



Parents' Knowledge and Attitude Regarding Dyslexia: Cross-Sectional Survey

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ABSTRACT

Background: Dyslexia is a vague hidden disorder that interferes with children's learning process. Parents are the primary caregivers for their children and have a great influence on their children's academic success. Unfortunately, the majority of them do not have the appropriate knowledge to assist their children, impacting negatively on the parents, the child and the whole family. Parents' awareness of dyslexia and its impact on their children is imperative in ensuring the sustainable development of the children. **Aim:** The present study aimed to assess parents' knowledge and attitudes regarding dyslexia among their children. **Design:** A cross-sectional survey design was utilized in the current study. **Setting:** The study was conducted in EtayAlbaroad General Hospital outpatient clinics. **Sample:** A convenient sample of 952 parents participated in the current survey over two months. **Tools:** Two tools were utilized during the study; the first tool was a dyslexia knowledge questionnaire, which was divided into two parts: part one: parents' sociodemographic data, and part two: parents' knowledge about dyslexia. The second tool was a structured attitude scale. **Results:** The current study results showed that more than half of parents had unsatisfactory level of knowledge toward their children's dyslexia and the majority of them had a negative attitude toward their children's dyslexia. Moreover, there were a highly statistical significant relation between knowledge and attitude among dyslexic children's parents. **Conclusion:** The study concluded that parents didn't have enough knowledge to start early intervention which affected their attitude toward their children, and there weren't suitable, accessible, and affordable governmental places to educate parents about all learning disabilities. **Recommendations:** Develop wide policies and practices by the Egyptian Ministry of Health that suggest setting up educational intervention programs is important considering parental awareness, needs, and resources, thus moving, within a systemic perspective, from an individual-centered to a family-centered care viewpoint.

Keywords: Dyslexia, Knowledge, Attitude, Parents.

Introduction

One of the main medical conditions that interfere with education is learning disability. When we talk about disorders that can impact verbal and nonverbal information acquisition,

organization, retention, understanding, and usage, we're talking about learning disabilities. Perception, social skills, perspective taking, and social interaction issues can also be associated with learning disabilities. Different learning

disorders are classified according to their ability to read, write, calculate, or have trouble with motor coordination; among them are dyslexia (a reading impairment), dysgraphia (a writing impairment), and dyscalculia. (mathematical difficulty), dysphasia (language issue) (El-Afandy & Saied, 2020).

According to the International Dyslexia Association (2022), dyslexia is the most common learning disability and the main reason why people have difficulties with writing, spelling, and reading. Between 5% and 10% of people are thought to be dyslexic. Based on underlying causes, dyslexia manifests in two principal types: acquired and developmental, encompassing primary and secondary variants. Researchers and educators often refer to subtypes of dyslexia, in addition to the main forms of dyslexia based on causation, there are variations of dyslexia based on how they are experienced: phonological, surface, quick naming, double deficit, visual, and deep. Each of these subgroups is associated with a certain set of dyslexia symptoms.

Learning disability are joined to problems with behavioural, mental and social health. One well-known instance of a learning disability accompanied by social and emotional implications that aren't thought to be the main symptoms of the condition is developmental dyslexia. In certain situations, these problems may persist or even worsen as adults. (Livingston, Emily, Siegel, Linda and Ribary, 2018). The international and national education system policies have underscored the importance of parental involvement in their

children's academic growth. Since they are the only ones with first-hand knowledge and the greatest ability to support and encourage their child's academic performance, parents are truly their child's primary caregivers. Due to a lack of awareness and information, parents may fail to recognize dyslexia or may recognize it later.(Cosgrave, 2022).

Many of these children confront disappointment when they are unable to accomplish age- and ability-appropriate goals in school and eventually drop out early if dyslexia is not detected and proper intervention programs are not offered. Dyslexic children are more likely to exhibit behaviors that internalize and externalize mental health issues. Internalizing behavior is a word used to describe issues that are primarily internal, such as withdrawal, physical complaints, anxiety, and sadness. Externalizing behavior is marked by aggressiveness and rule-breaking, and it entails disputes with others and their expectations for the child. Furthermore, cognitive, attention, and social issues are phrases that characterize significant behavioral features (Wilmot, 2023).

As a result, dyslexia in young children attending school is a major concern. Early intervention and proper educational support can be made possible by early discovery of these children. However, there hasn't been much research conducted in Egypt to assess parents' perspectives and knowledge on dyslexia in school-age children. As a result, the study's outcomes will assist in the growing body of knowledge in the nursing field and improve parents' comprehension of the

symptoms of dyslexia, which will facilitate the early detection and treatment of the problem. As a result, staying away from several family, social, emotional, and academic problems (El-Keshky & Emam, 2019).

Psychiatric and community health nurses play a critical role in teaching parents about dyslexia, including how to recognize its symptoms and what to do if their children is diagnosed with it. In addition, community and psychiatric health nurses, working in tandem with psychologists and special education therapists, serve as basic resource for the parents when seeking advice on how to proceed their dyslexic child. Additionally, they play a critical role in assisting parents in accessing all community services that can support them in managing their children dyslexia through the use of structured literacy programs.

Significance of the study

Dyslexia is defined as a specific and significant impairment in reading abilities that cannot be explained by deficits in intelligence, learning opportunity. Parents frequently find that their child has dyslexia to be a complicated and painful experience. First of all, parents may find it challenging to determine whether their child's learning difficulties are normal or not because they can be subtle, multifaceted, and hard to identify. This is especially true for parents of first-born children. Consequently, there is a correlation between increased awareness of dyslexia and a greater expectation that people with dyslexia will face stigma. The feeling of being adversely

stereotyped and discriminated against by the public is known as stigma. (Hafez., et al 2023).

In a study conducted in Saudi 2016 by Carawan, Nalavany & Jenkins on 224 individuals, dyslexia was shown to be the most common learning issue, accounting for over 31.4% of all learning difficulties. However, Saudi Arabia has not given this high prevalence of dyslexia enough attention. Furthermore, dyslexia that is misdiagnosed or left untreated can cause frustration and negatively influence the student's self-esteem and confidence.

According to a study conducted in Egypt by ElFiky, Rifaie, Hassan, and Hassan, (2021) on 40 dyslexic children which aimed to understand this developmental issue and to support the development of more effective intervention techniques, assess the dyslexic population for various reading faults. According to the study, every patient in the ongoing investigations had a different kind of reading error. Ninety percent of reading errors were deletions, while only five percent were morphological and visual faults.

Unfortunately, the majority of parents don't know enough about dyslexia, which makes it difficult or impossible to identify this concealed condition at first. They struggle to recognize the urgency of taking quick action and blame the child's growth, which has a detrimental effect on both the parents and the child. People with dyslexia, especially children, will suffer from a lack of public understanding regarding the condition. Therefore, the first step in raising awareness about this hidden condition will be for

community and psychiatric health nurses to evaluate parents' level of understanding of dyslexia. Therefore, psychiatric and community health nurses are essential to evaluating parents' dyslexia awareness in order to assist them in identifying and managing their child's condition early and averting many more issues (Carawan, Nalavany & Jenkins,2016).

Aim of the study

The present study aimed to assess parents' knowledge and attitudes regarding dyslexia among their children.

Research objective

- To assess the parent' knowledge regarding dyslexia.
- To assess the parents' attitude regarding dyslexia.

Research questions

To fulfill the aim of this study, the following research questions were formulated:

What is the parent' knowledge regarding dyslexia?

What is the parent' attitude regarding dyslexia?

Subjects and Methods

Research Design:

Cross- sectional survey design was applied in the present study. One kind of observational research that examines data from a sample population at one particular period is a cross-sectional survey. This survey type is also known as a cross-sectional study. Although cross-sectional

surveys don't involve conducting experiments, researchers often use it to understand outcomes in a variety of variables of interest. Cross- sectional survey design can be used to identify participant characteristics, but it is not possible to establish cause-and-effect links between various variables. (Setia,2016).

Setting:

The data was collected from new outpatient clinics at EtayAlbaroad General Hospital, as it is the biggest outpatient clinic in the governorate that receive huge numbers of cases each year. Outpatient clinics at Etay-Albaroad General Hospital, includes two special clinics for the Special Needs Early Intervention Center that provide services to all children with special needs with different diagnoses of precipitation, hyperactivity, mental retardation, and psychological disorders. The services provided are diagnostic, treatment for each case, and referral to the public hospital in Alexandria if the case needed. Psychiatric measurements are also performed two days a week by trained and educated nursing specialists. Adjustment sessions are conducted only in a few cases, and no other rehabilitation activities are carried out. The clinic works daily to provide services to all specialties for children with special needs. There were 20 cases of daily attendance at the clinic. Only before the school entry- in August and September- children with difficulties in reading coming to the clinics for diagnose their cases and completing school entry. As the specialist make the needed investigations to the child to diagnose the child

and gives him certificate which allow the child to be enrolled in the integration schools. There is no follow up for children with difficulties in reading.

Sample:

A convenient sample that included all parents who met the inclusion criteria constituted the subjects of the study in new outpatient clinics at EtayAlbaroad General Hospital, Behera governorate during two months period; August and September. During this time, parents were referred to the clinic to obtain a school integration sheet for their children. The sample size during this period was 952 parents.

Inclusion Criteria:

- Parents had children diagnosed with dyslexia both sex, aged from 7 to 12 years old.
- Parents who agreed to participate in the study.

Exclusion criteria:

- Parents had children diagnosed with any other type of disability or any chronic medical or psychological disease.

Tools of Data Collection:

After reviewing the related national and international literature, tools of data collection were developed by the researcher to assess parents' knowledge and attitude regarding dyslexia. Tools was tested for content validity by 5 experts in community health nursing. Data was collected through two tools; the first tool was dyslexia knowledge questionnaire which was divided into 2parts: part one: parents' sociodemographic data, part two: parent'

knowledge about dyslexia. The second tool was structured attitude scale.

First tool: Dyslexia knowledge questionnaire:
It was developed by the researcher and is divided into 2parts: Part one: parents' sociodemographic data: It included 9 questions about personal data of parents related to age, education, current work. Part two: parent' knowledge about dyslexia: it was consisted of 2 types of questions, multiple choices and true and false questions. Multiple choices questions consist of 8 questions and true and false includes 20 questions about types of learning disabilities, definition, and symptoms of dyslexia.

Scoring of parent' knowledge about dyslexia:

For each question, every correct answer was scored 1 and 0 score for incorrect answer or don't know. Questions 9,10,11,12,13,15,16,17,19,21, 22,23 ,and 25 had reverse score. A total score of knowledge was computed by summing correct responses of all questions. Total knowledge was categorized as less than 50% is considered unsatisfactory, and 50% or more is considered satisfactory (Dhindsa , et el, 2022).

Second tool: structured attitude scale:

It was developed by the researcher to assess the parents' attitude toward dyslexia. It includes 12 questions about parents' perception related to dyslexia.

Scoring of structured attitude scale:

The researcher was rating each item on the 5-point scale. 5 for (Strongly agree), 4 for (agree) 3 for (Neutral), 2 for (disagree) and 1 point for (strongly disagree), total attitude was categorized

as less than 50% is negative attitude, if more than 50% is positive attitude (Abd El-Hay & El.Mezayen ,2019).

Content Validity

The study tools were reviewed by a panel of five expert professors in the field of community health nursing. The researcher asked the experts to link each objective with its respective items; assess the relevancy of the item to the content addressed by objectives and judge if they believe the items on the tool adequately represent the content in the domain of interest.

Ethical Consideration

Primary approval of the ethical committee and related committees at Faculty of Nursing, Damanhur University was obtained to carry out the study. This permission was followed by obtaining formal permissions from the manager of the EtayAlbaroad General Hospital then from the head of new outpatient clinics at Etay Albaroad General Hospital. The ethical considerations included explaining the purpose and nature of the study, stating the possibility to withdraw at any time. The researcher was emphasized that participation in the study is entirely voluntary; anonymity and confidentiality will be assured. Written informed consent was taken from each participant who accept to be included in the study.

Procedure

An official permission was obtained from Research Ethics Committee at Faculty of Nursing, Damanhur University to conduct the study. An official permission was obtained from manager of EtayAlbaroad General Hospital then from the head of EtayAlbaroad General Hospital. The purpose

and the nature of the study were explained to parents. The researcher emphasized that, parents in the study were entirely volunteer, anonymity and confidentiality was assured through data code and written informed consent was obtained from parents who accepted to participate in the study. Individual interview was conducted by the researcher within 20 minutes in waiting areas with each parent to complete dyslexia knowledge and attitude questionnaire. The researcher was collected data 4 days a week from 9am to 1pm during two months (August and September). The total number of parents was 952 but after interview and complete the first part in the first tool (parents' sociodemographic data). The researches discover that 22% of the parents don't know any knowledge about dyslexia and those parents were excluded from the study. So, the final number of total sample was 743 parents.

Pilot Study

The pilot study was conducted on 10% of parents to examine the clarity of tools, feasibility of the study and time needed to complete the study tools. Also, to identify various problems that might be encountered during conducted of the study.

Statistical Analysis

The collected data was scored, tabulated and analyzed by personal computer using Statistical Package for the Social Sciences (SPSS) program version 20. Descriptive as well as inferential statistics will be utilized to analyze data pertinent to the study.

Results

Regarding dyslexic child parent's sociodemographic data, table (1) reveals that 87.2% of the parents were aged between 30 to less

than 50 years old. Also, 50% of parents had secondary education while 18.5% can't read and write. While, 87.2% of the relatives attending clinic were fathers while 12.8% were mothers. Additionally, 91.4% of parents lived in rural areas and 93.1% had more than two children. While (87.1%, 10.6% & 2.3%) of dyslexic children were third, fourth and fifth primary school degree respectively.

Figure (1) shows that 93.70% of parents hadn't enough income and owed while, 6.3% of them hadn't enough income.

Regarding parents' knowledge regarding their children's dyslexia, table (2) justifies that 78.0% of parents had knowledge about dyslexia and those completed the questionnaire while 22.0% of parents didn't have any knowledge about dyslexia and were excluded from the study. While, (79.1% & 15.9%) of parents received their knowledge about dyslexia from learning difficulties clinics and social media respectively. About (42.1% & 35.9%) of parents thought that dyslexia due to physical and environmental causes. Also, (55.9% & 36.9%) of parents realized that learning difficulties are memory problems and arithmetic difficulties respectively. While (69.4% & 24%) knew that dyslexia is a chronic disease and brain disability to recognize certain letters respectively. Regarding signs and symptoms of dyslexia, (53% & 21.9%) of parents realized that dyslexia can cause problems in recognizing written words and problems understanding the meanings of sentences respectively. While 82.2% of parents knew that dyslexia may induce reading problems that persist throughout their child's life.

Table (2) clarifies that (94.5%, 73.6%, 91.3%, 89.5%, 72.5%, 84.1%, 59.9%,) of parents knew that dyslexia results from a neurological disorder, the brain of dyslexic child is different from the brain of non-dyslexic one, dyslexia linked to a certain age, seeing letters and words backwards is an essential characteristic of dyslexia, the reading of students with dyslexia is often characterized by inaccuracy and lack of fluency, have problems in reading in adulthood, people with dyslexia have talents in other fields, such as painting and others. Also, (69.2%, 52%, 62% & 62.4%) of parents realized that dyslexia results from parents' neglect of their children's education, hereditary, mental retardation and lack of self-confidence respectively. While (58.4%) of parent's didn't know that emotional trauma or family problems cause dyslexia.

Figure (2) illustrates that 56 % of parents had unsatisfactory level of knowledge toward dyslexia, while 44% of them had satisfactory level of knowledge.

As regards Parents' attitude toward dyslexia, table (3) reveals that (99.9%, 95%, 61.9% & 59.9%) of parents agreed that they felt guilty\ refuse\ inability when their children are diagnosed dyslexia, load reading should be ignored for dyslexic child, Parents should be (patient and provide comfortable environment) for child studying and reading at home respectively. While, (70%, 63%, 79.9%, 89.9%, 99.9% & 89.9%) of parents induce negative attitude as they didn't think that they had to control their negative feelings and asked for help from specialist after diagnosis, accept child's subnormal educational level, reading in front of classmates could enhance

progress of dyslexic child, dyslexia improved by time and follow up, focusing on dyslexic child's talents could help in improving children's self – confidence and that parents' patience and hopefulness could help in improving child's dyslexia respectively.

Figure (3) shows that 60.70% of parents had negative attitude toward their dyslexic children, while 39.30% of them had positive attitude.

Regarding correlation between dyslexic child parents' total knowledge and attitude, table (4) shows that there was a statistically significant correlation between total knowledge & attitude where $r = .945$ at $p = .000$

Table (5) indicates that there were a highly statistical significant relation between total parents' knowledge and gender, educational level, social status and monthly income as $p = 0.00$ for both items and $f = (48.86, 806.27, 353.35 \& 121.54)$ respectively.

Regarding relation between sociodemographic characteristics and total attitude among dyslexic child parents, this table approves that there were a highly statistical significant relation between total attitude and both of gender, educational level, social status and monthly income as $p = 0.00$ for both items at $f = (68.04, 546.79, 610.16 \& 183.43)$ respectively.

Table (1) Sociodemographic characteristics among dyslexic child parents N= (952):

Personal data:	No.	%
Age:		
From 18up to 30 years	100	10.5
From 30:<50 years	830	87.2
More than 50	22	2.3
The relationship of the child' parent:		
The mother	122	12.8
The father	830	87.2
Educational level:		
Cannot read or write	176	18.5
Basic education	300	31.5
secondary education	476	50.0
Marital status:		
Married	857	90.0
Divorced	95	10.0
Work:		
Working	900	94.5
Not working	52	5.5
Place of residence:		
Rural	870	91.4
Urban	82	8.6
How many children do you have?		
Two children	66	6.9
More than two children	886	93.1
Academic year for dyslexic children:		
Third primary	829	87.1
Fourth primary	101	10.6
Fifth primary	22	2.3

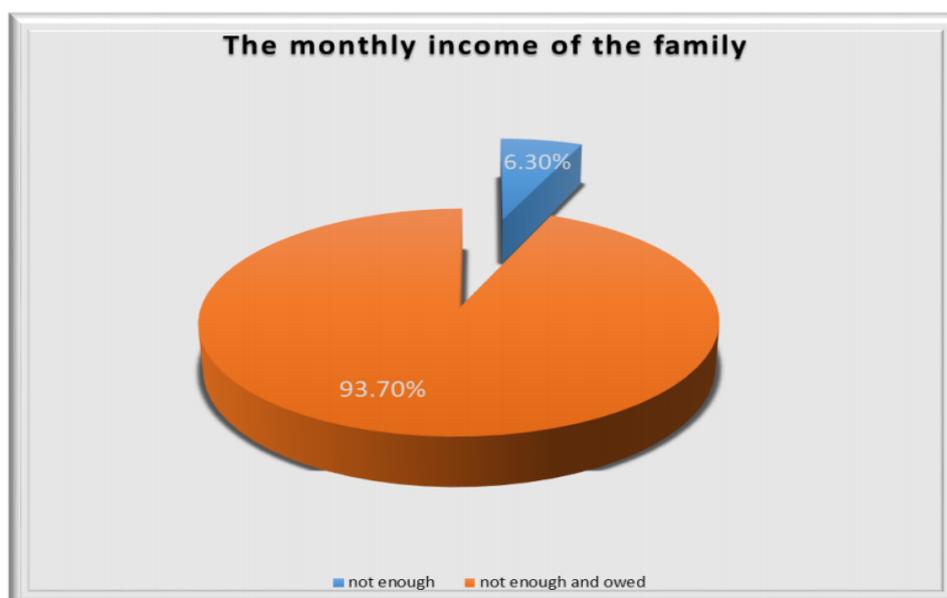


Figure (1) monthly income among dyslexic child parents n (952):

Part (II): Parents' knowledge regarding their children's dyslexia N= (743)

Table (2): Parents' knowledge regarding their children's dyslexia N= (743)

Items	No.	%
1- know any knowledge about learning difficulties		
Yes	743	78
No	209	22
2-If the answer is yes, Source of your knowledge		
Family	37	5.0
Learning difficulties clinics	588	79.1
Social media	118	15.9
3-causes of learning difficulties		
Physical	313	42.1
Genetic	163	21.9
Environmental	267	35.9
4- Types of learning difficulties		
Dyslexia	54	7.3
Arithmetic difficulties	274	36.9
Memory problems	415	55.9
5- Do you know any knowledge about dyslexia?		
Yes	743	100
6- dyslexia meaning		
Chronic disease	516	69.4
Difficulty in reading	49	6.6
Brain's disability to recognize certain letters	178	24
7-Symptoms and signs of dyslexia		
Problems recognizing written words	394	53
Difficulty understanding simple sentences	186	25
Problems understanding the meanings of sentences	163	21.9
8- Complications of dyslexia		
Difficulties at work	10	1.3
Lack of self-confidence	26	3.5
Behavioral problems	96	12.9
Reading problems that persist throughout life	611	82.2

Continue, Table (2): Parents' knowledge regarding their children's dyslexia N= (743)

Items	No/ don't know		Yes	
	No.	%	No.	%
9- Dyslexia results from a neurological disorder.	41	5.5	702	94.5
10- Dyslexia results from parents' neglect of their children's education.	229	30.8	514	69.2
11-Emotional trauma or family problems cause dyslexia	434	58.4	309	41.6
12-The brains of dyslexic individuals are different from the brains of non-dyslexic people.	196	26.4	547	73.6
13-Dyslexia is hereditary.	357	48	386	52
14-Dyslexia linked to a certain age	65	8.7	678	91.3
15-The percentage of dyslexia differ according to gender	495	66.6	248	33.4
16-Dyslexia a chronic disease that cannot be dealt with	474	63.8	269	36.2
17-Dyslexia can be dealt with by specialists	570	76.6	173	23.3
18-People with dyslexia have below average intelligence.	500	67.3	243	32.7
19-The reading of students with dyslexia is often characterized by inaccuracy and lack of fluency.	204	25.7	539	72.5
20-Seeing letters and words backwards is an essential characteristic of dyslexia.	78	10.5	665	89.5
21-People with dyslexia have a percentage of mental retardation	282	38	461	62
22-Dyslexia is not related to the intellectual development of children	653	87.9	90	12.1
23-Most poor students suffer from dyslexia.	540	72.7	203	27.3
24-People with dyslexia are not stupid or lazy	657	88.4	86	11.6
25- Dyslexia is a myth and a non-existent problem.	486	64.5	257	34.6
26-Many dyslexic students have problems in reading in adulthood.	118	15.9	625	84.1
27-Many students with dyslexia suffer from a lack of self-confidence.	279	37.6	464	62.4
28-People with dyslexia have talents in other fields, such as painting, sculpture, and others	298	40.1	445	59.9

*the highlighted items refer to the reverse items.

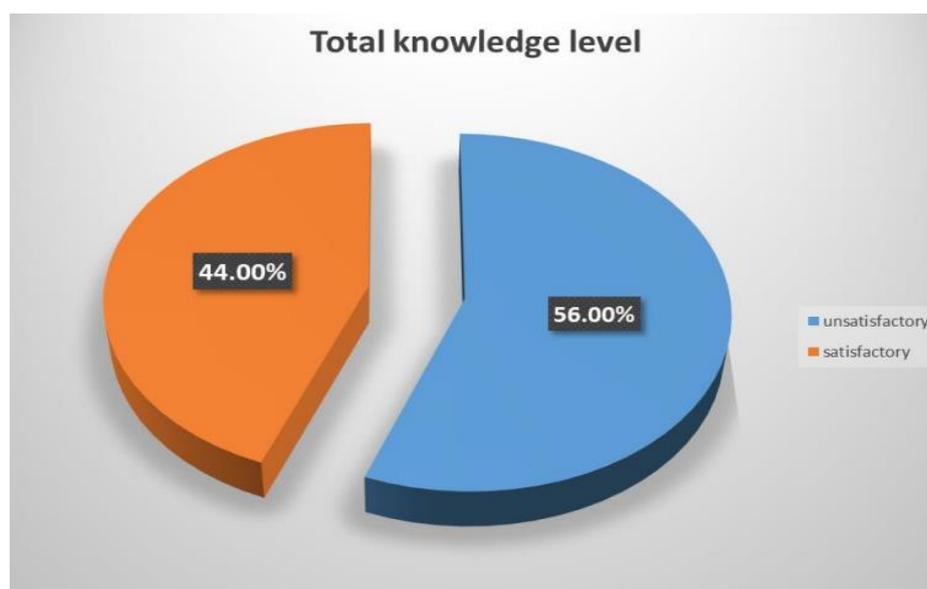


Figure (2): Total parents' knowledge level regarding their children's dyslexia N= (743).

Part (III): Parents' attitude toward dyslexia N= (743).**Table (3): Parents' attitude toward dyslexia N= (743).**

Items	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
1. Feel guilty\ refusal\ disability when their children are diagnosed dyslexia	0	0	0	0	0	0	209	28.1	534	71.9
2. Parents have to control their negative feelings and ask for help from specialist After diagnosis	0	0	520	70	148	19.9	75	10.1	0	0
3. Parents must accept child`s subnormal educational level	105	14.1	468	63	170	22.9	0	0	0	0
4. Parents should not compare their children educational level with others?	150	20.2	533	71.7	60	8.1	0	0	0	0
5. Load reading should be ignored for dyslexic child-	0	0	0	0	37	5	594	79.9	112	15.1
6. Reading in front of classmates enhance progress of dyslexic child	149	20.1	594	79.9	0	0	0	0	0	0
7. Parents should follow up with specialist to monitor progress of their dyslexic child.	472	63.5	158	21.3	113	15.2	0	0	0	0
8. Dyslexia improve by time and follow up	148	19.9	420	70	75	10.1	0	0	0	0
9. Parents should be patient for enhancing child reading at home.	0	0	98	13.2	158	24.9	460	61.9	0	0
10. Focusing on dyslexic child`s talents help in improving their self – confidence.	594	79.9	149	20.1	0	0	0	0	0	0
11. Parents should provide comfortable environment for child studying and reading at home.	0	0	75	10.1	223	30	445	59.9	0	0
12. Parents' patience and hopefulness help in improving dyslexia	125	16.8	543	73.1	75	10.1	0	0	0	0

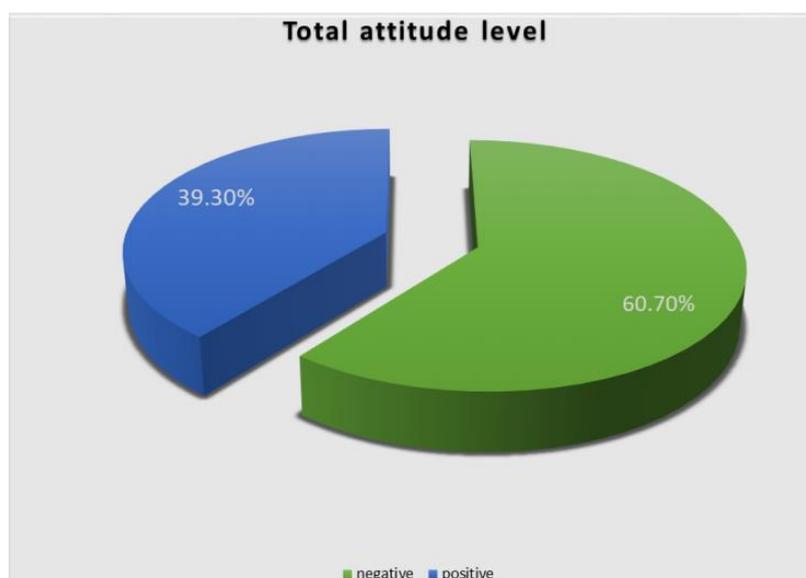
**Figure (3): Total parents' attitude regarding their children's dyslexia N= (743).**

Table (4): Correlation between dyslexic child parents' total knowledge and Attitude:

Pearson Correlation		Total attitude
Total knowledge	R	.945
	P	.000

Part (IV): relation between study variables among dyslexic child parents:**Table (5): Relation between Sociodemographic characteristics and total Knowledge among dyslexic child parents:**

Sociodemographic characteristics	Total knowledge		One-way ANOVA	
	mean	SD	F	P
The relationship of the child' parent: the mother	7.71	0.47	48.86	0.00**
the father	23.53	9.33		
Educational level: Cannot read or write	16.26	0.90	806.27	0.00**
Basic education	11.42	2.37		
secondary education	28.98	6.49		
Social status: married	21.10	8.38	353.35	0.00**
Divorced	37.28	0.78		
The monthly income of the family: not enough	9.43	1.68	121.54	0.00**
not enough and owed	24.09	9.11		

** Highly statistically significant

Table (6): Relation between Sociodemographic characteristics and total Attitude among dyslexic child parents:

Sociodemographic characteristics	Total attitude		One-way ANOVA	
	Mean	SD	F	P
The relationship of the child' parent: the mother	41.00	0.00	68.04	0.00**
the father	30.28	5.36		
Educational level: Cannot read or write	32.42	0.50	546.79	0.00**
Basic education	37.34	3.03		
secondary education	27.49	3.95		
Social status: married	31.95	4.38	610.16	0.00**
Divorced	20.82	0.76		
The monthly income of the family: not enough	40.00	1.62	183.43	0.00**
not enough and owed	29.88	5.10		

** Highly statistically significant

Discussion

One of the most important essential skills in the early school years is reading. It is among the most important and basic academic abilities that

students must develop in order to properly complete later academic assignments. A brain condition called dyslexia makes it difficult for a person to read, write, and spell. Students who

struggle with dyslexia may face social, emotional, and psychological obstacles in addition to varied degrees of behavioral and academic challenges. These difficulties not only affect students but also the whole family especially the parents, who must cope with them every day. Numerous emotional and behavioral issues, such as low self-esteem, substance misuse, despair, anxiety, suicidal thoughts, frustration, shame, avoidance, family instability, and unemployment, can be a result of dyslexia (El-Afandy & Saied, 2020).

The present research denoted that the parents was with a mean age of 34.6 ± 14.7 years and half of them completed secondary education. These findings were consistent with those of a study conducted in India by Sahu et al., 2020, which sought to gain in-depth understanding and insight about family's perceptions and experiences of 30 parents toward specific learning disorders, found that most parents were between the ages of 27 and 45 completed at least their 10th grade of education also most of them were male.

Furthermore, the current study's findings indicated that fathers of the children attended the clinic in the majority of cases. In contrast, Mkhwanazi's, 2019 study which examined the life experiences of fifteen caregivers with dyslexic children , Pietermaritzburg, South Africa's secondary schools, discovered that mothers made up the majority of those who brought their children to the clinic, as mothers are the child's primary caregivers. It seems to me that the results of the two studies differ could be explained by the different services offered by the two settings, since

the context of the current study only provided the father with the child's diagnosis and certificate to allow his child to be enrolled in integrated schools as, in the Egyptian law father is the responsible for the child except in some cases.

Besides, the finding of the present research illustrated that the highest percentage of the dyslexic children's parent were married and lived in rural areas. This finding goes in the same line with the finding of a study done by Simone Cosgrave ,2022 on eight mothers of dyslexic child attending school in Ireland to explore Irish parents' perspectives regarding dyslexia, the study results found that all mothers were married but the majority of them lived in urban areas.

Additionally, the present study clarified that, the majority of 2022 related to dyslexic students in Türkiye, found that more than half of the parents had three children and the students aged between 10-12 years diagnosed with dyslexia.

On the same track a study done by Sahu, Bhargava, Sagar & Mehta ,(2020) to explore the perception of 30 parents of children with specific learning disorder (SLD) aged between 8 and 14 found that all parents clarified that they observed their children's learning difficulties during preschool period but recognized it as illness after a long time. As a result, SLD got diagnosed in either third or fourth class or after the symptoms had been present for 2–3 years.

As far as I am concern that, this age is the common age for the diagnosis of dyslexia in children as most researches clarified that

symptoms and diagnosis start to be confirmed between the ages 8 to 12 years old. Because, after dyslexic child enters school ,complaints start and comparison between him and his colleagues' academic progress so parents' doubt- which they ignored- confirmed and seek to diagnosis. Unfortunately, parents had poor knowledge about SLD, leading to delay in recognizing the disorder.

Moreover, the result of the current study showed that the majority of the parents worked but they had not enough income and owed. On the other hand, the results of a study done by Wilmot, et al., 2022, who explored the socio-emotional experience of growing up with dyslexia from both 17 child and their mothers' perspectives in Australia reported that the majority of the mothers did not work and the family had enough and satisfactory income. This difference between the two results may be due to gender difference in the two studies, as fathers- majority of the study sample- in the current study is considered the breadwinner of the family . Also, there are economic differences between the two study settings.

Also, regarding parents' knowledge toward their children's dyslexia, the result of the present study showed that the majority of the parents (743 from 952 of parents) had knowledge about their children's dyslexia, also the majority of them received their knowledge about dyslexia from learning difficulties clinics. On the same track, the finding of a qualitative study done in Nigeria by Iwuagwu et al., (2022) to examine 18 primary caregivers' knowledge of dyslexia, their awareness

of problems, and their support for elementary school children in Owerri Municipal, Nigeria, showed that the primary caregivers in the study had poor knowledge and misconceptions of dyslexia. The majority of them claimed to hear the term "dyslexia" for the first time.

Also, on the same line, the results of a study done by Wigfield, Guthrie, Tonks, Perencevich, (2021), on 53 parents with the aim to explore parent's awareness of the consequences of the problems associated with dyslexia on their children. The parents mentioned their concern about their children's future- to find jobs- as dyslexia has negative effect on intelligence and ability, also dyslexia has psychological issues as may cause suicidal thinking among children who struggle to read well like their colleagues.

As far as I am concern that is very late and inadequate as the learning difficulties clinics is the only clinics that diagnose children after complications appeared on them as child can't be kept in the stream of the education so, their parents go to these clinics to receive certificate which confirm only that their children need special education in integration schools not to make follow up. Also, parents mentioned many complications which can caused by dyslexia as reading problems that persist throughout life, behavioral problems as bullying their classmates, Lack of self-confidence and difficulty to find work in the future.

In addition, the finding of the present study reconcile that parents who had dyslexic children had unsatisfactory knowledge toward the cause of

dyslexia; parents' neglect, emotional trauma, neurological disorder or hereditary but the percentage differed as most of parents in the study knew that dyslexia results from a neurological disorder while more than half of parents knew that dyslexia results from parents' neglect of their children's education. Moreover, more than half of parents didn't know that hereditary and emotional trauma or family problems can cause dyslexia.

This result was in agreement with the result of a research done Cosgrave & Nolan, 2022 in Ireland who did a qualitative study to understand and explore eight mothers' "lived experience" on the stressors and the psychological impact of dyslexia, found that all mothers suffered from poor knowledge and misunderstanding about dyslexia; cause, signs and how to deal with their dyslexic children. Thus, Parents reported frustration as they did not recognize the signs of dyslexia and couldn't differ if their children are disruptive, stupid, lazy, mental retarded or have another problem. As consequences, parents were worried about their children future and didn't know if dyslexia is permanent problem or will be solved by follow up with specialist.

Moreover, on the same line a study done by Ferreira, Thalita francielli Lopes, et al. ,2023 in Brazil to compare the cognitive and behavioral profile of 20 individuals with developmental dyslexia, discuss the importance of interdisciplinary assessment and also describe the main behavioral and academic impacts, mentioned that all participants suffered from misunderstanding of dyslexia and feeling of guilt.

All participants did not know the cause of dyslexia and how to deal with their children when discover dyslexia. Participants felt guilt toward their children as they did not early recognize signs of dyslexia to start early treatment. Also, after diagnosis they did not know how to handle the situation.

Also, the present research showed that more than half of the parents of dyslexic children had unsatisfactory level of knowledge toward dyslexia – causes, signs, how to deal with their children which affected their attitude toward their children as the majority of parents in the current research had a negative attitude toward their children dyslexia.

On the same track, a study done by Sahu, A., Bhargava, R., Sagar, R., Mehta , M.,(2018) to assess the perception of 30 parents of children with SLD aged between 8 and 14 years toward learning disorders found that, the parents complained of lack of knowledge about the specific learning disorder (SLD) like dyslexia; symptoms and right instructions to handle the situation . Rejection, denial, over-protection, and loss of hope were parents' reaction toward their children's diagnosis. Also, parents described caregiving to their dyslexic children as physical, personal, social, financial, and emotional burden.

From the researcher point of view, dyslexia is a vague and hidden disorder, especially in developing countries as there isn't public awareness to help parents early discovering of dyslexia and recognizing signs of dyslexia. Also, there aren't accessible, available and affordable

governmental centers to follow up dyslexic children by specialists. Additionally, there aren't clear educational plans for dyslexic children in governmental schools or follow up in family health centers. So, parents who want to make follow up to their dyslexic child, go to private expensive educational centers which cost a lot of money for long periods. As more than half of Egyptian people is under the poverty line so, making follow up to dyslexic child is very hard to the Egyptian family. All this pressure- psychological and financial- on the parents of dyslexic child and feelings of helplessness, hopelessness and inability to help his child leads to negative attitude toward this child.

As regards to parents' attitude toward dyslexia, the result of the present study revealed that the majority of parents strongly agreed that they felt guilt\ refuse\ inability when the diagnosis of dyslexia was confirmed and the majority of them couldn't control those negative feelings and couldn't be hopeful about their children's condition. Also, the majority of parents strongly didn't accept that their children had subnormal educational level and always compared their children's educational level with other children in the same age.

This result of the current study is in the same line with a study by Iwuagwu et al., 2022, the process of learning dyslexic children is full of disturbed negative feelings. Parents love their children and they always hope their future is better and wish brilliant future them. For that, when they face the fact –their child's academic level will be always less than their classmates - they

experienced a lot of negative feelings like stigma, fear, confusion, guilt and anxiety.

On the same track a study done by Sahu, Bhargava, Sagar & Mehta, (2018) found that the parents showed negative attitudes and reactions toward their child's diagnosis of SLD, such as rejection, denial, over-protection, and loss of hope. They suffered huge burden to deal with their children. Also, some parents accepted the diagnosis and treatment of the child's learning problem and worked very hard to improve the child's learning skills. Undoubtedly, they failed to make realistic expectations, leading to frustration and confusion. Furthermore, some parents lost hope that the child will improve at all in future and attain higher education and adequate professional career.

From the researcher point of view, parents are the first teacher and the main responsible for their children's educational and academic progress. This responsibility becomes a huge burden in all aspect of parents and family life if child is diagnosed dyslexia or any type of specific learning disorder. At first, parents feel denial, blame then they accept the situation. Some parents try so hard to help their child but, they don't accept that their child academic level after all the exerted effort is below their colleagues. Unfortunately, the majority of parents don't have any knowledge about dyslexia; how to deal with the situation which makes the situation so hard causing more confusion, frustration, anxiety, worry, fear and feeling of lost. So, all the journey of dyslexic child education is full with disturbed negative feelings which surely

affect the attitude of parents toward their dyslexic child.

Regarding correlation between total (knowledge and attitude) regarding dyslexia among dyslexic child parents, the result of the present study illustrated that there was a highly statistical significant correlation between total (knowledge & attitude). This result is supported by a study done by Sicherer., 2020 who examined how 13 elementary-level general education teachers from nine elementary schools in Wayne District, New Jersey perceive the relationship between their training and knowledge of dyslexia and their teaching efficacy in the inclusive classroom., found that negative feelings were related to lack of knowledge. As, teachers and parents used to blame the dyslexic children for their poor academic level because they were thinking these dyslexic children were lazy and did not exert the proper effort to succeed.

Regarding the relation between total parents' knowledge and their sociodemographic characteristics, the current study illustrates that there was a highly statistical significant relation between total parents' knowledge and gender, educational level, social status and monthly income.

As regards relation between sociodemographic characteristics and total attitude among dyslexic child's parents, the finding of the current study showed that there were a highly statistical significant relation between total attitude and parents (educational level, social status and monthly income). This result is supported by

Huang et al., 2020 who examined family environmental factors for dyslexia, evaluated the personality, behavior characteristics and life quality of 60 children diagnosed with dyslexia and 180 normal children that were aged 7–12 who speak Chinese in four primary schools, Shantou City, China, the study results found that higher family income, higher parents' educational levels, and parents in office jobs were negatively associated with dyslexia. Bad family communication and weak family relationships were related to dyslexia.

From the researcher point of view, Parents are the primary educator and observer for their children. The children's academic development and success mainly depends on their home environment and their parents' support. Researches illustrated that good communication and speaking with the children in the early childhood has great consequences in their language and learning development after that. Also, the economic level of the family is playing an important role in supporting and learning the children especially dyslexic ones as there aren't governmental centers to take care of the dyslexic child, so parents must seek help from private expensive special learning centers which cost a lot of money for a long period to allow follow up with specialist. When the economical level of the family is high, follow up in these centers not be a burden for the family.

Moreover, the higher educational level of the parents, the positive attitude toward their child's dyslexia. As, parents with higher educational level start learning their children early so, they can

discover any abnormalities in their learning abilities and seek for help earlier. Early discovery of dyslexia is better in the progress of the child's condition. This progress has positive results on psychological status of parents as for example feelings of fear and worry toward their child's future become less.

Moreover, if parents suffer from poor knowledge about dyslexia especially after their child diagnosis, they will react to their child negatively. As, parents feel they fall in a dilemma of negative feelings which they cannot ignore, escape or deal with it. From the start of the journey- before the child's diagnosis- at first parents feel confusion and always ask themselves my child is normal or not and my suspicious is correct or not. After that teachers in school start complaining from their child so the parents' suspicions confirmed and start to ask about what I can do. At this phase, parents start feeling guilt and blame themselves –why I did not start diagnosis earlier – after the end of this phase, parents start to focus about how to deal with the situation, unfortunately no accessible, affordable or available governmental places to give these parents help, proper knowledge or treatment plan so, dealing every day with dyslexic child become a huge burden on the parents. They feel hopeless, inability, helplessness and anxiety and fear about their child's future. For these causes the journey of learning a dyslexic child is complex and full of negative feelings which surely result negatively on parents' attitude.

Conclusion

The current study concluded that more than half of parents had unsatisfactory level of knowledge toward their children's dyslexia and the majority of them had a negative attitude toward their children's dyslexia. Also, there was a highly statistical significant correlation between total (knowledge & attitude) and there were a highly statistical significant relation between total attitude and both of (educational level, social status and monthly income). Moreover, dyslexia not only had negative effect on the dyslexic child's life, but also on the whole family.

Recommendations

Considering the findings of the current study, The recommendation listed below can be implemented:

- 1- Create and carry out instructional initiatives for parents of children who experience dyslexia regarding:
 - Knowledge about dyslexic children's needs.
 - Suspected complications of dyslexia and the needed care for these complications.
- 3- Develop wide policies and practices by the Egyptian Ministry of Health that suggest setting up educational intervention programs is important to consider parental awareness, needs, and resources, thus moving, within a

systemic perspective, from an individual-centered to a family-centered care viewpoint.

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