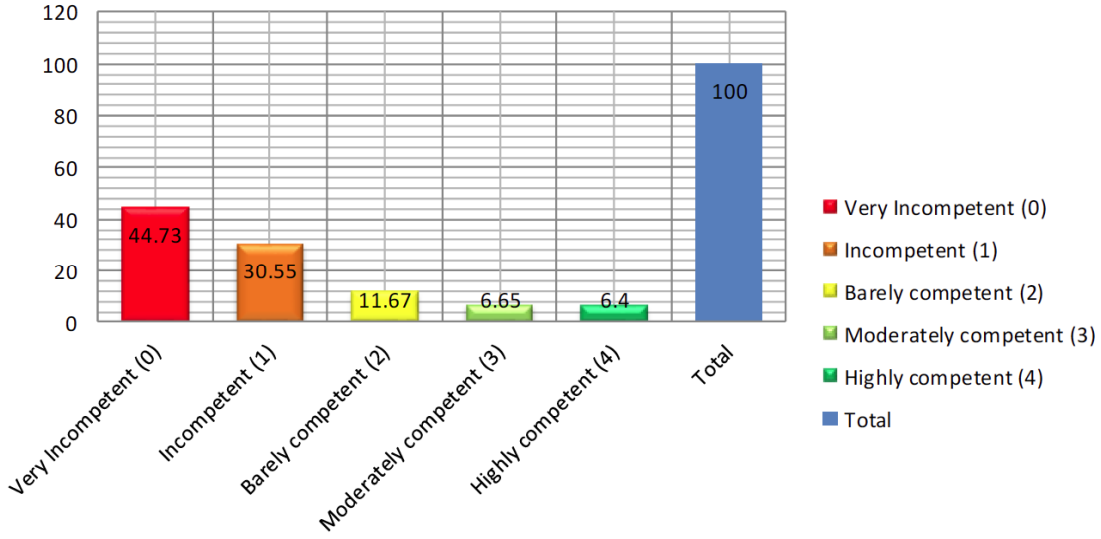

Figure 2: Bar chart showing percentage summmary of assessors' competence.

the differential diagnosis of children with ID. The implication of these findings is that more children with dual diagnoses would not be identified to be adequately catered for in the school.

Table **1** and Figure **1** above indicate school assessors' knowledge of diagnostic overshadowing.

Summary of Findings

1. The findings indicate school assessors possess little or no knowledge of factors that moderate diagnostic overshadowing and resolve issues of misdiagnosis/under-diagnosis to prevent the inappropriate placement of children with ID in special schools in Cross River State.

2. They also lack skills/competence for differential diagnosis of children with ID to recognize psychiatric symptomatology in children with this disability in special schools in Cross River State.

DISCUSSION

School Assessors' Knowledge of Diagnostic Overshadowing in Children with ID

The research findings have revealed that teachers and school psychologists have little or no knowledge of diagnostic overshadowing in children with ID. Therefore, in the current study, children with ID with accompanying psychiatric symptomatology are oftens, less likely to be accurately recognized by special education teachers and school psychologists compared to disorders manifested by individuals with average intelligence. Due to this diagnostic problem, White [18] recently estimated that people with ID could expect about a 19% drop in diagnostic accuracy and mental health treatment recommendations in contrast to individuals with comparable symptomatology who do not have ID. Therefore, White in the above study is corroborated by this study realizing that the probability of assessing a child with ID by teachers and

psychologists less accurately than persons without ID is high. The salience of the clients' cognitive deficits negatively impacts the teachers' judgments concerning the accompanying psychopathology.

Similar to the current study, when comparing identical schizophrenia symptomology in children with typical intelligence and those with ID, Levitan and McNally [6] found that psychologists were generally more likely to rate an individual as having a single diagnosis rather than multiple diagnoses. Importantly, individuals with ID were still rated significantly less likely than individuals in either of the other groups to have a concomitant mental illness. Additionally, Garner [19], during evaluation of schizophrenia across groups of persons with no disability, hearing impairment, ID, traumatic brain injury, or epilepsy. The authors found that the individuals who had conditions reflecting cognitive impairment (intellectual disability, traumatic brain injury, and epilepsy) were rated as less likely to have a thought disorder than those with no disability and hearing impairment conditions. The cognitive and adaptive deficits play a unique role in eliciting overshadowing phenomena. As revealed in the current study, assessors are more likely to recognize a range of symptoms in those with IQs in the normal range than those with. Diagnostic overshadowing contributes to the difficulties that school assessors commonly experience in identifying mental health problems in people with ID.

School Assessors' Competence in the Differential Diagnosis of Mental Health Disorders in Intellectual Disability

As a result of the unpopularity of psychiatric comorbidity among children with ID, differential diagnosis has become almost a nonexistent assessment procedure among teachers and psychologists in Nigeria. Differential diagnosis is essential for tailoring supports to individuals with ID who may have associated psychiatric disorders and their families [20, 21, 22]. Many families who have a child with ID seek a differential diagnosis because such brings about intervention and social support, eventually resulting in an improved quality of life for the family and the individual [23]. As observed from the findings of the current study, Dolano and Kayote [24] found that school-based assessors in most developing countries have greater difficulty in conducting differential diagnoses than those in developed countries because this concept is more popular in developed countries. As a result of the inability to recognize and acknowledge that psychopathology could occur in children with ID, it completely shut them down from getting to know or develop competence in the differential diagnosis.

As corroborated by the current study, Fadi and Junta [25] noted that school assessors have poor skills in some methods and test instruments used in differential diagnosis among children with ID. One of the important methods used in the differential diagnosis in ID is the vignette technique. The vignette technique is a complementary data collection technique used by clinicians and psychiatrists to elicit perceptions, opinions, beliefs, and attitudes from responses or comments to stories depicting scenarios and situations. This technique helps in the interpretation of actions and occurrences in the form of stories that allow situational context to be explored and influential variables to be elucidated. Rather than using only standardized intelligence tests in the assessment of children with ID, there are also tests used for further diagnosis of psychopathology in ID to ensure that such disorders are identified to ensure that a comprehensive intervention plan is given to such a child [26,27]. Some of the tests may include but are not limited to Psychiatric Assessment for Adults with Developmental Disabilities (PAS-ADD), Psychopathology Inventory for Mentally Retarded Adults (PIMRA), and Reiss Scales for Children's Dual Diagnosis (RSCDD), all to be administered by specially trained mental health professionals. Deducing the school system is responsible for filling this important knowledge gap in educational and clinical assessment of children with ID.

CONCLUSION

The knowledge of diagnostic overshadowing and competence in the differential diagnosis in children with ID is crucially important for the purpose of making informed decisions about a child's special educational needs and program placement. Professional knowledge and competence in the assessment of this two-factor condition in children with ID are important for appropriate, need-based, integrated recommendations and intervention care plan, which ultimately has a strong bearing on the quality of services such children access and the quality of life they live. A comprehensive and shared understanding of dual diagnosis and competence in the differential diagnosis is accomplished through a transdisciplinary assessment approach which promotes ongoing consultations for integrated recommendations. The learning point from this case is that the transdisciplinary intervention team needs to be mindful of diagnostic

overshadowing and that psychiatric evaluation is accrued on every child with ID.

RECOMMENDATIONS

The inability of teachers and psychologists to effectively diagnose children with ID often leads to educational misplacement for children with ID. Based on the findings of this study, government and schools managements should provide in-service training for teachers and psychologists to equip them with new knowledge in the diagnosis of children with ID. All children with ID should be given a psychiatric evaluation to ascertain eligibility for antipsychotic medication in addition to other nonmedical interventions. School teachers and psychologists involved in assessment should work with other relevant professionals such as psychiatrists, physicians, and clinical psychologists within a transdisciplinary team approach to conduct a comprehensive assessment to foster integrated recommendations and intervention care plans.

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