Empowerment Program Regarding Attention Deficit Hyperactivity Disorder for Preschool Teachers

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Abstract

Background: Preschool teachers are the first environment to notice children with attention deficit hyperactivity disorder; so, they should have a good understanding of how to deal, and control of those children, also with the disorders' symptoms, risk factors, and problems. **Aim:** evaluate the effect of empowerment program regarding attention deficit hyperactivity disorder for preschool teachers. **Design:** A quasi-experimental research design used. **Setting:** at six nurseries named El Malek Nasef nursery school, Al Saady Besharah nursery school, Abdellatif Hassanein nursery school, Kafer Al Ashraf nursery school, Al Naseriah nursery school, and Om Elmoamenien nursery school at Zagazig city. **Sample:** convenience sample consisted of 80 preschool teachers. **Tools:** four tools used; structure questionnaire sheet, preschool teachers' knowledge about ADHD, preschool teachers' positive and negative attitudes toward ADHD children, preschool teachers' practices toward students with ADHD. **Results**: 55% of the sample was aged between 30-45 years old, and 70% of the had higher levels of education, in addition to 57.5% of the preschool teachers were with less 5 years of experiences, Also 89.10% of the preschool teachers gained their knowledge via searching the internet about ADHD, Also 18.90% had good knowledge before the empowerment program and this increased to 77.30% after the implementation of the empowerment program, The total scores regarding ADHD satisfactory practices increased from 17.40% at the pre phase to 64.20% after the empowerment program, the total positive attitudes toward ADHD scores increased from 14.80% at the pre phase to 61.30% after the empowerment program. **Conclusion:** the applying of empowerment program for the preschool teachers was effective in enhancing their knowledge, practices and positive attitudes regarding ADHD, and there was positive correlation among the knowledge, practices and attitudes all at level ($P \leq 0.05$). **Recommendation:** Establishing empowerment programs at nursery schools could be helpful to the preschool teachers regarding their knowledge, attitudes, and practices about ADHD.

Key words: Attention Deficit Hyperactivity Disorder, Empowerment program, Preschool teacher.

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most prevalent childhood behavioral conditions. The condition defined by two main symptoms, challenges with attention and hyperactive-impulsive behaviors. Children with attention difficulties often struggle to stay focused, frequently make mistakes due to lack of attention and tend to avoid activities requiring prolonged concentration. Those experiencing hyperactivity and impulsively show signs like constant motion, excessive chattiness, and frequently interrupting conversations. These symptoms must be persistent and significant enough to impact daily functioning for a diagnosis **(El Hawy, Said, Hammouda, & Nofal, 2023).**

To diagnose the disorder, a child must exhibit at least six symptoms from any of the categories, with these symptoms significantly affecting their social life or academic performance for a minimum period of six months. The symptoms must appear before age twelve and be present across multiple environments. Additionally, it's crucial that these symptoms cannot be attributed to or explained by any other medical or psychiatric condition **(Abd Elaleem, Osman, & Abd El‑Fatah, 2024).**

About five percent of children worldwide are thought to have ADHD **(Tharwat et al., 2019).** ADHD affects approximately 1-20% of children globally across both developed and developing nations. In Arab countries, particularly Egypt, the prevalence shows considerable variation, with rates fluctuating between 1.3% and 20%. These varying rates can be attributed to differences in research methodology, demographic factors, information sources, diagnostic criteria, and study sample sizes **(Abd Elaleem, Osman, & Abd El‑Fatah, 2024).**

The exact cause of ADHD remains ADHD emerges from a sophisticated combination of inherited, biological, and environmental elements, though scientists have not pinpointed its exact origins. The hereditary aspect is particularly striking, as offspring of ADHD-affected parents have more than a 50% chance of inheriting the condition. Research has also demonstrated that mothers who drink alcohol or smoke while pregnant elevate their child's ADHD risk by over 30% **(Bukhari, 2022).**

Attention Deficit Hyperactivity Disorder manifests in three primary presentations: those who struggle with attention (inattentive type), those who primarily exhibit hyperactivity and impulsiveness (hyperactive-impulsive type), and those who display both sets of symptoms (combined type). The condition's diverse symptoms can make an accurate diagnosis complex. Children who are quiet and do not disrupt class may have their ADHD symptoms missed, particularly if they have the inattentive type. Conversely, some children might be incorrectly labeled as having behavioral problems when ADHD is the underlying cause. These diagnostic challenges frequently lead to delays in both identifying ADHD and implementing appropriate therapeutic interventions **(Macyko, 2023).**

Preschool teachers are uniquely positioned to detect early signs of ADHD in young children through daily classroom observations and interactions. Their consistent presence in structured learning environments enables them to monitor behavioral patterns, social dynamics, and academic engagement that may signal attention-deficit concerns **(Kristanto, 2023).**

Early childhood education focuses on creating an inclusive, integrated learning environment where children with physical and mental disabilities learn alongside their peers. This approach ensures that all specialized instruction and support services are delivered within mainstream classroom settings **(Gao, Yu, Li, & Tao, 2023).**

Empowerment programs and interventions designed for preschool teachers aim to enhance their knowledge of developmental disorders, equip them to create nurturing educational spaces, and develop effective problem-solving strategies **(Eltyeb et.al., 2023).**

The empowerment program was designed to equip preschool teachers with comprehensive knowledge about ADHD and effective strategies for managing children with this condition. The program focuses on implementing techniques to enhance children's self-image and build their confidence through academic success, enabling them to adapt and thrive regardless of environmental changes they encounter throughout their educational journey **(Mohammed, Zaghamir, Abo Elsoud, & Ayed, 2021).** ADHD symptoms can significantly impact a child's cognitive development and social interactions. Therefore, nurses play a crucial role in managing ADHD-related challenges and alleviating the stress experienced by parents, teachers, and family members **(Shattla, Hassan, Arrab, & Alhalawany, 2021)**.

Nurses serve as a vital function in supporting teachers who work with students facing health challenges. They assist by unconditionally accepting each child, providing psychosocial interventions, and creating a supportive care environment. These healthcare professionals meet children at their developmental level, communicate through clear and straightforward instructions, and maintain consistent daily schedules. They also ensure a calm learning environment, offer positive reinforcement, and promote physical activities to enhance overall well-being **(Hussein, Mahmoud, & Mohammed, 2024).**

Significance of the study

Attention deficit hyperactivity disorder significantly impacts children's academic performance, emotional health, and ability to form social relationships. This prevalent neurodevelopmental condition affects a substantial number of school-aged children worldwide. The disorder can create substantial challenges in a child's daily functioning, particularly in educational settings and interpersonal connections **(APA, 2022)**. Epidemiological data indicate that 5% to 11% of individuals under 18 years of age are affected, with males showing a higher prevalence

than females **(Akdağ, 2023)**. The preschool period marks a vital stage in child development, creating an urgent need to assess and improve how preschool teachers understand and handle ADHD in their classrooms.

Aim

Evaluate the effect of empowerment program regarding attention deficit hyperactivity disorder for preschool teachers.

Operational definition

The empowerment program refers to strengthening preschool teachers' knowledge, attitudes, and practices regarding attention deficit hyperactivity disorder.

Subjects and Method

Hypothesis

- Preschool teachers' knowledge, attitudes and practices scores after programs will be higher than before.

Design: A Quasi-experimental design utilized to fulfill the aim of the study.

Setting: A multi cluster technique used in the requirement of the study setting as follows:

- Stage 1: at this stage, two educational administrations of the Zagazig City selected; those were namely the East and the West administration.
- Stage 2: this stage involved random selection of nursery schools:

The first zone (East administration) includes 48 nursery schools, three nurseries were randomly selected namely: El Malek Nasef nursery school, Al Saady Besharah nursery school, and Abdellatif Hassanein nursery school.

The second zone (West administration) includes 34 nursery schools; three nursery schools were randomly selected namely: Kafer Al Ashraf nursery school, Al Naseriah nursery school, and Om Elmoamenien nursery school.

Sample

A convenience sample of 80 teachers was picked up.

The sample size was determined according to the following equation:

n = (Z α/2) 2p (1 − p)/d2, (Thanasekaran et al., 2016); where n= sample size of the population, Z α/2 critical value of 95% CI= 1.96, p- proportion (0.564), d2 = the accuracy of estimate (0.05)2

Tool for data collection

Structure interview sheet

Part (I): sociodemographic characteristics of the studied subjects developed by researchers, including demographic characteristics of preschool teachers, such as, place of residence, age, years of experience and educational level.

Part (II): ADHD knowledge among preschool teachers. This assessment tool was adapted from an Arabic version created by **Mourad (2004**) to evaluate parental understanding of ADHD. The tool consists of 7 questions covering key aspects of ADHD including its definition, etiology, symptoms, characteristics, and comorbid conditions.

Scoring System

Each question uses a 3-point scale:

- 2 points for a fully correct and complete response.
- 1 point for a correct incomplete response.
- 0 points for an incorrect incomplete response.

The total score converted to a percentage and classified as:

- **Good**: Above 75%
- **Fair**: Between 60-75%
- **Poor**: Below 60%

Part (III): preschool teachers' attitudes toward ADHD children: developed by the researchers guided by **Abd El Moneam, El-Boraie, Abd El-Fattah, & El-Etreby (2018),** to assess attitudes toward ADHD children. The assessment tool consisted of 21 items that evaluated how preschool teachers anticipated and viewed children's conduct and participation during classroom activities.

Scoring System

Each answer assigned to a value:

"Yes" = 2 points

"No" = 1 points

Score Interpretation

The attitudes classification is determined by the total score percentage:

Positive Attitudes: Score is greater than or equal to 60% of total score.

Negative Attitudes: Score is less than 60% of total score.

Part (IV): Preschool teachers' reported practices toward ADHD children: This tool developed by the researchers under the guidance of **Abd El Moneam et al., (2018)**, it contains 46 items evaluating how preschool teachers interact with students who have ADHD. The measurement scale evaluated teachers' responses to children's behaviors using three levels:

Response Categories

Physical punishment, deprivation, or humiliation = 1 degree, Neglect and substituting the child's responsibilities = 2 degree, Supportive interventions through direction, guidance, and encouragement = 3 degree.

Scoring Classification

Performance categorized into two levels:

- **Unsatisfactory**: Below 60% of total score.
- **Satisfactory Performance**: 60% or higher of total score.

Pilot study: pilot study implemented to gauge the efficacy of the research tools and the clarity of the questions. This initial assessment engaged 8 preschool teachers, constituting 10% of the intended sample size. The study also recorded the time taken by participants to finish the research tools. Following an analysis of the pilot study results, the researchers concluded that no modifications or eliminations required for the questionnaire items.

Content validity

The research tools underwent validation through thorough assessment by a panel of three professors of faculty members at Zagazig University's Nursing Department - two experts in Community Health Nursing and one specialist in Pediatric Health Nursing. The measurement tools then modified and enhanced based on their professional insights and suggestions.

Reliability

Reliability of all data collection tools verified through test-retest procedures. The instruments' internal consistency confirmed through statistical analysis, with a Cronbach's alpha value of 0.842, indicating

excellent reliability and consistency of the measurement tools.

Field work

- Extensive literature analysis performed, examining historical and contemporary research on ADHD, encompassing its various dimensions and the associated understanding, perceptions, and management approaches. The research team utilized scholarly publications, including academic textbooks and peer-reviewed journal articles, as their primary sources. This comprehensive review served two crucial purposes: first, it enabled the development of preliminary assessment instruments that underwent validation by expert nursing professionals who evaluated their face and content validity. Second, it provided the foundational structure for creating an evidence-based empowerment program.
- Written consent received from the preschool teachers.
- The researchers initiated contact with the preschool teachers by arranging a meeting where they presented their credentials, outlined the study objectives, and sought informed consent, thereby establishing trust, and securing their willing participation in the program.
- The researchers administered the tools by interviewing preschool teachers individually. This interview took about 25 to 45 minutes.
- The research process unfolded across four distinct stages: First, a thorough assessment conducted, followed by a strategic planning phase, then moved into implementation, and concluded with a comprehensive evaluation. This lasted for 6 months from July to December 2024.
- The program aimed to enhance preschool teachers' knowledge, attitudes and practices when working with students.
- The program consisted of 10 sessions, with 8 for the content material and 2 for initiation and conclusion of the program. Each Sessions lasted for 30-45 minutes and conducted twice weekly on Mondays and Thursdays. The program utilized small of 5-10 preschool teachers who grouped based on their availability and teaching schedules. These gatherings took place in a designated classroom within the nursery facilities.
- The first 3 sessions included theoretical background of ADHD such as definition, signs and symptoms, etiology and types, complications and medical treatment. Also, behavioral therapy and strategies of behavioral modification. Then five comprehensive sessions focused on transforming preschool teachers' perspectives and enhancing their practical skills in managing children with diagnoses. These sessions explored teachers' responses to diagnosed children and examined how behavioral modifications impact the nursery setting. The training addressed various

challenges stemming from medical conditions, including behavioral issues, educational difficulties, health concerns, and social interactions among peers. The curriculum emphasized essential strategies for teachers to maintain their physical and emotional balance while managing challenging situations. Additionally, the sessions provided practical guidance for effectively working with affected children, including specific techniques to prevent behavioral issues both within and outside the nursery environment. The program also incorporated methods to enhance children's academic achievement while reducing hyperactive behaviors, ensuring a more conducive learning environment for all students. The training equipped teachers with valuable tools and knowledge to create a supportive and effective educational setting while managing their own well-being in the process.

- The empowerment program implemented through different teaching methods such as lectures, group discussions and brainstorming. The teaching media included power point presentations, short videos, pictures, and a handbook.
- Each session began with a review of the previous session and an overview of goals for the new session. This approach helped preschool teachers grasp the content effectively. The language used was kept simple and straightforward, avoiding complex medical terms. To encourage active participation and enhance the learning experience, teachers received positive reinforcement through praise and acknowledgment of their contributions.

Evaluation phase

Following the conclusion of the empowerment program sessions, an assessment was conducted to evaluate the program's effectiveness and outcomes.

Ethical considerations: the study protocol was reviewed and approved by the Faculty of Nursing Research Ethics Committee at Zagazig University (Egypt) with approval number 0130, dated June 2, 2024. All participating preschool teachers provided written informed consent prior to enrollment. Participants were informed of their right to voluntarily participate or withdraw from study at any time. The researchers ensured complete protection of participants' privacy, maintaining anonymity and confidentiality throughout the study process.

Statistical analysis: The collected data were organized and categorized, with the results presented in tabular format for clarity. Data analysis was conducted on a compatible personal computer using SPSS; version 20. For quantitative data, mean and standard deviation were calculated. The correlation coefficient was employed as a numerical indicator of statistical relationships between various variables, results were considered significant if $p < 0.05$ and highly significant if $p < 0.01$.

Results

Table (1) reveals the demographic characteristics of the sample studied. Mean ± SD = 37.39±12.90, and 55% of the sample was aged between 30-45 years old, 68.75% were females, and 67.5% lived in urban areas, and 70% of the had higher levels of education, in addition to 57.5% of the preschool teachers were with less 5 years of experiences.

The demographic analysis of preschool teachers revealed several key characteristics. The study population had an average score of 5.82 with a standard deviation of 2.39. More than half of the teachers (55%) fell within the age bracket of 30-45 years. The teaching workforce was female, comprising 68.75% of the sample. A significant majority (67.5%) resided in urban areas. The educational background of the teachers was notably high, with 70% having achieved higher education qualifications. In terms of professional experience, 57.5% of the educators had been teaching for less than 5 years.

Figure (1) illustrates the various sources through which preschool teachers acquired their knowledge about ADHD. The data reveals that an overwhelming majority (89.10%) of preschool teachers obtained their information through internet searches. Television programs served as an information source for 25.40% of the teachers. Notably, only a small proportion of teachers received formal education on ADHD, with 18.40% participating in training courses and 16.70% attending in-service workshops.

Figure (2) depicts the distribution of participants' total ADHD knowledge scores before and after implementing the Empowerment program. The analysis reveals a statistically significant enhancement ($p<0.001$) in preschool teachers' understanding of ADHD following program completion. While only 18.90% of teachers initially exhibited adequate ADHD knowledge, this proportion increased markedly to 77.30% after participating in the empowerment program.

Figure (3) demonstrates the preschool teachers' positive and negative attitudes toward ADHD before and after participating in the empowerment program. Statistical findings indicate a marked improvement ($p<0.001$) in teachers' attitudes toward ADHD following their completion of the program. The total positive attitudes scores showed a substantial increase from 14.80% before the program to 61.30% after the intervention.

Figure (4) illustrates the overall scores of preschool teachers' practices concerning ADHD before and after participating in the Empowerment program. The data demonstrated a statistically significant improvement in teachers' satisfactory practices related to ADHD ($p<0.001$) following the program implementation. The percentage of satisfactory practices increased substantially from 17.40% before the program to 64.20% after completing the empowerment program.

Table (2) reveals significant positive correlations between preschool teachers' total scores across three

domains: knowledge of ADHD, attitudes, and teaching practices toward ADHD. The correlations demonstrated statistical significance ($p \leq 0.05$), revealing that teachers who get higher levels of ADHD knowledge also demonstrated better teaching practices and positive attitudes.

Table (1): Distribution of Demographic characteristics of preschool teachers (n=80)

Demographic characteristics	Frequency	%
Age (in years)		
< 30	**21**	**26.25%**
30-45	**44**	**55.00%**
>45	**15**	**18.75%**
Mean ±SD	**37.39±12.90**	
Gender		
Female	**55**	**68.75%**
Male	**25**	**31.25%**
Residence		
Rural	**26**	**32.5%**
Urban	**54**	**67.5%**
Educational level		
Intermediate	**5**	**6.25%**
Higher	**56**	**70%**
Postgraduate	**19**	**23.75%**
Years of experience		
<5	**46**	**57.5%**
5-10	**23**	**28.75%**
>10	**11**	**13.75%**
Mean ±SD	**5.31± 3.61**	

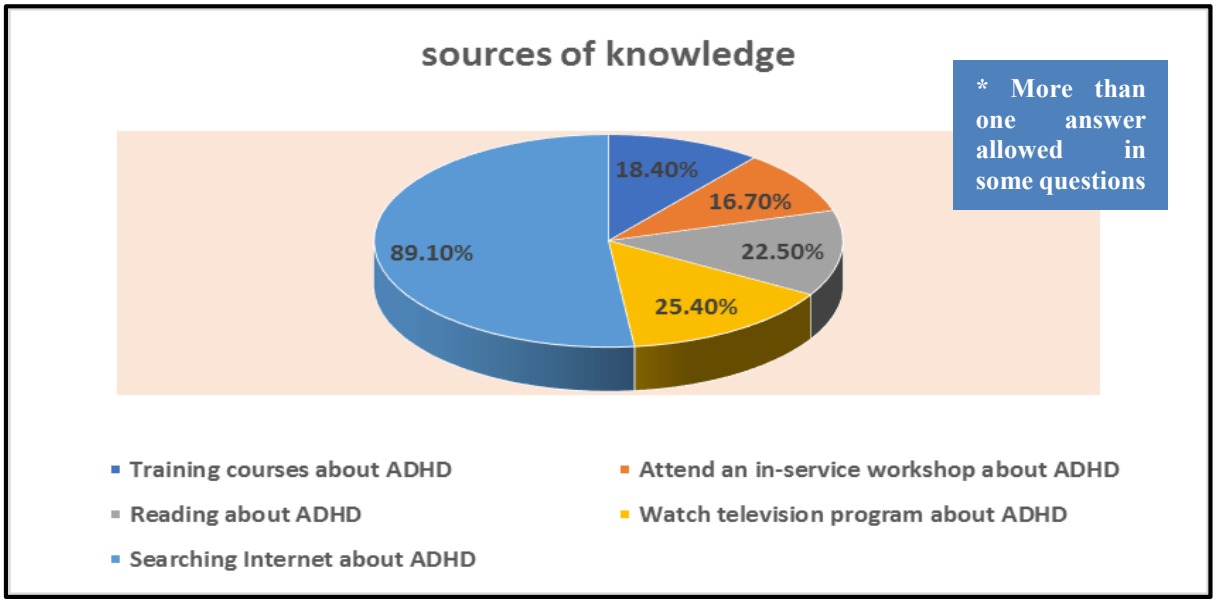

Figure (1): Sources of preschool teachers' knowledge regarding ADHD (n=80)

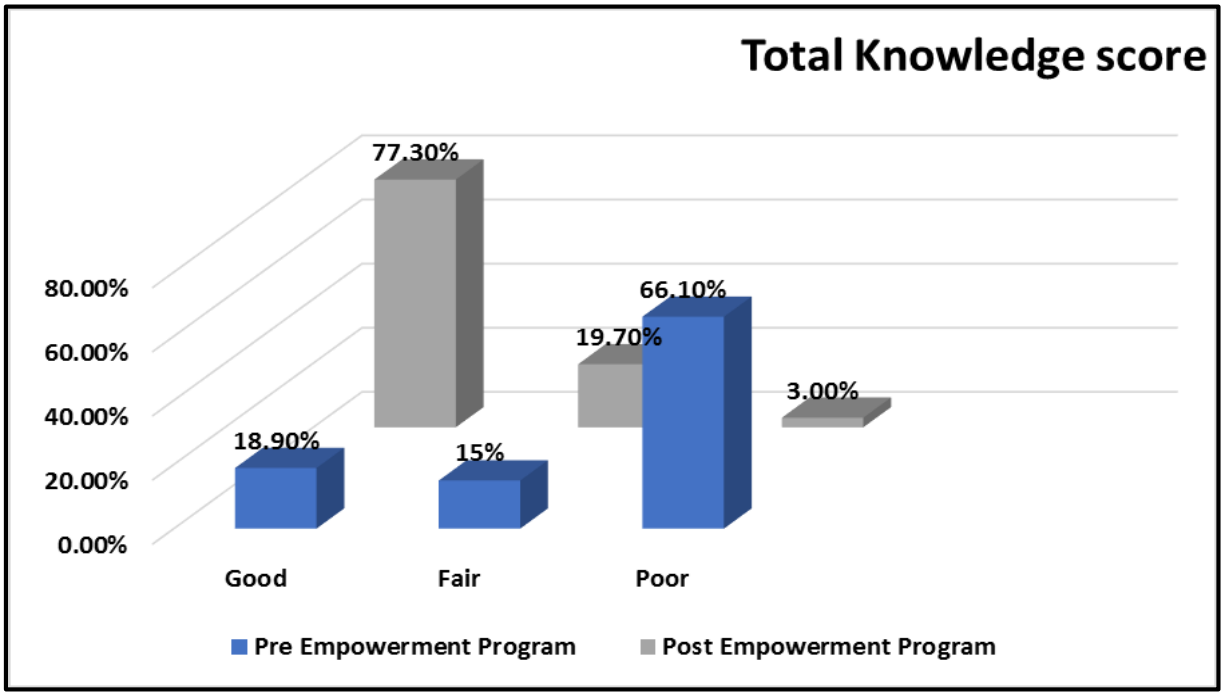

Figure (2): Level of knowledge of the study sample regarding ADHD pre and post Empowerment program (n=80)

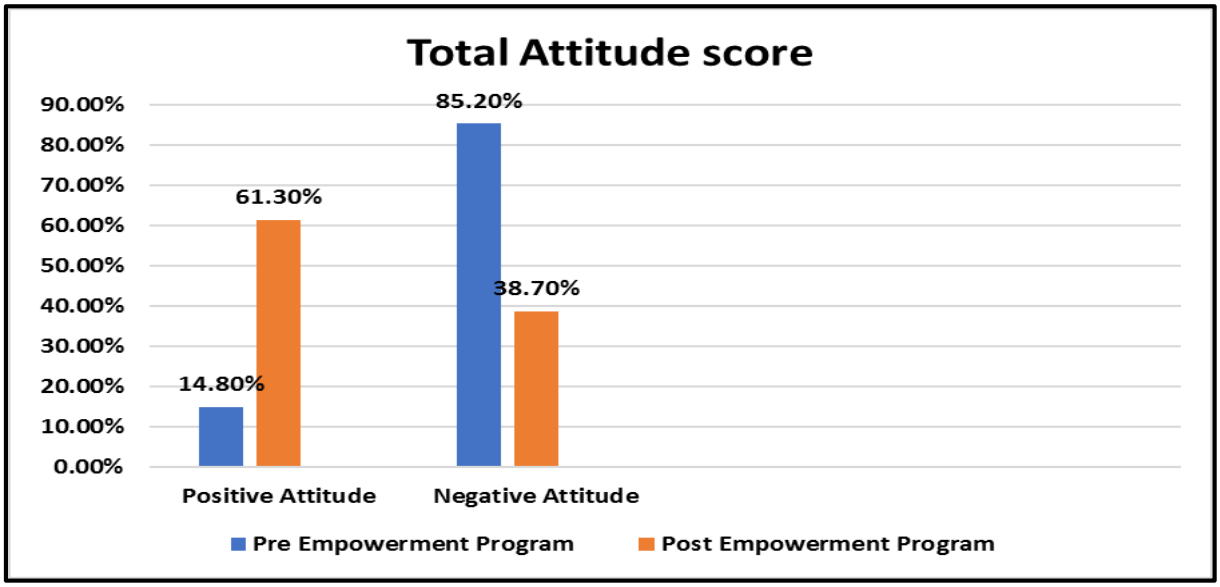

Figure (3): Level of negative and positive attitudes of the preschool teachers regarding ADHD pre and post Empowerment program (n=80)

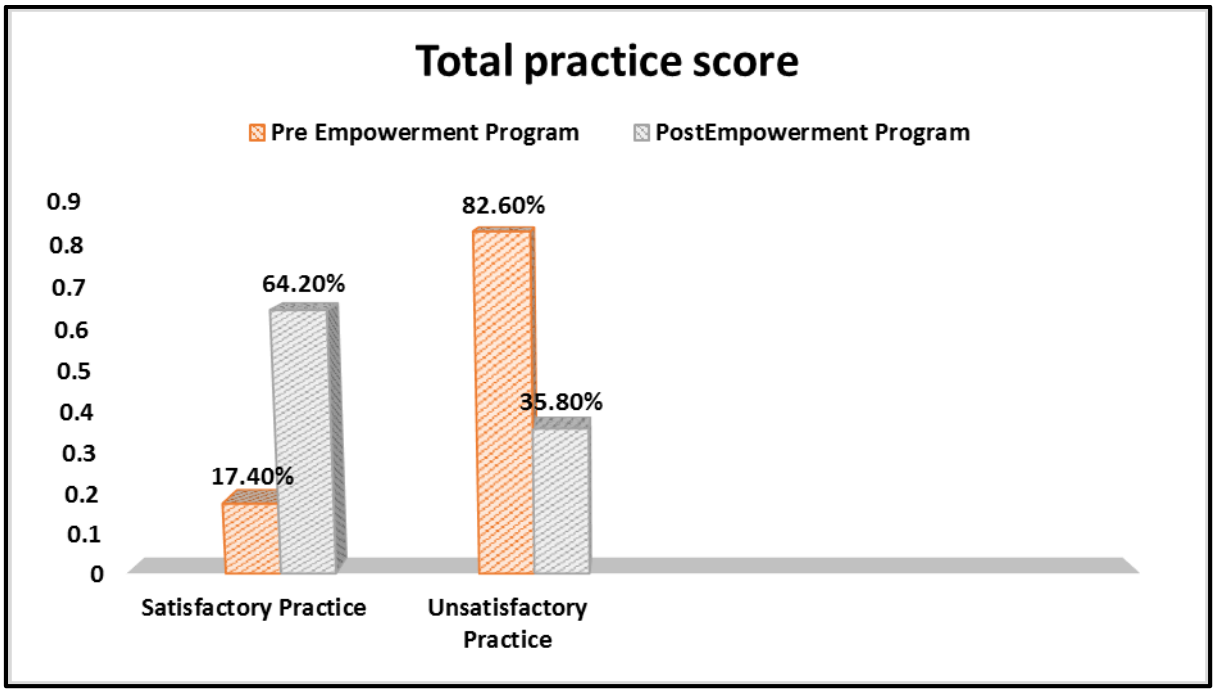

Figure (4): Level of preschool teachers practices in the study sample regarding ADHD pre and post Empowerment program (n=80).

Table (2): Correlation among total scores knowledge about ADHD of preschool teachers and their practices and attitudes regarding ADHD in the study sample (n=80)

Variable	Practices		Knowledge		Attitudes	
	r	P value	r	P value	r	P value
Practices	-	-	-	-	.153*	.021
Knowledge	.240**	.011	-	-	-	-
Attitudes	-	-	.851**	.000	-	-

r Pearson Correlation Coefficient test
*** Statistically significant at p ≤ 0.05.**

Discussion

Neurodevelopmental challenges associated with ADHD typically emerge during a child's early years, affecting their brain's growth and maturation process **(Akdağ, 2023).**

Preschool teachers have emerged as key figures in recognizing and supporting children's developmental needs, especially those related to ADHD, since they interact with young learners more extensively than parents or healthcare providers during the day. Their continuous presence in children's daily activities enables them to quickly assess learning and behavioral difficulties and implement immediate support strategies following early identification **(Bashiri et al., 2021).**

The study's preschool teachers were predominantly middle-aged adults, with most falling within the 30 to 45 year age range. This age distribution may reflect limited employment opportunities for recent preschool education graduates. Similarly, a 2024 study conducted in Iraq by **Khalil and Hussein** found that 53.8% of teachers were 45 years old or younger.

The study revealed that females constituted most of preschool teachers, with over two-thirds residing in urban areas. This gender distribution may be attributed to women's natural inclination and effectiveness in working with young children of preschool age. Unlike those results, **Ewais, Abd El-Mohsen, & El-Zayat, (2024)** in Egypt revealed that 83% of the studied teachers live in urban areas and 90.2% of them were females.

The research revealed that participants possessed advanced academic credentials. The extensive network of both public and private universities throughout Egypt's governorates contributed to this elevated educational status among respondents. The accessibility of higher education enhanced by the diverse range of faculties specializing in early childhood education. Moreover, nurseries actively seek teachers with higher educational qualifications, both for marketing purposes and to achieve superior academic outcomes.

This finding aligns with **Aldawodi et al. (2019)** study in Saudi Arabia,

which found that 79% of teachers held bachelor's degrees. Similarly, **Basudan, Akbar, El-Ghamdi, & Ibrahim, (2019),** research in Jeddah revealed that most teachers possessed bachelor's degrees. Furthermore, **Omer et al. (2023)** study in Sudan demonstrated comparable results, with 78% of teachers having bachelor's degrees. In contrast, **Elsabely et al. (2023)** study of Egyptian mothers showed different results, where 40% of participants had only completed secondary education.

The findings regarding teaching experience revealed that more than half of respondents had been teaching for fewer than five years. This stands in contrast to research conducted by **Almilaibary (2022)** in Saudi Arabia's Al-Baha Region, where nearly two-thirds of teachers (66.5%) reported having more than ten years of classroom experience.

Early childhood teachers, particularly those working in preschool settings, are crucial in the early detection, daily support, and effective management of children with ADHD. Their ability to fulfill these responsibilities effectively depends on having thorough and up-to-date understanding of this neurodevelopmental condition **(Bardi, Ghader, AbdulRazak, AlKuwari, & Qureshi, 2021).**

A study revealed that most teachers obtained information primarily through internet searches and television programs. Only a small percentage acquired their knowledge through formal ADHD training courses or in-service workshops. This trend likely stems from the widespread accessibility of internet resources via smartphones, offering convenient and immediate access to information. In contrast, formal training workshops and courses require significant investments of time, money, and effort, making them less appealing options for knowledge acquisition.

These findings align with **Alshehri, Shehata, Almosa, & Awadalla, (2020)** randomized controlled trial conducted among Saudi Arabian school teachers, which revealed that the internet was their primary source of ADHD information. In contrast, **Elsabely et al. (2023)** study in Egypt found that only 22% of participants obtained their ADHD information from mass media.

The total knowledge scores of the study sample regarding ADHD showed significant improvements after the empowerment program implementation. Statistical analysis revealed significant enhancements in preschool teachers' ADHD knowledge ($p<0.001$) following the program. Initially, only a small portion of teachers demonstrated a good understanding of ADHD. However, after completing the empowerment program, majority of participating preschool teachers achieved good knowledge levels about ADHD. These substantial improvements in participants' knowledge levels demonstrate the program's positive impact and reflect the teachers' engagement and active participation during the sessions.

A study conducted in Egypt by **Elsabely et al. (2023)** reinforced these conclusions, showing that 90%

of participants exhibited inadequate knowledge before the implementation of intervention. Following the intervention, a significant improvement, with 88% of participants achieving satisfactory knowledge levels, showing highly significant statistical differences. A study conducted in Abha City, Saudi Arabia, revealed that male primary school teachers initially demonstrated minimal understanding of ADHD. Through the implementation of a specialized knowledge enhancement program, these teachers significantly improved their comprehension of the disorder.

Teachers in preschool settings with limited understanding or incorrect beliefs about ADHD may miss opportunities to implement proven classroom interventions and accommodations for students with this condition. However, teachers who demonstrate thorough knowledge and maintain an optimistic perspective regarding ADHD tend to be more willing to adopt successful teaching approaches. These proven strategies enhance both the academic performance of students with ADHD and help minimize their behavioral challenges **(Akdağ, 2023).**

The study revealed remarkable improvements in preschool teachers' positive attitudes toward ADHD after implementing the empowerment program, demonstrating statistical significance ($p<0.001$). The proportion of teachers exhibiting positive attitudes increased, rising from a minority before the program to approximately two-thirds upon completion. These notable gains may be linked to the empowerment program's effective empowerment program intervention.

This research contrasts with **Alsaad et al. (2024)** study of Saudi Arabian elementary teachers, which revealed overwhelmingly positive attitudes toward ADHD, with 96% of teachers showing favorable perspectives. However, a study by **Amha and Azale (2022)** in Northwest Ethiopia presented markedly different results, where 50% of participants held negative views toward students with ADHD.

Preschool teachers who thoroughly understand ADHD can better evaluate their students' needs, leading to more effective teaching methods and support systems that improve the success rates of children with ADHD **(Alanazi, & Al Turki, 2021).**

The study results demonstrated statistically significant improvements in preschool teachers' overall competency regarding ADHD management following the empowerment program ($p<0.001$). The percentage of satisfactory practices increased from a minority before the program to around two thirds after program completion. This marked improvement can be attributed to the effectiveness of the empowerment program intervention.

The findings aligned with multiple studies examining teachers' practices regarding students with ADHD. A study conducted by **Dessie and colleagues (2021)** in Ethiopia demonstrated statistically significant positive improvements in teachers' practices when working with ADHD students ($p<0.001$). Similarly, recent

research by **Alsaad et al. (2024)** and **Almilaibary (2022)** corroborated these results, showing comparable positive outcomes in teachers' practices related to ADHD management in educational settings.

The research demonstrated a statistically significant positive relationship ($P \leq 0.05$) among preschool teachers' performance across three domains: ADHD knowledge, classroom practices, and attitudinal measures. The interrelation of these variables suggests a synergistic effect - enhanced understanding of ADHD correlates with more positive attitudes and improved teaching practices, creating a self-reinforcing cycle of development in all three areas.

Aligning with these positive outcomes, a study by **Ewais, Abd El-Mohsen, & El-Zayat, (2024)** in Egypt revealed two significant correlations, first, teachers' overall attitudes levels showed a statistically significant relationship with their reported ADHD management practices ($p \leq 0.05$). Second, teachers' knowledge levels demonstrated a significant positive correlation with their attitudes toward ADHD ($p \leq 0.05$). Similarly, the findings of a comparative study in the United Kingdom by **Greenway and Edwards (2020)** demonstrated that teachers' understanding of ADHD was strongly correlated with their positive attitudes of students diagnosed with the condition.

Conclusion:

The research results demonstrated a statistically significant overall enhancement in preschool teachers' knowledge, attitudes, and practices concerning ADHD. Furthermore, statistical analysis revealed significant positive correlations between the total scores of knowledge, attitudes and practices, regarding ADHD among preschool teachers ($P \leq 0.05$).

Recommendation:

The research results suggest these key recommendations:

1. Nursery teachers should receive comprehensive training programs focused on understanding and managing ADHD in preschool settings.
2. Train teachers to identify early warning signs and concerning behaviors in young children.
3. Nurseries should maintain a collection of ADHD-related resources, including informative books, visual aids like posters, and educational literature.

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