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NEWER APPROACHES TO INTELLECTUAL DISABILITY: A SYSTEMATIC REVIEW

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ABSTRACT

BACKGROUND: Intellectual Disability is a condition which has been running for a very long duration in human genes. The scientific community has been trying to manage it and this research paper focuses on collecting recent ways of doing so. We have found evolution in terms of Research Areas.

AIM: This paper focuses upon newer trends for people suffering with Intellectual Disability.

METHODOLOGY: To review literature for this research paper, multiple databases were used. Initially, Google Scholar was used to extract related research. Science direct, PyscInfo and ResearchGate were also used to find specific researches regarding interest topics.

RESULT: It was found from the review that current researches are focusing upon biological theories and other physiological causes. They are also exploring areas to enhance cognitive capacities. A major shift was also found in terms of Assessment. CANDID, DASH-2 and Aberrant Behaviour Checklist. Mood, Interest and Pleasure Questionnaire was also brought under consideration. The status of Intellectual Disability in India was also discussed and how CRPs are creating sustainable job options for patients with Intellectual Disability.

Keywords: Intellectual disability, theories of intellectual disability, Etiology of intellectual disability, Assessment and Rehabilitation of Intellectually Disabled

INTRODUCTION

Intellectual Disability is a condition of arrested or incomplete development of the mind, which is especially characterized by impairment of skills manifested during the developmental period, which contribute to the overall level of intelligence, i.e., cognitive, language, motor, and social abilities, (WHO,1992). Sternberg proposed a theory of intelligence which was about adaptation. In this, adaptation to different environment's was considered as intelligence. The behaviour underlying different environments was the same for adaptation, (Sternberg,1997).

People with Intellectual disability face problems in reasoning, problem solving, planning and abstract thinking in day-to-day life. These problems lead to impaired judgement and adaptive functioning which makes the person dependent on family members or closed ones for taking everyday decisions, (American Psychiatric Association,2013). Intellectual disability may result from developmental delays, peri natal birth problems or acquired infections.

The ability to adjust in multiple settings is impaired but in the presence of a known and comfortable environment the impairment may not be very obvious in people with mild mental intellectual disability.

The evaluation of Intellectual disability is based upon the chief complaints reported by the primary caregiver, birth history, developmental history and also the clinical observations made by the clinician.

WHO & ICD10,1996 suggested that for finalising a diagnosis of Intellectual disability there should be significant delay in the developmental period across the life span, the individual should have difficulties in coping with the personal, social and academic demands of day-to-day life. Associated, complimentary or additional mental or physical problems have a major influence on the clinical picture and the skills possessed by the person, for example- The person who has Mild Intellectual disability with Heart defect will suffer in terms of gross motor skills too. The diagnosis hence should contain multiple global assessments which contain many abilities and criteria's and not just one specific factor or complaint.

In India and other parts of the world, scales of Social Maturity are administered. For example, Vineland Social Maturity scale is administered on Population doubted of intellectual Disability. It has been found through researches that Social Quotient is not very different from Intelligence Quotient, that they go coherently hand in hand. A Social Maturity scale is administered by the clinician on the caregiver with the Patient being present in the room for external observations to be made by the clinician.



Current Definitions of Intelligence include adaptation with insufficient knowledge and resources. The new definition includes adjusting with insufficient knowledge and resources along with changing the environment. This definition solves multiple problems related to the explanation of intelligence (Diderichsen,2019).

People with Intellectual disability are not hard to find amongst the general population. They easily mix with the general population till the age of 6. However, their lacks of social etiquettes set them out brightly. There could be multiple things that one could look out if he or she wants to identify someone who is intellectually disabled, For example:

1. The way they talk to people, respond and interpret in conversations.
2. Lack of question-oriented answering.
3. The knowledge of intensity of emotions expressed in different social situations. For example, they might laugh very loudly while in a movie theatre.
4. Their eating habits, they can eat themselves however they lack table manners.
5. Lack to compete, understanding the concept of finishing and ending.
6. Excessive and repetitive irrelevant questions.
7. Fail to make friends or gel up with people of their age.

All of these reasons made sure people with Intellectual disability were stigmatised in the 90s and early 20s. However, many things have changed to improve their quality of life. Some of those changes include changing the name of the disability from Mentally retarded to Intellectually disabled. There is a lot of difference between the impact created by both of the terms. Mentally retarded, pushes the blame on the person itself and was being used as a slang for some people too. This reduced sensitivity towards the disabled. However, Intellectually Disabled shifts the attention from blame to empathy towards the patient. It also changes the dynamic from disease to a disability which does help in gathering the right understanding of the disease.

Next, would be using the right assessment based upon your social environment and society. Upbringings impact the individual's knowledge too. It is important to use the culturally adapted assessments specifically designed for the population, this includes using the assessment tool which is in coherence with the patient's language. Another milestone achieved was early intervention which changes a lot of future aspects in terms of treatment. Intellectual disability generally occurs with many medical conditions like Down Syndrome, Blue Baby, etc. There are Fetal examinations present in today's time which can help with the detection of some conditions like Down syndromes which can be diagnosed through Amniocentesis. Once the diagnosis has been done, it is easier to plan out the interventions for the child.

Vocational Rehabilitation is another initiative of today's world which has turned out to be positive for the children. Constant Supportive therapy and Vocational Training has turned out to be fruitful for patient parents because it takes time to show in the child's development but children who take vocational training are different then children who don't.

Group Therapies is another initiative that makes their quality of life a little better. They get to associate with other children and socialise without being judged or ridiculed.

Methodology

AIM: This paper focuses upon newer trends for people suffering with Intellectual Disability.

Databases

The systematic researches were made by using Google Scholar, Science direct, PyscInfo and Research Gate and studies incorporating noble approaches to Intellectual Disability were identified. These Databases contained abundant information of the Disorder and different dimensions of the same.

While using Google Scholar and ResearchGate, the following keywords were used:

Intellectual Disability, Mental Retardation, Theories related to Mental Retardation, Etiology of Intellectual Retardation, Mildly Intellectually Disabled, Severe Intellectual Disabled functioning, Profoundly Intellectually disabled, Assessment for Intellectual Disabled, Assessment for Profoundly Intellectually Disabled, Newer Approaches to Intellectual Disability.

It was made sure that researches were formulated from a custom range of time period. This custom period was from 2017 to 2021. This was done to build upon the latest researches in the field. This was also done to provide a comparative analysis between old and new researches. Through this we were able to notice modifications in various assessments and also acknowledge previous shortcomings of these researches. This helped us in moving in a positive and constructive manner towards the future developments of the Disorder.



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Inclusion Criteria

In addition to the database searching, a number of articles were included on the basis of Researcher’s previous work in the line of the topic. Researches were also included on the basis of date of the published work, the work done between 2017-2021 was given more preference due to the focus of the research. Researchers were also found through snowball method, where one research led to the discovery of another. However, every research was included due to the appropriateness and relevance it exhibited in response to the topic.

Most of the researchers include primary data. The sources included were primary source research. Researches that focused on secondary research was removed.

Exclusion Criteria

Researches which focused and defined Intellectual disability as a problem were excluded. Researches which also included brief description about the disorder and circling about the signs and symptoms were also excluded. Researches which belonged to 90s and early 20s were included only in order to draw a differentiation between the researches produced then and now.

Analysis

After considering all these factors, the Data was analysed. The information was sought in such a way that it answered the research questions and focused only on the important factors related to the researcher’s purpose. This was done based upon the relevance of the researches in terms with the aim of the research.

To ensure the reliability and validity of the researches, all the references were cross checked by the researcher. This also helped in developing authenticity and confidence in the research.

RESULTS

Theories Related to Intellectual Disability

Theory of Mind and Triarchic theory include different paradigms about Intelligence Theory of Mind helps us to reason with the behaviour and attitude of other people. According to theory of mind, people with Intellectual disability lack understanding of the point of view of another person which is important for conducting a conversation. Theory of mind is also understood as capacity and interpretation of behaviour of self and others. (Baron-Cohen, 1995).

The theory had multiple components through which we were able to compare between people who have Intellectual disability and people who don’t. This theory divided the children into various stages like the Initial Stage of Development, in which the children of the normal population initiate processing of theory of mind by acknowledging there is something called a brain and that humans think. The people with Intellectual disability go through this but very later in life. This doesn’t happen at the same pace for them. When 2 or 3 years of life have passed, the child identifies that the brain is related with behaviour, how their behaviour is led by another organ which they start recognising, even objects and events are recognised which is called perspective-taking ability. The child understands that we think, then behave which also has consequences that can affect other people. Children with Intellectual disability have difficulty in differentiating between reality, humans and inanimate/unreal objects. First Order thinking which is also called the 4 or 5 years of age, this stage talks about a person’s own personal believes and the fact that people can hold false believes or stick to a false fact which they might believe to be true. Children develop a theory of how the mind works when they see other people believing misconceptions. In children with Intellectual disability this can be achieved in Teenage, only if matched with biologically younger children.

Second order thinking, False belief or 6-7 years of age, this is the last stage of the development of theory of mind. This stage consists of development of second -order or second stage false belief. In this the Individual believes that other people are also capable of holding false beliefs, however, its externa this time. In this the person understands settled and established beliefs which includes thinking about what the other person thinks about someone else, for example, the famous Indian stereotype, “what will people think if you do that?”, “Sheela thinks that Reena feels they aren’t friends anymore.”. However, children with Intellectual disability fail to reach till stage in life. It might rarely happen for them that too at an old age. Similarly, Kazi, Kazali et al (2019) gave the theory of Cognizance in which they mentioned awareness about interpretation and knowledge. They spoke about similarities and differences between first order and second order thinking of Theory of mind. They apso spoke about the life stages when perceptual differences and executive functions are developed.

Triarchic theory has three major components, the first one is about the internal world of the Individual which includes internal processes of the individual, this includes self-talk as well as our understanding of the Internal thoughts and perceptions. The second one, relates intelligence to the environment. Here environment refers to other people, ability to function in the system and



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adapt to the changes of the external world. The third talks about the connection, association and relation between the two. It acts like a bridge between the internal and external world. This shall include one's ability to express internal needs, thoughts and opinions to the external world, (Sternberg & Spear,1985).

Relatively the newer theories focus upon current application of intelligence.

Demetriou, Makris, Spanoudis and Kazi proposed a theory of mental architecture which was already worked upon in 1983 by Jody Fodder wo gave three layers to describe the same. He also focused upon the development of general intelligence (g). According to the researchers, the g composition included attention, short term memory, flexibility and cognizance of cognitive processes. They gave four different cycles to explain the interaction of g components. These cycles were episodic, realistic based, rule based and principle based. Their main aim was to increase cognitive capacities or abilities. However, according to the results the likelihood of this happening was low. (Demetriou, Makris, Spanoudis and Kazi, 2018). Similarly, Shogren gave Causal Agency Theory which includes framework for the youth to make self-attainable goals in order to improve and influence self-determination. The theory also routes for the modified extension of Functional Theory of Self-Determination that describes how youth focuses upon how one can motivate oneself in order to achieve his or her goals. These theories have been actively applied in inclusive education and special education which are used for special children. They wanted to increase self-determination and then observe the results of the same. (Shogren et al,2017). To support Special and inclusive education, Taylor, Kron & Holly, found positive effects which provided insight for inclusive education on postsecondary employment which refers to some engagement after school which could be employment or education. The researchers used correlational designs for individuals with intellectual and developmental disabilities (IDD) after examining the association between inclusive education and postsecondary outcomes. (Taylor, Kron & Holly,2020). Van den Bosch, et al (2018) evaluated the role of soundscapes which are a combination of musical or non-musical sounds in the emotional well-being of people with severe or profound intellectual disabilities. The innovative study was able to find that the MoSart intervention led to increased experience of vibrant and variant soundscapes and a prominent decrease of negative mood and affect like anger, anxiety, irritation and frustration which is often seen in people with this disability. It was found by Prieto, Folci, & Martin that at the molecular level, thousands of proteins cooperate for the neurons to communicate with each other through the nervous system which is called neuronal communication. Familial Mental Retardation Protein(FMRP) is the target of several post-translational modifications (PTMs) which refers to change in the body after a protein has been induced that dynamically regulates its function. Importantly, If FMRP weakens or the percentage of the same is reduced in the body, it can lead to Fragile X syndrome (FXS), a rare genetic developmental condition causing a range of neurological alterations including intellectual disability (ID), learning and memory impairments and autistic-like features. This helps us in planning for the future and also suggests that giving external medications for PTMs which means inducing proteins can help in developing innovative strategies. (Prieto, Folci, & Martin, 2018) To elaborate upon the participation of people with intellectual disability in terms of innovative medical therapies for idiopathic mental retardation which are unexplained conditions, where physical abnormality may or may not be present, According to Mosawi, Intellectual Disability was caused by idiopathic mental retardation which attributed for 51%, Down syndrome accounting for (8.75%) and Cornelia De Lang syndrome accounting for 6.25%. However, it can be confidently said that using Innovative Multifactorial therapies helped people with Idiopathic Intellectual Disability, which translates into that innovatively focusing upon the hereditary or genes of mental retardation cases in which cause was unexplained was helpful, (Al-Mosawi, 2018).

While Gómez, Morán, Alcedo, et al (2020) wanted to find if the questionnaire to assess quality of life of children with Mental Retardation and Autism Spectrum Disorder was based upon actual true facts, if its validity is good enough, Roopesh focused on areas where there is more confusion or consensus about the administration of Vineland Social Maturity Scale. As per the results. Kids Life-ASD had extremely good reliability as well as validity which makes it safer to use and can also help in planning person centered approach for the patient in order to improve the quality of life. Roopesh formulated that any psychologist assessing VSMS should be aware of is that the maximum chronological age should be 15years and 'add months-to-year-wise' scoring system is the correct system (Roopesh,2020). To assess the health and social care needs which include appropriate contact with the external social world and forming healthy social relationships McCausland selected a troop of older population suffering from Intellectual Disability. The researcher took this population to a community-based service in Ireland and was able to come to the conclusion that the Camberwell Assessment of Need for Adults with Intellectual Disabilities-Short form (CANDID-S) was efficient in identifying the health and social needs of people with Intellectual disability. (McCausland et al,2010). Flynn et al (2017) believed that patients who had been diagnosed with Intellectual disability had a prominent comorbidity of a mood disorder or other mental health problems or disorders like depression or mood dysregulation. They were often found to be aggressive and frustrated too. The Mood, Interest and Pleasure Questionnaire, Aberrant Behaviour Checklist, Diagnostic Assessment for the Severely Handicapped Scale-II are rightly measuring the concerned traits for this population. These assessments measure behaviour and the mood as well as effect of people with intellectual disability ranging till severe and profound as not many scales are available to assess this category.

Narayan, Kumar & Reddy (2017) found that in settings which are not very powerful in terms of resources, innovative approaches which begin from the starting of the hierarchy are required to cater to people with disabilities as they start from focusing



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on basic needs. In Andhra Pradesh, a community-based model was proposed in order to increase their manpower and coordination between the services. They found women with disabilities who were ready to be trained to work as community resource persons (CRPs), they were then provided with active training. This training was supervised by Women's self-help group supporting and increasing the sustainability of the model. The need to plan for the impact of factors like medical/behavioural support needs on supports needed for community participation was also acknowledged by Seo, Shogren, Wehmeyer, et al (2017). As per their results, the acknowledgement of any kind of medical/behavioural needs affected the volunteerism in order to participate in community-based programs. Apparently, it was found if the person faces physical ailments, then his or her participation in community-based work reduces.

DISCUSSION

The aim was to find newer approaches to Intellectual Disability. In approaches we included newer theories and newer additions to old theories. One such new theory was Casual Agency Theory, where researches focused upon special education and self-determination, (Shogren,2017). Integrated Differential Developmental Theory consisted of a theory of mental architecture which was first introduced in 1983 by Joddy Fodder They focused on general intelligence. Here, General Intelligence included attention control, flexibility and working memory, (Demetriou,2018). However, theory of mind is a theory which still very appropriately describes the behaviour of Intellectually disabled people. Understanding point of views is difficult for patients with Intellectual Disability but this should not be confused with Empathy. People with Intellectual Disability are highly empathetical, they understand and express emotions very openly. However, this also depends upon who is receiving these emotions, they are more open with close family members. Even crime offenders who were found to have Intellectual disability tested more on empathy and theory of mind than offenders who did not have Intellectual Disability. (Proctor &Beail, 2007)

As per our purpose we also were able to find new assessments for patients with Intellectual Disability, like Camberwell Assessment of Needs for Adults with Intellectual Disability, this scale is used to identify health which could include physical as well as mental health and social needs which includes presence or lack of social relationships and friendships. Aberrant Behaviour Checklist was also included in the paper. This focuses upon multiple factors and emotions which included negative as well as positive emotions. Negative emotions included irritability, agitation, crying, lethargy. Behaviour domains included social withdrawal, stereotypic behaviour, hyperactivity, noncompliance and inappropriate speech. Development Assessment was used for people with severe disabilities. This scale assesses 5 domains which include language, sensory motor skills, activities of daily living like eating, showering, cleaning and laundry etc, academics and emotional reception and expression too. To increase the adaptability and uses of this scale, we can also use it for People with Intellectual disability as they also suffer with language production and understanding, Motor skills, they need assistance and support with Activities of daily living.

For Emotions and mood, one can use Affect, Mood, Interest and Pleasure Questionnaire (MIPQ) which is a 25 Likert Scale based upon two subscales which are mood and pleasure can be used. Mood, Interest and Pleasure are important areas to be focused upon as it has been seen in researches that People with Intellectual Disability face mood disorders like depression. Mood fluctuations also influence our memory and other cognitive components, thus affecting overall performance.

CONCLUSION

It was found that current researches are focusing upon biomedical etiologies and treatment options for Intellectual Disability. This review paper has focused upon various assessments like Dash-II, Aberrant Behaviour Checklist, Camberwell Assessments and theories like that of Theory of mind and Casual Agency Theory. There is a shift between the assessments that were used earlier and the new assessments bring hope to explore areas of people with Intellectual Disability in terms of Behaviour and Emotion and not just Intellectual Quotient.



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