Assessment of Knowledge and Awareness of Public School Teachers Towards Learning Disabilities in Children - An Institutional Based Cross-Sectional Study in Dharmapuri District, Tamil Nadu

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Abstract

Introduction: Literature indicates that the incidence of specific learning disabilities among Indian children has been rising. Scholars have been paying much attention to teachers' knowledge which is largely associated with early identification and treatment of learning disabilities. Objectives: This study aimed to understand the knowledge and awareness of public-school teachers, about learning disabilities among children, in Dharmapuri district of Tamil Nadu, India. Material and Methods: A cross-sectional study was done among 200 school teachers in Dharmapuri district to achieve the desired objectives using structured and self-administered questionnaire. Results: The knowledge of teachers regarding learning disabilities among children was found to be moderate among the majority of the teachers (45%), whereas a substantial large number of participants showed an adequate level of knowledge (33.5%), and rest of the participants (21.5%) have shown an inadequate level of knowledge. A vast majority of participants (73.5%) were aware of the learning disability amongst children. The educational qualification (P value < 0.001) and experience (P value < 0.05) of the teachers had a significant association between knowledge level. Conclusion: In light of the findings, it is essential to spread the awareness and knowledge about the learning disabilities of children among teachers. The government should take necessary policy directions in raising awareness and knowledge of various learning disabilities among parents, teachers and peer groups so that these children will be handled in a better way in the social circle. This also should be included as a part of curriculum in teachers' training programs.

Keywords: Awareness, knowledge, learning disability, school teachers
its caused by processing, receiving, and communication, but not based on intelligence.[3] Learning disabilities can affect the individuals life and their academic performance. It affects the relationship with family, friends, and the workplace.[4] Early intervention is very useful to reduce the severity of the problem.

Teachers, parents, as well as the role of the primary care physician is most important for the early identification and management of learning disabilities.[5] A proper definition of learning disability was given by (Federal Register, 1977, p. 65083) Karanth, 2002[6] “Specific learning disabilities means a disorder in one or more of the basic psychological processes involved in understanding or in using a language, spoken or written, which may manifest itself in an imperfect ability to listen, speak, read, spell or to do mathematical calculations”.

Prevalence of learning disability in India is rising every year as reported by several authors,[3,4,6,7] proper care and education are the basic rights of every child because education always initiates to bring good changes in the personality of the human being. Whereas it is hard to manage daily activities without proper education related to (calculation, writing, speaking). Evidence from research shows that most of the primary school teachers were having inadequate level of knowledge and awareness about learning disabilities.[3,7,8] A study conducted in Palvoncha, Telangana state evidenced that 88.3% of the school teachers were having inadequate knowledge on learning disability.[9]

A another research was conducted in Odisha, among 269 trainee school teachers, a qualitative approach of pre and post-test study shows that (<50%) of trainee school teachers were having inadequate level of knowledge in pre-test.[10] A another pre-experimental awareness study was conducted among 40 primary school teachers in Chennai, evidences that 90% of the primary school teachers had inadequate awareness and 10% had moderate level of awareness on learning disabilities.[11] Dharmapuri district was selected, since it reports a low literacy rate, (68.54%) as compared to the rest of the districts in Tamil Nadu as per the Census report of 2011.[12]

Objectives
This study aimed to understand the knowledge and awareness of public-school teachers, about learning disabilities among children, in Dharmapuri district of Tamil Nadu, India.

Methodology
The study was a cross-sectional design with an objective to describe the knowledge and awareness of public school teachers among children regarding learning disabilities. This study was conducted in Dharmapuri district, Tamil Nadu, with a sample size of 200 public school teachers. Convenient sampling method was adopted for selecting the samples, the public school teachers who were teaching standards 1 to 12 were selected. The information was collected from May to June 2019, and oral consent was obtained from all the participants. Exclusion criteria were teachers who were inattentive on the day and those who were not willing to participate in the study.

The investigators developed a closed-ended questionnaire that contained 21 questions. Three domains were taken: demographic details, knowledge level, and awareness level. This questionnaire was framed based on the literature review. Each question had 4 options, with a total of 21 items. To assess the demographic details, 8 questions including name, age, gender, experience, standard of teaching, designation, 10 questions to assess the level of knowledge which includes definition of learning disability, dyslexia, dyspraxia, dyscalculia, dysgraphia, causes and symptoms of disability, and 3 questions were asked to measure the level of awareness. Validity of the questionnaire was assessed by the experts in the field. A pilot study was conducted among 20 teachers. Based on their feedback, the questionnaire was reformed. The scoring procedure was standardized as zero for the wrong answer and one for the correct answer. Knowledge score was divided into three-part with help of (6) literature review 0 to 50 inadequate level, 51 to 75 moderate level, and 76 to 100 adequate level. The response was coded in an excel sheet after data collection, the data analysis was carried based on the topic and objectives. IBM SPSS 22 version was used for data analysis.

Ethical and Consideration
Institutional ethical committee from the School of Public Health, SRM Institute of Science and Technology, Tamil Nadu had given approval to carry out the study. Verbal consents were taken from the Chief Education Officer, Dharmapuri district, headmasters of the sampled schools and also from the teachers who participated in the study on 24-April-2019.

Results
Teachers background characteristics: Table 1
The study results [Table 1] show that most of the school teachers were from the age group 31-40 years (40.5%) and 41-50 years (35.5%). Majority of them were males (62.5%) followed by females (37.5%). Most of them (42.5%) hold a qualification with undergraduate level, followed by (39%) holding diploma in teacher education (D.T. Ed). The majority of school teachers (30.5%) were having 6-10 years and 11-20 years of experience whereas (21%) were having more than 20 years. The majority of the school teachers were graduates (41%), and (14.5%) were postgraduate teachers.

The study results [Figure 1] show that most of the teachers (45%) had moderate level knowledge on learning disability and (21.5%) had inadequate knowledge level on learning disability and (33.5%) of school teachers have adequate knowledge on learning disability.
Awareness level on public-school teachers: Figures 2 and 3

The current study [Figure 2] showed that most of the school teachers 200 (73%), had seen a child with symptoms of learning disabilities. Most of the school teachers reported that learning disability is curable (88%), whereas (12%) teachers reported it as not curable.

The Figure 3 shows how does the teachers came to know about learning disabilities. Most of the school teachers, about 200 (70%) had directly seen a child with learning disability. Rest of them had observed it through social media, the TV, newspapers (18.5%); whereas 6% of them as part of their curriculum.

| Table 1: Summary of demographic variables |
|-------------------------------------------|
| Teachers Background                        |
| Characteristics                           | (%), (n), Percentage | Mean±Std. Deviation |
| Age                                       |                           |                       |
| 21-30 years                               | 13, 26                   | 2.45±0.855           |
| 31-40 years                               | 40.5, 81                 |                       |
| 41-50 years                               | 35.5, 71                 |                       |
| 51-60 years                               | 11, 22                   |                       |
| Sex                                       |                           | 1.38±0.485           |
| Male                                      | 62.5, 125                |                       |
| Female                                    | 37.5, 75                 |                       |
| Designation                               |                           | 1.90±0.932           |
| Secondary grade Teacher                   | 39, 78                   |                       |
| Graduate teacher                          | 42.5, 85                 |                       |
| PG teacher                                | 8.5, 17                  |                       |
| Other                                     | 10, 20                   |                       |
| Experience (in Years)                     |                           | 2.55±1.016           |
| 0-5 years                                 | 18, 36                   |                       |
| 6-10 years                                | 30.5, 61                 |                       |
| 11-20 years                               | 30.5, 61                 |                       |
| Above 20                                  | 21, 42                   |                       |
| Teaching Level                            |                           | 2.32±1.129           |
| Primary level (1-5 std)                   | 38, 76                   |                       |
| Upper Primary level (6-8 std)             | 6.5, 13                  |                       |
| Secondary level (9-10 std)                | 41, 82                   |                       |
| Higher Secondary level (11-12 std)        | 14.5, 29                 |                       |

The association of awareness level and demographic variables of school teachers (age, gender, designation, experience, standard of teaching) by using the Chi-square test revealed that a statistically significant association was found in designation, experience with their awareness level (P ≤ 0.05). A strong association between experience and awareness level: Chi-square 19.110, P value 0.000, Designation and awareness level shows significant association: Chi-square 10.333, P value 0.016, and other teachers’ background characteristics were not statistically significant.

Discussion

The consequences of the current investigation showed that the majority of the teachers (45%) had moderate level knowledge on learning disability and 21.5% had inadequate knowledge level on learning disability and 33.5% had adequate knowledge on learning disability. Public school teacher knowledge level is significantly associated with gender, experience, designation, standard of teaching. Awareness level of a public school teacher is that most school teachers had seen a child with learning disabilities symptoms 73% out of 200 and most of the school teachers reported that learning disability is curable (88%), and 12% teachers reported that its not curable, and how do you come.
to know about learning disabilities revealed that most school teachers (70%) had seen a child with learning disability out of 200, 18.5% through social media, the TV, the newspaper and only 6% of school teachers expressed that as part of the curriculum.

Awareness levels are significantly associated with experience and designation. This Study findings are in line with existing research (Mysore Narasimha Vranda). The study was conducted in 16 schools in 200 teachers in Bangalore, India in 2015. The results showed that most of the teachers (74%) had moderate level knowledge about learning disability. This study reveals that most of the school teachers have some knowledge but not sufficient practice on learning disabilities to handle school children properly. Teachers are more aware and have a good attitude regarding learning disabilities but inadequate knowledge.

Another study with similar findings is a descriptive study conducted by (Syed Arifa, Syed Shahid Siraj) et al., in 2013 to assess the knowledge and attitude of teachers about specific learning disabilities among children. A research was done in 8 selected schools and 60 school teachers selected in the district of Pulwama. The study results show that the most of school teachers (73.3%) had moderate level knowledge of the learning disability. Another research person reported that children with learning disability are not taken care of properly in the schools in India. Inadequate knowledge level may cause a negative attitude to a person with a disability with evidence of literature. Only the teachers and parents can help the child to move to the next level; if the problem is identified early and given proper treatment techniques. The teacher will be the right person to early identify the students with learning disability and refer to the primary care physician or rehabilitation center.

Table 2: Summary statistics of dependent and independent variable

| Teachers background characteristics | \( \chi^2 \) | Knowledge P (\( \leq 0.05 \)) Significance | \( \chi^2 \) | Awareness P (\( \leq 0.05 \)) Significance |
|------------------------------------|-------------|---------------------------------|-------------|---------------------------------|
| Age                                | 9.624*      | 0.141                           | 2.662*      | 0.447                           |
| Gender                             | 14.556*     | 0.001*                          | 0.000*      | 1.000                           |
| Designation                        | 22.106*     | 0.001*                          | 10.333*     | 0.016*                          |
| Experience                         | 22.376*     | 0.034*                          | 19.110*     | 0.000*                          |
| Standard of Teaching               | 14.904*     | 0.021*                          | 5.747*      | 0.125                           |

\( * \)Statistically significant

Figure 3: Awareness scores of public-school teachers

Conclusion

The results of the current research pointed that the majority of the teachers do not possess adequate knowledge and awareness level to differentiate and educate children with learning disabilities. They are not having adequate awareness on how to deal with the situation and lack an action taking and decision making skill in addressing the needs of children with learning disabilities. Hence, this aspect should be included mandatorily in the training curriculum of teachers and structured training programs must be rolled out to address the lacunae. This will in turn significantly help with enhance knowledge and awareness.

The teacher plays a key role in the early identification and management of children having learning disabilities because they notice first, once a child starts his/her school education. Early identification and proper management of the issue can avoid discrimination among those children as well as depression, demotivation, poor performance and finally dropping out of school and subsequent psycho-social issues in the child's social life.

This current study recommends that the government should conduct regular and continuing training programs for all teachers and parents to sensitise them about this issue. All children must also be sensitised during school days about learning disabilities as well, since peer support is equally an important component in a child's education and social life. The study also recommends to create a peer support group among parents and children with learning disabilities in educational institutions so that they can share their experiences and thus becoming a platform for sharing, cross-learning and social support.

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Declaration of patient consent

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Conflicts of interest
There are no conflicts of interest.

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