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A descriptive study to ascertain the representation of specific learning disorder in homoeopathic repertories

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Abstract

Specific Learning Disorder is an umbrella term used for learning disorders in the fifth edition of Diagnostic and Statistical Manual of the American Psychiatric Association. It is a neurodevelopmental disorder of biological origin which impedes the ability to learn or use specific academic skills: reading, writing and mathematics. The objective of the present study was to assess the representation of Specific Learning Disorder in Kent's Repertory, Synthesis and Murphy's Repertory. The study design was descriptive. The features of this disorder obtained from extensive search of literature were subjected to representations in the three repertories. This study has brought evidence regarding the representation of this disorder in all the repertories, in varying capacities. The Mind chapter provided majority of rubrics. An in depth study incorporating repertories and various Materia Medica is essential to bring out the Homoeopathic perspectives about this disorder.

Keywords: Specific learning disorder, DSM-5, homoeopathic system, repertories

1. Introduction

1.1 Background: Scholastic achievement has become an index of child's future in this highly competitive world. Unrecognized and unresolved, scholastic backwardness has a lifelong impact on the individual and the society at large. The reasons for scholastic backwardness are varying. With an exception of environmental disadvantages as the cause, poor scholastic performance should be viewed as a symptom reflecting a larger underlying problem. Learning will be affected in a number of neurodevelopmental disorders like Attention Deficit Hyperactivity Disorder (ADHD), intellectual disabilities and Autism spectrum disorders. But learning disorders as such forms a separate class, in which the acquisition itself of the basic academic skills is affected.

1.2 Definition: Specific Learning Disorder (SLD) is an umbrella term used for learning disorders in the 5th edition of Diagnostic and Statistical Manual (DSM - 5) of the American Psychiatric Association. It is defined as a neurodevelopmental disorder of biological origin that impedes the ability to learn or use academic skills in reading, writing or arithmetic which lay the foundation for all the other academic learning.¹ The learning difficulties are unexpected as these children have average or above average intelligence.

1.3 Aetiology and risk factors: Specific causative factors are not established as the root of this disorder, but the role of risk factors, both environmental and genetic is well documented. The environmental factors include prematurity, very low birth weight and prenatal exposure to nicotine. High heritability is accounted^[2]. Males are more affected than females^[3]. The prevalence is estimated to be 5-15% in India^[1].

1.4 Development and course: Recognition of features of SLD usually occurs during the elementary school years, when the children begin to read, spell, write and do Mathematics. The presentation can be broader, affecting all academic domains or very limited to a single domain or sub domain like word identification. The biological origin of this disorder forms the basis of cognitive abnormalities expressed as the behavioural signs^[4]. Frequently children with this disorder would show language delays or deficits in fine motor skills. The learning difficulties occur across life span, but changes in the manifestation occur with age depending on severity and the management strategies employed. The presence of co- morbid conditions make the outcome worse.

Among the co-morbidities, ADHD is the most frequently associated one [5]. It is common to see high efficiency in Visio spatial abilities like drawing, designing, animation etc. in spite of difficulties in academic areas.

Diagnosis: There are no diagnostic biological markers for SLD. As per DSM-5, diagnosis is based on a clinical synthesis made from the four criteria, A to D along with the individual's history, school reports and psycho educational assessment [1].

As per DSM -5, the word dyslexia can be used as an alternative term to refer to a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor decoding and poor spelling abilities. It also mentions that dyscalculia can be used as an alternative term to refer to a pattern of difficulties characterized by problems processing numerical information, learning arithmetic facts and performing accurate or fluent calculations. It does not use the word dysgraphia, instead uses the phrase 'impairment in written expression'.

Prognosis: SLD, being a disorder extending over life span, exerts a negative functional consequence. Presence of co-morbidities is predictive of worse outcome. In addition to lower academic achievement and higher chances of high school dropouts, these individuals suffer from poor mental health with co-occurring depressive symptoms [6, 7].

Management: The principles of management of SLD aims at enabling the child to learn and help him grow in the society as an individual. Individualized Education Plan and accommodations form the main stream of management.

Rationale of the study: Specific Learning Disorder is heterogeneous and complex in nature, hence the symptomatic presentation is also variable. The present management strategy of the conventional system of medicine rests with remediation, accommodation and management of co-morbidities. Diagnosis is important in Homoeopathy not only for individualisation, but to understand about the curability of the condition as per the existing scientific knowledge and to plan the management; which includes prophylactic and auxiliary measures. Search of literature revealed very few studies showing effectiveness of homoeopathic medicines along with the standard remedial measures in improving scholastic performance and bringing about a change in the general well-being of learning disabled children [8].

Scarcity of studies shows paucity of evidence of research about Learning Disorders in

Homoeopathy. The rationale of the present study was to bring empirical evidence regarding the symptomatic presentation of SLD in Homoeopathic repertories. Enriched Indian Edition reprinted from the Sixth American Edition of Kent's repertory 9, Edition 9.1 of Synthesis 10 and Third Revised Edition of Murphy's repertory 11, were used to select the rubrics.

Materials and Methods

The objective was to assess the representation of features of Specific Learning Disorder as defined in various literatures, in Kent's repertory, Synthesis and Murphy's repertory.

Research approach: Descriptive study design was followed in the conduct of the study. Independent variable was the features of SLD. Rubric representation in the three selected repertories in relation to these features formed the dependent /Outcome variable.

Data collection: The objective was met following a series of steps to clarify the concept of SLD as per DSM-5, identifying features under specific domains and assessing the repertorial representation.

Generation of a pool of items depicting features of SLD

In the exploratory phase, it was understood that though learning disorder is known by different terms, they shared many features in common. Specific Learning Disorder is a relatively new term for learning disorders, introduced in the DSM - 5 of the American Psychiatric Association in 2013. DSM - 5 is more of diagnostic importance, though core features of this disorder and some of the general aspects are given. Referring DSM-5 alone was not sufficient to understand the disorder in its full extent. Guided by experts, reference materials for the study were chosen, which included both manual and electronic materials. 12, 13, 14, 15, 16, 17 Extensive literature review provided an item pool depicting features of SLD.

Conceptualisation of SLD as per DSM -5

The next step was filtering the features which did not match with the concept of SLD as described in DSM-5. This step generated a set of SLD features by excluding the overlapping features and selecting the ones that matched with the concept of SLD as per DSM-5.

Categorizing SLD features under specific domains

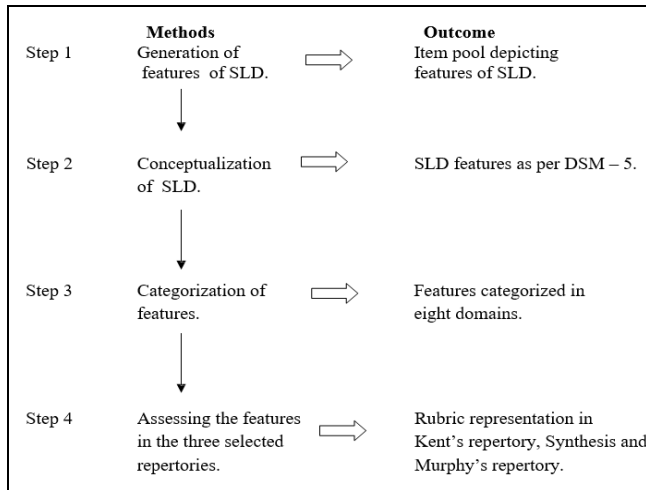
To make the study more systematic, the features were classified under eight domains: reading, writing, Mathematics, attention& listening, memory & perception, speech & language, fine motor skills and, social & interpersonal features.

Repertorial representation of SLD features under identified domains:

These features were assessed for repertorial representation in Kent's repertory, Synthesis and Murphy's repertory, domain wise.

Data Analysis: Descriptive statistics in the form of frequencies and percentages were used to bring out rubric representation of SLD features. Data were summarized as graphs

Schematic presentation of the study



Results

This chapter deals with the results of the study. SLD is heterogeneous and complex in nature. Though predominant features are in academic areas: reading, writing & Mathematics, it has manifestations in cognitive areas associated with learning, which includes comprehension, attention & listening, and memory & perception. This disorder is frequently preceded by delays in language and fine motor skills in early years which may co-occur. Being a disorder across life span, the social and inter personal features are also known to be affected. The salient features of distribution of rubrics in the three repertories were presented as graphs.

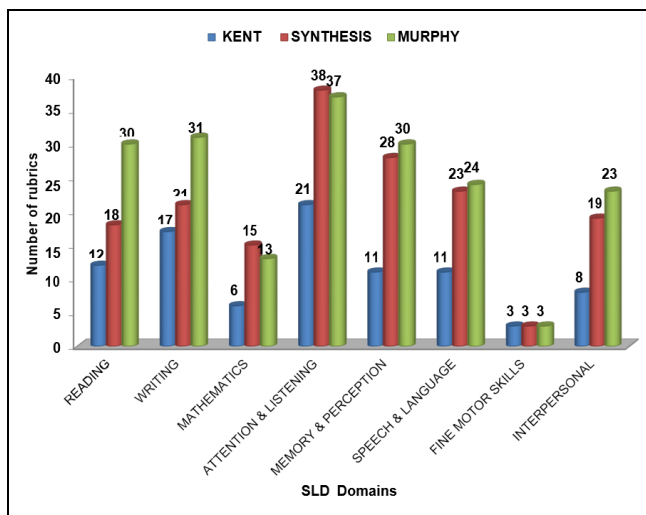


Fig 1: Distribution of rubrics in Kent's Repertory, Synthesis and Murphy's Repertory in relation to SLD domains as per literature presentation of SLD.

This figure showed that, the domain of Fine motor skills contained equal number of rubrics in all the three Repertories. With the majority of the rest of domains, Murphy's Repertory had the highest number of rubrics and Kent's Repertory, the least. The difference between Synthesis and Murphy's Repertory was most marked in the domains of Reading and Writing.

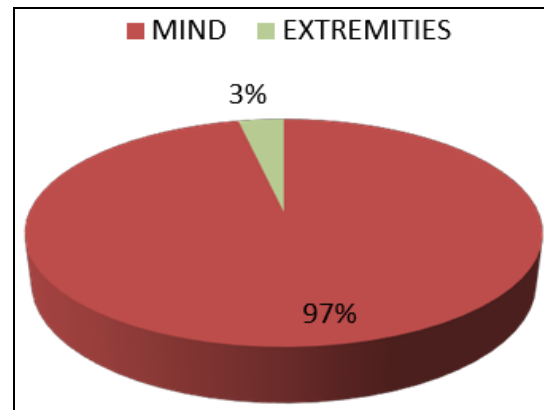


Fig 2: Percentage wise distribution of rubrics in different chapters of Kent's Repertory as per literature presentation of SLD features

With regard to Kent's Repertory, 97% of rubrics were from the MIND chapter and the remaining from the EXTREMITIES chapter.

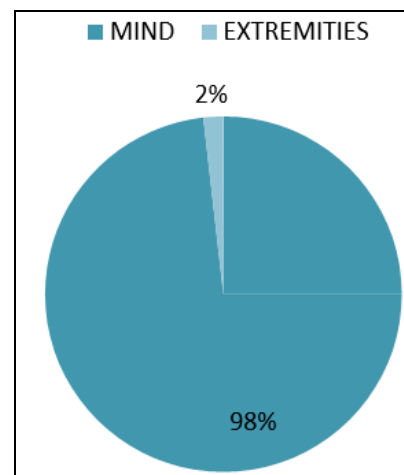


Fig 3: Percentage wise distribution of rubrics in different chapters of Synthesis as per literature presentation of SLD features

In Synthesis, Mind chapter contributed to 98% and the Extremities chapter 2%.

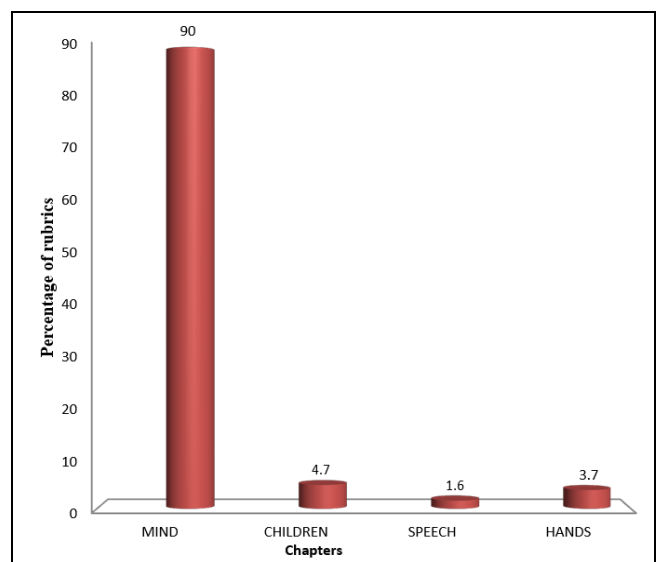


Fig 4: Percentage wise distribution of rubrics in different chapters of Murphy's Repertory as per literature presentation of SLD features.

90% of rubrics in Murphy's Repertory was from the Mind chapter and the remaining 10% was distributed in the, Children, Speech/Voice and Hand chapters.

Discussion

The present study was an attempt to understand Kent's Repertory, Synthesis and Murphy's Repertory in the context of Specific Learning Disorder. Appropriate methods to meet the objective were adopted and the result presented in the corresponding chapter. Salient features of the results are discussed herewith so as to arrive at a valid conclusion regarding the study. As similar studies could not be related to, the discussion is limited to the present study.

SLD is a multi-dimensional disorder. The features of this disorder as related to the DSM- 5 concept, obtained from various literatures were categorised to the domains of Reading, Writing, Mathematics, Attention & Listening, Memory & Perception, Speech & Language, Fine motor skills and Social & Interpersonal features. The first five domains contained features directly influencing the learning process. Deficits in fine motor skills and speech & language were described as associate features which could co-occur or persist with this disorder. These features were also categorised separately. Being a disorder persisting across life span, literatures highlighted the importance of deficiencies in social skills as correlates to the negative functional consequences. Hence social & inter personal features were categorised to a separate domain, though these features were not found to influence learning directly. Overlapping of features among different domains were noticed. This signifies the interplay of multi factorial attributes in learning.

A wider approach was taken in the selection of rubrics according to the literature presentation of SLD. Though the entire set of features in different domains of SLD could not be effectively represented as rubrics, all the three Repertories showcased the representation in varying capacities. Where ever direct rubrics were lacking, the selection was based on the interpretations of the effects of these features: Cross references were used, wherever seemed to suit the situation. Multiplicity of rubrics with each feature was noticed in all the Repertories.

The overall representation of rubrics (number wise) is maximum in Murphy's Repertory and the least in Kent's Repertory. Majority of rubrics showing features of SLD were obtained from the Mind Chapter of all the three Repertories. The Extremities Chapter of Kent's Repertory and Synthesis, and, the Hands, the Speech / voice & the Children Chapter of Murphy's Repertory contributed the rest. Rubrics for academic domains, cognitive abnormalities and language deficit were solely from the Mind Section of Kent's Repertory & Synthesis, where as in Murphy's Repertory, the Mind, the Speech / Voice chapter & the Children chapter contributed. Wherever the Children chapter contributed rubrics, repeatability of rubrics was noticed between the Mind chapters. Rubrics for deficits in fine motor skills were from the Extremities chapter of Kent's Repertory & Synthesis and the Hands chapter of Murphy's Repertory. The Mind chapter of the three repertories provided the rubrics in the domain of social & interpersonal features, in addition to the Children chapter of Murphy's Repertory.

Parallelism of rubrics was noticed between the Repertories to a good extent, though new additions were seen in

Synthesis and Murphy's Repertories. This emphasises the influence of Kent's Repertory, in the construction of modern Repertories. Except in very few situations (E.g. Dyslexia, Learning disabilities), the rubrics are given without assigning the situation. Therefore the rubrics selected as representations of SLD features would come as a choice for many other conditions also. In many situations, rubrics had to be selected based on interpretation. This was a major limitation of the study.

Conclusion

The psychological, social and, economic consequences of learning disorders are profound. Hence it has gained much significance as a public health problem. Multiple research organizations like the American Psychiatric Association have been working to understand the environmental, cognitive, genetic and, neurobiological attributes that foster strong learning development. Advancements in the management strategies of learning disorders hold the promise of improving the educational, social and civic lives of the affected children. Homoeopathic system is also a part of larger scientific community. Kent's repertory, Synthesis and Murphy's repertory contain a number of rubrics to represent the features of SLD. As context is not given in most of the rubrics they will be a choice for other neuro-developmental and neuro-cognitive disorders also. Overlapping and multiplicity of rubrics with each feature is seen in all the three repertories. Clinically it is not possible to include all these rubrics for repertorisation. An in depth study, correlating repertories and the dense literature of Materia Medica, for streamlining the homoeopathic outlook regarding this disorder will be highly beneficial.

SLD is a heterogenous disorder of high heritability persisting across life span. Creating a sound platform through continuing researches, updating the research findings and clinically applying on cases will highlight the scope of Homoeopathic intervention in Specific Learning Disorder. Even a single step facilitated to lessen the burden of SLD will be a quantum leap adding credence to Homoeopathic system.

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Conflict of Interest

Not available

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