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Needs and Health Problems of Family CareGivers and Their Children with Attention Deficit Hyperacivity Disorder

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Abstract
Background*: A high percentage of caregivers in the household studied had a moderate level of knowledge regarding ADHD. A high percentage of thoughtful family caregivers and their children with ADHD have a high level of total need and a moderate level of overall health problems. In addition, there was a statistically significant relationship between total knowledge score, overall need score, and overall score for health problems in relation to ADHD.* ***Aim of the work:*** *The aim of this study is to assess the health needs and problems of family caregivers and their children with ADHD by determining the knowledge of family caregivers about ADHD. And assess the needs of the family of caregivers and their children with ADHD. As well as assessing the health problems of family caregivers and their children with ADHD.* ***Design*** *: Use a related descriptive study to conduct this research.* ***Setting:*** *This study is in the outpatient clinics of child psychiatry at the Institute of Psychiatry - Ain Shams University. These clinics include four outpatient clinics for children on the first floor.* ***Subject****: An intentional sample was conducted that included (103) children with ADHD, accompanied by their caregivers after the final diagnosis, which represents 10% of the total sample (1030), after applying the inclusion criteria in children aged 5-12 years who had no history. Previous medical or psychological problems* ***Tools:*** *Patient interview questionnaire tool and assessment tool for factors affecting their hyperactivity* ***Result*** *A high percentage of caregivers in the household studied had a moderate level of knowledge regarding ADHD. A high percentage of thoughtful family caregivers and their children with ADHD have a high level of total need and a moderate level of overall health problems. In addition, there was a statistically significant relationship between total knowledge score, overall need score, and overall score for health problems in relation to ADHD.* ***Conclusion:*** *There is a statistically significant relationship with high level of health analgesics for the caregivers who were studied and their education level. There is also a statistically significant relationship. While there was no statistically significant relationship with age.* ***Recommendation:*** *There is a need for improved research into pediatric behavioral disorders in general and ADHD in particular.*

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I. Introduction

Attention Deficit-Hyperactivity Disorder (ADHD) is a psychiatric condition that has long been recognized as affecting children's ability to function. Individuals suffering from this disorder show patterns of developmentally inappropriate levels of inattentiveness, hyperactivity, or impulsivity ***(Magnus et al., 2019).***

Attention deficit hyperactivity disorder (ADHD) as a child psychiatric disorder spans more than a century. Early conceptualization included both neurological and moral notions of causation, which have evolved over time into models of the disorder that attempt to integrate knowledge of brain anatomy and function. Behavior with classic early case histories such as fidgety embody all of the core features of the disorder as currently defined Later, descriptions of hyperactivity in various neurological samples of children with coarse brain injury or disorder, children including with post encephalitic syndromes, mental retardation and epilepsy, led to the suggestion of a possible syndrome of over activity ***(Benjamin et al., 2017).***

ADHD consists of three primary symptoms: inattention, hyperactivity, and impulsivity. These symptoms can vary in severity from individual to individual, and individually over time, but to meet a diagnostic threshold they must present to a degree that is inconsistent with the youth's developmental level and cause significant impairment ***(Rajendran, K., et al., 2013).***

Prevalence estimates of ADHD vary on the basis of differences in research methodologies, the various age groups being described, and changes in diagnostic criteria over time. National survey data from 2016 indicate that 9.4% of children in the United States 2 to 17 years of age have ever had an ADHD diagnosis,

including 2.4% of children 2 to 5 years of age ***(Nigg, J. T., et al., 2016).*** The worldwide prevalence of ADHD ranges from 5.29% to 7.1% (5.4-8.7% in Africa, 6.24% in Jordan, 16.4% in Saudi Arabia) ***(El-Sayed et al., 2018).***

The child with ADHD needs to avoid dyes or preservative foods and artificial color, eliminate excess energy in sports or exercise, motivation, provide safe environment, be supported at school with an educational program, be organized, thinking slowly, sitting still and medication The parents of this child often need specialized help to cope with child's behaviors, there are family guidelines for living with ADHD child as accept their child's limitation, provide outlets for release of excess energy, keep the home existence organized and maintain firm discipline ***(Griffith, 2018).***

Although it was shown that ADHD subtypes have worse sleep quality or show higher rates of sleep problems as compared with healthy controls, some of the studies have reported inconsistent findings with respect to which subtypes have greater sleep dysfunctions**.** The controversy could potentially be explained by factors such as gender, treatments, and comorbid psychiatric problems. Nevertheless, it has been found that comorbid anxiety was significantly associated with impaired sleep in individuals with ADHD-PI **(Tsai et al., 2019).**

A more recent study showed that after controlling for fluid intelligence quotient (IQ) level and gender, ADHD-PI children were at higher risk of being in the lowest-performing 10th percentile for reading (three times), writing (>than 3.9 times), and mathematics (>six times) than those with ADHD-C and ADHD-HI **(Öner et al., 2019).**

Role of community health nursing have the opportunity to help meet the need of patients in areas with limited access to psychiatric and pediatric providers. Early diagnosis of ADHD and effective treatments (behavior and/or pharmacological) show improved classroom performance, improved self-esteem of patients, and decreased family stress ***(CDC, 2015).***

Learning and language problems are common comorbid conditions with ADHD. Boys are more than twice as likely as girls to receive a diagnosis of ADHD, possibly because hyperactive behaviors, which are easily observable and potentially disruptive, are seen more frequently in boys**.** The majority of both boys and girls with ADHD also meet diagnostic criteria for another mental disorder. Boys are more likely to exhibit externalizing conditions like oppositional defiant disorder or conduct disorder**.** Research has established that girls with ADHD are more likely than boys to have a comorbid internalizing condition like anxiety or depression **(Tung et al., 2016).**

AIM OF THE STUDY

The aim of this study is to assess needs and health problems of family caregivers and their children with attention deficit hyperactivity disorder through the following objectives:

1. Determining knowledge of family caregivers about Attention Deficit hyperactivity disorder.
2. Assessing needs of family caregivers and their children with attention deficit hyperactivity disorder.
3. Assessing health problems of family caregivers and their children with attention deficit hyperactivity disorder.

SUBJECT AND METHODS

The subject and methods for this study were portrayed under four main items as following:

Ⅰ- Technical item.

Ⅱ- Operational item.

Ⅱ- Administrative item.

Ⅳ- Statistical item.

Technical item:

The technical item of this study includes adscription of the research design, setting, sample, subject and tools of data collection.

A- Research design:

A descriptive research design was utilized in the present study.

B- Setting:

This study was conducted at psychiatry outpatient clinics for pediatric at psychiatry center – Ain Shams University. These clinics include four pediatric outpatient clinics in the first floor.

C- Sample:

Purposive sample was conducted included (103) children with attention deficit hyperactivity disorder (ADHD) accompanying their caregivers after the final diagnoses that represent 10% from total sample (1030), after application of inclusion criteria:

1. Children aged from 5-12 years
2. Children had no previous history of medical or psychiatric problems.

D-Tools for data collection:
Data was collected through using following tool. It developed by the investigator based on extensive review of related literature to collect data pertinent to study:-
Structure interview questionnaire sheet: -
It will be written in a simple Arabic language and will include the following parts:
Part 1: demographic characteristics of children suffering from ADHD, this part include (7) items about: age, sex, rank of child, level of education, residence, referral system and family living status.
Part 2: demographic characteristic of family care givers, this part include (3) items about age, level of education and occupation.
Part 3: **Data on the child environment**: this part includes (3) items about: numbers of family members, housing type and numbers of room in house.
Part 4: Data about family history: this part includes (5) items about: parent's relationship, brother disease history, pregnancy condition of child, mode of delivery and smoking history.
Part 5: knowledge questionnaires of family caregivers about ADHD , this part include (10) items about : meaning of ADHD ,causes of disease, types of ADHD, clinical manifestation ,things increase ADHD , behavioral problems accompanied with ADHD, psychological disorder , treatment of ADHD and time onset of disease.

Scoring system:
According to given responses the study subjects were categorizes into either correct incomplete response was scored 1, correct and complete response was scored 2 and incorrect and wrong answers scored zero.
The score of each item summed up and converted into percent score. The family care givers had:-

- Poor level of knowledge when total score below 50%.
- Average level knowledge when total score 50≤ 75%.
- Good level knowledge when total scores more than 75%.

Part 6: Assess needs of family caregivers and their children with ADHD, this part include (4) questions with (25) sub-items about: Financial needs, Cognitive and Training needs, Social needs and Basic needs
Scoring system:

- Rarely = 1 points
- Sometimes =2 point
- Usually = 3 point

The score of each item summed up and converted into percent score. The family care givers had:-

- Low level of measuring the needs when total score below 50%.
- Moderate level of measuring the needs when total score 50≤ 75%.
- High level of measuring the needs when total scores more than 75%.

Tool II : Conner's Rating Scale (C R S) it is developed by Keith Conner's 2000 to assess health problems of family caregivers and their children with ADHD , this part include (27) questions.
Scoring system:

- Not true at all = 0 points
- Just a little true =1 point
- Pretty Much true = 2 point
- Very much true =3 point

The score of each item summed up and converted into percent score. The family care givers had:-

- Mild level of assess health problems when total score below 50%.
- Moderate level of assess health problems when total score 50≤ 75%.
- Severe level of assess health problems when total scores more than 75%.

Ethical consideration:
An official permission to conduct the proposed study was obtained from Scientific Research Ethical Committee. Participation in the study is voluntary and a subject was given complete full information about the study and their role before signing the informed consent. The ethical considerations was include explaining the purpose and nature of the study, starting the possibility to withdraw at any time, confidentiality of the information where it will not be accessed by any other party without taking permission of participants. Ethical, values, culture and beliefs were respected.

II- Operational item:
The operational item for this study includes preparatory phase, testing validity, tool reliability, pilot study and field work:-

A- Preparatory phase:

It includes reviewing of past, current, national and international related literature and theoretical knowledge of various aspect of the study using books, articles, internet, periodicals and magazines by the investigator to develop tool for data collection . Then the tools were presented to experts for review and validation.

B- Content validity:

The revision of the tools for clarity, relevance, comprehensiveness, understanding and applicability was tested through a panel of five experts in Community Health Nursing, psychiatric Nursing and specialized medical professor. Faculty of Nursing to measure the content validity of the tools and make necessary modification was done accordingly.

C- Tool reliability:

Reliability coefficients were calculated for questionnaire items. The cronbach's Alpha was 0 .51 for the questionnaire.

D- Pilot study:

A Pilot study it was conducted on 10% (10) of the family caregivers and their children of total study sample in order to examine the clarity of questions and determine the time needed to complete the study tools. According to the result of pilot study no modifications were needed. So they were included in the actual study sample.

E- Field work:

- The actual field work started from beginning of August till the end of October 2019 for data collection for a period of three months, a sample of 103 family caregivers and their children with attention deficit hyperactivity disorder from psychiatry outpatient clinics for pediatric at institute of psychiatry – Ain Shams University.
- The investigator make visit to psychiatry outpatient clinics for pediatric and collected data in the morning shift three days/week (Thursday, Sunday, Tuesday) of each week from 9Am to 12Am, that suitable time for family caregivers and their children .
- Each interview takes about 20-30 minute. Written consent was taken from each participant after the investigator introduced him and explained the purpose of the study and the components of the tool were explained to family caregivers at beginning of data collection.

III- Administrative item:

After explanation of the study aim and objectives, an official permission was obtained from the Dean of Faculty of Nursing and the director of psychiatry outpatient clinics for pediatric asking for cooperation and permission to conduct the study.

IV-Statistical item:

Upon completion of data collection, data will be computed and analyzed using Statistical Package for the Social Science (SPSS Inc., Chicago, Illinois, USA), version 20 for analysis. The P value will be set at 0.05. Descriptive statistics tests as numbers, percentage, mean ± standard deviation (± SD), will be used to describe the results. Appropriate inferential statistics such Chi-square (x^2) tests and correlation coefficient (r) test.

II. Results

The results of the present study are demonstrated in the following tables and figures.

Table (1): Frequency Distribution of Child According to Their Demographic Data (N=103).

Demographic data of child	No.	%
Age (years)		
5>7 years	41	39.8
7>10 years	45	43.7
10-12 years	17	16.5
Mean±SD	8.14±2.57	
Sex		
Male	77	74.8
Females	26	25.2
Rank of the child		
First	46	44.7
Second	45	43.7
Third	7	6.8
Forth or more	5	4.9
Level of education of children		
Do not go to school	8	7.8
In nursery	17	16.5

In the primary stage	67	65.0
In the preparatory stage	11	10.7

Table (2) shows that the mean age of the studied children was 8.14 ±2.57 , regarding gender 74.8% of them were male, regarding rank of the child 44.7% of them arranged as a first order between siblings, regarding Level of education of children 65% of them had study in the primary stage.

Table (2): Frequency Distribution of Family Caregiver According to Their Demographic Data (N=103).

Demographic data of caregiver	No.	%
Age (years)		
<20years	7	6.8
20->30years	32	31.1
30->40years	44	42.7
≥40years	20	19.4
Mean±SD	32.68±5.56	
Level of education		
Not read and writes	19	18.4
Reads and writes	24	23.3
Basic education	35	34.0
University education	25	24.3
Occupation:		
Not working	54	52.4
Employee	49	47.6

Table (2) shows that the mean age of the studied caregiver was 32.68±5.56, regarding level of education 34% of them had basic education, as well as occupation 52.4 % represent of them were not working .

Table (3): Frequency Distribution of Child's Environment According to Their Number of Family Members, Housing Type and Number of Rooms in The House (N=103).

Child's environment	No.	%
Number of family members		
<3	30	29.1
3 to 5	45	43.7
6 to 9	28	27.2
Mean±SD	4±1	
Housing type		
Shared	47	45.6
separated	56	54.4
Number of rooms in the house		
One room	44	42.7
Two rooms	30	29.1
Three rooms	18	17.5
Four or more	11	10.7

Table (3) shows that the mean number of family members was 4±1, regarding housing type 54.4% of them had separated house and number of rooms in the house represent 42.7% had one room in their house.

Figure (1): Frequency Distribution of Family Caregiver When Discovered That the Child has Attention Deficit Hyperactivity Disorder

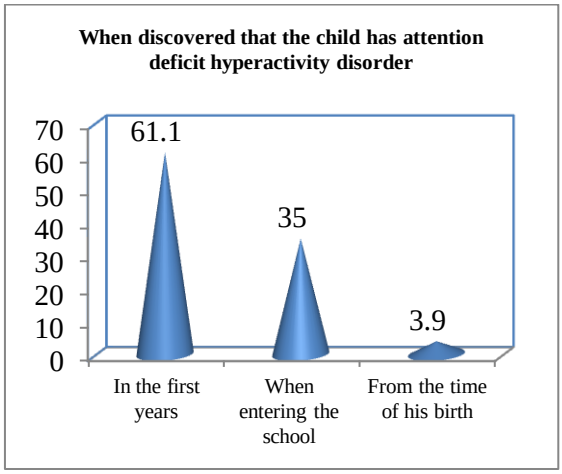

Figure (1): illustrate that 61.1% of family caregiver discovered that the child has attention deficit hyperactivity disorder in the first years, and 35% of them know when entering the school, while 3.9% of them represent from the time of his birth.

Figure (2): Frequency Distribution of Family Caregiver According to Their Knowledge about Attention Deficit Hyperactivity Disorder (N=103).

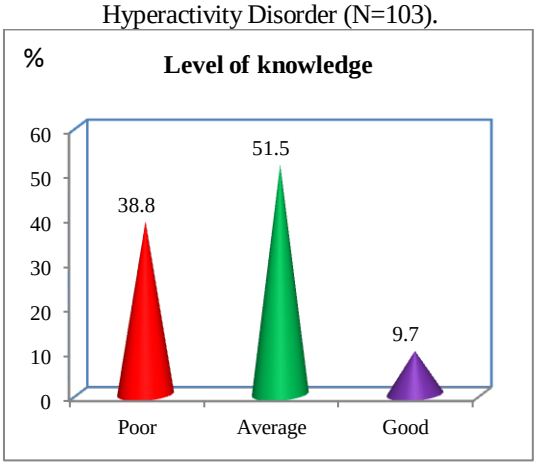

Figure (8) shows that 38.8% of the caregiver had poor of knowledge regarding attention deficit hyperactivity disorder and 51.5% of them had average knowledge and 9.7% of them had good knowledge.

In Response to Research Question No 1

Table (4): Frequency Distribution of Family Caregiver According to Financial Needs (N=103).

Financial needs	Rarely		Sometimes		Usually		Mean ±SD
	No.	%	No.	%	No.	%	Max. Score(2)
Parents need additional expenses for medical treatment of the child	15	14.6	31	30.1	57	55.3	1.41 ±0.27
The child needs extra expenses for behavioral therapy	18	17.5	7	6.8	78	75.7	1.58 ±0.30
Parents need additional expenses for transportation from and to the clinic	18	17.5	13	12.6	72	69.9	1.52 ±0.29
Additional expenses are required for modern educational services that help the child improve his educational level	21	20.4	37	35.9	45	43.7	1.23 ±0.23
Parents need to increase their household income	8	7.8	37	35.9	58	56.3	1.49 ±0.28
Parents or one of them needs additional work	18	17.5	31	30.1	54	52.4	1.35 ±0.26
Total	16	15.5	26	25.2	61	59.2	**8.58 ±1.63**

Table (5): Frequency Distribution of Family Caregiver According to Cognitive and Training Needs (N=103).

Cognitive and Training needs	Rarely		Sometimes		Usually		Mean ±SD
	No.	%	No.	%	No.	%	Max. Score(2)
An instructional program to modify the child 's behavior	6	5.8	34	33.0	63	61.2	1.55 ±0.30
training programs to train the child to rely on himself in food, bathroom and clothing and others	10	9.7	22	21.4	71	68.9	1.59 ±0.30
Training programs for learning difficulties	22	21.4	17	16.5	64	62.1	1.41 ±0.27
Parental Guidance program for healthy food suitable for children	15	14.6	32	31.1	56	54.4	1.40 ±0.31
Training program to develop the child's skill on how to communicate with others	9	8.7	31	30.1	63	61.2	1.52 ±0.29
Educational program on how to deal with tantrums in the child	23	22.3	24	23.3	56	54.4	1.32 ±0.25
Child's guidance program on how to deal with behaviors of self - harm and aggression against others	3	2.9	57	55.3	43	41.7	1.39 ±0.26
A program to reduce sleep disturbance in children	28	27.2	37	35.9	38	36.9	1.10 ±0.21
Total	15	14.6	32	31.1	56	54.4	**11.28 ±2.14**

Table (6): Frequency Distribution of Family Caregiver According to Social Needs (N=103).

Social needs	Rarely		Sometimes		Usually		Mean ±SD
	No.	%	No.	%	No.	%	Max. Score(2)
Parents need help from some of their relatives in child care	9	8.7	39	37.9	55	53.4	1.45 ±0.22
Parents need to support social networking through groups in Facebook for sharing experiences	6	5.8	50	48.5	47	45.6	1.40 ±0.29
The child needs good integration programs in schools with an effective support team	21	20.4	34	33.0	48	46.6	1.26 ±0.24
Parents need awareness programs for all groups of society on how to deal with their children	3	2.9	46	44.7	54	52.4	1.50 ±0.28
Total	10	9.7	42	40.8	51	49.5	**5.60 ±1.06**

Table (7): Frequency Distribution of Family Caregivers and Their Children with ADHD According to Level of Need (N=103).

Level of measuring the needs of family caregivers and their children with ADHD	No.	%
Low	15	14.5
Moderate	18	17.5
High	70	68.0
Total	103	100.0

Table (7) shows that 14.5% of the caregiver had low of total of needs regarding measuring the needs of family caregivers and their children with ADHD and 17.5% of them had high, while 68% of them had high of total of needs.

Table (8): Mean±SD Descriptive Total Score of Measuring The Needs of Family Caregivers and Their Children With ADHD (N=103).

Needs of family caregivers and their children with ADHD	Mean±SD	Range
Financial needs	8.58±1.63	4-12
Cognitive and Training needs	11.28±2.14	6-16
Social needs	5.60±1.06	2-8
Basic needs	10.18±1.94	4-14
Total	35.64±6.77	16-47

Table (8) shows that the mean total score needs of the studied family caregiver were 35.64±6.77 and ranged 16-47.

Figure (3): Frequency Distribution of Family Caregivers and Their Children With ADHD According to Level of Need (N=103).

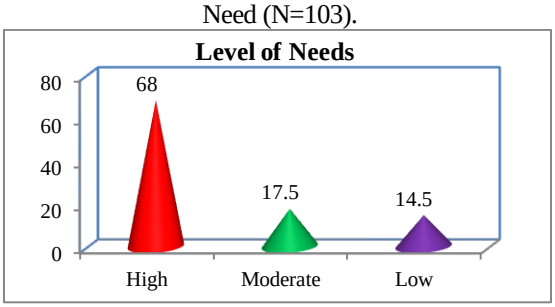

Figure (3) shows that 14.5% of family caregiver had low level of needs regarding measuring the needs of family caregivers and their children with ADHD ,17.5% of them had moderate level of need and 68% of them had high level of needs.

In Response to Research Question No 2

Table (9): Frequency Distribution of Family Caregiver and Their Children with ADHD According to Their Health Problems (N=103).

Conner's to assess the health problems of family caregivers and their children with ADHD	Not true at all		Just a Little true		Pretty Much true		Very much true	
	No.	%	No.	%	No.	%	No.	%
Inattentive, easily distracted	32	31.1	29	28.2	27	26.2	15	14.6
Angry and resentful	15	14.6	47	45.6	22	21.4	19	18.4
Difficulty doing or completing homework	5	4.9	36	35.0	41	39.8	21	20.4
Is always "on the go " or acts as if driven by a motor	24	23.3	26	25.2	36	35.0	17	16.5
Span Short attention	13	12.6	27	26.2	44	42.7	19	18.4
Argues with adults	25	24.3	26	25.2	36	35.0	16	15.5
Fidgets with hands or feet or squirms in seat	16	15.5	30	29.1	39	37.9	18	17.5
Fails to complete assignments	28	27.2	17	16.5	43	41.7	15	14.6
Hard to control in malls or while grocery shopping	26	25.2	29	28.2	32	31.1	16	15.5
Messy or disorganized at home or school	21	20.4	32	31.1	33	32.0	17	16.5
Loses temper	17	16.5	35	34.0	33	32.0	18	17.5
Needs close supervision to get through assignments	35	34.0	22	21.4	32	31.1	14	13.6
Only attends if is something he/she is very interested in	11	10.7	28	27.2	45	43.7	19	18.4
Runs about or climbs excessively in situation where it is inappropriate	26	25.2	22	21.4	39	37.9	16	15.5
Distractibility or attention span a problem	15	14.6	41	39.8	28	27.2	19	18.4
Irritable	22	21.4	32	31.1	32	31.1	17	16.5
Avoid, expresses reluctance about ,or has difficulties engaging in tasks that require sustained mental effort (such as schoolwork or homework)	16	15.5	30	29.1	39	37.9	18	17.5
Restless in the' 'squirmy'' sense	10	9.7	40	38.8	33	32.0	20	19.4
Gets distracted when given instructions to do something	9	8.7	20	19.4	55	53.4	19	18.4
Actively defies or refuses to comply with adults' requests	14	13.6	41	39.8	29	28.2	19	18.4
Has trouble concentrating in class	9	8.7	34	33.0	40	38.8	20	19.4
Has difficulty waiting in lines or waiting turn in games or group situation	25	24.3	15	14.6	47	45.6	16	15.5
Leaves seat in classroom or in other situations in which remaining seated is expected	16	15.5	36	35.0	33	32.0	18	17.5
Deliberately does things that annoy other people	9	8.7	39	37.9	36	35.0	19	18.4
Does not follow through on instructions and fails to finish schoolwork ,chores or duties in the workplace (not due to oppositional behavior or failure to understand instructions)	5	4.9	32	31.1	46	44.7	20	19.4
Has difficulty playing or engaging in leisure activities quietly	7	6.8	40	38.8	36	35.0	20	19.4
Easily frustrated in efforts	30	29.1	28	27.2	30	29.1	15	14.6

Figure (4): Frequency Distribution of Family Caregivers and Their Children With ADHD According to Their Health Problems (N=103).

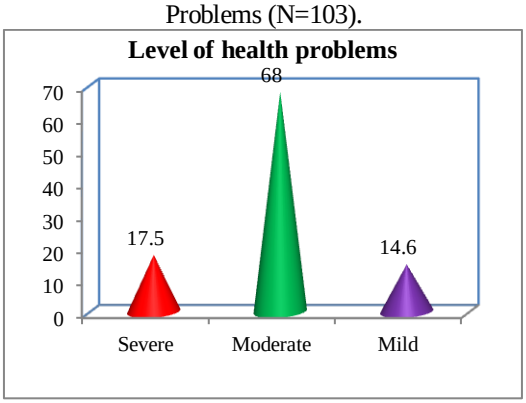

Figure (4) shows that 14.6% of family caregivers and with ADHD their children had mild level of total of health problems ,68% of them had moderate level and 17.5% of them had severe level of total health problems.

Table (10): Mean±SD Descriptive Health Problems of Family Caregivers and Their Children with ADHD (N=103).

Conner's to assess the health problems of family caregivers and their children with ADHD	Mean ±SD	Range
Inattentive, easily distracted	1.24±0.26	1-3
Angry and resentful	1.44±0.30	1-3
Difficulty doing or completing homework	1.76±0.37	2-3
Is always "on the go " or acts as if driven by a motor	1.45±0.30	1-3
Span Short attention	1.67±0.35	2-3
Argues with adults	1.42±0.30	1-3
Fidgets with hands or feet or squirms in seat	1.57±0.33	1-3
Fails to complete assignments	1.44±0.30	1-3
Hard to control in malls or while grocery shopping	1.37±0.29	1-3
Messy or disorganized at home or school	1.45±0.30	1-3
Loses temper	1.50±0.32	1-3
Needs close supervision to get through assignments	1.24±0.26	1-3
Only attends if is something he/she is very interested in	1.70±0.36	2-3
Runs about or climbs excessively in situation where it is inappropriate	1.44±0.30	1-3
Distractibility or attention span a problem	1.50±0.31	1-3
Irritable	1.43±0.30	1-3
Restless in the' 'squirmy'' sense	1.61±0.34	2-3
Gets distracted when given instructions to do something	1.82±0.38	2-3
Actively defies or refuses to comply with adults' requests	1.51±0.32	1-3
Has trouble concentrating in class	1.69±0.35	2-3
Has difficulty waiting in lines or waiting turn in games or group situation	1.52±0.32	1-3
Leaves seat in classroom or in other situations in which remaining seated is expected	1.51±0.32	1-3
Deliberately does things that annoy other people	1.63±0.34	2-3
Does not follow through on instructions and fails to finish schoolwork ,chores or duties in the workplace (not due to oppositional behavior or failure to understand instructions)	1.79±0.38	2-3
Has difficulty playing or engaging in leisure activities quietly	1.67±0.35	1-3
Easily frustrated in efforts	1.29±0.27	1-3
Total score	**41.22±8.66**	**35-81**

In Response to Research Question No 3

Table (11): Relation between Level of Knowledge about Attention Deficit Hyperactivity Disorder and Demographic Data of Family Caregivers (n=103).

demographic data of Caregivers	Caregivers knowledge about attention deficit hyperactivity disorder						Chi-square test	
	Poor *(n=40)*		Average *(n=53)*		Good *(n=10)*			
	No.	%	No.	%	No.	%	x2	p-value
Age (years)								
<20 years	2	5.0	3	5.7	2	20.0		
20> 30 years	15	37.5	14	26.4	3	30.0	11.132	0.084
30> 40 years	20	50.0	20	37.7	4	40.0		
40 years and over	3	7.5	16	30.2	1	10.0		
Level of education								

Not read and writes	15	37.5	4	7.5	0	0.0	36.767	<0.001**
Reads and writes	14	35.0	9	17.0	1	10.0		
Basic education	9	22.5	24	45.3	2	20.0		
University education	2	5.0	16	30.2	7	70.0		
Occupation:								
Not working	31	77.5	21	39.6	2	20.0	17.782	<0.001**
Employee	9	22.5	32	60.4	8	80.0		

*Chi-square test; P-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS*

Table (12): Relation between Level of Conner's to Assess the Health Problems of Family Caregivers and Their Children With ADHD and Demographic Data of Caregiver (n=103).

demographic data of Caregivers	Conner's to assess the Health problems of family caregivers and their children with ADHD						Chi-square test	
	Mild *(n=15)*		Moderate *(n=70)*		Severe *(n=18)*			
	No.	%	No.	%	No.	%	x2	p-value
Age (years)								
<20 years	3	20.0	3	4.3	1	5.6	7.258	0.298
20> 30 years	6	40.0	21	30.0	5	27.8		
30> 40 years	3	20.0	33	47.1	8	44.4		
40 years and over	3	20.0	13	18.6	4	22.2		
Level of education								
Not read and writes	1	6.7	8	11.4	10	55.6	29.305	**<0.001****
Reads and writes	3	20.0	14	20.0	7	38.9		
Basic education	6	40.0	28	40.0	1	5.6		
University education	5	33.3	20	28.6	0	0.0		
Occupation:								
Not working	3	20.0	37	52.9	14	77.8	10.967	**0.004***
Employee	12	80.0	33	47.1	4	22.2		

*Chi-square test; P-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS*

Table (12) presented that, there were highly statistically significant relation between level of health problems of the studied caregivers and their level of education. Also, there were statistically significant relation with their (P<0.05). While, there were no significant relation with age years (P>0.05).

Table (13): Relation between Level of Measuring the Needs of Family Caregivers and Their Children With ADHD Demographic Data of Caregiver (n=103).

-demographic data of Caregivers	Level of Measuring the needs of family caregivers and their children with ADHD						Chi-square test	
	Low *(n=15)*		Moderate *(n=18)*		High *(n=70)*			
	No.	%	No.	%	No.	%	x2	p-value
Age (years)								
<20 years	2	13.3	1	5.6	4	5.7	3.413	0.756
20> 30 years	7	46.7	8	44.4	17	24.3		
30> 40 years	3	20.0	5	27.8	36	51.4		
40 years and over	3	20.0	4	22.2	13	18.6		
Level of education								
Not read and writes	1	6.7	2	11.1	16	22.9	14.718	0.023*
Reads and writes	2	13.3	4	22.2	18	25.7		
Basic education	3	20.0	9	50.0	23	32.9		
University education	9	60.0	3	16.7	13	18.6		
Occupation:								
Not working	2	13.3	11	61.1	41	58.6	10.795	0.005*
Employee	13	86.7	7	38.9	29	41.4		

*Chi-square test; p-value >0.05 NS; *p-value <0.05 S; **p-value <0.001 HS*

Table (16) presented that, there were statistically significant relation between level of needs of the studied caregivers and their level of education and occupation at (P<0.05). While, there were no significant relation with age years (P>0.05).

Table (14): Relation between Level of Family Caregivers Knowledge about Attention Deficit Hyperactivity Disorder and Level of Measuring the Needs of Family Caregivers and Their Children With ADHD (n=103).

Level of Measuring the needs of family caregivers and their children with ADHD	Caregivers knowledge about attention deficit hyperactivity disorder						Chi-square test	
	Poor		Average		Good			
	No	%	No	%	No	%	x2	p-value
Low	0	0.0%	5	9.4%	10	100.0%	66.817	<0.001 **
Moderate	9	22.5%	9	17.0%	0	0.0%		
High	31	77.5%	39	73.6%	0	0.0%		
Total	40	100.0%	53	100.0%	10	100.0%		

*Chi-square test; **p-value <0.001 HS*

Table (14) presented that, there were highly statistically significant relation between level of knowledge of the studied caregivers and level of needs at (p-value <0.001).

Table (15): Relation between Level of Caregiver's Knowledge about Attention Deficit Hyperactivity Disorder and Level of Conner's to Assess the Health Problems of Family Caregivers and Their Children With ADHD (n=103).

Level of Conner's to assess the health problems of family caregivers and their children with ADHD	Caregivers knowledge about attention deficit hyperactivity disorder						Chi-square test	
	Poor		Average		Good			
	No	%	No	%	No	%	x2	p-value
Mild	3	7.5	5	9.4	7	70.0	28.784	<0.001**
Moderate	31	77.5	36	67.9	3	30.0		
Severe	6	15.0	12	22.6	0	0.0		
Total	40	100	53	100.0	10	100		

*Chi-square test; **p-value <0.001 HS*

Table (15) presented that, there were highly statistically significant relation between level of knowledge of the studied caregivers and level of problems at (p-value <0.001).

Table (16): Relation between Level of Conner's to Assess the Health Problems of Family Caregivers and Their Children With ADHD and Level of Measuring the Needs of Family Caregivers and Their Children With ADHD (n=103).

Level of Measuring the needs of family caregivers and their children with ADHD	Conner's to assess the health problems of family caregivers and their children with ADHD						Chi-square test	
	Mild		Moderate		Severe			
	No	%	No	%	No	%	x2	p-value
Low	9	60.0	6	8.6	0	0.0	35.144	<0.001**
Moderate	0	0.0	17	24.3	1	5.6		
High	6	40.0	47	67.1	17	94.4		
Total	15	100.0	70	100.0	18	100.0		

*Chi-square test; **p-value <0.001 HS*

Table (16) presented that, there were highly statistically significant relation between level of health problems and level of needs at (p-value <0.001).

Table (17): Correlation between Total Score of Knowledge and Total Score of Needs and Total Score of Health Problems Regarding ADHD (n=103).

		Total score of Knowledge	Total score of Needs	Total score of Health Problems
Total score of caregivers knowledge about attention deficit hyperactivity disorder	r		-0.543	-0.352
	p-value		<0.001**	0.024*
	N		103	103
Total score of measuring the needs of family caregivers and their children with ADHD	r	-0.543		0.395
	p-value	<0.001**		<0.001**
	N	103		103
Total score of conners to assess the health problems of family caregivers and their children with ADHD	r	-0.352	0.395	
	p-value	0.024*	<0.001**	
	N	103	103	

*Pearson's correlation coefficient (r) *p-value <0.05 S; **p-value <0.001 HS*

Table (17) presented that, there were statistically significant correlation between total score of knowledge and total score of needs and total score of health problems regarding ADHD.

III. Discussion

ADHD is a childhood onset, neuro developmental disorder with genetic and environmental origins characterized by pervasive behavioral symptoms of hyperactivity, inattentiveness and impulsivity that have been present for at least 6 months and adversely impact on daily functioning and development. ADHD is highly prevalent. Research combining data from multiple sources and analyzed using meta-regression reported a worldwide-pooled estimate of 5.29–7.2% in children. Symptoms must persist across the lifespan, although the relative balance and the specific manifestations of inattentive and hyperactive-impulsive characteristics vary across individuals, and may change over the course of development ***(Young et al.2020).***

Multi-morbidity is common in both children and adults of both sexes. In children, around one-half will have at least one psychiatric disorder co-morbid to ADHD and around one-quarter will have two or more co-morbid disorders .These are typically 'current' episodes of co-morbidity, the most frequent in childhood being disruptive behavioral disorders (e.g. oppositional defiant disorder, conduct disorder), anxiety (e.g. generalized anxiety disorder, social anxiety, obsessive compulsive disorder) and mood (e.g. depression, bipolar disorder). Others include specific developmental disorders of language, learning and motor development, autism spectrum disorders and intellectual disability, many of which present across the lifespan ***(Jensen, Steinhausen.2015).***

According to the demographic characteristics of child, the present study findings indicated that the mean age of the studied children was 8.14 ±2.57. This result is similar to ***Döpfner et al.(2020)*** a study conducted in Germany entitled "Efficacy of web-assisted self-help for parents of children with ADHD (WASH) – a three-arm randomized trial under field/ routine care conditions" who illustrated that the mean age of the studied children was 8.18 ±2.60. Also, the study findings revealed that nearly three quarter of them were male. This result in agreement with ***Bul et al.(2018)*** a study conducted in Amsterdam entitled " A serious game for children with Attention Deficit Hyperactivity Disorder: Who benefits the most?" who illustrated that three quarter of studied children were male.

Also, the present study results showed that less than half of the studied children were first in their order. This result in agree with ***EL-Gendy et al.(2017)*** a study conducted in Egypt entitled "Attention-Deficit/Hyperactivity Disorder: Prevalence and risk factors in Egyptian primary school children" who illustrated that less than half of the studied children were from rural and third grade primary school students. Also, the results showed that nearly two third of them had study in the primary stage. This result in agree with ***Ahmed .(2018)*** a study conducted in Egypt entitled "Attention Deficit Hyperactivity Disorder In A Rural Area of Sohag Governorate " who mentioned that about two third of the studied children had study in the primary stage.

The present study indicated that more than about two third of the studied children referred to the psychiatric clinic by parents and less than half of them, their parents live together. This result congruent with ***Vijverberg et al.(2020)*** a study conducted in Amsterdam entitled "Unmet care needs of children with ADHD" who found that about two third of the studied children referred to the psychiatric clinic by parents and less than half of them their parents live together.

Concerning family demographic data, the results revealed that the mean age of the mean age of the studied caregiver was 32.68±5.56 and about one third of them had a basic education. This result in similarity with ***El-Nemr et al.(2015)*** a study conducted in Egypt entitled " Prevalence of Attention Deficit Hyperactivity Disorder in Children" who showed that the mean age of the studied caregiver was 32.70±5.53 and about one third of them had a basic education. Also, the present study showed that less than half of the studied caregiver were employee. This result agree with This result in agree with ***EL-Gendy et al.(2017)*** Prevalence and risk factors in Egyptian primary school children" who illustrated that less than half of the studied caregiver were employee.

The current study results showed that showed that less than half of the studied family**,** their number of family members ranged from 3- 5 and slightly more than half of them had independent house. This result agree with a study done by ***Lola et al.(2019)*** a study conducted in Ethiopia entitled "Attention Deficit Hyperactivity Disorder (ADHD) among Children Aged 6 to 17 Years Old Living in Girja District, Rural Ethiopia" who revealed that less than half of the studied family with family size less than four and more than half of them had independent house. From the investigator point of view, this result might be due to low socioeconomic status of the studied caregiver.

Also, the present study showed that one third of studied children had a relationship with sons of uncle, slightly half of their brothers exposed to this disease**.** This result agree with a study conducted by ***Flood et al.(2016)*** in Europe entitled "The Caregiver Perspective on Pediatric ADHD (CAPPA) survey: Understanding socio-demographic and clinical characteristics, treatment use and impact of ADHD" who reported that the one third of the studied children a relationship with sons of uncle and about half of them had ADHD in family.

Regarding pregnancy conditions and delivery, more than half of studied mothers were suffered from problems during pregnancy and delivery cesarean. Also, the results showed that less than one quarter of the studied children were born premature. This result agree with ***Alizadeh et al. (2015)*** in Iran entitled "The Prevalence of ADHD among Primary School Students in an Iranian Rural Region" who mentioned that more than half of studied mothers were suffered from problems during pregnancy and delivery cesarean. Also, the results showed that less than one quarter of the studied children were born premature. From the investigator point of view, this result might be due to poor health status of studied mothers.

Regarding parent smoke, more than two third of the studied parent were smoke This result in agreement with ***Oliveira et al.(2018)*** In Brasil ***entitled "***Psychoeducation for Attention Defi cit/Hyperactivity Disorder: What, How and Who Shall We Inform?" who mentioned that more than half of the studied parent were smoke. From the investigator point of view, this result might be due to lack of parent awareness about smoking hazards.

Concerning caregiver knowledge about attention deficit hyperactivity disorder, the results illustrated that slightly less than half of the studied caregiver had knowledge about treatment and psychological disorders of attention deficit hyperactivity disorder. This result agree with ***Harazni and Alkaissi .(2016)*** a study conducted in Palestine entitled "The Experience of Mothers and Teachers of Attention Deficit / Hyperactivity Disorder Children, and Their Management Practices for the Behaviors of the Child A Descriptive Phenomenological Study" who mentioned that less than half of studied mothers had had knowledge about

Treatment and psychological disorders of attention deficit hyperactivity disorder.

Also, the current study showed that slightly less than half of the studied caregiver had knowledge about things that work to increase hyperactivity in children and Symptoms. This result disagree with ***Stoep et al .(2017)*** in New York entitled "The Children's Attention-Deficit Hyperactivity Disorder Telemental Health Treatment Study: Caregiver Outcomes" who illustrated that majority of the caregiver didn't have knowledge about things that work to increase hyperactivity in children and Symptoms.

The current study results showed that about half of the studied caregiver had average knowledge about attention deficit hyperactivity disorder and more than one third of them had a bad knowledge about attention deficit hyperactivity disorder. This result agree with a study done by ***Pahlavanzadeh et al.(2018)*** in Iran entitled "Exploring the Needs of Family Caregivers of Children with Attention Deficit Hyperactivity Disorder" who mentioned that the caregiver public's general information about the ADHD especially it's causes and it's pharmacological and non pharmacological treatments are insufficient. From the investigator point of view, this result might be due to insufficient training about ADHD.

The study results showed that more than half of family caregiver and their children with ADHD usually had a Financial needs and less than quarter of them rarely had Financial needs. This result similar to a study done by ***Eklund et al. (2018)*** in London entitled "Needs of adolescents and young adults with neuro developmental disorders: comparison of young people and parents perspectives" who mentioned that more than half of caregiver and their children with ADHD had unmet money need. Also, this study agree with ***Vijverberg et al.(2020)*** who illustrated that less than one quarter of overall caregiver and their children with ADHD handling the money. From the investigator point of view, this result might be due to high cost of medical treatment of ADHD.

The present study results showed that more than half of studied caregiver and their children with ADHD usually had cognitive and training needs and less than quarter of them rarely had cognitive and training needs. This result in agreement with ***Belcher JR. (2014)*** in USA entitled "Attention Deficit Hyperactivity Disorder in Offenders and the Need for Early Intervention" who illustrated that . more than half of family caregiver and their children with ADHD usually had cognitive and training needs and less than quarter of them rarely had cognitive and training needs. From the investigator point of view, this result might be due to lack of health education about Attention Deficit Hyperactivity Disorder for studied family.

Also, the study results revealed that slightly less half of studied caregiver usually had social needs and less than quarter of them rarely had social needs. This result similar to a study done by ***O'Brien et al. (2016)*** in British entitled **"**Barriers to managing child and adolescent mental health problems: A systematic review of primary care practitioners' perceptions*"* who mentioned that the majority of studied family and their children with ADHD had unmet social needs. From the investigator point of view, this result might be due to lack of psychological support from caregiver.

The current study result showed that more than half of the studied caregiver usually had a basic needs and less than quarter of them rarely had a basic needs. This result congruent with a study done by ***Pahlavanzadeh et al.(2018)*** in Iran entitled "Exploring the Needs of Family Caregivers of Children with Attention Deficit Hyperactivity Disorder: A Qualitative Study" who mentioned that more than half of family caregiver and their children with ADHD usually had a basic needs and less than quarter of them rarely had a basic needs.

Also, this result disagree with ***Ross et al. (2018)*** a study conducted in Maryland, Washington entitled " Caregivers' Priorities and Observed Outcomes of Attention Deficit/Hyperactivity Disorder Medication for Their Child" who mentioned that more than majority of the studied caregiver rarely had a basic needs. From the investigator point of view, this result might be due to lack of studied caregiver awareness with how to deal with Attention Deficit/Hyperactivity Disorder.

The study result revealed that shows that less than one quarter of studied caregiver had low level of total needs and more than two third of them had high level of total needs. This result incongruent with a study done by ***Eklund et al. (2018)*** a study conducted in London entitled **"**Needs of adolescents and young adults with neuro-developmental disorders: comparison of young people and parents perspectives" who revealed that more than half of caregiver and their children with ADHD had low level of total needs and more than one third of them had high level of total needs. From the investigator point of view, this result might be due to low socio-economic status.

Regarding total Score of Measuring The Needs of Family Caregivers and Their Children With ADHD, the study illustrated that the mean total score needs of the studied family caregiver were 35.64±6.77. This result in agreement with ***Azazy et al.(2018)*** in Egypt entitled "Quality of life and family function of parents of children with attention deficit hyperactivity disorder" who mentioned that the mean total score needs of the studied family caregiver were 35.60±6.75.

The current study results found that more than half of the studied family caregivers and their children with ADH sometimes Angry and resentful. Also, the lowest percentage of them rarely had Difficulty doing or completing homework This result agree with a study done by ***Muñoz-Silva et al.(2017)*** in India entitled "Child/Adolescent's ADHD and Parenting Stress: The Mediating Role of Family Impact and Conduct Problems" who mentioned that less than one third of studied children with ADHD had anxiety disorders and about one third of them Learning disorders.

Also, the current study showed that less than quarter of the one quarter of the studied caregivers and with ADHD their children had very much true regarding trouble concentrating in class, difficulty playing or engaging in leisure activities quietly and fails to finish schoolwork. This result agree with ***Tong et al. (2016)*** a study conducted in USA entitled "Attention Deficit/Hyperactivity Disorder and Lifestyle-Related Behaviors in Children" who mentioned that less than quarter of the one quarter of the studied caregivers and with ADHD their children had usually regarding trouble concentrating in class, difficulty playing or engaging in leisure activities quietly and fails to finish schoolwork.

Also, the current study showed that nearly one third of the studied caregivers and with ADHD their children had not true at all regarding needs close supervision to get through assignments and Inattentive, easily distracted .This result agree with ***Wafa et al.(2020)*** a study conducted in egypt entitled "A comparative study of executive functions among children with attention deficit and hyperactivity disorder and those with learning disabilities" who mentioned that one third the studied caregivers and with ADHD their children had rarely all regarding needs close supervision to get through assignments and Inattentive, easily distracted.

The present study results showed that more than two third of the studied family caregivers and their children with ADHA had a moderate total health problems and less one quarter of them had a mild of total of health problems. This result This result agree with a study done by ***Fridman et al.(2017)*** in Europe entitled "Factors associated with caregiver burden among pharmacotherapy-treated children/adolescents with ADHD in the Caregiver Perspective on Pediatric ADHD survey" who mentioned that the majority of the studied the studied family caregivers and their children with ADH had a high level of health problem. From the investigator point of view, this result might be due to those children consider from vulnerable group and they need special care.

The present study results showed that there were highly statistically significant relation between level of knowledge of the studied caregivers and their level of education and occupation. This result in agreement with a study conducted by ***Chang et al.(2020)*** in Taiwan entitled "Affiliate Stigma and Related Factors in Family Caregivers of Children with Attention-Deficit/Hyperactivity Disorder" who mentioned that caregivers' education level and their occupation were significantly associated with their level of knowledge regarding ADHD.

Also, the results illustrated that there were no significant relation between level of knowledge of the studied caregivers and their age. This result disagree with a study done by ***Flood et al.(2016)*** Understanding socio-demographic and clinical characteristics, treatment use and impact of ADHD" who illustrated that there were significant relation between level of knowledge of the studied caregivers and their age.

Regarding to the relation between level of Conner's to assess the health problems of family caregivers and their children with ADHD and socio-demographic data of caregiver, the results discovered that there were highly statistically significant relation between level of health problems of the studied caregivers and the following variables (their level of education and their occupation). This result congruent with ***Mpango et al.(2017)*** in Uganda entitled "Prevalence and correlates for ADHD and relation with social and academic

functioning among children and adolescents" who mentioned that level of health problems of the studied caregivers and ADHD children were highly statistically significant with the caregiver level of education and their occupation. From the investigator point of view this result might be due to level of education and nature of occupation enhance level of awareness.

The current study results revealed that there were statistically significant relation between level of needs of the studied caregivers and their level of education and occupation. This result agree with ***Pahlavanzadeh et al .(2018)*** who mentioned that there were statistically significant relationship between level of needs of the studied caregivers of children with ADHD and their level of education and occupation.

Also, these results showed that there were no significant relation between level of needs of the studied caregivers of children with ADHD and their age. This results agree with a study done by ***Vijverberg et al.(2020)*** who illustrated that there were no significant relation between level of needs of the studied caregivers of children with ADHD and their age.

The present study showed that, there were highly statistically significant relation between level of knowledge of the studied caregivers and their level of needs. This results agree with a study done by ***Eklund et al.(2018)*** who said that there were statistically significant relation between level of knowledge of the studied caregivers of ADHD children and their level of needs. From the investigator point of view this result might be due to level of knowledge enhance the awareness with ADHD.

Concerning the relation between level of caregiver's knowledge about attention deficit hyperactivity disorder and the health problems of family caregivers and their children with ADHD, the result showed that there were highly statistically significant relation between level of knowledge of the studied caregivers and level of problems. This result in the same line with ***Chou et al.(2020)*** in Taiwan entitled "Caregiver-Attributed Etiologies of Children's Attention-Deficit/Hyperactivity Disorder: A Study" who said that there were highly statistically significant relation between level of knowledge of the studied caregivers and level of problems of family caregivers and their children with ADHD.

Concerning the correlation between total score of knowledge and total score of needs and total score of health problems regarding ADHD, the results illustrated that there were statistically significant correlation between total score of knowledge and total score of needs and total score of health problems regarding ADHD. This result in agreement with ***Michel et al.(2018)*** in United State entitled " Sharing of ADHD Information between Parents and Teachers Using an EHR-Linked Application" who said that there were statistically significant correlation between total score of knowledge and total score of needs and total score of health problems regarding ADHD.

IV. Summary And Conclusion

Attention Deficit-Hyperactivity Disorder (ADHD) is a psychiatric condition that has long been recognized as affecting children's ability to function. Individuals suffering from this disorder show patterns of developmentally inappropriate levels of inattentiveness, hyperactivity, or impulsivity. The history of the recognition of attention deficit hyperactivity disorder (ADHD) as a child psychiatric disorder spans more than a century. Early conceptualization included both neurological and moral notions of causation, which have evolved over time into models of the disorder that attempt to integrate knowledge of brain anatomy and function. Behavior with classic early case histories such as fidgety embody all of the core features of the disorder as currently defined Later, descriptions of hyperactivity in various neurological samples of children with coarse brain injury or disorder, children including with post encephalitic syndromes, mental retardation and epilepsy, led to the suggestion of a possible syndrome of over activity**.**

Based on the study findings it can be concluded that: High percentage of the studied family caregiver had average level of knowledge regarding attention deficit hyperactivity disorder. High percentage of the studied family caregivers and their children with ADHA had high level of total of needs and moderate level of total health problems. Additionally, there were statistically significant correlation between total score of knowledge and total score of needs and total score of health problems regarding ADHD.

V. Recommendations

Based on the findings of this study, the following recommendations are suggested:

1. Improving the research in the childhood behavioral disorders generally and Attention Deficit Hyperactivity Disorder particularly is needed.
2. Future research focus on the alternative ways for treating ADHD (herbal medication, behavioral, art, music, play) and other types of therapies such as alternatives for medication.
3. There is a need for comprehensive psycho education programs, which should include the parents and the school team to increase the awareness about the disorder and the use of the best management practices.
4. Establish companion 'to increase parents' awareness of the early detection of ADHD symptoms and contact health centers for screening and early lead.

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