

A Scientific Research Review on the Pattern of Psychopathological Comorbidity in Persons with Intellectual Disabilities

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Abstract

Intellectual disability is an alternate term which is currently preferred for the disability historically known as mental retardation. Intellectual disability also called intellectual developmental disorder is a neuro-developmental disorder that typically occurs before the age of 18 years. It is characterized by impaired intellectual and adaptive functioning which is defined by an IQ score below 70 as well as a delay in general daily living skills. According to AAID (2010) intellectual disability is a disability characterized by significant limitations in intellectual functioning which includes reasoning, learning and problem solving, and adaptive behavior which covers a range of everyday social and practical skills. The prevalence rate of intellectual disability based on overall general population is approximately 1% and prevalence rates vary by age. Prevalence for severe intellectual disability is approximately 6 per 1000. According to National Sample Survey Organization (NSSO) under the department of Statistics Government of India the current prevalence rate of intellectual disability is about 20 (3%) per 1000 from general population. Intellectual disability is a complex type of disability; however the problem is compounded significantly when complicated by emotional and behavior problems. Psychopathology is not only the most common complication associated with intellectual but it also carries the most critical consequences. Persons with intellectual disability do experience with full spectrum of psychiatric disorders like psychosis, depression, anxiety, epilepsy, schizophrenia etc. Persons with intellectual disability seem to be more vulnerable to emotional disorders, behavioral disorders and psychopathology as compared to general population. The present study has been undertaken with a view to understand the pattern of psychopathology present in persons with intellectual disability. An attempt was made to study the diagnostic issues, socio-demographic and clinical variables associated with psychopathology of persons with intellectual disability through a research review.

Key words

Intellectual Disability; Psychopathology; Psychiatric Disorders; Diagnostic Issues and Prevalence

Introduction

Intellectual disability is a condition of arrested or incomplete development of mind of a person which is characterized by sub-normality of intelligence (Indian PwD Act, 1995). Intellectual disability is incomplete development of mind which is specifically characterized by impairment of skills manifested during the developmental period; Skills which contribute to the overall level of intelligence i.e. cognitive, language, motor and social abilities (ICD-10, 1993). Intellectual developmental disorder is a disorder with onset during the developmental period that includes both intellectual and adaptive functioning deficits in conceptual, social and practical domains (DSM-5, APA 2013). Intellectual disability (ID), historically referred to as mental retardation (MR), is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social and practical adaptive skills. Although there is evidence to suggest that individuals with ID are susceptible to the full range of psychiatric disorders [1], psychiatric assessment is considered to be problematic. Impairments in receptive and expressive language make it difficult for individuals with ID to understand, and respond to, clinicians who typically rely on the person's identification and description of his or her experiences and emotional states,

especially as the level of intellectual functioning declines [2]. Moreover, the symptoms of diverse psychiatric disorders are often expressed differently in persons with ID relative to those without ID there is significant verification that mental health disorders are considerably more prevalent among people with IDs than in the general population [3,4]. One possibility for the difficulty in understanding and treating the mental health needs of people with ID is the fact that the symptoms of various psychopathologies manifest differently problem of psychopathological comorbidity with intellectual disability is both substantial and persistent and suggest the need for effective mental health interventions [5,6]. Earlier, individuals with intellectual disability were considered unlikely to suffer from mental illness. The behavioral disturbances they displayed were attributed only to the impaired development that characterized intellectual disability. Another conception, which prevailed during that period, that although people with intellectual disability were susceptible to psychiatric disorders but their emotional disturbances was of a different nature and was due to primarily the biological reasons.

Models

Nezu et al proposed Seligman's Model of "learned helplessness" to explain the greater vulnerability of people with intellectual disability to psychopathology, whereas Baumeister's new "morbid model" of intellectual disability suggests that inadequacies of cognitive skills and adaptive behavior repertoires in combination with biomedical, social

and environmental factors predispose these individuals to chronic emotional disturbances.

The charitable model views disability and disabled people with sympathy and in need of compassion and assistance. The Tragedy/Charity Model depicts disabled people as victims of circumstance and deserving of pity. The charity model and the Medical Model are probably most used by non-disabled people to define and explain disability. This model portrays disabled people as being worthy of pity. Disability is viewed as personal disaster. Control and power rests with well-meaning non-disabled people who strive to bring about change for the benefit of the "afflicted". Disabled people are ultimately expected to be grateful for what they receive and to be submissive.

The Social Model views disability as a consequence of environmental, social and attitudinal barriers that prevent people with impairments from maximum participation in society. It is best summarized in the definition of disability from the Disabled Peoples International. "The loss or limitation of opportunities to take part in the normal life of the community on an equal basis with others, due to physical or social barriers." The emphasis is on society and its need to change and not the individual. Society therefore has the problem. "The medical model of disability looks to treat the patient as it is the patient with the problem that needs fixing, whereas the social model of disability looks to challenge society, since it is society that disables a person. The social model of disability is linked to the way in which society organizes itself. Disabled people are seen as having wants, needs and aspirations. Passivity is replaced by a demand for equality. Disability is not seen as something invoking pity or a need for a cure. It may be viewed as a positive asset. Equality for disabled people is seen in the same light as equality from other under-represented groups.

The social model of disability has its roots in a call by disabled people for social and structural change to enable their full participation in society (Union of the Physically Impaired Against Segregation 1974/5). It was an attempt to move away from bio-logical determinism that situates impairment as the direct cause of restricted participation by disabled people in the community (World Health Organisation 2011). The major grievances, in the British form of this model are the segregation of disabled people, the medicalisation of disability and the deployment of charitable discourses around disability [7]. However, the effect of the binary distinction between impairment and disability within the social model has effect of conceding: the body to medicine and understanding impairment in terms of medical discourse [8]. Furthermore, the emphasis on self-advocacy and a rights-based approach can sometimes be used to undermine support practices where individuals require assistance in order to participate [9].

The medical model: This model grants excessive power to medical professionals and makes disability a technical problem rather than a social one. ID is defined by medical and psychology professionals and picks out those who fall below the established norms of intellectual and adaptive behavior, viewing ID as a 'natural kind' of organic origin, akin to other objects of study within the natural sciences [9,10].

Interactive models: The recently released World Report on Disability notes the development of more interactive approaches to disability as an attempt to reconcile the apparent dichotomy between the social and medical model (World Health Organisation 2011). The International Classification of Functioning, Disability and Health (ICF) is held up as a formulation of the interactive approach in that it provides an international, scientific tool for the paradigm shift from the purely

medical model to an integrated biopsychosocial model of human functioning and disability (World Health Organisation 2002). While the ICF is driven by the need to classify disability, a relational model that is largely associated with Nordic countries arose in a different context of de-institutionalization and alternative forms of welfare provision. Within this frame, disability is acknowledged as a mismatch between an individual and their environment and is context dependent. Disability is a dynamic construct that is differently experienced in different contexts. This model places a high value on social inclusion and partnerships with enlightened professionals [12].

Psychopathology

The term Psychopathology encompasses two distinct clinical phenomena. On the one hand it refers to psychiatric disorders such as schizophrenia or mood disorders, which are also present in the population at large. On the other hand it refers to a variety of perplexing behavior disorders that are particularly prevalent in persons with intellectual disability. The most common types of these behavior disorders are aggressive behavior directed against other people, destructive behavior, self-injurious behavior and stereotyped behavior. According to APA Dictionary (2006) Psychopathology is a pattern of behavior or thought processes that are abnormal or maladaptive. The term in this sense is considered to be synonymous with mental illness or mental disorder. The terms "mental disorder" or "psychiatric disorder" may be used as overarching terms indicating the presence of psychopathology. Where behaviors and emotions are abnormal by virtue of their qualitative or quantitative deviances and cannot be explained on the basis of developmental delay alone and cause significant distress to the person, if the overall clinical presentation of a person shows evidence of disturbed behavior and emotion then the person is regarded as psychiatrically disordered. The DSM IV T.R (2002) defines mental disorder as a clinically significant psychological or behavioral syndrome that causes significant distress, disability or loss of freedom which is not merely a socially deviant behavior or an expected response to a stressful life event (e.g. loss of a loved one). Psychopathology is not only the most common complication associated with intellectual disability but it also carries the most critical consequences. Psychopathology in persons with ID is often associated with physical injury to self or other family members, household damage, major restrictions in family activities such as outings in public, embarrassment and shame, increased level of parental ill health, and family and sibling dysfunction. According to Bruinink, Hill and Morreau, (1988) psychopathology is the major cause of failure of community residential placements and reduced occupational opportunity in the post school period and leads to major restrictions in participation in recreational and educational programs. The presence or absence of mental illness plays a crucial role in determining the quality of their adjustment to community and family life. Foale (1973) contended that the mildly retarded adolescents who are admitted to institutions are placed there not because of their intelligence but because of their emotional instability. Historically, the diagnosis of mental health disorders in people with intellectual disability has been very uncommon. There has been a perception that the effects of intellectual disability are so devastating that these individuals would not likely experience emotional disturbance. Many of the aberrant response patterns displayed by people with severe retardation were perceived as typical problem behaviors unrelated to an emotional disturbance. Psychopathology was either unrecognized or devalued in people with intellectual disability. It is only recently, that the mental health of individuals with intellectual disabilities has become an

important area of focus. It has been recognized and revealed in the recent studies that people with intellectual disability suffer with full range of emotional and personality disturbances that occur in the general population [13]. Since the 1970s, the population surveys have repeatedly revealed that people with intellectual disability are particularly vulnerable to psychopathology more than non-handicapped persons [13,14]. Now psychopathology has become recognized as the most serious predicament for psychologist, school teachers, rehabilitation counselors, and other service agency workers in dealing with people with ID. Psychopathology becomes a special challenge when the goal is to advance personal independence and is frequently the cause of institutionalization. Although there are currently no well-established explanations for this enhanced emotional vulnerability, it comes as no surprise that individuals with deficits in intellectual disabilities and social competence may have greater coping difficulties in an environment which is complex and challenging for them. Sub-average intellectual and limitation in adaptive skills, which are inextricably associated with ID most likely contribute to recurring experiences of stress, fear, and lack of control and to a profound sense of uncertainty.

Prevalence of Psychiatric Comorbidity In IDs

As it has been successfully established in the recent past that people with intellectual disability suffer with full range of psychiatric disorders, their presentation significantly differs from non-retarded people. People with intellectual disability do experience the full spectrum of psychiatric disorders as reported by Nezu, et al., S Reiss [13]. After an extensive review of literature researchers found that challenging behaviors are common among persons with intellectual disabilities. Estimates of CB range from 10 to 17. 4 to 40% of people with intellectual disability have co-morbidity of Autism Spectrum Disorders. Prevalence of depression in intellectual disability is range from 40% to 8%. Persons with intellectual disabilities seem to exhibit more negative symptoms. Prevalence estimates for epilepsy suggest the seizure disorder occurring 20 to 40% in people with ID which is about 30 times higher than general population. Borthwick and Duffy reported in general, the prevalence of psychopathology in people with ID varies from 10% to 80%. A wide range of psychiatric disorders is associated with intellectual disabilities [15]. Unspecified psychosis unspecified behavioral and emotional disorders, hyperkinesia and pervasive developmental disorders were reported to be highly prevalent diagnosis. M.T. Kishore, et al. did a prevalence study to find out the rate of psychiatric diagnosis in intellectual disability and found that 60% of the sample was suffering from mental illness with intellectual disability [16,17]. Barnes N and Graff analyzed data from the US National Health Interview Survey that contains data on nearly 10,000 children. Just over 4,000 children of 4 years of age and older were selected from this database because they had a sibling, and within this group 373 had a disabled sibling (all disabilities were included not just developmental disabilities) [19]. The researchers also controlled for 12 variables that might have influenced outcomes (e.g., deprivation experienced by families) when comparing the siblings of disabled children to the rest of the siblings in the survey sample. The siblings of disabled children were reported by their parents to have more mental health problems, to use more mental health services, and their overall difficulties were rated as more severe. These differences between the groups, however, were very small in size thus generally supporting the conclusions of earlier research. Psychiatric disorders appeared in study participants at the following rates: attention deficit hyperactivity disorder (ADHD), 6.5%; autism, 4.2%; anxiety, 2.7%; bipolar disorder,

1.1%; delusional disorder, 0.8%; depression, 2.3%; obsessive-compulsive disorder, 0.8%; schizophrenia, 1.9%; enuresis, 10.3%; epilepsy, 23.7%; and behavioral problems, 80.9%. The prevalence of psychiatric disorders was statistically higher in severely intellectually disabled children (IQ \leq 49) than mildly intellectually disabled children (IQ \geq 50). Seguin first suggested that a psychotic disorder might complicate the clinical picture of retardation. Seguin divided such psychosis into two main types: hyperkinetic and hypo-kinetic, depending on the degree of motor activity. Greisbinger presented similar classification by dividing psychosis of the mentally retarded into apathetic and excitable types. Researcher described the symptoms of the excitable psychosis as including biting, destructiveness, aggressiveness, and extreme fretfulness. By the early twentieth century, it was an established fact that mentally retarded individuals can and do suffer from psychotic disturbances. These disturbances appear to fall into two categories: Psychotic disturbances similar in kind to those observed in persons of normal intelligence, which are most often described in persons of mild to moderate levels of intellectual disability and; Psychotic disturbances unique to mentally retarded persons, colored by their low intelligence and associated deficiencies. Schizophrenia remains the most frequently reported type of major mental illness in mentally retarded individuals. Striking symptoms of schizophrenia reported in this population include bizarre behavior, persistent withdrawal, echolalia speech, and affective unavailability in mentally retarded persons who had clearly regressed from higher levels of social adaptive functioning. These individuals displayed very clear developmental indices of Schizophrenia (i.e. schizophrenia that was engrafted on distinct earlier indices of intellectual disability). Pollock reported 396% of the 144 mentally retarded patients admitted to civil state hospitals in New York in 1942 to be diagnosed as psychosis with mental deficiency. An additional 18.4 were diagnosed as schizophrenic, and 9.9% psychoses with convulsive disorders. Penrose suggested that the type of psychoses most intimately associated with mental defect in actual practice is some form of schizophrenia. He noted that isolated schizophrenic symptoms i.e. catatonic waxi-flexibility, stupors states, outbursts of violence stereotypy, negativism mannerism are often found in the severely retarded, and he emphasized that their significance is difficult to determine. Disorders of mood do occur among people with intellectual disability. As late in the 1960s, within the intellectual disability community, many believed that mood disorders among persons with significant cognitive and adaptive behavior impairments were inconsistent with explanatory models of etiology. These explanatory models suggested that the language and cognitive features of persons with severe levels of impairment reduced the risk of mood disturbances [19]. Penrose commenting on affective disorders among persons with intellectual disability that in the concepts of Freud, the ego and consequently the superego is weak in people of subnormal intelligence. Thus the conscious and unconscious feelings of guilt and unworthiness, characteristic of the affective disorders, endangered by hypertrophic superego are lessened. Gibby explained that it is likely due to the persistent dependency, needs of the intellectual disabled child, a lack of understanding of his problems by the mother and also because of her emotional reaction to the child's deficiencies, that rejection is more apt to occur in the case of mentally retarded child than in one of more normal capacities, because mothers of intellectual disabled children may often unconsciously reject such children (and may even separate themselves physically from their children), they may fail to provide adequate or consistent mothering. Under such condition, children are more likely to become depressed. The retarded child is more prone to such depressive reactions. A plethora of recent suggested significantly higher prevalence rates of

mood-related disorders than been previously described. The other most common psychiatric illness among this population is personality disorders. Personality disorders occur in mentally retarded individuals whose abnormal behaviors are based primarily on extrinsic factors and had no distinct relationship with the symptom of intellectual disability. The presence of personality disorders in this population suggests that these disorders are not an infrequent psychiatric handicap for mentally retarded citizens. Those with mild intellectual disability are most susceptible to this disorder. They possess the cognitive ability to almost fit into society yet cannot quite integrate themselves without early intervention and support. Adjustment disorders are most frequently caused by inappropriate social adaptive expectations or unexpected changes in externally imposed life patterns. The presence of intellectual disability can make it difficult for the person to process and cope with personal and family changes; e.g. change in teachers or the separation of parents. Persons with these disorders respond rapidly to interpersonal and environmental support, combined with individual psychotherapy and family counseling to realign the parents or the residential/educational personnel's unrealistic expectations or goals. Reviews of anxiety disorders on intellectual disability have suggested that their frequency is quite low. These reports have prompted speculation as to whether the complexity of anxiety disorder is beyond the limits of the more severely retarded. These studies tend to attribute anxiety phenomena in the retarded to factors associated phenomena in the retarded to factors associated with atypical developmental patterns in conjunction with major indices of disturbed family functioning. The remaining diagnoses found in persons with intellectual disability include such disorders as anorexia nervosa, oppositional disorders, substance abuse, ADHD, Autism Spectrum Disorders and Epileptic Disorders, although these disorders are relatively less common in persons with intellectual disability.

Research Reviews Based on Global Studies

T Kosankentausta and M Livanainea, et al. studied the risk factors for psychiatric disturbances in children with intellectual disability. The subject comprised 75 children with intellectual disability aged 6-13 years. Data were obtained from case files and several questionnaires completed by their parents and other careers. The results demonstrated that the risk of psychopathology in children with intellectual disability was most significantly increased by moderate intellectual disability, limitations in adaptive behavior, impaired language development, poor socialization, living with one biological parent and low socioeconomic status of the family. KFM Cormack and AC Brown, et al. conducted a study to identify those children attending special school for severe learning difficulties having significant emotional and behavioral problems. This study confirmed previous research findings of a high prevalence of behavioral and emotional difficulties amongst children with intellectual disability. This study also identified a number of correlates of disorder, which required further investigation. Emersion studied the prevalence of psychiatric disorders in children and adolescence with and without intellectual disability. This survey collected information on a multistage, stratified, random sample of 10438 children between 5 and 15 years of age across 475 post code sectors in England, Scotland, and Wales. The results revealed that the prevalence of any diagnosed ICD-10 disorder, conduct disorder, anxiety disorder, hyperkinesias and pervasive developmental disorders were greater among children with intellectual disability than among their non-disabled peers. Dekker and Koot studied the prevalence, comorbidity and impact of DSM IV disorder in 7 to 20 year olds with intellectual disability attending special school [20]. Parent version of

anxiety, mood and disruptive disorder modules of the Diagnostic Interview Schedule made diagnosis for children. It found that 21.9% of children met the criteria for anxiety disorders, 4.4% for mood disorders and 25.1% for disruptive disorder. Only 27% of the diagnosed children received the mental health care. Dekker and Koot also studied the child and family predictors that predict DSM IV disorders in children with intellectual disability attending special school [20]. Initially parents completed child behavior checklist (CBCL), Developmental behavior checklist (DBCL), Vineland Social Maturity Scale (VSMS) and instruments addressing their child's physical health, family functioning and parent's mental health. One year later parent completed the anxiety, mood and disruptive disorder modules of the Diagnostic Interview Schedule for children IV (DISC-IV- Parent version). They found that both child and family factors were significantly related to DSM IV outcome 1 year later. Social incompetence, inadequate daily living, child health problems, negative life events, emotional and behavioral problems, and parental mental health problems were the strongest predictors of DSM IV disorders 1 year later. Stromme P conducted a population based study to assess the prevalence of psychiatric disorder in children with intellectual disability (IQ less than 70). Psychiatric symptomatology was assessed as a standard part of the neuro-developmental examination, which included a semi-structured parent interview, a clinical child interview, and retrieval of the charts of previous child psychiatric examinations. Psychiatric diagnosis was classified according to ICD-10. 37% of children with intellectual disability were found to have psychiatric diagnosis. The most common diagnosis was hyperkinesias (16%). 42% of populations with severe intellectual disability, 33% of the population with mild intellectual disability were having psychiatric co-morbidity. The degree of intellectual disability did not predispose for increased risk of a psychiatric diagnosis. Einfeld SL and Tonge BJ reported the prevalence of psychopathology in children and adolescents with intellectual disability from an epidemiological study [21]. 40.7% were classified as having severe emotional and behavior disorder or as being psychiatrically disordered. The children with profound retardation had lower levels of disturbance overall compared with those with mild, moderate and severe intellectual disability. The level of intellectual disability affected the scores on a number of behavioral dimensions, with disruptive and antisocial behaviors more prominent in the group with mild intellectual disability. N Zigler and Glick, et al. attempted to determine whether more symptoms associated with intellectual disability, in comparison to those without intellectual disability. They found that person with intellectual disability have a greater tendency toward symptoms associated with interpersonal problems and expressed in behaviors rather than verbally, with higher incidence of hallucinations and delusions. Goldberg, et al. in a study on adult with intellectual disability found 67% psychiatric comorbidity. They found 23% adjustment disorders, 11% impulse control disorders, 7% organic mental disorders, 6.5% depressive disorders, 5% psychosis, and 4% anxiety disorders. King, et al. in a study on population with severe and profound intellectual disability reported the prevalence rates for ADHD (8-15%), anxiety disorders (12-23%), bipolar disorder (7-10%), major depressive episode (6-19%), dementia (1-4%), delirium (1-2%), stereotypy and conduct disorder (26-27%), impulse control disorder 29-40% and Psychotic disorder 3-8%. Borthwick and Duffy, et al. in their review stressed the importance of examining the prevalence in terms of specific disorders rather than the overall presence or absence of any psychiatric disorder [15]. Relationship between dual diagnosis and variables such as age, gender, and level of intellectual functioning may be disorder specific. Drew and Bregman, et al. reported that in persons with intellectual disability with co-morbid mental disorders

appear to have multiple causes including biological vulnerability, early brain abnormalities, traumatic or stressful life experiences, family dysfunctions, alteration in brain functioning, and maladaptive thought and behavior patterns [22]. Borthwick D and Eyman assessed the prevalence of psychiatric disorders by reviewing by reviewing the California developmental disability system case records [23]. The prevalence rate was 16% in mild retardation, 9% in moderate intellectual disability, 5% and 6% for severe and profound retardation respectively. 18% of patients with psychiatric disorders were in a community facility and another 18% in institution. Reiss did a study on adults with intellectual disability attending a community-based program. On the sample, he applied three diagnostic methods namely Reiss screen, psychological evaluation and review of case records. The prevalence rate was 39%, 60%, and 12% for psychotic, neurotic disorder and other disorders respectively.

Research Reviews Based on Indian Studies

Kishore MT, et al. conducted a hospital-based study on outpatients with intellectual disability in India. They examined the rate of psychiatric diagnosis as per ICD-10 and Reiss Screen for Maladaptive Behavior (RSMB), and distribution of psychiatric diagnosis with regard to the severity of intellectual disability. They also explored the degree of agreement between Reiss Screen and clinical diagnosis (ICD-10) in relation to dual diagnosis. Clinically, according to ICD-10, about 60% of the sample found to have dual diagnosis as compared to 48% on RSMB. Agreement between ICD-10 and RSMB about psychiatric co-morbidity was 82%. Commonest psychiatric diagnosis was unspecified psychosis followed by bipolar affective disorders. Dekker and Koot found no significant differences in gender with respect to the frequency of psychiatric illness in population with intellectual disability. Dekker and Koot reported that age did not predict the occurrence of dual diagnosis. Stromme P reported that boys are more at risk for psychiatric co-morbidity as compared to girls with intellectual disability. Relationship between the frequency of psychiatric illness and severity of retardation has not been yet established in the literature. Conflicting reports have been found in the studies. Khess, et al. studied the psychiatric co-morbidity in children with intellectual disability attending the child psychiatric unit of a tertiary psychiatric hospital over a 1-year period. Diagnosis was based on ICD-10 criteria. It showed that psychiatric disorder was present in 56.17% of the cases and a medical disease was present in 35.0%. Only 13.35% cases had both a psychiatric as well as medical illness. Patients with psychiatric illness were found to have a lesser degree of retardation. The commonest medical illness found was epilepsy. Patients with medical illness were found to have a negative family history of mental illness and were much younger at the first consultation compared to the patients with a psychiatric illness. Some studies have attempted to investigate whether age, gender, level of retardation, other socio-demographic, and clinical factors are associated with the occurrence of psychiatric co-morbidity. Masi G has reported that adolescence is particularly important phase for the individual with intellectual disability, since adolescent turmoil can increase the risk of psychopathology. Steffenberg, et al. reported that 57% of children with intellectual disability and epilepsy had co-morbid psychiatric disorders. The most common co-morbid diagnosis was autistic disorder. Einfeld SL and Tonge BJ reported that the Developmental Behavior Checklist (DBC) scores in the dimensions of disruptive and antisocial behaviors are more prominent in the group with mild intellectual disability and self-absorbed and autistic behaviors are more prominent in those with severe intellectual

disability. A. Borthwick and Duffy suggested that relationship of age with psychiatric co-morbidity in intellectual disability should be studied in terms of specific disorder. Barlow suggested that relationship between intellectual functioning and psychiatric comorbidities have been done using standardized diagnosis may be dependent on the specific disorder examined and generalization may not be possible when all disorders are clustered together. Satyanarayana, et al. examined the pattern of psychiatric morbidity in children and adolescents with intellectual disability, aged 5-15 years, in a hospital based study. They also explored the significant association and determinants of psychiatric morbidity in them. The results revealed that it is possible to diagnose most cases as per ICD-9. In 13.3% of cases this was not possible. 16.6% of patients had more than one diagnosis. The diagnosis had a full range of psychiatric disturbances commonly seen in that age range. Behavior disturbances had an inverse relationship to social quotient (SQ) and epilepsy.

Diagnostic Issues

Diagnostic overshadowing

The diagnosis of psychiatric disorders in persons with developmental disabilities has been problematic. A general issue has been the tendency of mental health clinicians to attribute all behavior problems to an individual's handicap, which is referred in the literature as diagnostic overshadowing. A second and more specific issue is the influence of psychosocial deficit on the presentation of those emotional complaints and behavior that are necessary for DSMIV- TR defined mental disorders. There are four major patho-plastic effects of intellectual disability on the clinical presentation of psychiatric disorders.

Intellectual distortions

This refers to the effects of the diminished ability of developmentally disabled persons to think abstractly and communicate intelligibly. Deficits in the ability to observe and describe one's behavior and feelings severely hamper the diagnostic process because the DSM IV-TR Axis 1 disorders rely heavily on patient's self-report for the elicitation criteria specific features. These difficulties are compounded by speech impediments, limited vocabulary, concrete thinking, hearing deficits, and aphasia. All serve to make the presentation of psychiatric disorders relatively nonspecific and limit the utility of the clinical interview. Intellectual distortion often makes it difficult to determine if a patient will be psychotic or not. Hallucinatory experiences and delusions require detailed self-reports, it is almost impossible to validate these psychotic experiences in patients with an IQ below 50 [24].

Psychosocial masking

This refers to the effects of developmental disabilities on the content of psychiatric symptoms. The developmentally disabled are less likely than their non-handicapped peers to have had a wide range of experiences and knowledge of the world. Consequently, the delusions and hallucinations of handicapped persons usually lack the richness of detail and inventiveness and resemble the nonspecific fears of young children.

Cognitive disintegration

This refers to the tendency of developmentally disabled persons to become disorganized under emotional stress. As such individuals predisposed by organic deficits and concrete coping mechanisms, stress can cause deterioration in intellectual functioning and a clinically significant behavioral regression. This phenomenon resembles the effects of anxiety on performance as seen in non-handicapped individuals, but seems to occur at a lower threshold. Thus a bizarre presentation has little diagnostic significance. Mental health clinicians, who lack an appreciation of normal stress responses in the developmentally disabled, may misdiagnose the patient to be suffering from a schizophrenic disorder or atypical psychosis. Myers suggested that this phenomenon accounted for the greater than expected number of cases of schizophrenic disorder in developmentally disabled persons in a retrospective review of inpatient admissions.

Baseline exaggeration

This refers to the increase in the severity of preexisting maladaptive behavior during periods of stress. The signs and symptoms of a psychiatric illness may therefore be a mixture of new behavior and increase in the severity in the preexisting one. For example, chronic low frequency self-injury or aggression may suddenly increase in intensity with the onset of acute psychiatric disorders. Such increase may occur with any type of psychological stress or even medical illness.

Other Diagnostic Issues

In addition to the pathoplastic effects, other confounding diagnostic factors include the presence of more than one psychopathological state. For example, autistic persons who develop affective disorders will present an intermixture of autistic and affective features.

Drug masking of disorder-specific behavior

A use of drug interventions (especially the administration of antipsychotic agents) for behavioral control can make the presence of affective disorder related behavior such as a sleep disturbance or over activity. Besides their sedative effects, antipsychotic have antimanic, anti-anxiety, and antidepressant effects which can mask the presence of an affective disorder. The available literature suggests that no single factor is responsible for causing psychopathology in the individual with or without intellectual disability. Rather, psychopathology in mentally retarded is likely to be caused by a complex interaction of different factors as explained by a Bio-Psychosocial model of Mental Health. Biological factors may affect the brain function and cause psychopathology. Similarly, psychosocial adversity is also likely to contribute. Maternal illness, family dysfunctions, and negative parent child interaction have been shown to be associated with behavior disorder at least in children with mild intellectual disability, although the independence of these factors from a low socioeconomic status is still to be determined. Young persons with intellectual disabilities are also more likely to have experienced adverse life events such as being placed in care, being bullied, assaulted, or abused. It is likely that young people with intellectual disability are also vulnerable than the general population to psychosocial adversity of because of reduced coping skills, learned helplessness, and poor self-esteem.

Effectiveness of Psychological Interventions

Some of the common interventions used are behavioural approaches, cognitive behavioural therapy (CBT) and psychodynamic psychotherapy. Nagel and Leiper, in their survey of interventions used by clinical psychologists in the UK, found that 80% of respondents stated that they used behavioural interventions through staff, 35% reported that they used CBT techniques and 17% reported that they were using psychodynamic methods. Thus a range of psychotherapeutic interventions should be considered as part of the overall treatment plan for people with intellectual disabilities.

Behavioural Interventions

Most services for people with intellectual disabilities employ nurses or psychologists with specialized skills in behavioural interventions who are able to deliver such treatments. These models can be adapted and applied to the full range of people with intellectual disabilities. Some critics, however, question the benefits of the behavioural approach as it often fails to address the emotional context of the behaviour and therefore its sustained benefit is questionable.

There have been efforts to assess the effectiveness of the different components of behavioural interventions. For example, a meta-analysis showed that pre-treatment functional analysis and respondent contingent procedures were significantly more effective than other procedures. Hassiotis, *et al.* assessed both the efficacy and cost-effectiveness of a service-led intervention over a longer follow-up period [25]. Overall, it appears that there is not much evidence on the cost-effectiveness of different components of intervention packages.

Cognitive Behavioural Therapy

Cognitive behavioural therapy is widely used in mainstream services and has a good evidence base in terms of both short- and long-term efficacy. In the intellectual disability population, much of the research on CBT has come from forensic secure units and has shown it to be effective for conditions such as depression, anxiety, anger management and sex offending, with literature on anger management appearing to have the strongest evidence base. Despite a number of available research studies in this area, the quality of studies remains poor with the exception of a few. Additionally, most of the trials on CBT have multi-component packages making it difficult to establish the effectiveness of each component. The use of CBT relies significantly on language, which can limit its utility when there are communication difficulties. Although a number of initiatives have been taken to improve access, it has not been possible to develop standardized approaches to the application of CBT in the intellectual disability population. Sturme, in a review paper, pointed out the fact that the extent to which CBT can be used in an intellectual disability population is not clear and therefore, unlike behavioural interventions, CBT has not yet become an integral part of service delivery in many areas. The question that still remains to be answered is whether CBT can be provided for people who have limited intellectual abilities.

Psychodynamic Therapies: Psychodynamic therapy is still at an early stage of development in people with intellectual disabilities. The literature suggests that psychodynamic psychotherapy can lead to a reduction of psychological symptoms and result in improved self-esteem in this population. There have been efforts to use psychodynamic interpretations to explore the experiences of people with intellectual disabilities. However, research in this area is restricted to a few case reports and case series. In common with all of the

interventions discussed here, use of psychodynamic therapy is limited by any co-existing communication deficits, which makes it difficult to understand the dynamic constructs of the individuals concerned. Furthermore, assessing the effectiveness of the intervention may be difficult to differentiate from the benefits, the individuals may have had from the humanistic element of the contact.

Conclusion

Research reviews conducted based on the related socio-demographic factors with respect to psychiatric comorbidity in people with intellectual disability reflects the conflicting and controversial views. Therefore, this area of psychiatric co-morbidity in people with intellectual disability needs reconsideration. Recent studies have also confirmed the earlier findings that prevalence of psychiatric comorbidity in persons with intellectual disability is 3 to 4 times higher than people without intellectual disability. The most common disorders reported in studies have been unspecified psychotic disorders, mood disorders, conduct disorders, disruptive behavior disorder and adjustment disorders. It has been clearly established that people with intellectual disability experience the full spectrum of psychiatric disorders and clearly present more behavioral disorders than are found in the general population. People with intellectual disability seem to be more vulnerable to emotional, behavioral disorders and psychopathology as compared to general population. However, the pattern of psychiatric co-morbidity in persons with intellectual disability is still not clearly understood because of various conceptual and diagnostic issues. A research in this area has gained importance in the recent years and a significant controversial debate regarding conceptual and methodological issues associated with research prevails throughout the history.

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