# Mothers' Knowledge, Attitude and Reported Practices 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' knowledge, attitude and reported practices regarding their children with conjunctivitis at sohag university hospital. **Design:** a descriptive cross - sectional study 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 knowledge, total attitude and total reported practices regarding conjunctivitis. **Recommendations:** Implementing an educational program for mothers to improve knowledge, practices and attitude toward conjunctivitis.

**Keywords: Attitude Children, Conjunctivitis, Mothers' knowledge, and practices Reported.**

## Introduction

There are cases of conjunctivitis everywhere in the world. The thin, transparent layer of tissue called the conjunctiva, which lines the inside of the eyelid and covers the white part of the eye, becomes inflamed when "pink eye" occurs. Acute infective conjunctivitis is a common eye illness, especially in children. One or both eyes may be affected. Conjunctivitis typically manifests as a mild eye infection, but occasionally it can worsen into a major issue **(American Academy of Paediatrics (AAP), 2023).**

Conjunctivitis is typically classified according to its cause, which might include chemical, bacterial, fungal, parasitic, toxic, chlamydial, and allergic agents. Viral conjunctivitis can last for up to 14 days. Viruses are the most common cause of acute (short-term) conjunctivitis. The most common virus type that can cause it is the adenovirus family. Unlike bacterial conjunctivitis, there is no curative treatment for viral conjunctivitis. It is appropriate for a child to return to school when tearing and discharge are greatly improved **( Cash and Glass, 2020).**

Although adenoviruses are responsible for the majority of conjunctivitis instances, other viruses such as varicella-zoster virus and herpes simplex virus can also cause the condition. Colds or signs of a respiratory infection, like a scratchy throat, can coexist with bacterial or viral conjunctivitis. Both varieties are highly transmissible. Direct or indirect contact with the fluid that drips from an infected person's eye might spread them. It could impact one or both eyes **(American Academy of Paediatrics (AAP), 2023).**

Bacteria that cause conjunctivitis can be found on hands, facecloths, towels, or handkerchiefs that come into contact with the eyes. The symptoms of conjunctivitis often appear two to four days after the infection. Infectious bacteria can adhere to the conjunctiva just like they might to any other mucous membrane. The body's natural defences may be overwhelmed, leading to clinical signs like redness, discharge, irritation, and sometimes photophobia. It's

normal for some tear film to form in the corners of your eyes while you sleep, which might lead to crusting in the morning. Exudation and cellular invasion are two cellular characteristics of conjunctivitis (**Akpalaba and Aluge, 2022).**

Overcrowding, poor sanitation, and increased exposure to communicable diseases are the outcomes of inadequate housing. Children under the age of five are the primary victims of eye disease globally, and environmental risk factors including contaminated water, poor sanitation and hygiene, and indoor air pollution from solid fuel used for cooking, increase the risk of the condition (**Centres for Disease Control and Prevention(CDCP), 2022).**

The child can typically return to creche or school as soon as the symptoms subside. This could occur two to seven days following a viral illness and as fast as 24 hours following antibiotic treatment for a bacterial infection. Encourage moms to practice good hygiene by changing pillows frequently, replacing eye makeup on a regular basis, avoiding sharing towels or handkerchiefs, keeping hands away from the eyes and frequently washing their children's hands to help stop the spread of conjunctivitis (**World Health Organisation (WHO), 2022).**

Relieving symptoms and preventing the spread of infectious agents are the main objectives of nursing care for conjunctivitis. The moms should be instructed on how to apply eye drops or ointment to alleviate discomfort, and warm compresses can aid in breaking the crust that builds on the eyelids overnight. Families should be instructed not to allow their children to rub or touch their eyes. Because conjunctivitis is extremely contagious, it is important to investigate ways to reduce infectious dissemination **(Aronson and Shope, 2019).**

Because they give the primary care for ill children, mothers' practices about child care are crucial. Teach mothers to wash their hands properly after giving their children their medications, to avoid sharing personal items like towels and washcloths with other people, to change the child's pillowcases and towels on a regular basis to prevent re-infection, to wash linens and towels the child has used in hot water, and to discard items like gauze after uses (**Isenberg et al., 2022).**

## Significance of the study

Conjunctivitis is the cause of 13 to 14 cases per 1,000 cases per year, or around 35% of all eye illnesses that present in general practice. Children's cases of bacterial infectious conjunctivitis vary widely in percentage. Acute conjunctivitis is the most common eye ailment in children, and the majority of these children are students. Frequent absences from school due to conjunctivitis have a detrimental effect on a child's attendance and performance. The inability to play, read, interact with others, or engage in outdoor activities are further problems kids can have (**American Optometric Association (AOA), 2023).**

Inflammation of the conjunctiva, the thin, transparent membrane that covers the surface of the eye and inner eyelids, is the hallmark of conjunctivitis, a common ocular condition. Because of its prevalence, which cuts across age, geography, and socioeconomic level, it is a major global public health concern. Because it causes redness, inflammation, and discomfort in the eye, conjunctivitis is sometimes referred to as pink eye. If neglected, it can cause issues such ocular irritation because it is extremely contagious and spreads readily in close quarters **(Jasim et al., 2024).**

It is crucial to educate mothers in order to stop transmission. It should be emphasized how important hand hygiene is for kids, employees, family, and friends. According to one study, 46% of the hands swabbed from an infected youngster produced positive cultures. When infected, mothers should be advised to refrain from touching their eyes, shaking their hands, sharing personal objects like towels or makeup, and going near swimming pools. A kid who has been admitted with active conjunctivitis should be segregated, and medical equipment should be cleaned **(Ali et al., 2023).**

Mothers' performance regarding care for their children is very essential because the mothers are the primary care giver for their sick child at home so the mothers should be aware by healthy practices of conjunctivitis relies on good personal hygiene to prevent spread of infection and prevent complication (**Zhang et al.,2021**). So it is important to assess mothers' performance regarding their children with conjunctivitis to prevent spread of infection and improve health status.

## Aim of the study

The aim of this study is to assess mothers' knowledge, attitude and reported practices 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 cross-sectional study design was used in this study .

### Setting

The study was conducted at Ophthalmic Outpatient clinic at Sohag university Hospital which clinic in first floor at Sohag University Hospital and included one rooms for checkup, the working in this clinic all the day per week from 9 am to 1 pm except Friday. The clinic include 1physician and 2 nursing staff. It consisted of sphygmomanometer, stethoscope, a slide to examine the ear, devices for measuring temperature and equipment for examining vision such as torch, retinoscope, snellen chart and tonometer.

### 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:

### 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 is developed by researcher it include four parts:

**Part l: A) Demographic characteristics of studied mothers**: It is developed by researcher include 6 closed /ended questions as age, educational level, marital status, occupation, place of residence and monthly income.

**B) Demographic characteristics of studied children**: It is developed by researcher include 3 closed /ended questions as age, gender and ranking of child between siblings.

**C) Child past and present medical history of conjunctivitis:** It is developed by researcher 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 developed by researcher 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 )
**-Average knowledge** 60- <75% (12- <15 )
**-Poor knowledge** <60% (0- <12 )

**Part lll: Mothers' attitude regarding conjunctivitis of their child:** Mothers' attitude developed by researcher 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.

**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 )

-**Negative attitude** % 60 > (16- > 29 )

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

It developed by researcher 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**: It developed by researcher 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**: It developed by researcher 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:** It developed by researcher **i**nclude, 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:** It developed by researcher **i**nclude, 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**: It developed by researcher 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** 1

-**Not done** zero

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

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

-**Inadequate reported practices** > 60% ( > 15.6 )

## 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. Take approval place the data collected 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 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. Self interview 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

The director of the aforementioned hospital received an official letter from the dean of Helwan University's hospital's nursing faculty asking for permission to perform the study. This letter explained the goal and scope of the study and granted authorisation to gather the required data.

## IV-Statistical Item

Using a personal computer (PC), the data gathered from the sample under study was updated, coded, and input. The Statistical Package for Social Sciences (SPSS) version 26 was used to do statistical analysis and computerised data entry. Descriptive statistics were used to display the data as percentages and frequencies. For qualitative variable comparisons, the chi-square test (X2) was employed. The degree and direction of the relationship between two ranked variables are measured using Spearman correlation. Mean ± SD was also utilized.

## Result

**Table (1):** Reveals that, 64.7% of the studied children their family member hadn't infection with conjunctivitis, while 61.2% of them had degree of kinship with the person suffering from conjunctivitis by brothers, 43.8% of them source of infection with conjunctivitis by not cleaning their hands after touching any surface, 70% of them hadn't eye injuries in the past, 57.9% of them had eye injury by foreign bodies entering the eye, 73.2% of them hadn't eye surgery before and 64.7% of them had eyelid lift surgery.

**Table (2)**: Demonstrates that, 23.7% of the studied children had eye redness, 31.6% of them use trimethoprim as treatment for conjunctivitis and 50.5% of them onset of conjunctivitis in a child was 1- <2 years.

**Table (3)**: Indicates that, 17.9%, 32.6% and 17.9% of studied mothers had wrong answer or didn't know about types, methods of diagnoses and methods of treatment of conjunctivitis. While, 31.1% and 25.2% of them had complete correct answer about causes and methods of transmission of conjunctivitis. In addition, 83.2%, 78.9% and 86.3% of them had incomplete correct answer about vulnerable group for conjunctivitis, complications of conjunctivitis and preventive methods of conjunctivitis .

**Table (4):** Indicated that, 59.5%, 63.2% ,66.3% and 66.3% of the studied mothers disagreed about conjunctivitis is an infectious disease, rinsing the eye several times a day with water can relieve the symptoms of conjunctivitis, infection of conjunctivitis like any infection that affects a child and conjunctivitis affects the child's participation in playing with friends. While, 66.8% of them agreed about washing hands with soap and water frequently reduces the incidence of conjunctivitis. In addition , 53.7% of them were neutral in applying any ointment to the eye of a child without consulting a doctor has negative effects.

**Table (5)**: Indicates that, 76.8% of the studied mothers reported that they were not done, rinse the eyes several times a day with water. While, 68.9% of them reported that they were done cold compresses for conjunctival sensitivity.

**Table (6):** 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. While, there was no statistically significant relation between studied mothers total knowledge level regarding conjunctivitis and place of residence.

**Table (7**): Shows that, there were highly statistically significant positive correlation between studied mothers total attitude, total reported practices and total knowledge regarding conjunctivitis.

**Results**

**Table (1): Frequency Distribution of the Studied Children regarding Past History of Conjunctivitis (n=190)**

| Past history | No. | % |
|---|---|---|
| **Family member infected with conjunctivitis** | | |
| Yes | 67 | 35.3 |
| No | 123 | **64.7** |
| **If yes, degree of kinship with the person suffering from conjunctivitis (n=67)** | | |
| Father | 12 | 17.9 |
| Mother | 14 | 20.9 |
| Brothers | 41 | **61.2** |
| **Source of child infection with conjunctivitis:** | | |
| Through family | 39 | 20.5 |
| Through friends | 12 | 6.3 |
| Through nursery | 17 | 8.9 |
| By not cleaning hands after touching any surface | 83 | **43.8** |
| Excessive sharing of pillows or towels | 39 | 20.5 |
| **Occurance of eye injuries in the past** | | |
| Yes | 57 | 30.0 |
| No | 133 | **70.0** |
| **In case of yes, the reason of eye injuries in the past (n=57)** | | |
| Foreign bodies entering the eye | 33 | **57.9** |
| Exposure to liquid chemicals or detergents | 24 | 42.1 |
| **A child undergone eye surgery before** | | |
| Yes | 51 | 26.8 |
| No | 139 | **73.2** |
| **If the answer is yes, type of eye surgery (n=51)** | | |
| Strabismus correction operation | 14 | 27.5 |
| Cornea transplant | 4 | 7.8 |
| Eyelid lift surgery | 33 | **64.7** |

**Table (2): Frequency Distribution of the Studied Children regarding Present History of Conjunctivitis (n=190)**

| Present history | No. | % |
|---|---|---|
| **The present symptoms that the child suffers from, related to conjunctivitis:** | | |
| Eye redness | 45 | **23.7** |
| Redness of the edges of the eyelids and swelling of the eyelids | 31 | 16.3 |
| Eye burning sensation – tears | 3 | 1.6 |
| Intense desire to scratch the eye - purulent secretions, watery secretions | 24 | 12.6 |
| High sensitivity in the eyelids | 9 | 4.7 |
| Green or white mucous discharge from the eye | 23 | 12.1 |
| Sticking of the eyelids in the morning due to excessive secretions | 20 | 10.5 |
| Feeling the presence of a foreign body in the eye | 9 | 4.8 |
| Blurred vision | 26 | 13.7 |
| **Current treatment for conjunctivitis** | | |
| Moxifloxacin | 45 | 23.7 |
| Ciprofloxacin | 43 | 22.6 |
| Trimethoprim | 60 | **31.6** |
| Bicifloxacin | 42 | 22.1 |
| **Onset of conjunctivitis for a child** | | |
| 6 months -<1 year | 23 | 12.1 |
| 1-<2 years | 96 | **50.5** |
| ≥ 2 years | 71 | 37.4 |

**Table (3): Frequency Distribution of the Studied Mothers Knowledge regarding Conjunctivitis (n=190)**

| Items of knowledge | Complete correct answer | | Incomplete correct answer | | Wrong / Don't know | |
|---|---|---|---|---|---|---|
| | No. | % | No. | % | No. | % |
| Meaning of conjunctivitis | 39 | 20.5 | 134 | 70.6 | 17 | 8.9 |
| Types of conjunctivitis | 24 | 12.6 | 132 | 69.5 | 34 | **17.9** |
| Causes of conjunctivitis | 59 | **31.1** | 115 | 60.5 | 16 | 8.4 |
| Symptoms of conjunctivitis | 43 | 22.6 | 130 | 68.5 | 17 | 8.9 |
| Vulnerable group for conjunctivitis | 9 | 4.7 | 158 | **83.2** | 23 | 12.1 |
| Methods of transmission of conjunctivitis | 48 | **25.2** | 120 | 63.2 | 22 | 11.6 |
| Methods of diagnoses of conjunctivitis | 20 | 10.6 | 108 | 56.8 | 62 | **32.6** |
| Complications of conjunctivitis | 25 | 13.2 | 150 | **78.9** | 15 | 7.9 |
| Preventive methods of conjunctivitis | 2 | 1.1 | 164 | **86.3** | 24 | 12.6 |
| Methods of treatment for conjunctivitis | 18 | 9.5 | 138 | 72.6 | 34 | **17.9** |

* Statistically significant at p<0.05. ** Highly statistically significant at p<0.001

**Table (4): Frequency Distribution of the Studied Mothers' Attitude toward Conjunctivitis (n=190)**

| Attitude items | Agree | | Neutral | | Disagree | |
|---|---|---|---|---|---|---|
| Think that | No. | % | No. | % | No. | % |
| Conjunctivitis is an infectious disease. | 45 | 23.7 | 32 | 16.8 | 113 | **59.5** |
| Conjunctivitis is one of the causes that lead to eye diseases. | 35 | 18.4 | 49 | 25.8 | 106 | 55.8 |
| Washing hands with soap and water frequently reduces the incidence of conjunctivitis. | 127 | **66.8** | 30 | 15.8 | 33 | 17.4 |
| Rinsing the eye several times a day with water can relieve the symptoms of conjunctivitis. | 55 | 28.9 | 15 | 7.9 | 120 | **63.2** |
| Spread of conjunctivitis infection occurs by sharing personal items between individuals. | 5 | 2.6 | 79 | 41.6 | 106 | 55.8 |
| Applying any ointment to the eye of a child without consulting a doctor has negative effects**.** | 28 | 14.7 | 102 | **53.7** | 60 | 31.6 |
| Conjunctivitis has serious complications on the eyes. | 52 | 27.4 | 81 | 42.6 | 57 | 30.0 |
| Conjunctivitis causes a child to lose sight if prompt treatment is not done. | 99 | 52.2 | 36 | 18.9 | 55 | 28.9 |
| Infection of conjunctivitis, like any infection that affects a child. | 27 | 14.2 | 37 | 19.5 | 126 | **66.3** |
| Infection with conjunctivitis affects the health of the child. | 41 | 21.6 | 39 | 20.5 | 110 | 57.9 |
| Child with conjunctivitis needs an eye examination. | 28 | 14.8 | 92 | 48.4 | 70 | 36.8 |
| Child with conjunctivitis needs eye treatment and follow-up. | 83 | 43.7 | 26 | 13.7 | 81 | 42.6 |
| Child with conjunctivitis needs appropriate care in health care settings. | 47 | 38.9 | 15 | 7.9 | 101 | 53.2 |
| Conjunctivitis affects the child's participation in playing with friends. | 49 | 25.8 | 15 | 7.9 | 126 | **66.3** |
| Conjunctivitis affects the child's regularity in school. | ٦٠ | ٣١.٦ | 8 | 4.2 | ١٢٢ | ٦٤.٢ |
| Conjunctivitis affects the child's concentration. | 63 | 33.2 | 55 | 28.9 | 72 | 37.9 |

**Table (5): Frequency Distribution of the Studied Mothers Reported Practices regarding Relieve Symptoms of Conjunctivitis (n=190)**

| Mothers' reported practices | Done | | Not done | |
|---|---|---|---|---|
| | No. | % | No. | % |
| **To relieve symptoms:** | | | | |
| Going to the hospital or pharmacies for treatment. | 57 | 30 | 133 | 70.0 |
| Rinse the eyes several times a day with water. | 44 | 23.2 | 146 | **76.8** |
| Gently and frequently clean the eyelid and eyelashes with a warm, damp cloth or cotton. | 91 | 47.9 | 99 | 52.1 |
| Cold compresses for conjunctival sensitivity. | 131 | **68.9** | 59 | 31.1 |

**Table (6): Relation between Demographic Characteristics of the Studied Mothers' and Total Knowledge Level about Conjunctivitis (n=190)**

| Demographic characteristics | Total Knowledge | | | | | | $\chi^2$ | 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 (7): 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** | -- | -- |

* Statistically significant at p<0.05. ** Highly statistically significant at p<0.001

## Discussion

Conjunctivitis is a prevalent infection, particularly in children under five. Conjunctivitis is uncomfortable and very contagious, but it seldom causes structural damage or permanent vision loss. Conjunctivitis is the cause of about 30% of all eye conditions. Additionally, it is estimated that 5–15% of cases of eye infections, particularly conjunctivitis, result in complete blindness. Additionally, it makes it impossible to participate in games and other activities. Furthermore, studying and completing coursework cause attendance and academic performance to lag (**Mahoney et al., 2023 & Hegazy et al., 2020).**

Because they serve as their children's nurses, chemists and doctors, mothers of children with conjunctivitis are crucial to the provision of home care. Keeping the child's eyes clean and gently wiping them multiple times a day with cotton wool soaked in tepid water is the first step in mothers' efforts to manage and prevent conjunctivitis in general. Moreover, using warm compresses and eye drops or ointment can help break up the crust that forms on the eyelids overnight (**Zhang et al., 2021).** In order to evaluate mothers' performance with relation to their conjunctivitis-affected children at Sohag University Hospital, the current study was conducted.

Pertaining to the children's conjunctivitis history under study. Less than two-thirds of the children in the study had no family history of conjunctivitis, less than half of them contracted the condition by not washing their hands after touching anything, more than half of them suffered eye injuries from foreign objects getting into their eyes, and less than three-quarters of them had never had eye surgery.

**Kahol et al. (2020)** found that 63.2% of children had no family history of allergic conjunctivitis. Their study, "Prevalence, morbidity and treatment seeking behaviour for allergic conjunctivitis in children in a North Indian community, Chandigarh, India, (n=217)," supported these findings. These findings were also consistent with those of **Hegazy et al. (2020),** who found that nearly all of the participants had never had eye surgery and that roughly one-third of them reported a family member's prior infection.

From the investigator point of view, it may be because conjunctivitis is an infectious disease in nature which may be caused by touching eyes with dirty unclean hands.

Concerning present history of the studied children regarding conjunctivitis. The current study demonstrated that, less than one quarter of the studied children had eye redness, less than one third of them use trimethoprim as treatment for conjunctivitis and half of them onset of conjunctivitis in a child was 1-< 2 years **.**

These findings were consistent with a study by **Al-Eryani et al. (2024)** on "Bacterial conjunctivitis among malnourished children: Causes, associated factors, and ophthalmic antibiotic resistance patterns of common bacterial isolates" in the Al-Khamis district of Saudi Arabia (n=406), which found that 45.4% of the children in the study had red eyes. These findings were consistent with those of **Bashir et al. (2024),** who conducted a study in Saudi Arabia on the "Evaluation of Allergic Conjunctivitis Prevalence and Attitude Towards Prevention and Control" (n=87). The study found that the most common symptom of conjunctivitis, according to 20% of participants, was eye redness, and that 31.8% of them said that antibiotics were frequently used for interventions. Conjunctivitis, a frequent eye condition in youngsters of this age, could be the cause of this.

Pertaining to the mothers' understanding of conjunctivitis. According to the current study, a small percentage of the mothers who were tested either gave incorrect answers or were ignorant of the different types, diagnosis techniques, and treatment options for conjunctivitis.

These results were in line with those of **Loffredo et al. (2020**), who studied the "Assessment of Mothers' Role in Care of Ophthalmological Problems in Their Children" at three different ophthalmology outpatient clinics: Ophthalmology Hospital affiliated with El-Mansoura University Hospital, El-Demerdash Hospital affiliated with Ain Shams University, and Children Hospital. The study's 300 participants showed that slightly less than one-third of the mothers in the study reported that their children These findings, however, were inconsistent with a study conducted by **Makombe in 2021** at Kawale Health Centre in Lilongwe, Malawi, with the title "Knowledge and Perceptions of Guardians/Parents of Under Five Children on Conjunctivitis" (n=100). The study found that the majority of parents were ignorant of the causes of conjunctivitis.

Regarding the reasons and modes of conjunctivitis transmission, almost one-third of them provided entirely accurate answers. Furthermore, most of them gave incorrect answers on conjunctivitis prevention techniques, conjunctivitis complications, and susceptible groups.

These findings were consistent with those of **Said & Mohamed (2022**), who found that 82.4% of moms in the study provided an incomplete response to the question about conjunctivitis prevention and susceptible groups. This result was also in line with the findings of **Sayed et al. (2021),** who conducted a study on the "Effect of Health Educational Program on Mothers' Knowledge and Practices Regarding Care of Children with Trachoma" (n=60) at outpatient ophthalmological clinics at Minia University Hospital and Minia City ophthalmology hospital. The study

found that while a minority of the mothers in the study had a high level of knowledge prior to the educational program, the majority of them had this knowledge

According to the researcher, this can be because the women under study don't get any conjunctivitis education.

Based on the mothers' attitudes regarding conjunctivitis. According to the current study, over half of the mothers who participated in the study disagreed that conjunctivitis is an infectious disease, that rinsing the eye with water multiple times a day can alleviate its symptoms, that conjunctivitis is like any other infection that affects children, and that conjunctivitis affects a child's ability to play with friends.

These findings corroborated those of **Makombe (2021),** who found that most participants cleaned their inflamed eyes with water as a first aid measure. The inadequate degree of awareness and information regarding the illness and its prevention strategies could be the cause of this. Additionally, these findings aligned with the research by **Wadhwani et al. (2021)** titled "Knowledge, attitude, and practice among carers of children with vernal keratoconjunctivitis in a tertiary care paediatric hospital" in northern India (n = 65), which found that carers concurred that conjunctivitis impacts children's school hours and other leisure activities.

However, over two-thirds of them concurred that frequent hand washing with soap and water lowers the risk of conjunctivitis.

In a study on "Holistic homoeopathic approach to conjunctivitis: A natural path of healing" (n=100) conducted in India**, Singh et al. (2023)** found that over two-thirds of the mothers agreed that it is important to wash your hands frequently with soap and warm water, especially before eating. Additionally, this result was consistent with **Iqbal & Altaf's (2023)** study in Pakistan on "Overview of Pink Eye Infection (Conjunctivitis)," which revealed that almost two-thirds of people regularly wash their hands and use freshly laundered towels and washcloths every day.

Furthermore, over 50% of them expressed no opinion regarding the detrimental effects of putting any ointment to a child's eye without first seeing a doctor. The majority of children in the United States who have conjunctivitis are still prescribed an ophthalmic antibiotic, according to a study conducted in the United States called "More Than Meets the Red Eye: The Necessity for a National Guideline for Paediatric Conjunctivitis" (n= 8.805) by **Frost & Kuo (2024**).

According to the researcher, this might be because moms are less educated and less aware of the need to take precautions against conjunctivitis.

Mothers who participated in the study shared their methods for reducing conjunctivitis symptoms. According to the current study, over three-quarters of the moms who were surveyed said they did not rinse their eyes with water multiple times a day. In contrast, over two-thirds of them stated that they had applied cold compresses to their conjunctival sensitivities.

These findings were consistent with those of **Mohammed et al. (2020),** who found that 67.8% of mothers applied cold compresses to conjunctivitis cases caused by allergies. This outcome was also consistent with **Pawar et al.'s (2023)** study, "Assessment of parental awareness about paediatric conjunctivitis by Knowledge-Attitude-Practice survey in South India" (n=200), which discovered that 76.8% of mothers rinsed their eyes with water multiple times a day.

According to the researcher, this might be because moms are aware of how important eye washing is for reducing the symptoms of the condition.

Based on the relationship between the moms' demographics and their overall degree of conjunctivitis knowledge. The results of the current study showed a very statistically significant relationship between the mothers' total level of conjunctivitis knowledge and their age, marital status, occupation, monthly income, and educational attainment.

These findings were consistent with those of **Baashar et al. (2020),** who investigated "Parents' knowledge and practices about child eye health care in Saudi Arabia" (n=97) and found that university graduates and parents under the age of 20 had higher levels of knowledge. These findings were also consistent with a study by **Almogbel et al. (2023)** titled "Parents' awareness and attitude towards paediatrics eye diseases in Makkah, Saudi Arabia" (n = 470), which found that parents between the ages of 18 and 40 had a higher degree of knowledge than parents who were older. Additionally, the educational attainment of parents was linked to their employment status and degree of expertise.

According to the researcher, this phenomena might be explained by the increased experience and maturity that come with growing older and becoming married. Furthermore, moms' proactive approach to education and improved cognitive abilities are more noticeable in those with higher academic achievement.

Regarding the relationship between the mothers' reported habits, attitude, and overall understanding of conjunctivitis. The results of the current study demonstrated a highly statistically significant positive link between the mothers' reported practices, attitude, and overall knowledge about conjunctivitis.

This finding was consistent with that of **Mahjoub et al. (2024),** who found that mothers' practice scores and general knowledge about their children's acute infectious conjunctivitis were positively correlated. These findings were also consistent with those of **Khattak et al. (2023),** who demonstrated a substantial

positive association between the variables of knowledge and attitude as well as knowledge and practice. Additionally, there is a favourable link between practice and attitude variables.

From the perspective of the researcher, this may be explained by the fact that mothers' performance attitude of care rose with a high degree of knowledge, which has a good impact on mothers' practices.

## Conclusion

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

Less than two-thirds of them had a negative attitude towards conjunctivitis, more than three-quarters of them had inadequate total reported practices related to caring for a child with conjunctivitis, and more than three-fifths had average levels of overall knowledge about the condition. There was a significantly substantial correlation between the mothers' total level of conjunctivitis knowledge and their occupation, age, marital status, monthly income, and educational attainment. Additionally, there was a very statistically significant correlation between the age and educational attainment of the mothers in the study and their overall attitude towards conjunctivitis. Additionally, there was a very statistically significant correlation between the moms' marital status, occupation, and monthly income and the overall amount of conjunctivitis practices they reported. Additionally, there

## Recommendations

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

1. The implementation of educational initiatives aimed at improving mothers' attitudes, behaviors, and knowledge around conjunctivitis.
2. Distribute posters and booklets to raise awareness of conjunctivitis.
3. More studies with a larger sample size and in different contexts are required.
4. More studies with a larger sample size and in different contexts are required.

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