

Benefits of Psychoneurobics in Intellectual Disability

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ABSTRACT

Intellectual disability is abnormality that has enormous social effects. It not only affects the people who suffer from it but also the family and society. Intellectual disabilities is diminished cognitive ability that translates into a difference in the rate and efficiency with which the person acquires, remembers and uses new knowledge compared to the general population. Intellectual disability is characterized by significant limitations in intellectual functioning and adaptive behaviour, the latter expressed as conceptual, social and practical adaptive skills. An intellectual disability is defined as an IQ below 70 and deficits in adaptive behaviour or daily living skills (eating, dressing, communication, participating in group activity). People with intellectual disability learn slowly and have difficulty with abstract concepts.

In the present study, it will be shown using Psycho Neurobics, innovative techniques designed by my Guru and guide Dr. Chandrasekhar Tiwari, founder president of SIGFA Institute of Research and Development, Faridabad, Haryana, India that the IQ level of intellectual disabled students can be enhanced. The results of this study on intellectual disabled students with the help of their parents for enhancing the Intelligence Quotient (IQ) level is very much overwhelming and encouraging to work with intellectual disabled students.

Key words: Intellectual disability, Psychoneurobics, Intelligence Quotient, cognitive ability, adaptive behaviour

1.0 INTRODUCTION

The term intellectual disability is the level of cognitive functioning which is demonstrated by particular children. It is the circumstance in which a children's cognitive functioning is impeded to the point of causing a significant disability in receiving information from environment, then effectively processing and adapting to the information.

The persons with intellectual disability have experienced a radical change in all aspects of life as healthcare, employment, education, recreation and living standard (World Health Organization, 2000) [43]. It has been renamed many times throughout history. Mental retardation, which was in use world over till late 20th century, has now been replaced with Intellectual disability in most countries including India.

Children with intellectual disability often participate in various activities (e.g. play, clay making, group dance, music, creative art) with other children of their age who do not have disabilities. Children with intellectual disability are to be treated kindly and fairly because quality of life, health, education, employment, recreation etc. are also their fundamental rights. Children with an intellectual disability experience the same range of emotional and mental needs as the general children. Children with intellectual disabilities develop learning sets at a slower pace that peers without disabilities and they are deficient in relating information to new situations (Beirne-Smith, Patton and Kim 2006) [5].

Intellectual disability refers to a particular state of functioning that begins prior to age 18, characterized by significant limitations in both intellectual functioning and adaptive behaviour (AAMR, 2002) [3]. American Association on Intellectual and Developmental Disabilities (AAIDD, 2010) [2] defined Intellectual disability as "Significantly sub average general intellectual functioning existing concurrently with deficit in adaptive behaviour and manifested during the developmental period that adversely affects a child's educational performance."

2.0 CAUSES OF INTELLECTUAL DISABILITY

Approximately 70% of individuals with severe intellectual disability and 50% of individuals with mild intellectual disability have an organic or biological basis for their disorder (McLaren & Bryson, 1987) [28]. Some children's cognitive deficits may simply reflect the lower end of the normal IQ distribution (Achenbach, 1982) [1]. In such cases, functioning represents an interaction of both genetic

and environmental factors. Factors such as poverty, neglect, abuse, limited stimulation and poor parent-child interactions are but a few of the psychosocial factors that have been found to be related to intellectual functioning (AAMR, 2002) [3]. Determining the cause of intellectual disabilities is a difficult process. An individual may be intellectual disabled for a multitude of reasons. Factually, only about half of all cases of intellectual disabilities may a specific cause is cited (Beirne-Smith, Patton & Kim, 2006) [5]. In attempting to determine possible biological causes of intellectual disability in an individual are illustrated by R. Gargiulo (2009) *Special Education in Contemporary Society*, 3rd ed. (Thousand Oaks, CA: Sage [12] in detail according to their time of onset: prenatal onset (occurring before birth), prenatal onset (occurring around the birth) and postnatal onset (occurring after birth).

In general, the less severe the retardation, the greater is the likelihood. No two learners with intellectual disability are alike, even if they share the same etiological factor.

3.0 CLASSIFICATION OF INTELLECTUAL DISABILITY

A number of ways have been developed to classify children with intellectual disability during the past few decades. The 1973 and 1983 AAIDD definitions of intellectual disability divided severity of disability into four categories (mild, moderate, severe and profound intellectual disability) in Table 1.

Table 1: Showing Classification of Intellectual Disability According to severity of disability

Level of Intellectual Disability	IQ range	Approximate mental age in adulthood	% of persons with Intellectual Disability at this level
Mild	50-69	8 years, 3months to 10 years, 9 months	85
Moderate	35-49	5 years, 7 months to 8 years, 2 months	10
Severe	20-34	3 years, 2 months to 5 years, 6 months	3.5

Profound	< 20	< 3years, 2 months	1.5
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Source: Sattler (2002) [31]

The current view is that intellectual disability has multiple causal factors, including genetic predisposition, environmental insults, developmental vulnerability, heredity and environment (Harris, 2006) [16]. Consequently, the AAIDD proposed a multifactorial approach to etiology, involving the following four categories (AAMR, 2002) [3]:

- Biomedical: factors that relate to biological processes, such as genetic disorders or nutrition.
- Social: factors that relate to social and family interaction, such as stimulation and adult responsiveness.
- Behavioural: factors that relate to potentially causal behaviours, such as dangerous (injurious) activities or maternal substance abuse.
- Educational: factors that relate to the availability of educational supports that promotes mental development and the development of adaptive skills.

AAIDD uses a classification system based on the type and extent of the support that the individual requires to function in the natural settings of home and community. AAIDD recommends four levels of support:

Table 2: Showing Classification Based on Needed Support

Support Level	Description with Examples
Intermittent	Supports are provided on an “as needed basis.” These supports may be Episodic—that is, the person does not always need assistance; or Short-term, occurring during lifespan transitions (e.g., job loss or acute medical crisis). Intermittent supports may be of high or low intensity.
Limited	Supports are characterized by consistency; the time required may be limited, but the need is not intermittent. Fewer staff may be required, and costs may be lower than those associated with more intensive levels of support (examples include time-limited employment training and supports during transition from school to adulthood).

Extensive	Supports are characterized by regular involvement (e.g. daily) in at least some environments, such as work or home; supports are not time-limited (e.g. long-term job and home-living support will be necessary).	The learning and memory capabilities of people with intellectual disabilities are significantly below average in comparison to peers without disabilities. People with intellectual disabilities develop learning sets at a slower pace than peers without disabilities and they are deficient in relating information to new situations (Beirne-Smith, Patton & Kim, 2006) [5]. Children with intellectual disabilities may not spontaneously use appropriate learning or memory retention strategies and may have difficulty in realizing the conditions or actions that aid learning and memory. However, these strategies are taught by Fletcher, Huffman & Bray, 2003 [11]; Hunt & Marshall, 2002 [20]; Werts, Wolery, Holcombe & Gast, 1995 [39] and Wolery & Schuster, 1997 [42]. People with intellectual disabilities have trouble focusing on relevant stimuli in learning and in real-life situations, sometimes attending to the wrong things (Kittler, Krinsky-McHall & Devenny, 2004 [24]; Westling & Fox, 2004 [41].
Pervasive	Supports must be constant and of high intensity. They have to be provided across multiple environments and may be life-sustaining in nature. Pervasive supports typically involve more staff and are more intrusive than extensive or time-limited supports.	

Source: *Mental Retardation: Definition, Classification and Systems of supports, 10th ed.* (Washington, DC: American Association on Mental Retardation, 2002) [3]

4.0 CHARACTERISTICS OF PEOPLE WITH INTELLECTUAL DISABILITY

Characteristics of people with intellectual disabilities that can affect their academic learning, as well as their ability to adapt to home, school and community environments are presented under the following sub-headings:

➤ **General Cognition**

People with intellectual disabilities vary physically and emotionally, as well as by personality, disposition and beliefs. Their apparent slowness in learning may be related to the delayed rate of intellectual development (Wehman, 1997) [38]. When adults with intellectual disabilities attend to appropriate aspects of presented learning stimuli versus inappropriate aspects, their rate and amount of learning can be acceptable (Vakil, Shelef-Reshef, & Levy-Shiff, 1997 [37]; Werts, Wolery, Gast & Holcombe, 1996) [40]. If specific educational supports are implemented, few researches indicate children with intellectual disabilities may achieve at the same rates but overall remain behind their peers (Vakil *et al.* 1997 [37]; Wehman, 1997) [38]. The score of an IQ test is less important in determining the general cognition or ability and facility in obtaining information of a person with intellectual disability than the types and amount of support needed to function at specified tasks or levels (Hourcade, 2002) [18].

➤ **Learning and Memory**

➤ **Attention**

To acquire information, children must attend to the learning task for the required length of time and control distractions. Children with intellectual disabilities may have difficulty distinguishing and attending to relevant questions in both learning and social situations (Saunders, 2001) [32]. To acquire information, children must attend to the learning task for the required length of time and control distractions. Children with intellectual disabilities may have difficulty distinguishing and attending to relevant questions in both learning and social situations (Saunders, 2001) [32].

➤ **Adaptive Skills**

The adaptive skills of people with intellectual disabilities are often not comparable to those of their peers without disabilities. A child with intellectual disabilities may have difficulty in both learning and applying skills for a number of reasons including a higher level of distractibility, inattentiveness, failure to read social cues and impulsive behaviour (Hardman *et al.*, 2008) [14]. Lee, Yoo and Bak (2003) [25] investigated the quality of social relationships among children with mild intellectual disabilities and peers who were not disabled and found that the children without disabilities did perceive their classmates with intellectual disabilities as friends.

➤ **Self-Regulation**

The ability to rehearse a task is related to a broad concept known as self-regulation or the ability to mediate or

regulate one's own behaviour (Shonkoff & Phillips, 2000) [33]. Information-processing theorists study how a person processes information from sensory stimuli to motoric output (Sternberg, 2003) [34]. In information-processing theory, the learning differences in people with intellectual disabilities are seen as the underdevelopment of meta-cognitive processes. The lack or underdevelopment of these skills notably affects memory, rehearsal skills, organizational ability and being in control of the process of learning (Erez & Peled, 2001 [10]; Hunt & Marshall, 2002) [20].

➤ **Speech and Language**

People with intellectual disabilities may have delayed speech, language comprehension and formulation difficulties. Language problems are generally associated with delays in language development rather than with a bizarre use of language (Beirne-Smith *et al.*, 2006 [5]; Moore-Brown & Montgomery, 2006) [29]. People with intellectual disabilities may show delayed functioning on pragmatic aspects of language such as turn taking, selecting acceptable topics for conversation, knowing when to speak knowing when to be silent, and similar contextual skills (Haring, McCormick & Haring, 1994 [15]; Yoder, Retish & Wade, 1996) [44]. Kaiser (2000) [21] emphasized that "the overriding goal of language intervention is to increase the functional communication of students". The severity of the speech and language problems is positively correlated with the cause and severity of the intellectual disabilities: the milder the intellectual disabilities, the less pervasive the language difficulty (Moore-Brown & Montgomery, 2006) [29].

➤ **Motivation**

People with intellectual disabilities are often described as lacking motivation or outer-directed behaviour. Past experiences of failure and the anxiety generated by those failures may make them appear to be fewer goals directed and lacking in motivation. The result of failure is often learned helplessness. The history of failure is likely to lead to dependence on external sources of reinforcement or reward rather than on internal sources of reward. They are less likely to self-starters motivated by self-approval (Beirne-Smith *et al.*, 2002 [4]; Taylor *et al.*, 2005) [35].

➤ **Academic Achievement**

The cognitive inefficiencies of children with mild to moderate intellectual disabilities lead to persistent

problems in academic achievement (Hughes *et al.*, 2002 [19]; Macmillan, Siperstein, & Gresham, 1996 [27]; Quenemoen, Thompson, & Thurlow, 2003 [30]; Turnbull *et al.*, 2004) [36]. Children with mild intellectual disabilities are better at decoding words than comprehending their meaning (Drew & Hardman, 2007) [9] and read below their own mental-age level (Katims, 2000) [22]. Children with intellectual disabilities may be able to learn basic computations but may be unable to apply concepts appropriately in a problem-solving situation (Beirne-Smith *et al.*, 2006) [5]. A growing body of research has indicated that children with moderate or severe intellectual disabilities can be taught academics as a means to gain information, participate in social settings, increase their orientation and mobility and make choices (Browder, Ahlgrim-Delzell, Courtade-Little & Snell, 2006) [7].

➤ **Physical characteristics**

Children with intellectual disabilities with differing biological etiologies may exhibit coexisting problems such as physical, motor, orthopedic, visual and auditory impairments and health problems (Hallahan & Kauffman, 2006) [13]. A relationship exists between the severity of the intellectual disabilities and the extent of physical differences for the individual (Drew & Hardman, 2007 [9]; Horvat, 2000 [17]). The majority of children with severe and profound intellectual disabilities have multiple disabilities that affect nearly every aspect of intellectual and physical development (Westling & Fox, 2004) [41].

5.0 PSYCHOLOGICAL TESTS FOR IQ

The Psychological tests of children with intellectual disability for IQ are as under:

1. Development Screening Test
2. Binet-Kamat (B-K) Test of Intelligence
3. Seguin From Board Test (SFBT)
4. Vineland Social Maturity Scale (VSMS)
5. Malins Intelligence Scale for Indian Children (MISIC)
6. Gesell Drawing Test

6.0 PSYCHONEUROBICS

Psycho-Neurobics is an innovative meditation techniques designed by my Guru and guide Dr. Chandrashekhar Tiwari, founder president of SIGFA Institute of Research and Development, Faridabad, Haryana, India for effective

self healing through complete involvement of mind, body and soul. As Aerobics is the physical exercise of pumping air into lungs, neurobics is the exercise for creating bio-electrical impulses in neuro cells/neuro transmitters by mental activities; similarly Psycho Neurobics is the exercise of mind for transferring Spiritual Energy into neuro cells by connecting Psyche (Mind) to the Supreme Source of Spiritual Energy (God).

Though meditation has been practiced for centuries involving 2D colour images, it is only recently that the effects of meditation with 3D stereographic images with hand mudras and sounds (Ras, Rang and Naad) have been studied scientifically by Dr. Chandrashekhhar Tiwari. As modern science has also acknowledged the role of psyche, thought and emotions in healthy and unhealthy response in the body, the present study is designed to assess the effect of Psychoneurobics with Neurobic spa on patients of psychosomatic diseases.

7.0 METHODOLOGY

Being a Special Educator, I am privileged to have moderate intellectual disabled students. With the help of their parents, I asked to see 3-D Indigo stereographic plate as they can't concentrate on this plate. They have been asked to chant "O" sound with Pran Mudra as shown below:



Figure 1: Pran Mudra

Parents have also been requested to practice it in the morning with their wards and show them the video of Neurobic Spa daily in the night before going to sleep. Parents have been demonstrated the methods in details to charge a glass of water with 3-D Orange stereographic plate and asked to mix this charged water to 20 liters of drinking water and use this charged water throughout the day. They have also been asked to charge foods with 3-D Yellow stereographic plate.

In school, I charged their foods and water again. Daily, I was modeling to all my students to see 3-D Indigo stereographic plate and to chant "O" sound with Pran Mudra for 10 minutes in the morning in classroom.

The participants' rights and privacy has been protected throughout the study. The purpose of the study, the research methods and other precautions has been disclosed to the participants and their family members only.

8.0 STATISTICAL ANALYSIS OF RESULTS

The data has been analyzed statically using Microsoft Excel and the descriptive statistical analysis has been represented as frequency, percentage, mean and standard deviation etc.

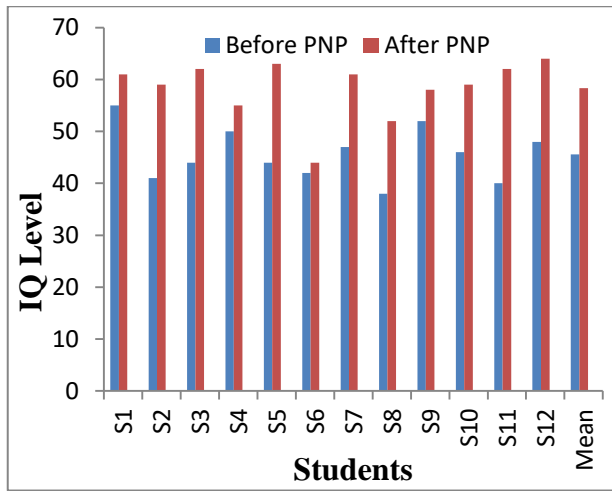


Figure 2: Variation of IQ Level before and after PNP

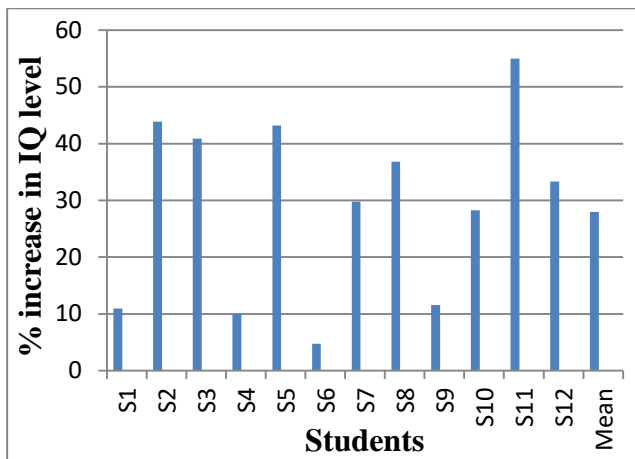


Figure 3: Variation of % increase in IQ Level after PNP

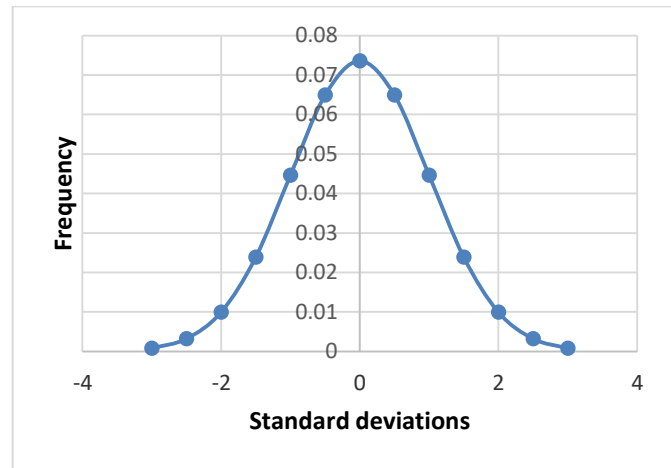


Figure 4: Histogram for Standard Deviation

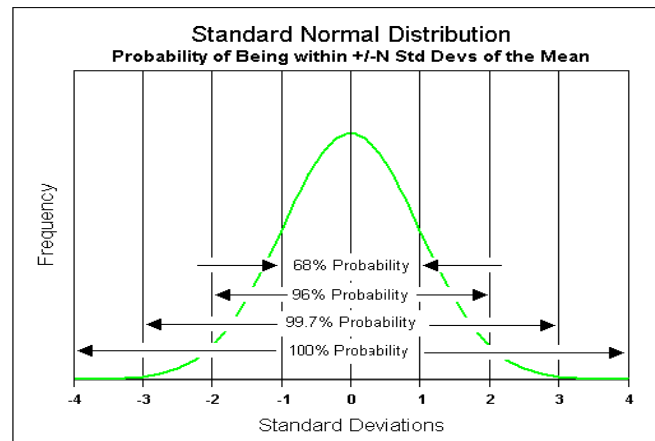


Figure 5: Standard Normal Distribution

9.0 CONCLUSIONS

Human beings are social animal, so that intellectual disability should be treated in an inclusive and holistic way. They need encouragement and support to overcome potential obstacles. The rationale for the use of the term intellectual disability as less stigmatizing is not borne out by research. As noted by Ditchman *et al.*, (2013) [8], society is the locus of the problem-not the affected individual. The mocking of the terminology likely derives from the stereotypes and prejudices some people enforce when considering persons with intellectual disability. Stigma is a multifactorial and psychological problem (Ditchman *et al.*, 2013) [8] and not a terminology problem

per se. Intellectual disability is characterized by significant impairment in cognitive and adaptive behaviour. People with intellectual disability experience loss, as do typically developing individuals. However, special considerations must be made for this population due to communication and cognitive needs (Kauffman, 1994 [23]; LoConto & Jones-Pruett, 2008 [26]). People with intellectual disability are at greater risk for experiencing traumatic grief symptoms due to secondary loss, communication barriers and difficulty or inability to find meaning in the loss (Brickell & Munir, 2008) [6].

By daily practice of Enlightening Psychoneurobics for a period of more than six months, the IQ levels of intellectual disabled students have increased from moderate (35-49) to mild (50-69) as shown in Figure 2. Upon normalization, the probability to increase IQ level is likely to be within 1 standard deviation (68 out of 100), very likely to be within 2 standard deviation (96 out of 100), almost certainly within 3 standard deviation (99.7 out of 100).

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