

## Awareness of Primary School Personnel Regarding Dyslexia Among Primary Students in Alexandria

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### **Abstract**

**Background:** Dyslexia represents a major educational issue. Students with dyslexia can go through multiple psychological and educational problems. **Aim:** Assess the awareness of primary school personnel regarding dyslexia among primary students in Alexandria. **Settings:** governmental primary schools affiliated to Ministry of Education in Alexandria Governorate, Egypt. **Subjects:** 1200 randomly selected school personnel including 120 administrators, 840 teachers, 120 social workers /psychologist and 120 nurses. **Tools:** one tool was used. part one: "Socio-demographic characteristics of the school personnel". part two: "Structured school personnel' knowledge questionnaires on dyslexia". part three: "Structured school personnel' attitude". **Results:** Less than two thirds of school personnel had a fair level of knowledge. Less than three quarters of them had neutral attitude toward dyslexia. A Statistically correlation was noticed between school personnel's levels of knowledge and their attitudes towards dyslexia ( $X^2=14.928, P=0.005$ ). **Conclusion:** The current study revealed that there is lack of awareness among school personnel about dyslexia. **Recommendations:** An intensive program should be planned periodically, executed, and monitored to improve knowledge, and practice of the school personnel in schools and local education authorities training centers to allow them to develop their skills regarding dyslexia.

**Keywords:** Awareness, Dyslexia, Primary Students, School personnel.

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### **Introduction**

Dyslexia is a common learning disorder that affects a significant number of primary school students worldwide. It is characterized by difficulties in reading, spelling, and language processing, despite normal intelligence and adequate educational opportunities (International Dyslexia Association, 2018).

Globally, the International Dyslexia Association (IDA) reported that 15-20% of children worldwide suffer from dyslexia. The prevalence of dyslexia varies according to the severity of reading difficulties; lower rates are seen for more serious issues. Additionally, dyslexics are present in readers of all skill levels, not simply those who perform poorly on reading assessments (Odegard et al., 2020).

In Egypt, dyslexia still taboo or stigmatized in many Egyptian civilizations, which may deter people from receiving a diagnosis and treatment. The absence of standardized tests and diagnostic resources may also contribute to its misdiagnosis. Dyslexia appears to be a major issue for the educational system, impacting a sizable portion of the student body. It is projected to represent approximately 7.6% of school-age children from various regions of Egypt, or 17.4% of the total population of school-age (Emam & Mohamed, 2011).

Therefore, Primary school students have a higher likelihood of facing difficulties in comparison to their peers. Considering this, students with dyslexia are more prone to encountering challenges such as academic underachievement, compromised psychosocial well-being, emotional or behavioral issues, and diminished self-esteem (Kearney et al., 2022) Additionally, they express concerns about their future prospects, encounter obstacles in securing employment after completing their education, and exhibit a reduced inclination to make positive contributions to the community (A. Huang et al., 2021).

Consequently, students with dyslexia require a variety of support services, including essential elements like early identification, addressing dyslexia-related issues such as academic assistance and psychological assistance (Miciak & Fletcher, 2020).

Each School personnel (Administrator, psychologist, social worker, teacher, and nurse) play a role in supporting students who have dyslexia. By identifying and screening for dyslexia, creating a learning environment and implementing strategies and interventions backed by evidence school personnel can make an impact on the academic success and overall well-being of students with dyslexia. (Kuracki & Dłużniewska, 2023).

### ***Aims of the Study***

This study aimed to Assess the awareness of primary school personnel regarding dyslexia among primary students in Alexandria.

### ***Research questions.***

- What is the knowledge of primary school personnel regarding learning difficulties (Dyslexia) among primary students?
- What is the attitude of school personnel regarding dyslexia among primary students?

### ***Materials and Method***

#### ***Materials***

***Design:*** A descriptive research design was used to accomplish this study.

***Settings:*** This study was conducted in 120 primary governmental schools from eight educational zones affiliated to the Ministry of Education in Alexandria.

***Subjects:*** The study was conducted on 1200 randomly selected school personnel including 120 administrators, 840 teachers, 120 social workers /psychologist and 120 nurses.

***Tools:*** In order to collect the necessary data for the study one tool were used:

***Tool one: “School personnel awareness regarding Dyslexia structured questionnaires sheet”.*** This tool was developed by the researcher after reviewing related literature. ***It consists of three parts:***

***Part I: Socio-demographic characteristics of the school personnel in primary school:*** Personal data about school personal such as age, sex, qualification, occupation, and Years of experience.

data about receiving training in the field of dyslexia, dealing with dyslexic students, and

describing the condition of the dyslexic student.

**Part II: knowledge of school personnel' on dyslexia structured questionnaire:** This part included 30 questions that measure knowledge of school personnel about developmental dyslexia in three specific areas: general information about the nature, causes, and outcome; symptoms/diagnosis and the treatment of developmental dyslexia.

**Part III: Attitude of school personnel' toward dyslexia structured questionnaire:** This scale included 30 statements and divided on four sub-scales that examined the attitudes toward the following four-factor structure: Identification and support of dyslexic students; individualized teaching methods; adaptation of teaching materials and evaluation procedures; and support of classroom atmosphere and cooperation.

## **Method**

Approval of the Ethics Committee of the Faculty of Nursing, Central Agency for Public Mobilization and Statistics (CAMPAS) and the Directorate of Education in Alexandria were obtained to conduct this study after an explanation of the objectives of the study. The study tool was tested for content validity by 5 experts in the field of community health nursing. The necessary modifications were made accordingly. A pilot study was carried out on 10% of the study sample in order to test the clarity and feasibility of the research tools.

Tool was tested for reliability using Cronbach's Alpha test. The reliability coefficient was 0.767 which is acceptable.

The researcher introduced herself to school personnel, the aim of the study was explained to them, and they were assured that their responses would be kept secret. The structured Interview time took approximately 10 to 15 minutes for each participant. Data was collected by the

researchers during the period from September 2022 to June 2023.

## **Ethical considerations:**

Written informed consent was obtained from each study subject after explaining the aim of the study and the right to refuse to participate in the study and/ or withdraw at any time. Study subjects' anonymity was maintained as well as the confidentiality of the collected data.

## **Statistical Analysis**

The collected data were organized, coded, transferred into a specially designed format to be suitable for computer feeding and statically analyzed using the statistical package for social studies (SPSS) Version 25.0. Variables were analyzed using descriptive statistics which included: percentages, frequencies, range (minimum and maximum), arithmetic mean, and standard deviation. Finally, analysis and interpretation of data were conducted. P-values of 0.05 or less were considered statistically significant.

## **Results**

**Table 1** presents the studied School Personnel' demographic characteristics and Work-related Data. The age of School Personnel ranged from 22 to 59 years with a mean of  $43.32 \pm 9.283$  years. More than one third (38.3%) of the school personnel were 40 to less than 50 years old, while 30% were in the age of 50 years and over. Only 10.6% were in the age of 30 years and less. With respect to the school personnel' sex, less than three quarters (72.6%) of them were females, while the rest (27.4%) were males. Regarding their level of education, the table portrays that more than three quarters of the school personnel (77.3%) had bachelor's degree, and less than one fifth (16.2%) of them studied at Intermediate institutes, while only 6.6 % of them had postgraduate degree. In relation to their years of experience, it was observed that the number of working years ranged from one to thirty-nine years with a mean of

19.26±9.244 years. Slightly more than half (51.8%) of them had work experience more than twenty years, while less than one tenth (7.2%) of them had less than five years. The same table also reveals that the majority (81.0%) of the school personnel didn't attend training courses about dyslexia, while less than one fifth (19.0%) of them attended. Regarding working with students who have dyslexia, more than half (57.8%) of the school personnel reported that they were working with dyslexic students, while (42.2%) of them didn't have any experience. With respect to description of dyslexia cases, slightly more than half (50.7%) of the school personnel mentioned that dyslexia referred to inability of the students to read/write and do mathematical operations, while less than one fifth (18.6%) of them stated that dyslexic students had underachievement level. Those who mentioned that those students had psychological problems such as (anxiety, loneliness, low confidence) constituted (14.6%) of them, while 10.1% of them described those students with poor concentration and memory. Only 6.1% of them were described dyslexic as disobedient.

**Figure (1)** shows the distribution of the studied school personnel according to their level of knowledge about dyslexia. This figure reveals that, more than three quarters of the school administrator (76.70%) had fair level of knowledge compared to less than one quarter (23.30%) of them had a poor level of knowledge. In addition, nearly two thirds (66.30%) of the teachers had a poor level of knowledge, while 43.8% of them had a fair level. slightly less than half (49.20%) of the psychologist/social workers had fair level of knowledge compared to slightly more than two fifths (40.80%) of them had a poor level of knowledge. Furthermore, almost two fifths (40.80%) of the school health nurses had a poor level of knowledge, compared to more than half (57.5%) of them having a fair level of knowledge.

**Figure (2)** reveals distribution of the studied school personnel according to their

Attitude towards Dyslexia. This Figure illustrates that, the majority (86.7%) of school administrators, more than three quarters of teachers (76.5%), more than half of psychologist / social workers (55.8%) and less than two thirds of school health nurses (59.2%), had a neutral attitude toward dyslexia. Furthermore, less than two fifths of school health nurses (37.5%) and less than one third (29%) of psychologist/social workers had a positive attitude level. The minority of teachers, school health nurses and administrators (9.3 %, 3.3% and 3.3% respectively) had a negative attitude.

**Table 2** shows relationship between the studied school personnel's levels of knowledge about dyslexia and their attitudes towards dyslexia. A statistical correlation was noticed between school personnel's levels of knowledge about dyslexia and their attitudes towards dyslexia ( $X^2=14.928$ ,  $P=0.005$ ). Around one-tenth of school personnel holding negative attitude toward dyslexic students across all the levels (11.6%), (6.9%), (13.9%) respectively. Surprisingly, the study revealed that those who have poor knowledge about dyslexia expressed a more positive attitude as compared to those with good knowledge (20.7%) and (8.3%) respectively.

**The main findings of the current study revealed that** the age of School Personnel ranged from 22 to 59 years with a mean SD of 43.32±9.283years, less than three quarters (72.6%) of them were females, more than three quarters of the school personnel (77.3%) had bachelor's degree. A statistical correlation was noticed between school personnel's levels of knowledge about dyslexia and their attitudes towards dyslexia ( $X^2=14.928$ ,  $P=0.005$ ) similar study made in Egypt made revealed that there was positive correlation with total knowledge score and total score of reported practices and attitudes of studied sample regarding learning difficulties (Abo, H. et al.,2015). In addition, these findings were supported. Another study made in Iran stressed on the same point and clarify the strongly significant correlation

between knowledge and attitude (Kakabaraee et al., 2012).

### **Discussion**

children with dyslexia constitute a vulnerable segment among the global population of children. They encounter challenges such as social isolation, poverty, and discrimination, particularly in developing nations. Despite the provisions outlined in the Convention on the Rights of the Child, the Convention on the Rights of Persons with Disabilities, and other relevant documents, they are frequently deprived of meaningful social engagement (Jørgensen et al., 2023).

The level of awareness among school personnel could play a crucial role in disseminating the information for better control of dyslexia considering it is one of the main learning difficulties (Amah et al., 2023). In the present study, a significant correlation was found between student's knowledge level and their own attitude regarding dyslexia.

In the current study school personnel awareness referred to knowledge and attitude in this regard the present study finding reveals that fair level of knowledge about dyslexia was detected by less than two thirds of studied school personnel, while less than one thirds had poor level of knowledge. Unfortunately, there are no matching studies about all school personnel level of knowledge regarding dyslexia instead there are studies concerning each the school personnel separately.

in this study more than two-thirds of teachers had fair knowledge toward dyslexia. These results coincide with a study done among 629 teachers from Kuwait in 2020. The study demonstrated that, overall, male, and female teachers in Kuwait possessed a moderate level of knowledge regarding students with learning difficulties (Saeedy, 2020).

in the current study more than three quarters of teachers had fair attitude about dyslexia and that contradict with study conducted in Saudi Arabia Yousef in 2022

found positive attitudes towards dyslexia among primary school teachers. The increased knowledge about dyslexia among teachers in these countries may be attributed to the development of education and their exposure to it through university studies or training during their professional careers.

There are many variables that may affecting school personnel' awareness level as the age, sex, Level of education, Years of experience, Receiving training courses about dyslexia, and Previous working with dyslexic students. However, the current study findings pointed out that statistically insignificant differences were found between the previous variables and the school personnel' awareness level about dyslexia.

In relation to the age of school personnel, the present study results revealed that the ranges from 22 to 59 years and overall mean age of  $43.32 \pm 9.283$  years. It is noteworthy that less than three quarter of them were female school personnel, while the rest (27.4%) were males. The current study findings pointed out statistically insignificant differences between school personnel' age and level of awareness. These results coincide one study of them was done among Arabic teachers in primary schools working at governmental schools in Cairo and Al Qalyubia governates, Egypt. The participants were in the age range 23-59 years, (mean  $\pm$ SD, was  $40.76 \pm 10.28$  years), including 50 males (29.8%), and 118 females (70.2%) and There was negative correlation between age and correct answers score (Ahmed et al., 2023).

With respect to gender deference, it was observed that females have fair knowledge as compared to males' school personnel. This finding can be explained in light with the study finding were the majority of school personnel participated in the study were of females. These findings are closely matched with recent study that made by ALturaifi and Alhossein (2022) which revealed that there were statistically significant differences at the level of significance in school personnel' knowledge of learning difficulties due to the

gender variable. On the other hand, there were study that indicated that there are significant differences in the attitudes of males and females' teachers in favor of female teachers and that disagree with the study finding (Al-Amri & Afyaa, 2021).

On the other hand, it was noted that only less than one fifth (19.0%) of school personnel received previous training about dyslexia and that agreed with AlAdwani and Shaye in 2012 showed that the level of training of Kuwaiti teachers was low. Another study in Portugal in 2010 by Carvalhais and Da Silva found that the level of training was low, and almost 66% of the teachers never received any kind of training about dyslexia.

In Egypt, research findings indicate that training teachers in schools is more effective than training them within the educational administration. This highlights a potential lack of awareness and knowledge among teachers regarding dyslexia, emphasizing the importance of providing comprehensive training programs that are mandatory for all educators (Aboras et al., 2018). However, there were a study made on 40 Malaysian teachers showed that there was no significant relationship between the level of knowledge readiness with the level of attitude readiness of teachers in mainstream schools in implementing teaching to students with dyslexic characteristics (M. Ali et al., 2021).

Eventually, the most important result and what answered the research question was the school personnel occupation factor. There was a significant association between knowledge, attitude, and type of occupation with (FET=35.373, P=0.000) and ( $X^2=71.822$ , P=0.000).

## **Conclusion**

Based upon the present study findings it could be concluded that: There is lack of awareness regarding dyslexia among school personnel. Also, there is lack of knowledge about dyslexia among teachers. The lack of practice and attitude associated with dyslexia. the inaccuracies held, may be due to not having a well previous training program. A good understanding of dyslexia is important in successfully intervening to best help those with dyslexia.

## **Recommendations**

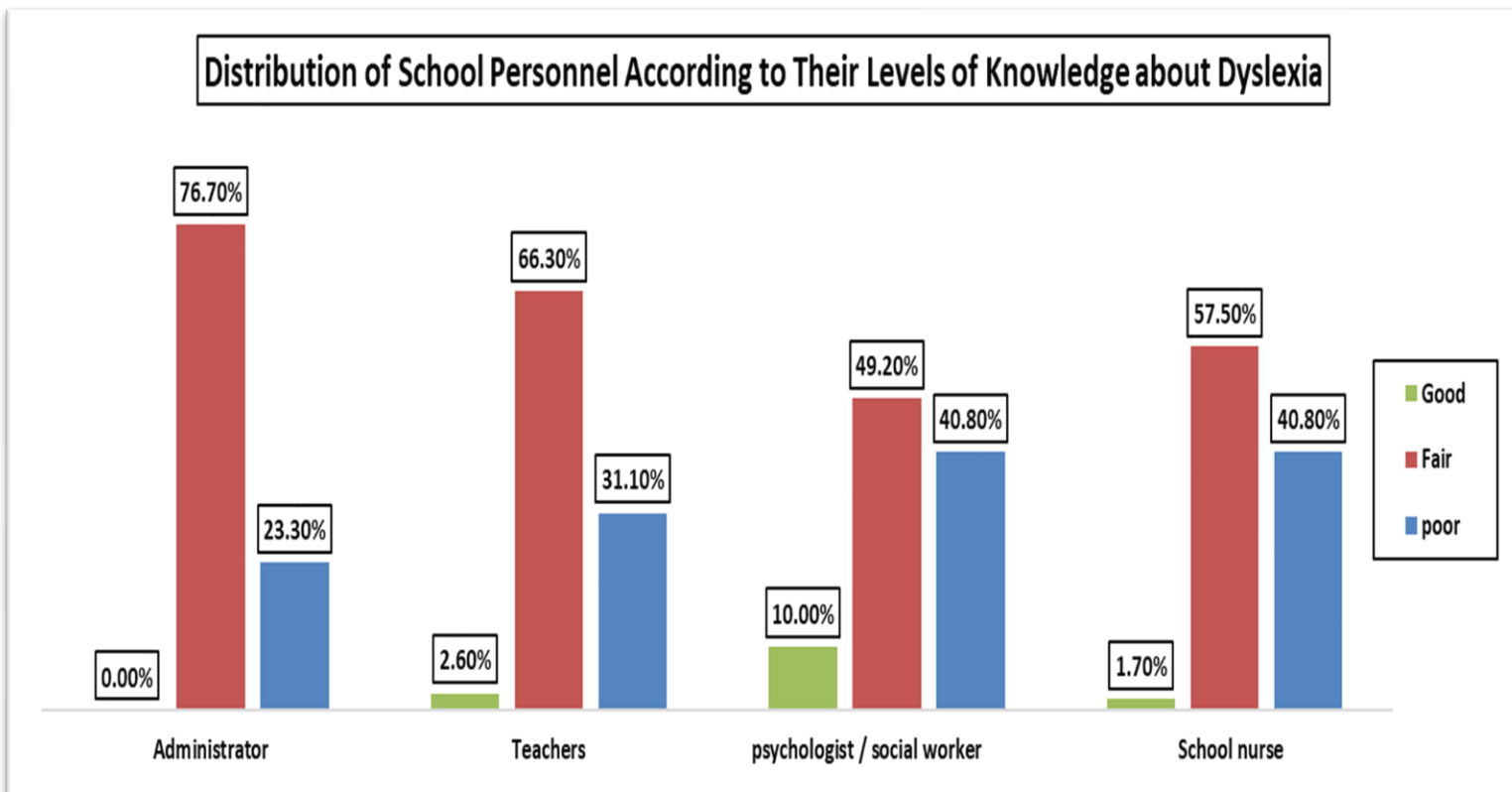
*In line with the findings of the study, the following recommendations are made:*

- Provide training program for teachers, school administrators, and health professionals on dyslexia under health care supervisors to ensure they understand its characteristics and the support needed by students with dyslexia. This includes recognizing signs of dyslexia early and understanding how to assist students effectively.
- Implement screening programs in schools or healthcare settings to identify learning difficulties early, ideally from kindergarten or first grade.
- Raise community awareness regarding the various needs and worries of children with dyslexia and importance of inclusion of dyslexic children within community life.

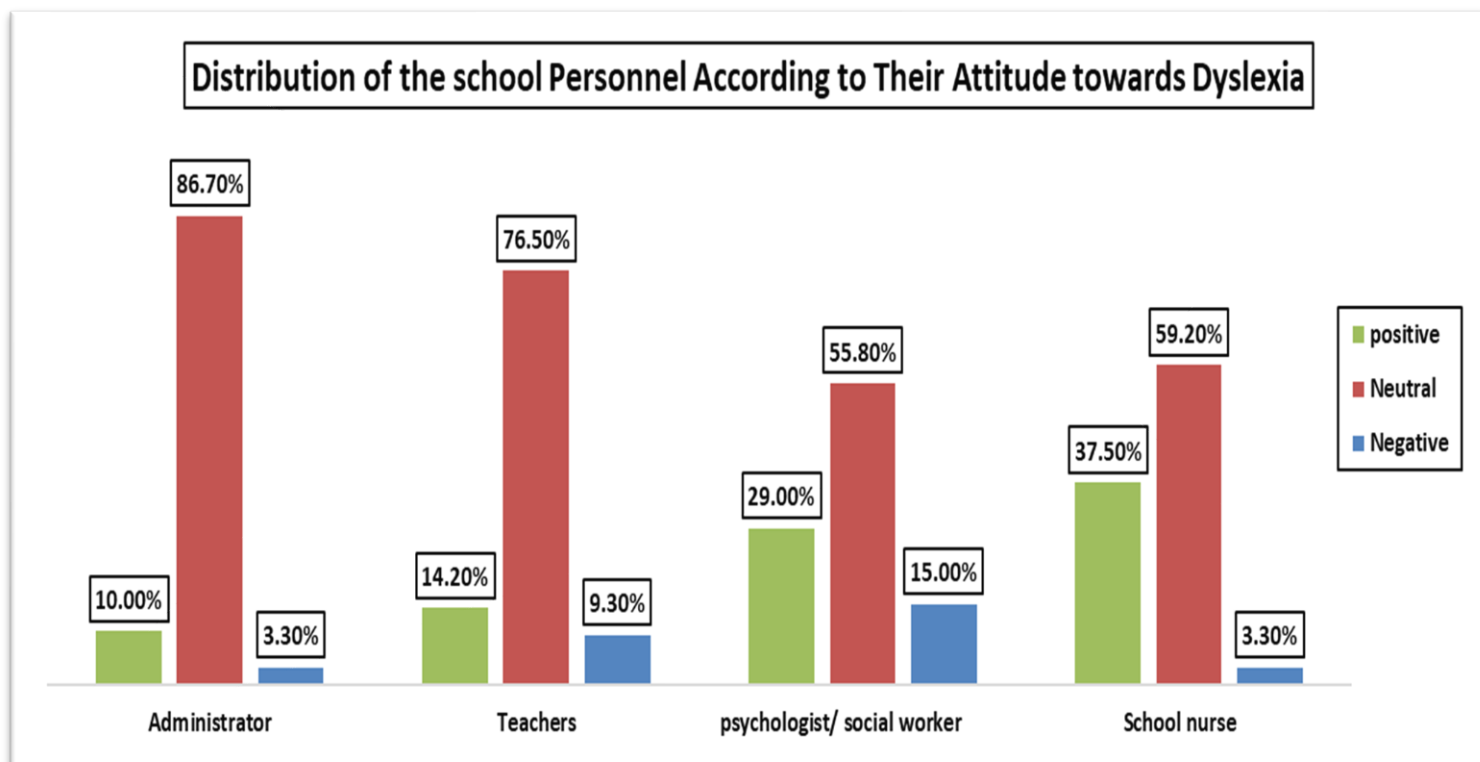
**Table (1): Distribution of the subjects According to Their Socio-demographic and Work-related Data**

Demographic characteristics	Total (N=1200)	
	No.	%
<b>Age (in years)</b>		
▪ < 30	127	10.6
▪ 30 - < 40	252	21.0
▪ 40 - < 50	4603	38.3
▪ > 50	61	30.1
<b>Mean ±SD 43.32±9.283      Min- Max 22-59</b>		
<b>Sex</b>		
▪ Male	329	27.4
▪ Female	871	72.6
<b>Level of education</b>		
▪ Intermediate Education	194	16.2
▪ University Education	927	77.3
▪ Post Graduate Studies	79	6.5
<b>Years of experience</b>		
▪ <5	86	7.2
▪ 5-	107	8.9
▪ 10-	152	12.7
▪ 15-	233	19.4
▪ ≥20	622	51.8
<b>Mean ±SD 19.26±9.244      Min- Max 1-39</b>		
<b>Previous training on dyslexia</b>		
▪ Yes	228	19.0
▪ No	972	81.0
<b>Previous working with students with dyslexia</b>		
▪ No	506	42.2
▪ Yes	694	57.8
<b>Description of the cases of dyslexia (N=694)</b>		
▪ Inability to read/write and do mathematical operations	352	50.7
▪ Underachiever	129	18.5
▪ Psychological problem	101	14.6
▪ Poor concentration and memory issues	70	10.1
▪ Disobedient	42	6.1

**Figure (1): Distribution of the studied school personnel according to their level of knowledge about dyslexia**



**Figure (2): Distribution of the studied school personnel according to their Attitude towards Dyslexia**





**Table (2): Relationship between the studied school personnel’s levels of knowledge about dyslexia and their attitudes towards dyslexia**

Characteristics	Attitude						Total N=1200	Test of Significance
	Negative (N=104)		Neutral (N=885)		Positive (N=211)			
	No.	%	No.	%	No.	%		
<b>Level of knowledge</b>								
- Poor level	45	11.6	262	67.7	80	20.7	387	X <sub>4</sub> <sup>2</sup> =14.928 P=0.005*
- Fair level	54	6.9	595	76.6	128	16.5	777	
- Good level	5	13.9	28	77.8	3	8.3	36	

X<sup>2</sup> Chi Square Test \* Statistically significant at p ≤ 0.05

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