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Mothers' Performance regarding their Children with Conjunctivitis at Sohag University Hospital

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Abstract

Background: Conjunctivitis is a common worldwide eye disease; especially among children. Conjunctivitis is responsible for ~30% of all eye problems. Awareness of mothers regarding conjunctivitis is very important to prevent conjunctivitis among children. **Aim of the study:** Assess mothers' performance regarding their children with conjunctivitis at Sohag University hospital. **Design:** a descriptive research design was used. **Setting:** This study **conducted** at Ophthalmic Outpatient Clinics at Sohag University Hospital**. Sample:** A purposive sample of mothers was compromised 190 mothers who attended to the previous setting with their children suffer from conjunctivitis. **Tools:** One tool was structured interview questionnaire consist of four parts, : Part I: Demographic characteristics of mothers, demographic characteristics of children and child past and present history of conjunctivitis. Part II: Mothers' knowledge regarding conjunctivitis. Part lll: Mothers' attitude regarding their children with conjunctivitis. Part IV: Mothers' reported practices regarding care of their children with conjunctivitis. **Result**: The study results revealed that, 63.2% of the studied mothers had average level of total knowledge regarding conjunctivitis, 64.9% of the studied mothers had negative total attitude level toward conjunctivitis and 83.2% of the studied mothers had inadequate total reported practices level related to caring of child with conjunctivitis. **Conclusion:** There were high statistically significant positive correlation between studied mothers total attitude, total reported practices and total knowledge regarding conjunctivitis. **Recommendations:** Implementing an educational programs for mothers to improve knowledge, practices and attitude toward conjunctivitis.

Keywords: *Children, Conjunctivitis and Mothers' Performance*.

Introduction

Conjunctivitis are found all over the world. The condition commonly referred to as "pink eye" is an inflammation of the conjunctiva, which is the thin, transparent layer of tissue that covers the white portion of the eye and lines the inner surface of the eyelid. A frequent eye condition, particularly in youngsters, is acute infective conjunctivitis. It may affect one or both eyes. While it can develop into a serious problem (**American Academy of Pediatrics (AAP), 2023).**

Pink eye(conjunctivitis) is an inflammation of the transparent membrane that lines the eyelid and eyeball. This membrane is called the conjunctiva. When small blood vessels in the conjunctiva become swollen and irritated, they're more visible. Pink eye is most often caused by a viral infection. It also can be caused by a bacterial infection, an allergic reaction or in babies an incompletely opened tear duct. Treatments can help to relieve the discomfort of conjunctivitis . Because conjunctivitis can be contagious, getting an early diagnosis and taking certain precautions can help limit its spread (**Akpalaba and Aluge, 2022).**

Conjunctivitis is a widespread ocular ailment characterized by inflammation of the conjunctiva—the thin, transparent membrane covering the surface of the eye and inner eyelids. Its ubiquity transcends age, geographic location, and socioeconomic status, making it a significant public health concern globally. Conjunctivitis manifests with a spectrum

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of symptoms, including ocular redness, irritation, itching, tearing, and discharge, often accompanied by discomfort and visual disturbances. Conjunctivitis refers to the inflammation or infection of the conjunctiva. It can be acute or chronic and infectious or non-infectious (**Jasim et al ., 2024).**

Conjunctivitis is typically classified according to its cause, which might include chemical, bacterial, fungal, parasitic, toxic and allergic agents. Viral conjunctivitis can last for up to 14 days. Viruses are the most common cause of acute (short-term) conjunctivitis. It is appropriate for a child to return to school when tearing and discharge are greatly improved. Most cases of conjunctivitis are caused by adenovirus but also can be caused by other viruses, including herpes simplex virus and varicella-zoster virus **(Cash and Glass, 2020).**

Ocular infection in children is a permanent health problem. To improve that primary attention, prevention and control. Outbreaks are occurring throughout the world. Eye infections in babies and children are very common and contagious. They usually respond quickly to the right treatment. Conjunctivitis is a common infection especially among children under five year. Conjunctivitis is an infection in the lining over the eyeball and inside the eyelids. Inflammation can cause blood vessels in the eye to become larger and that make the white of the eye look pink or red (**Aronson and Shope, 2022).**

Children are the future of a nation. It is absolutely essential to protect child's health if we are to build a sound foundation for the health of the nation. Children are exposed to various epidemiological factors in the environment which influence their present and future state of health. Suffering from conjunctivitis is the most frequent episode in childhood experiences. A productive and energetic population cannot grow from unhealthy children who are chronically affected by repeated conjunctivitis. So eye diseases represent an important public health problem in childhood (**World Health Organization(WHO) (2022).**

The treatment of children with conjunctivitis is start by keeping child's eye clean, then see physician for appropriate treatment. Treatment of child with allergic conjunctivitis includes avoiding the offending allergen and applying topical antihistamines or nonsteriodal anti-inflammatory agents. *Streptococcus pneumoniae* and *Haemophilus influenzae* are responsible for most cases of bacterial conjunctivitis in children which *Staphylococcus* species is the predominant organism in adults. Therefore, the treatment of child with bacterial conjunctivitis consists of an antimicrobial agent with a broad spectrum of activity against most susceptible pathogenus. Other causes of inflammation need to be considered in child with atypical clinical signs and symptoms and in patients who do not respond to presumptive therapy(**Akpalaba R, & Aluge A (2022).**

Many of medications focus on treating the symptoms of pink eye, regardless the type causing them. There are guidelines which health provider or eye specialist instruct to mothers include use a wet washcloth to clean away any crusting or buildup if eyelids are sticking together, never sharing things that touch eyes, if putting in eye drops, making sure not to contaminate the bottle and after put the drops in, set the bottle down, wash hands and then close the bottle. Child can usually go back to daycare, school as soon as symptoms go away. This might be as soon as 24 hours after antibiotic treatment for a bacterial infection and between two and seven days after a viral infection (**LaMattinaa and Thompson, 2022).**

Mothers' performance regarding care for their children is very important because they provide primary care to sick child. Educate mothers about appropriate hand washing after giving medication to the children, avoid sharing the child personal items such as towels and washcloths with others, change the child pillowcases and towels regularly to avoid re-infection, wash towels and linens that the child has used in hot water and throw away items like gauze after they've been used (**Isenberg et al ., 2022).**

The goals of nursing care for conjunctivitis are symptom relief and stopping the transmission of infectious agents. Warm compresses can help break the crust that forms on the eyelids overnight, and the mothers should be taught how to apply eye drops or ointment to relieve symptoms. Mothers should be taught to discourage children from touching or rubbing their eyes The prevention of infectious spread should be taken in to consideration due to the high contagiousness of conjunctivitis **(Aronson and Shope, 2022).**

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Community Health Nurse can educating mothers about , causes, signs, and symptoms of acute infective conjunctivitis, as well as its contributing factors, preventative measures and care. Nurses play a significant role in the prevention of conjunctivitis. In addition to encourage mothers to prevent recurrence and helping children regain their previous level of health and function to avoid long-term issues. CHN should help identify families with community resources that support health maintenance. These actions will help lessen the impact of the disease that has already occurred (**Liang et al., 2020).**

Significance of the study:

In Egypt, approximately 5.5 million are at risk for conjunctivitis which it is a common infection especially among children under five year. In children bacterial conjunctivitis is more common than viral. It is a very common ocular disorder in child and is frequently overlooked, misdiagnosed and undertreated. The inflammation or infection of the conjunctiva is known as conjunctivitis, and is characterized by dilatation of the conjunctival vessels, resulting in hyperemia and conjunctival edema, typically with secretion **(Muto et al ., 2023).**

According to American Optometric Association(AOA), 2023). Conjunctivitis is the most common ocular disease worldwide this is one of the most common ocular problems seen in the community. Around 35% of all eye disorders presenting in general practice, are caused by infectious conjunctivitis. It infects approximately 84 million people globally and continues to threaten over 10% of the world's population with the risk of blindness. Conjunctivitis causes frequent absences from school, which negatively impacts a child's performance and attendance. Other issues that they could experience include not being able to play, read, socialize, or participate in outdoor activities.

Aim of the study :-

The aim of this study was to assess mothers' performance regarding their children with conjunctivitis at Sohag University hospital.

Research questions :

1- What are mothers' knowledge level regarding conjunctivitis ?
2- What are mothers' attitude toward conjunctivitis ?
3- What are mothers' reported practices regarding care of their children with conjunctivitis ?
4- Is there a relation between mothers' knowledge, attitude, reported practices and their demographics characteristics?

Subject and Methods:

Research design:

A descriptive research design was used in this study .

Setting:

The study was conducted at outpatient clinics at Sohag university Hospital which consist of 16 outpatient clinics in different specialist as surgical outpatient clinic, Ear, Nose and Throat outpatient clinic, dermatology outpatient clinic, ophthalmology outpatient clinic, pediatric outpatient clinic, cardiac outpatient clinic, endocrine outpatient clinic, obstetric &gynecological outpatient clinic, psychiatric outpatient clinic, orthopedic outpatient clinic, neurological outpatient clinic, chest outpatient clinic, dental outpatient clinic, urology outpatient clinic, physiotherapy outpatient clinic and medicine outpatient clinic . The study was conducted at ophthalmology outpatient clinic in first floor at Sohag University Hospital Which included one rooms for checkup, the working in this clinic all the day per week from 9 am to 1 pm except Friday.

Sample:

A purposive sample of mothers were compromised 190 mothers who attended to the previous setting with their children suffer from conjunctivitis with the following:

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Inclusion criteria :

*Mothers have children diagnosed with conjunctivitis.

*Mothers agree to participant in the study .

*Age of children from 3-10 years.

Sample size:

The sample size was calculate by following equation: -

n=N[1+N (e2)]

n=sample size

N=population size is 400

e=,05 is the level of perception

n=400[1+400 (,0025)] =190 (**Adam,2020)**

The actual size of sample will be 190 mothers through year 2023-2024

Tools for data collection :

Data were collected through using the following one tool.

Structured interview questionnaire was used for collecting the data of this study it include four parts:

Part l:

A) **Demographic characteristics of studied mothers**: Include 6 closed /ended questions as age, educational level, marital status, occupation, place of residence and monthly income.

B)**Demographic characteristics of studied children**: Include 3 closed /ended questions as age, gender and ranking of child between siblings.

C) **Child past and present medical history of conjunctivitis**: Include 10 closed/ ended question as 7 questions for past include family history of conjunctivitis, degree of kinship with the person suffering from conjunctivitis, source of infection, previous eye injuries, reasons of eye injuries in the past, history of eye surgery, type of eye surgery and 3 questions for present include present symptoms related to conjunctivitis, current treatment for conjunctivitis and onset of conjunctivitis

Part ll : Mothers' knowledge regarding conjunctivitis :

Knowledge about conjunctivitis composed of 10 questions include: meaning of conjunctivitis, types of conjunctivitis, causes of conjunctivitis, signs/symptoms of conjunctivitis, vulnerable group of conjunctivitis, methods of transmission, methods of diagnosis, complications of conjunctivitis, methods of prevention and methods of treatment for conjunctivitis.

Scoring system:

For assessment mothers' knowledge about conjunctivitis of their child, complete correct answer was scored 2points, incomplete correct answer was scored 1 point and don't know was zero point. Total scores were 20 points for 10 items . The score of each items stumped up and then converted into percent score .

-Good knowledge ≥ 75% (15- 20 points)
-Average knowledge 50- <75% (10- < 15 points)
-Poor knowledge < 50% (0- <10 point)

Part lll: Mothers' attitude regarding conjunctivitis of their child: Mothers' attitude include 16 items such as think that conjunctivitis is infectious disease, conjunctivitis one of causes of eye disease,washing hands with soap and water frequently reduce incidence of conjunctivitis, rinsing the eye several times a day with water can relieve the symptoms of conjunctivitis, spread of conjunctivitis infection occurs by sharing personal items between individuals, applying any ointment to the eye of a child without consulting a doctor has negative effects, conjunctivitis has serious complications on the eyes, conjunctivitis causes a child to lose sight if prompt treatment is not done, infection of conjunctivitis like any infection that affects a child, infection with conjunctivitis affects the health of the child and child with conjunctivitis needs an eye examination.

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Scoring system:

For mothers' attitude regarding conjunctivitis of their children, agree was scored 3point, neutral was scored 2 point and disagree was scored 1point. Total scores were 48 for 16 items. The score of each item stumped up and then converted into percent score:

-Positive attitude ≥ 60% (29- 48 point)

-Negative attitude < ٦٠ % (16- < 29 point)

Part IV: Mothers' reported practices regarding care of their children with conjunctivitis:

Which consists of five items regarding relieves signs and symptoms, prevention spread of infection, giving of medication, follow up and caring for a child with conjunctivitis. These items include sub items which categorized as following:

A- **Practices regarding relieves signs and symptoms:** Include, going to the hospital or pharmacies for treatment, rinse the eyes several times a day with water, gently and frequently clean the eyelid and eyelashes with a warm cloth or cotton and cold compresses for conjunctival sensitivity.

B-**Prevention spread of infection:** Include, frequent hand washing with soap and water, take care when making compresses to prevent the spread of infection from one eye to the other eye, use a separate compress for each eye and make sure to wash hands between each practices, cleaning the eye from the inside of the eye to the outside, do not share pads, towels or pillows with anyone until symptoms disappear completely, keep the child's hand away from his eyes as much as possible and when the child touches the affected eye make sure to wash his hands, change pillow cases daily and wash with hot water, do not share eye medications (a separate bottle for each person), wear protective gloves when applying eye medication to child and use a different part of the compress to wipe to reduce infection transmission.

C-**Giving of medication:** Include, reading the drug leaflet to ensure that all instructions are clear before use, giving treatment in the correct way indicated by the doctor, give the medicine regularly at the times as prescribed by the doctor and ensure that the child's hands are well washed before taking medication.

D-**Follow up:** Include, follow-up examination of the child regularly at the doctor, follow up on the eye condition for early detection of any complications on the child, follow-up to the improvement of side effects on the child when taken medication and follow-up of the child's performance and early detection of eye injuries.

E-**Caring for a child with conjunctivitis:** Include, gently clean the eyes using cotton swabs, dispose of the cotton swab each time to prevent re-contamination, do not allow the child to share eye drops or tissue paper with others and do not try to clean the eyelids from the inside, as it causes damage to the conjunctiva.

Scoring system for reported practices :

Mothers' reported practices consisted of five main items which included 26 sub items were scored as the following :

-Done ١ point

-Not done zero point

The total scores equal 26 point for 26 sub items were classified as follow:

-Adequate reported practices ≥ 60% (≥ 15.6 point)

-Inadequate reported practices < 60% (< 15.6 point)

Validity:

The developed tool was formulated and submitted to three experts from Community Health Nursing , Faculty of Nursing, Helwan University to review relevance of the tools for comprehensiveness, understanding and applicability.

Reliability :

Reliability of the tools was tested to determine the extent to which the questionnaire items related to each other. Cronbach's Alpha in this study found that the reliability of this questionnaire 0.89 for knowledge, 0.91 for reported practices and 0.92 for attitude.

Ethical consideration :

An official permission to conduct the proposed study was be obtained from the Scientific Research Ethics Committee, Faculty of Nursing, Helwan University. Participation in the study was voluntary and subjects was be given complete full information about the study and their role before signing the informed consent. The ethical consideration was include explaining the purpose and nature of the study, stating the possibility to withdraw at any time ,confidentiality

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of the information where it was not be accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs was be respected .

II-Operational Item:

Preparatory phase :

It was include reviewing of past, current, national and international related literature and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop tools for data collection **.**

Pilot study :

A pilot study was carried out on 10% (19 mothers) of the sample under study to evaluate the applicability, clarity, efficiency and feasibility of the tools, as well as, to estimate the time allowed to fulfill the developed tools. No modification were done in the tool. So, those who participated in the pilot study were included in the main study sample.

Field work:

Data collection of the study was started at the beginning of November 2023 until the end of January 2024.The investigator introduced herself to mothers, explained the aim of the study and its implications and how to fill in questionnaire and ensure their cooperation. Informed consent was obtained from the participants. Interviewing with each mothers individually was carried out in specialized room in outpatient clinic at Sohag university Hospital to obtain necessary information and all the included questions was explained to mothers. The questionnaire sheet takes about 15-20 minutes to complete. Data was collected at 2 days (Sunday &Thursday from 9am to 1pm) every week within 3 months . The investigator taken 8 mothers each day , 16 mothers each week which about 64 mothers per month. The interviewing questionnaire sheet was completed by the investigator from each mothers.

III-Administrative Item :

An official letter requesting permission to conduct the study was obtained from the Dean of Faculty of nursing, Helwan University to the director of the mentioned hospital to obtain their approval to carry out this study. This letter included a permission to collect the necessary data and explain the purpose and nature of the study.

IV-Statistical Item:

Data collected from the studied sample was revised, coded and entered using Personal Computer (PC). Computerized data entry and Statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version 26. Data were presented using descriptive statistics in the form of frequencies, percentages. Chi-square test (X^2) was used for comparisons between qualitative variables. Spearman correlation measures the strength and direction of association between two ranked variables. Also used Mean ± SD.

Significance of the results:

- Highly significance at p-value <0.01
- Statistically significant was considered at p-value <0.05
- Non-significant at p-value >0.05

Result

Table (1): Shows that, 44.8% of the studied mothers were in age group between 35 –< 45 years with Mean ± SD was 35.3±4.188. While 30.5% of them had basic education, 74.2% of them were married, 89.5% of them were housewife, 62.6% of them were live at rural area and 48.5% of them had enough monthly income.

Table (2): Shows that, 42.7% of the studied children were in age group between 3- < 4 years with Mean ± SD was 3.89±1.89. 53.7% of them were female and 41.1% of them were the second in the ranking between siblings.

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Figure (1): Clarifies that, 63.2% of the studied mothers had average level of total knowledge regarding conjunctivitis, 24.7% of them had poor level of total knowledge, while 12.1% of them had good total knowledge level regarding conjunctivitis.

Figure (2): Clarifies that, 64.9% of the studied mothers had negative total attitude level toward conjunctivitis, while 35.1% of them had positive total attitude level toward conjunctivitis.

Figure (3): Clarifies that, 83.2% of the studied mothers had inadequate total reported practices level related to caring of child with conjunctivitis, while 16.8% of them had adequate total reported practices level related to caring of child with conjunctivitis.

Table (3): Displays that, there were highly statistically significant relation between studied mothers total knowledge level regarding conjunctivitis and their level of education and monthly income. Also, there were statistically significant relation between studied mothers' total knowledge level regarding conjunctivitis and their age, marital status and occupation.

Table (4): Shows that, there was a highly statistically significant relation between studied mothers' total attitude level regarding conjunctivitis and their age. Also, there was a statistically significant relation between studied mothers' total attitude level regarding conjunctivitis and their level of education.

Table (5): Reveals that, there was a highly statistically significant relation between studied mothers' total reported practices level regarding conjunctivitis and their marital status. While, there were statistically significant relation between studied mothers' total reported practices level regarding conjunctivitis and their occupation and monthly income.

Table (6): Shows that, there were highly statistically significant positive correlation between studied mothers total attitude, total reported practices and total knowledge regarding conjunctivitis.

Table (1): Frequency Distribution of Demographic Characteristics of Studied Mothers (n=190)

Demographic characteristics	No.	%
Age (years)		
20- < 25	32	16.8
25- <35	56	29.5
35- < 45	85	**44.8**
≥ 45	17	8.9
Mean ± SD 35.3±4.188		
Level of education		
Can't read and write	39	20.5
Read and write	54	28.4
Basic education	58	**30.5**
Secondary education	26	13.7
University education or more	13	6.9
Marital status		
Married	141	**74.2**
Divorced	37	19.5
Widowed	12	6.3
Occupation		
Employed	20	10.5
Housewife	170	**89.5**
Place of residence		
Rural	119	**62.6**
Urban	71	37.4
Monthly Income		
Not enough	89	46.8
Enough	92	**48.5**
Enough and save	9	4.7

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Table (2): Frequency Distribution of Demographic Characteristics of Studied Children (n=190)

Demographic characteristics	No.	%
Age (years)		
3- < 4	81	**42.7**
4- <5	55	28.9
≥ 5	54	28.4
Mean ± SD 3.89±1.89		
Sex		
Male	88	46.3
Female	102	**53.7**
Ranking of the child between siblings		
First	33	17.4
Second	78	**41.1**
Third	24	12.6
Fourth	36	18.9
Fifth	15	7.9
Sixth or more	4	2.1

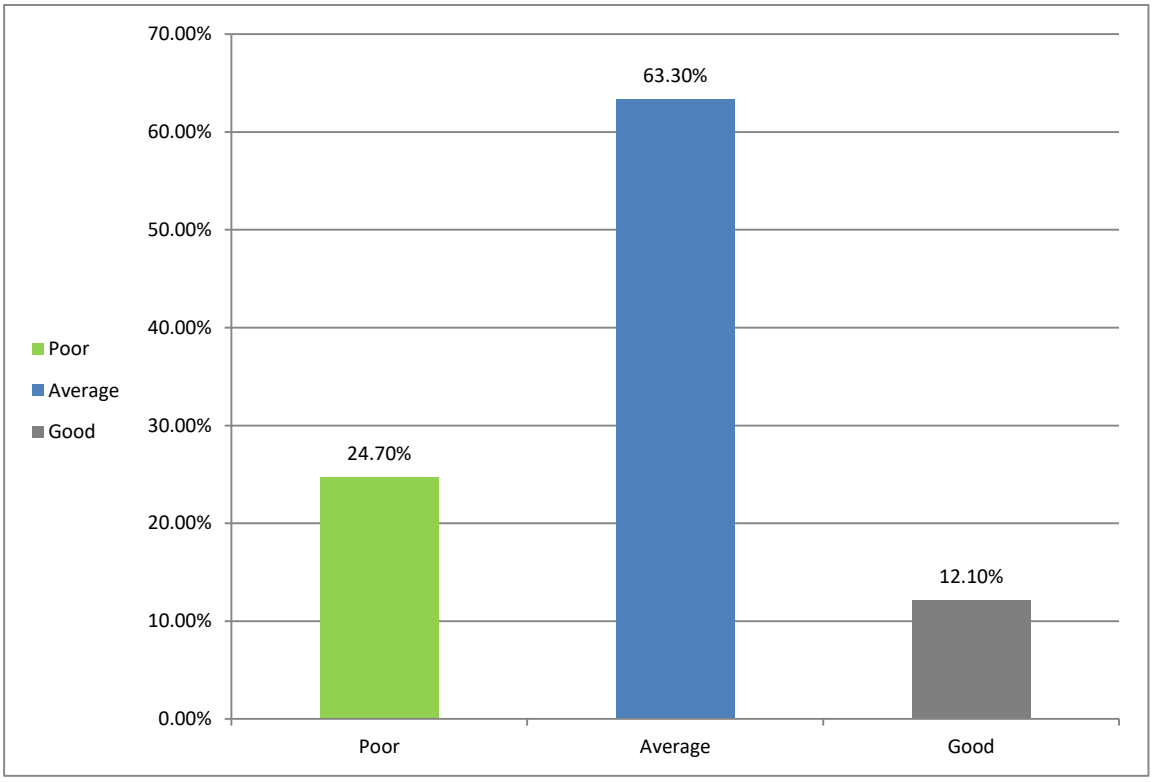

Figure (1): Percentage Distribution of the Studied Mothers Total Knowledge regarding Conjunctivitis (n=190)

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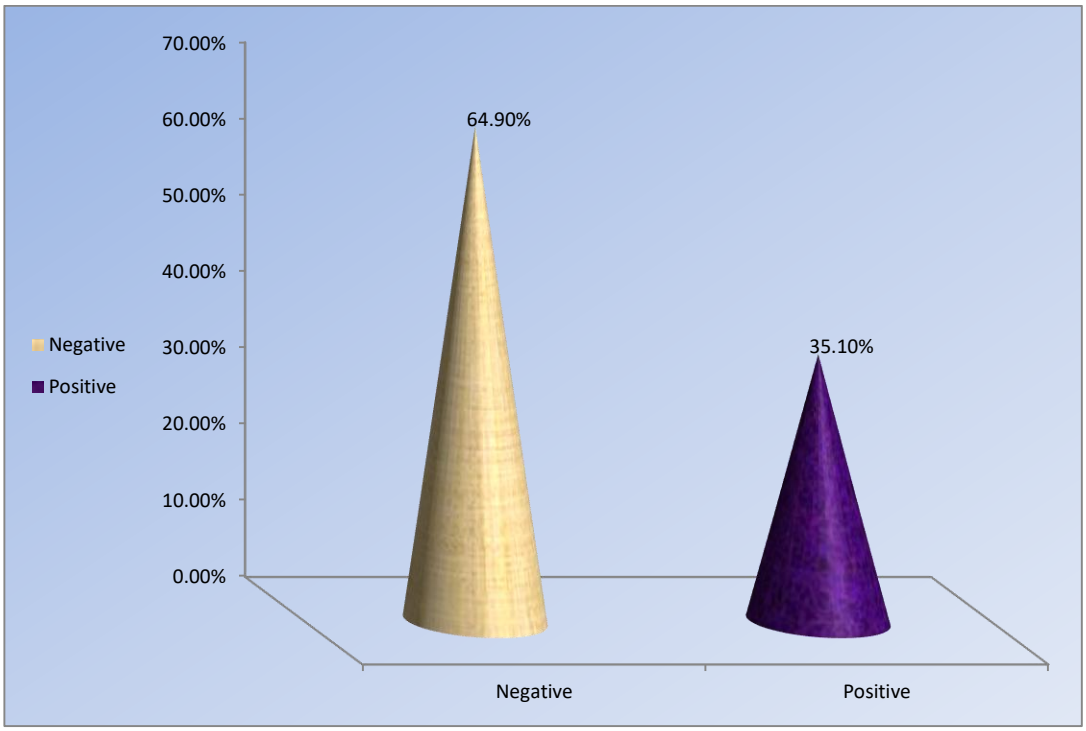

Figure (2): Percentage Distribution of the Studied Mothers' Total Attitude toward Conjunctivitis (n=190)

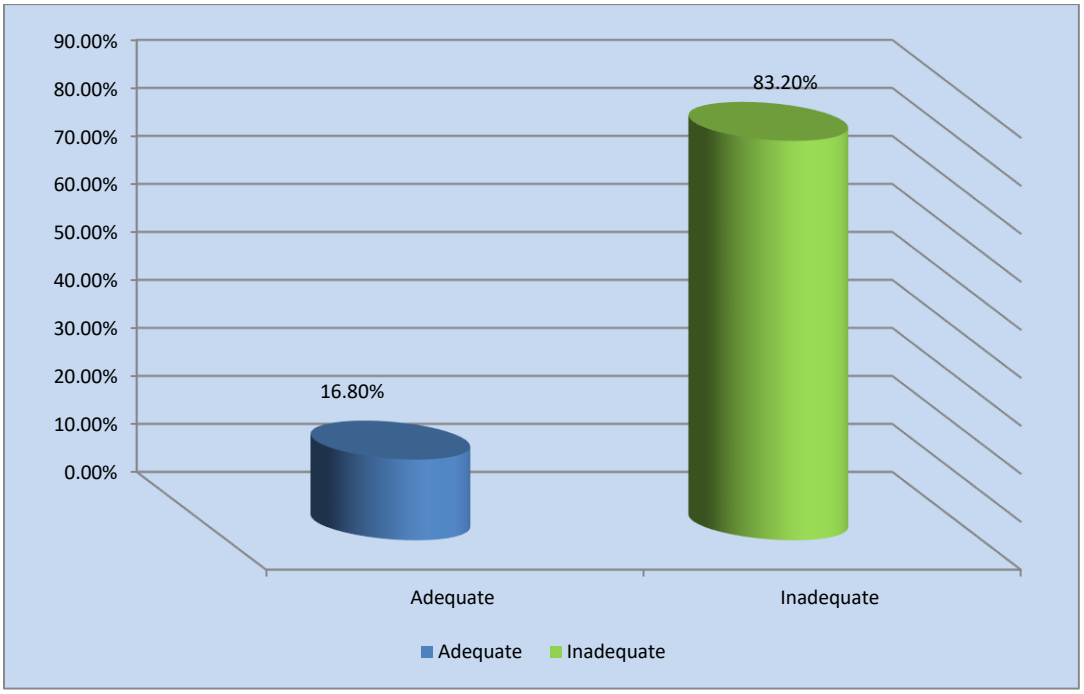

Figure (3): Percentage Distribution of the Studied Mothers' Total Reported Practices regarding Caring of their Child with Conjunctivitis (n=190)

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Table (3): Relation between Demographic Characteristics of the Studied Mothers' and Total Knowledge Level about Conjunctivitis (n=190)

Demographic characteristics	Total Knowledge						χ^2	P-value
	Good (n=23)		Average (n=120)		Poor (n=47)			
	No.	%	No.	%	No.	%		
Age (years)								
20- < 25	7	30.4	17	14.2	8	17.0	12.591	0.050*
25- <35	3	13.0	36	30.0	17	36.2		
35- < 45	9	39.1	54	45.0	22	46.8		
≥ 45	4	17.4	13	10.8	0	0.0		
Level of education								
Can't read and write	13	56.5	26	21.7	0	0.0	50.60	0.000**
Read and write	10	43.5	36	30.0	8	17.0		
Basic education	0	0.0	33	27.5	25	53.2		
Secondary education	0	0.0	16	13.3	10	21.3		
University education or more	0	0.0	9	7.5	4	8.5		
Marital status								
Married	20	87.0	82	68.3	39	83.0	9.479	0.050*
Divorced	3	13.0	26	21.7	8	17.0		
Widowed	0	0.0	12	10.0	0	0.0		
Occupation								
Employed	0	0.0	9	7.5	11	23.4	12.149	0.002*
Housewife	23	100.0	111	92.5	36	76.6		
Place of residence								
Rural	15	65.2	77	64.2	27	57.4	.726	0.695
Urban	8	34.8	43	35.8	20	42.6		
Monthly Income								
Not enough	19	82.6	51	42.5	19	40.4	23.618	0.000**
Enough	1	4.3	63	52.5	28	59.6		
Enough and save	3	13.0	47	5.0	0	0.0		

Table (4): Relation between Demographic Characteristics of the Studied Mothers' and Total Attitude Level about Conjunctivitis (n=190)

Demographic characteristics	Total Attitude				χ^2	P-value
	Positive (n=59)		Negative (n=131)			
	No.	%	No.	%		
Age (years)						
20- < 25	21	35.6	11	8.4	22.352	0.000**
25- <35	11	34.4	45	18.6		
35- < 45	23	47.3	62	39.0		
≥ 45	4	9.9	13	6.8		
Level of education						
Can't read and write	13	22.0	26	19.8	11.116	0.025*

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Read and write	20	33.9	34	26.0		
Basic education	22	37.3	36	27.5		
Secondary education	4	6.8	22	16.8		
University education or more	0	0.0	13	9.9		
Marital status						
Married	43	72.9	98	74.8	0.514	0.773
Divorced	13	22.0	24	18.3		
Widowed	3	5.1	9	6.9		
Occupation						
Employed	4	6.8	16	12.2	1.275	0.259
Housewife	55	32.4	115	87.8		
Place of residence						
Rural	34	57.6	85	64.9	0.916	0.339
Urban	25	42.4	46	35.1		
Monthly Income						
Not enough	28	47.5	61	46.6	0.045	0.978
Enough	28	47.5	64	48.9		
Enough and save	3	5.1	6	4.6		

Table (5): Relation between Demographic Characteristics of the Studied Mothers' and their Total Reported Practices Level about Conjunctivitis (n=190)

Demographic Characteristics	**Total Reported Practices**				χ^2	**P-value**
	Adequate (n=32)		**inadequate (n=158)**			
	No.	**%**	**No.**	**%**		
Age (years)						
20- < 25	9	28.1	23	14.6	7.252	0.064
25- <35	4	12.5	52	32.9		
35- < 45	15	46.9	70	44.3		
≥ 45	4	12.5	13	8.2		
Level of education						
Can't read and write	8	25.0	31	19.6	3.60	0.463
Read and write	11	34.4	43	27.2		
Basic education	9	28.1	49	31.0		
Secondary education	4	12.5	22	13.9		
University education or more	0	0.0	13	8.2		
Marital status						
Married	17	53.1	124	78.5	19.573	0.000**
Divorced	15	46.9	22	13.9		
Widowed	0	0.0	12	7.6		
Occupation						
Employed	0	0.0	20	12.7	4.527	0.033*
Housewife	32	100.0	138	87.3		
Place of residence						
Rural	21	65.6	98	62.0	0.147	0.701
Urban	11	34.4	60	38.0		
Monthly Income						
Not enough	21	65.6	68	43.0	9.005	0.011*

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Enough	8	25.0	84	53.2		
Enough and save	3	9.4	6	3.8		

Table (6): Correlation between the Studied Mothers' Total Knowledge Level, Total Attitude Level and Total Reported Practices Level regarding Conjunctivitis (n=190)

Variables	Total knowledge		Total reported practices		Total attitude	
	R	P	R	P	r	P
Total knowledge	---	----	0.139	0.046*	0.237	0.001**
Total reported practices	0.139	0.046*	--	--	0.563	0.000**
Total attitude	0.237	0.001**	0.563	0.000**	--	--

Discussion

Conjunctivitis is a common infection especially among children younger than 5 years. Although conjunctivitis rarely results in permanent visual loss or structural damage, it causes discomfort and is highly contagious. Conjunctivitis is responsible for~30% of all eye problems. Furthermore, eye infection, especially conjunctivitis, is estimated to cause total blindness in 5–15% of cases. Moreover, it leads to inability to be a part of playing and performing various activities. In addition, studying and doing schoolwork, which results in delayed in attendance and school performance **(Mahoney et al., 2023 & Hegazy et al., 2020).**

Mothers of children with conjunctivitis play a central and essential role in providing home care, as they become nurses, pharmacists, and physicians for their children. Mothers' performances for management and prevention of conjunctivitis in general start by keeping the child's eyes clean and washing them gently several times a day with cotton wool soaked in tepid water. In addition, to applying eye drops or ointment, and warm compresses to help loosen the crust that accumulates on the eyelids overnight **(Zhang et al., 2021).** Therefore, the current study aimed to assess mothers' performance regarding their children with conjunctivitis at Sohag University Hospital.

Regarding demographic characteristics of studied mothers. The current study showed that, more than two fifths of the studied mothers were in age group between 35- < 45 years. While less than one third of them had basic education, and slightly three quarters of them were married.

These results were congruent with **Abd El-Aziz et al., (2020),** Benha Ophthalmic Hospital, Benha, Egypt, (n=250) who studied "Mothers' Knowledge and Practices Regarding their Children with Acute Infective Conjunctivitis and revealed 45.8% of the studied mothers aged 35- < 45 years. Although, the findings of the present study were in accordance with **Abdel-Wahab et al., (2019)** who studied "Mothers' Knowledge, Practices and Attitudes regarding their Preschool Children with Xerophthalmia" and showed that, more than one third of mothers aged 30 -34 year with mean age of 31.2±5.22 years. In addition, these results were compatible with **Alshammari et al., (2024),** who studied "Levels of awareness regarding pediatric eye diseases among Saudi parents from the Hail and Al-Qassim Regions, Saudi Arabia, (n= 618) " and reported that 86.8% of studied mothers were married. This may be due to Egyptian females marry in young age especially in rural areas in which most females are not allowed to complete study after primary education.

From the researcher point of view, this may be due to Egyptian females marry in young age especially in rural areas in which most females are not allowed to complete study after primary education.

Concerning occupation, place of residence and monthly income; the current study results revealed that the majority of studied women were housewives, less than two thirds of them were live at rural area and about half of them had enough monthly income respectively. These results were congruent with **Abd El-Aziz et al., (2020),** who revealed that 64.2% of them living in rural areas, and 48.2% of participants had enough monthly income. Also, these results were

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compatible with **Alshammari et al., (2024),** who reported that less than half of mothers were housewives. This may be due to lack of job opportunities in rural and urban areas.

From the researcher point of view, this may be due to lack of job opportunities in rural and urban areas.

Concerning demographic characteristics of studied children. The current study showed that, more than two fifths of the studied children were in age group between 3- < 4 years, more than half of them were female and more than two fifths of them were in the second ranking between siblings.

This finding was in line with **Stan and Block's (2019),** who study entitled " Paediatric Acute Bacterial Conjunctivitis in Sohag Ophthalmic Hospital(n=100). An Update, Bardstown, Kentucky which found that 25% of the children under study developed conjunctivitis at that age.

These results were incongruent with the study conducted by **Hegazy et al., (2020),** who study entitled "Effect of instructional guidelines on mothers of children with conjunctivitis", El-Fayoum Ophthalmic Hospital, Egypt, (n= 50) and revealed that 43.2% of children were aged 1 to less than 3 years, and 41.1% of them were the second child between siblings. Conversely, these results disagreed with the study performed by **Said & Mohamed, (2022),** who studied "Effect of empowerment program on parents' self-competence regarding caring for their children with eye injuries, Ophthalmology Center affiliated to Benha University Hospital, Egypt, (n= 74) and demonstrated that 54.8% of studied children were males and 48.7% of them were the third in order between siblings.

From the researcher point of view, this may be due to the weak immunity of children at this age (3- < 4 years). In addition to, the self-activities that children do at this age.

Regarding to the studied mothers' total knowledge regarding conjunctivitis, the current study clarified that, less than two thirds of the studied mothers had average level of total knowledge regarding conjunctivitis, about one quarter of them had poor level of total knowledge, while more than one tenth of them had good total knowledge level regarding conjunctivitis.

This result was inconsistent consistent with research conducted by **Everitt & Little (2019)** in the USA, who conducted a study titled "A Qualitative Study of Patients' Perceptions of Acute Infectious Conjunctivitis" and found that two-thirds of mothers had poor knowledge because they didn't seek out or express a desire for more information about acute infective conjunctivitis.

From the investigator point of view, this may be due to mothers had basic education and housewife, so not have sufficient knowledge about conjunctivitis which impact their ability to manage the condition effectively.

As regards the studied mothers' total attitude toward conjunctivitis. The current study clarified that, less than two thirds of the studied mothers had negative total attitude level toward conjunctivitis, while more than one third of them had positive total attitude level toward conjunctivitis.

These results agree with **Khattak et al., (2023)**, who conducted a study in Pakistan about " Knowledge, practice and attitude of mothers for ophthalmic problems in children in rural areas- A cross-sectional study " and found that more than two thirds of mothers had negative attitude about ophthalmic problems in children. while, these results were different with **Bashir et al., (2024),** who found that more than half of participants had positive attitude toward conjunctivitis. This may be due to lack of mothers' awareness and training programs regarding management of children conjunctivitis.

From the researcher point of view, this may be due to lack of mothers' awareness and training programs regarding management of children with conjunctivitis.

Concerning the studied mothers' total reported practices regarding caring of their child with conjunctivitis. The current study clarified that, more than four fifths of the studied mothers had inadequate total reported practices level related to caring of child with conjunctivitis, while less than one fifth of them had adequate total reported practices level related to caring of child with conjunctivitis. This result was compatible with the study conducted by **Mahjoub et al., (2024),** who demonstrated that most mothers had low reported practice scores at pretest.

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From the researcher point of view, this may be due to lack of knowledge which reflects on their practices regarding disease prevention.

According to relation between demographic characteristics of the studied mothers' and total knowledge level about conjunctivitis. The current study displayed that, there were highly statistically significant relation between studied mothers' total knowledge level regarding conjunctivitis and level of education, monthly income, age, marital status and occupation.

These results were in the same line with **Baashar et al., (2020),** who studied "Parents' knowledge and practices about child eye health care in Saudi Arabia", (n= 97)and revealed that Parents aging less than 20-year old had better knowledge and university graduates had a better level of knowledge. Also, these results were congruent with the study carried out by **Almogbel et al., (2023),** which entitled "Parents' awareness and attitude toward pediatrics eye diseases in Makkah, Saudi Arabia", (n= 470)and revealed that parents aged 18-40 years showed a better knowledge level than older parents. Also, parents' educational level was associated with their level of knowledge and employment status. This phenomenon could potentially be attributed to heightened levels of maturity and experience that often accompany advancing age and marital status. Moreover, enhanced cognitive prowess and the proactive attitude of mothers towards education are more pronounced among individuals with elevated levels of academic attainment.

As regard to relation between demographic characteristics of the studied mothers' and total attitude level about conjunctivitis. The current study showed that, there was a highly statistically significant relation between studied mothers' total attitude level regarding conjunctivitis and their age and level of education.

These results were compatible with **Alkalash et al., (2023),** who reported that older adults associated with a positive attitude. While, These results were inconsistent with **Amiebenomo et al., (2022),** who studied "Parental knowledge and attitude to children's eye care services", Benin City, southern Nigeria, (n= 468)" whose demonstrated that there were no significant associations between parents' attitude to eye care, age and educational status. This may be because the attitude is affected by levels of knowledge that improve with increase the level of education.

From the investigator point of view, this may be because the attitude is affected by levels of knowledge that improve with increase the level of education.

Regarding relation between demographic characteristics of the studied mothers' and total reported practices level about conjunctivitis. The current study revealed that there was a highly statistically significant relation between studied mothers' total reported practices level regarding conjunctivitis and marital status, occupation and monthly income.

These results were similar with the study conducted by **Khan et al., (2023),** who revealed that eye care practices were good in males and respondents with higher monthly income. while, these results were different with **Pawar et al., (2023),** who studied" Assessment of parental awareness about pediatric visual problems by Knowledge-Attitude-Practice survey in South India(n=200) who found that the level of practice were not significantly associated with the factors demographic factors like monthly income and occupation. This may be due to the lived experience of married women and searching information and advices from others help them to manage here child problem, in addition, with adequate monthly income they can visit ophthalmologist for treating and getting advises for managing child conjunctivitis.

From the researcher point of view, this may be due to the lived experience of married women and searching information and advices from others help them to manage here child problem, in addition, with adequate monthly income they can visit ophthalmologist for treating and getting advises for managing child conjunctivitis.

Concerning correlation between the studied mothers' total knowledge level, total attitude level and total reported practices level regarding conjunctivitis. The current study showed that there were highly statistically significant positive correlation between studied mothers total attitude, total reported practices and total knowledge regarding conjunctivitis.

This result was congruent with **Mahjoub et al., (2024),** who indicated that there were positive correlations between the mother's overall knowledge and practice scores regarding their children suffering from acute infectious conjunctivitis. Also, these results were similar with **Khattak et al., (2023),** who showed that there was a strong positive correlation between Knowledge and practice, Knowledge and Attitude variables. Also, practice and attitude variables

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have a fair positive correlation among them. This may be explained by the fact that with a high level of knowledge, the mothers' perception of the importance of care increased, which reflects positively on mother's practices.

From the investigator point of view, this may be explained by the fact that with a high level of knowledge, the mothers' performance attitude of care were increased, which reflects positively on mother's practices.

Conclusion:

- **In light of the current study result and answered the research questions it can be concluded that:**

  More than three fifth had average level of total knowledge regarding conjunctivitis, less than two third of them had negative total attitude level toward conjunctivitis as well as more than three quarters of them had inadequate total reported practices level related to caring of child with conjunctivitis. There were highly statistically significant relation between studied mothers total knowledge level regarding conjunctivitis and their level of education, monthly income, their age, marital status and occupation. As well, there was a highly statistically significant relation between studied mothers' total attitude level regarding conjunctivitis and age and level of education. In addition there was a highly statistically significant relation between studied mothers' total reported practices level regarding conjunctivitis and their marital status, occupation and monthly income. Furthermore there were high statistically significant positive correlation between studied mothers total attitude, total reported practices and total knowledge regarding conjunctivitis.

Recommendations:

In the light of the result of this study, the following recommendations were suggested:

- Implementing an educational programs for mothers to improve knowledge, practices and attitude toward conjunctivitis.
- Disseminate booklets and poster to increase awareness about conjunctivitis.
- Further research on a large sample and other setting is needed.

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