

**Course:** Database Systems

**Assignment:** 01

**Topic:** Pink Eye Infection

**Submitted To:**

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**Background:**

Pink eye, also known as conjunctivitis, is a common eye infection characterized by inflammation of the conjunctiva, the thin, transparent membrane that covers the white part of the eye and lines the inner surface of the eyelids. It can be caused by bacteria, viruses, allergens, or irritants. Pink eye can spread easily and is often accompanied by symptoms such as redness, itching, tearing, and discharge.

**Applications:**

Pink eye infections can have several applications:

1. **Medical Research:** Researchers can use the database to analyze trends, risk factors, and treatment outcomes related to pink eye.
2. **Clinical Practice:** Healthcare professionals can access information on different types of pink eye, recommended treatments, and guidelines for management.
3. **Public Health:** Health authorities can monitor outbreaks, implement preventive measures, and educate the public about pink eye prevention and treatment.
4. **Patient Education:** Individuals can learn about pink eye symptoms, causes, and treatment options to make informed decisions about their eye health.

**Limitations:**

1. **Data Quality:** The accuracy and completeness of data may vary depending on the source and methods of data collection.
2. **Privacy Concerns:** Patient privacy and confidentiality must be ensured when collecting and storing sensitive health information.
3. **Access Restrictions:** Access to the database may be limited to authorized users due to privacy regulations and data security measures.
4. **Bias:** The database may reflect biases in data collection, such as underreporting of mild cases or overrepresentation of severe cases seen in healthcare settings.

**Attributes:**

1. **Patient Demographics:** Age, gender, geographic location, and other demographic factors.
2. **Clinical Characteristics:** Symptoms, duration, severity, and complications of pink eye.
3. **Etiology:** Identification of the causative agents (bacteria, viruses, allergens, irritants).
4. **Diagnosis and Treatment:** Diagnostic tests performed, treatment modalities used, and treatment outcomes.
5. **Epidemiology:** Incidence, prevalence, seasonal patterns, and risk factors associated with pink eye.

**Problems:**

The database aims to address several problems associated with pink eye infections:

1. **Limited Information:** There is a lack of comprehensive data on pink eye epidemiology, etiology, and management, hindering research and clinical decision-making.
2. **Inconsistent Practices:** Healthcare providers may have varying approaches to diagnosing and treating pink eye due to the lack of standardized guidelines and evidence-based practices.
3. **Public Health Concerns:** Pink eye outbreaks can occur in community settings, such as schools and daycare centers, leading to significant morbidity and economic burden.
4. **Patient Empowerment:** Individuals affected by pink eye may lack access to reliable information about the condition, leading to misconceptions and inappropriate self-management practices.

By addressing these challenges, the pink eye infection database can facilitate knowledge generation, improve patient care, and contribute to public health efforts to prevent and control pink eye infections.

**Dataset for Pink Eye Disease:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Patient ID** | **Age** | **Gender** | **Location** | **Etiology** | **Symptoms** | **Treatment** |
| 1 | 25 | Male | Lahore | Viral | Redness, Itching, Tearing | Artificial tears |
| 2 | 35 | Female | Karachi | Bacterial | Redness, Discharge, Eye pain | Antibiotic eye drops |
| 3 | 12 | Male | Islamabad | Allergic | Redness, Itching, Watery discharge | Antihistamine eye drops |
| 4 | 40 | Female | Multan | Irritant | Redness, Burning sensation | Flushing eyes with water |
| 5 | 55 | Male | Quetta | Viral | Redness, Itching, Discharge | Symptomatic treatment |
| 6 | 30 | Female | Karachi | Viral | Redness, Blurred Vision, Tearing | Warm compress |
| 7 | 18 | Male | Lahore | Bacterial | Redness, Mucous discharge | Antibiotic ointment |
| 8 | 42 | Female | Peshawar | Allergic | Redness, Itching, Swollen Eyelids | Cold compress, antihistamine eye drops |
| 9 | 28 | Male | Quetta | Irritant | Redness, Foreign body sensation | Eye irrigation, lubricating eye drops |
| 10 | 50 | Female | Multan | Viral | Redness, Itching, Sensitivity to light | Rest, artificial tears |