Capstone Dry Eye Disease Project

(Dataset From : Kaggle.com)

LAST UPDATED : 20 - 04 - 2025

✓ **Dry Eye Disease Patients Record**

✓**Causes of Dry Eye Disease**

✓**Symptoms of Dry Eye Disease**

✓**Conclusion and Treatment**

Project's Agenda

Dry Eye Disease Patients Record

What is Dry Eye Disease(DED)?

A condition in which Eye don't produce enough tears or tears of poor quality.

Have a 20000 Dry Eye Disease Patients

Tears Film Layers:

- Lipid Layer
- Aqueous Layer
- Mucin Layer

Eye Glands:

- Meibomian Gland: Oily secretion
- Gland of Moll: Sweat gland
- Gland of Zeiss : Sebum gland

Categorized by Gender & Age Group

Dry Eye Disease Patients VS Gender

Point Ponder:

X-axis : Gender
Y-axis : No. of Patients

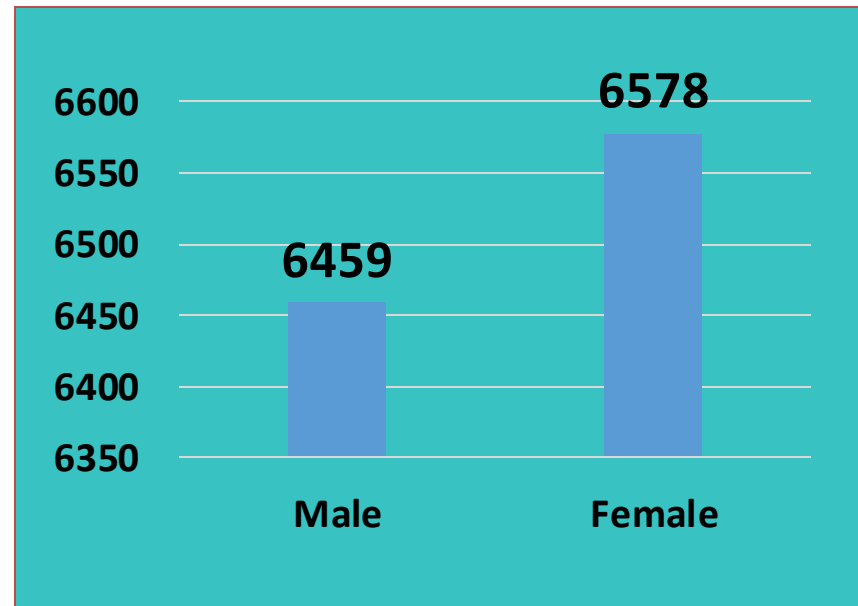| Gender	No. of DED Patients
Male	10028
Female	9972
Grand Total	20000

🔍 Result:

Females are more affected by Dry Eye Disease as compare to Male.
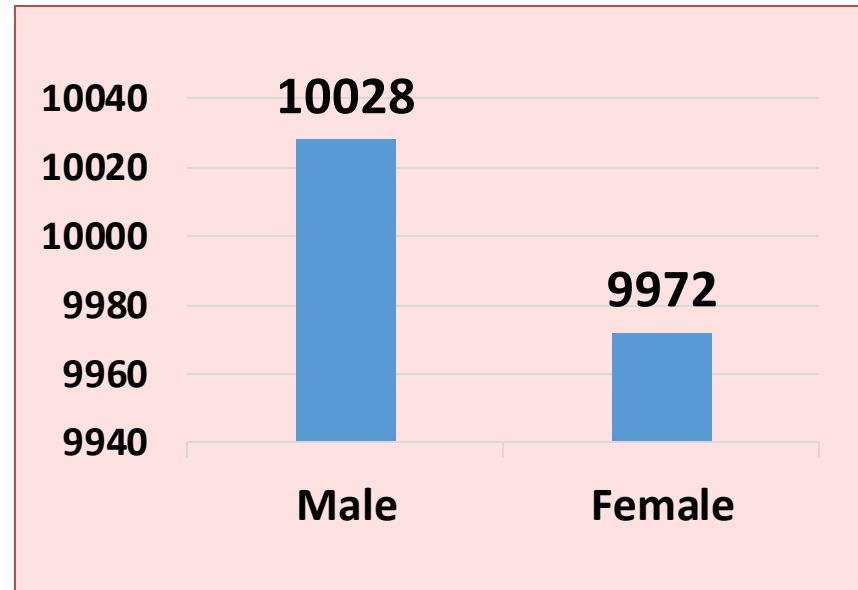
dry eye disease
No
Yes

dry eye disease
No
Yes

Age Group & Gender VS Dry Eye Disease Patients

Point Ponder:

X-axis : Age Group & Gender

Y-axis : No. of Patients

🔍 **Result:**

Adults Having Age between 18 and 30 are more affected by Dry Eye Disease

dry eye disease
- No
- Yes

dry eye disease
- No
- Yes

dry eye disease
- No
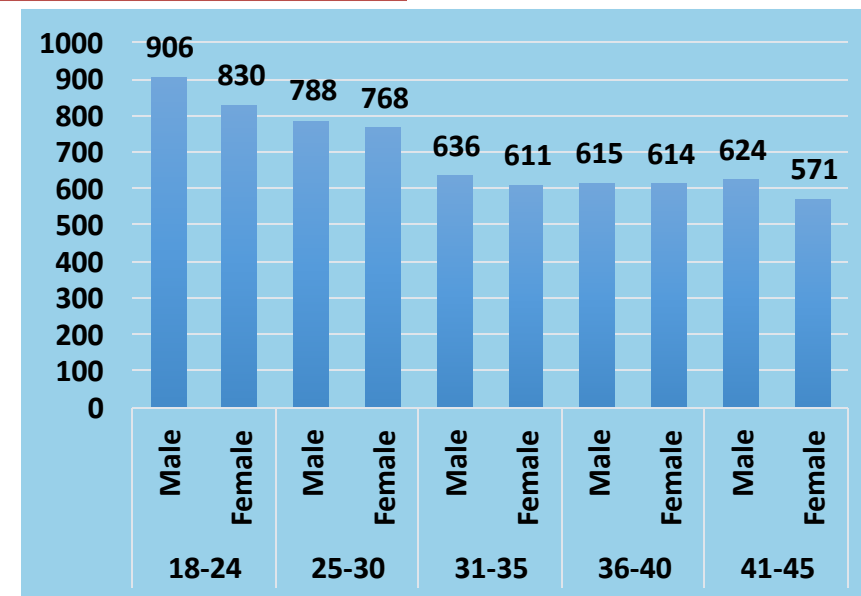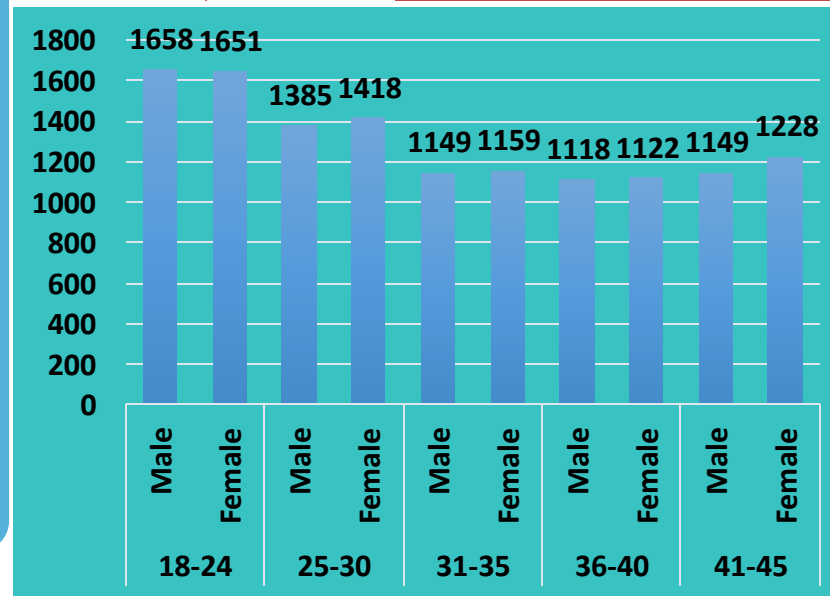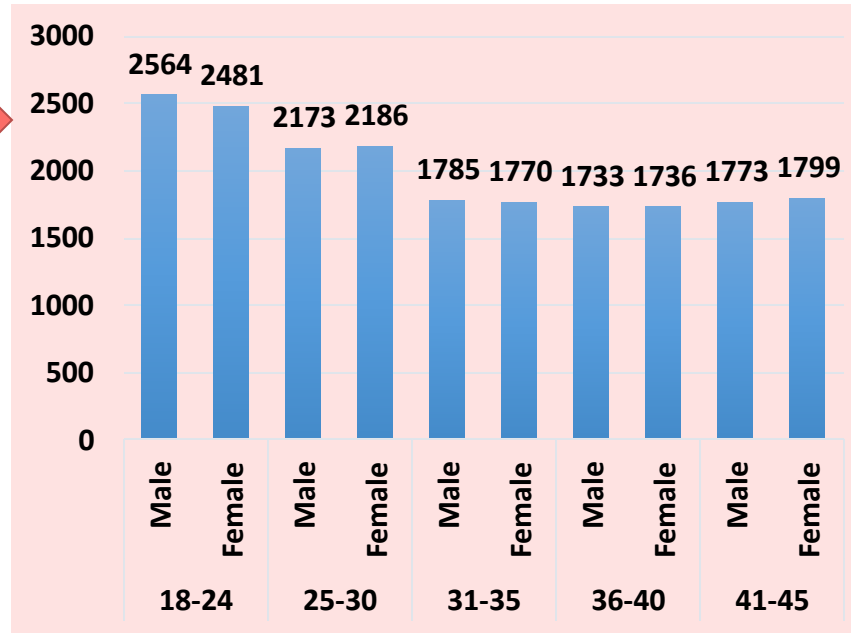- Yes

dry eye disease
- No
- Yes

Chart 1 (No filter):

Age Group	Gender	Value
18-24	Male	2564
18-24	Female	2481
25-30	Male	2173
25-30	Female	2186
31-35	Male	1785
31-35	Female	1770
36-40	Male	1733
36-40	Female	1736
41-45	Male	1773
41-45	Female	1799

Chart 2 (Yes):

Age Group	Gender	Value
18-24	Male	1658
18-24	Female	1651
25-30	Male	1385
25-30	Female	1418
31-35	Male	1149
31-35	Female	1159
36-40	Male	1118
36-40	Female	1122
41-45	Male	1149
41-45	Female	1228

Chart 3 (No):

Age Group	Gender	Value
18-24	Male	906
18-24	Female	830
25-30	Male	788
25-30	Female	768
31-35	Male	636
31-35	Female	611
36-40	Male	615
36-40	Female	614
41-45	Male	624
41-45	Female	571

Causes of Dry Eye Disease

01 Personal Factors like Sleep duration and Sleep quality.

02 Environmental factors like Stress Level & Physical Activity.
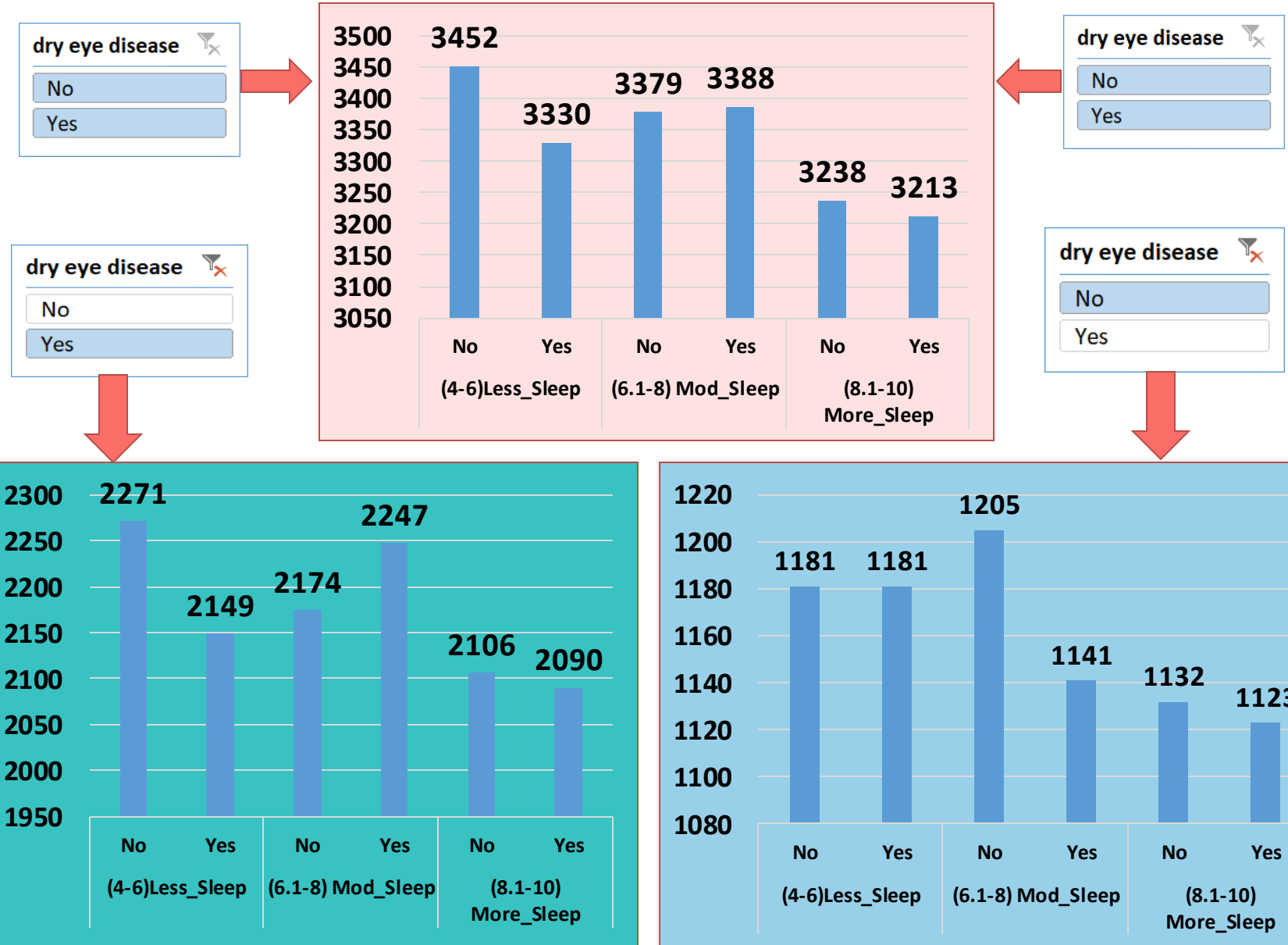
03 Aging & Hormonal changes.

Sleep Duration Group & Sleep Disorder VS Patients

Point Ponder:

X-axis : Sleep duration group & Sleep disorder

Y-axis : No. of Patients

🔍Result:

- Less Sleep with no sleep disorder are more affected by Dry Eye Disease.
- Moderate Sleep with yes sleep disorder are more affected by Dry Eye Disease.

Sleep Quality Affect on Dry Eye Disease Patients

Stress Level Affect on Dry Eye Disease Patients

Point Ponder:

X-axis : No. of Patients

Y-axis : Stress Level

Risk Factor:

Caffeine Consumption.

Smoking.

🔍 Result:

People having High Stress with risk factors are more affected by Dry Eye Disease.

dry eye disease

No

Yes

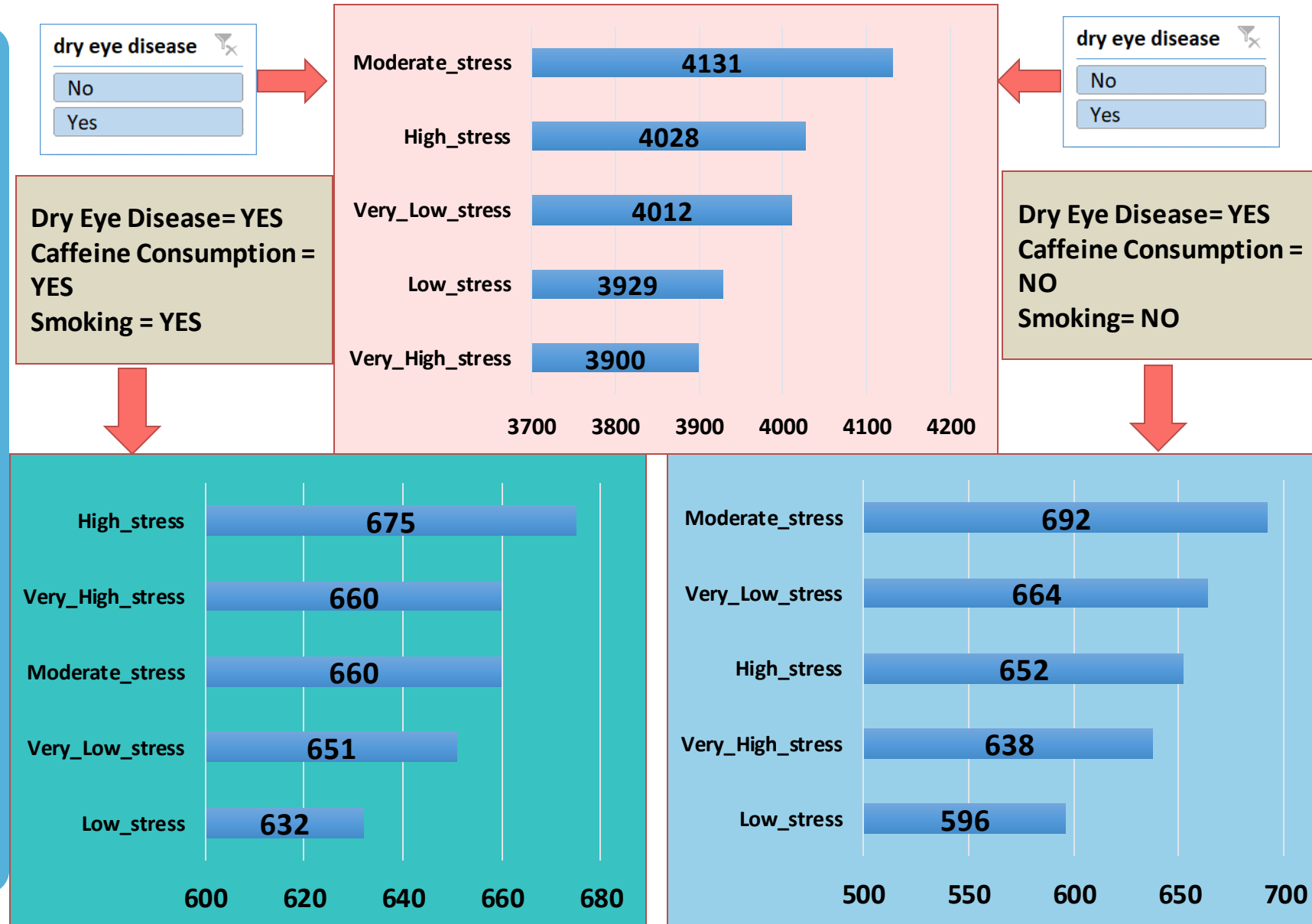Dry Eye Disease= YES
Caffeine Consumption = YES
Smoking = YES

dry eye disease

No

Yes

Dry Eye Disease= YES
Caffeine Consumption = NO
Smoking= NO

Stress Level	Patients
Moderate_stress	4131
High_stress	4028
Very_Low_stress	4012
Low_stress	3929
Very_High_stress	3900

3700 3800 3900 4000 4100 4200

Stress Level	Patients
High_stress	675
Very_High_stress	660
Moderate_stress	660
Very_Low_stress	651
Low_stress	632

600 620 640 660 680

Stress Level	Patients
Moderate_stress	692
Very_Low_stress	664
High_stress	652
Very_High_stress	638
Low_stress	596

500 550 600 650 700

Physical Activity affect on Dry Eye Disease Patients
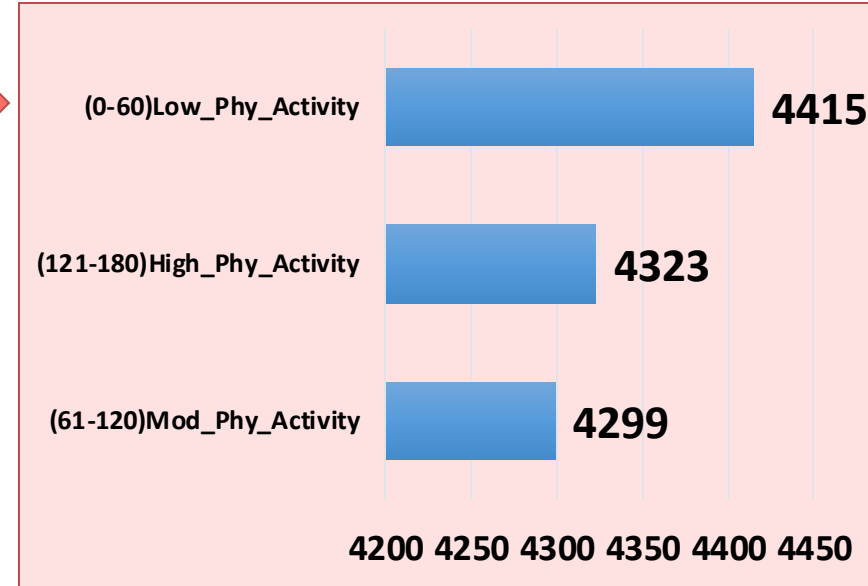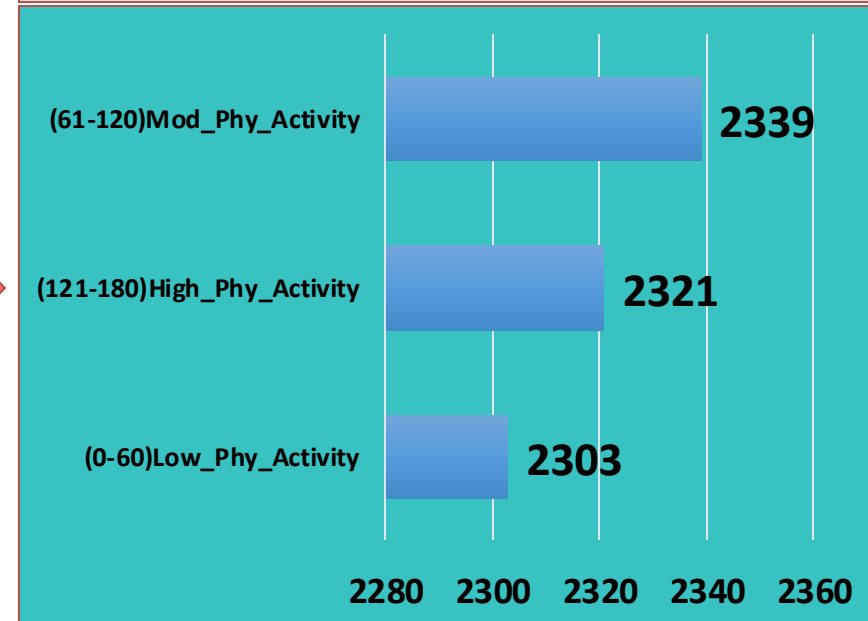
Symptoms of Dry Eye Disease

01 **Redness in eye**

02 **Discomfort Eye-strain**

03 **Itchiness/Irritation in eye**

Dry Eye Disease VS Symptoms

Point Ponder:

X-axis : No. of Patients

Y-axis : Dry Eye Disease,
Redness in Eye,
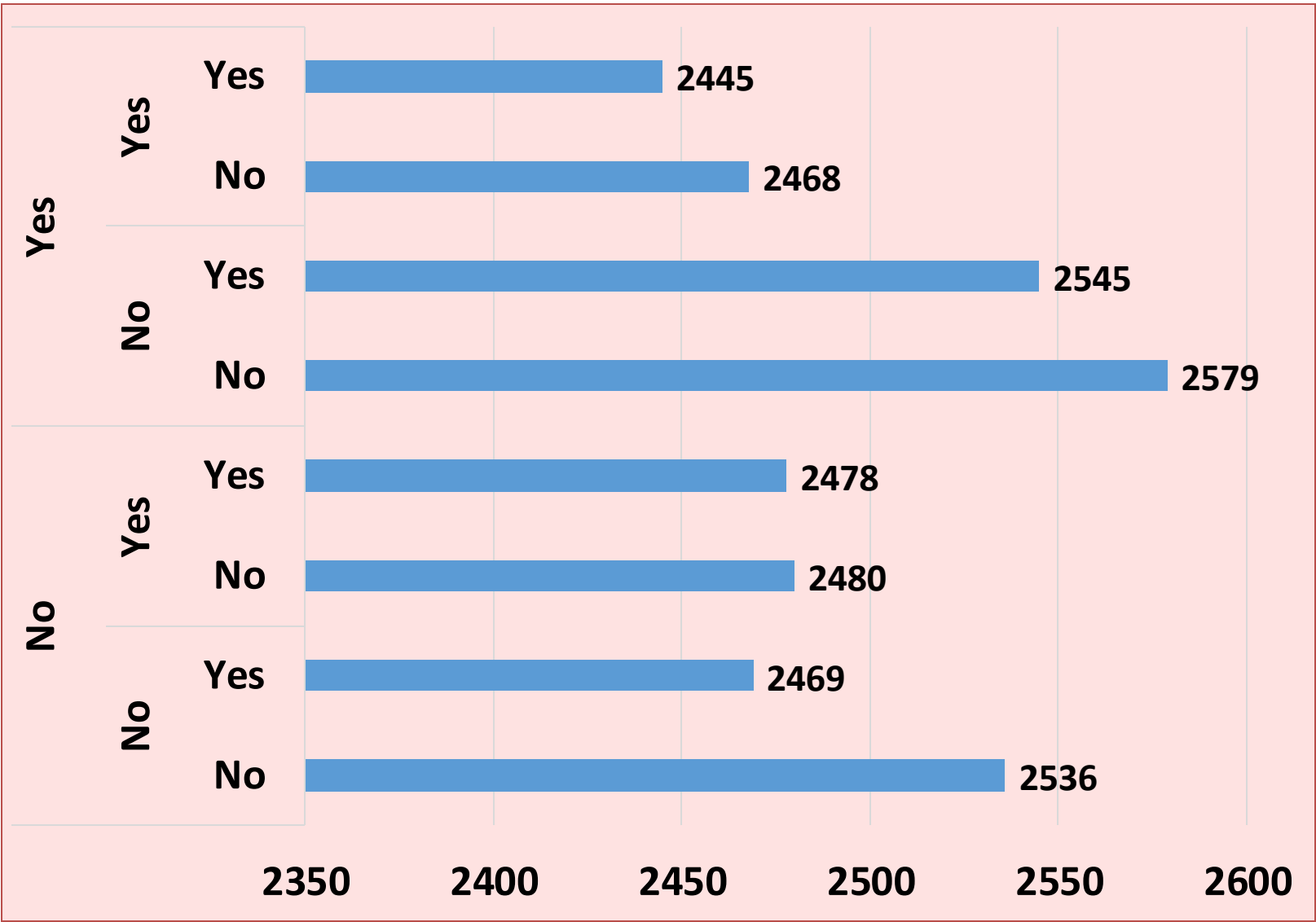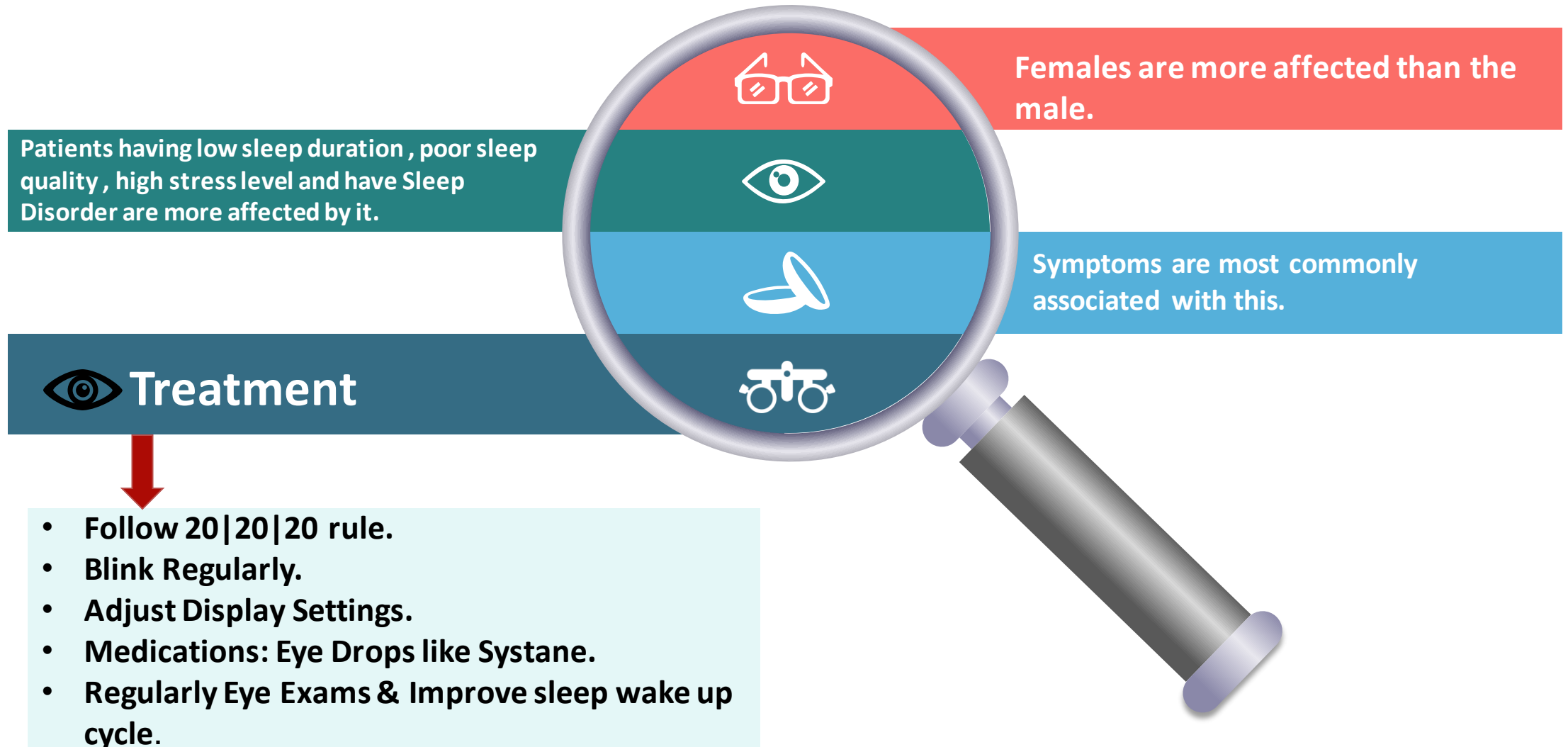Itchiness/Irritation in Eye

🔍 **Result:**

These are symptoms of Dry Eye Disease may or may not occur.

Conclusion & Treatment

Females are more affected than the male.

Patients having low sleep duration , poor sleep quality , high stress level and have Sleep Disorder are more affected by it.

Symptoms are most commonly associated with this.

👁 Treatment

- Follow 20|20|20 rule.
- Blink Regularly.
- Adjust Display Settings.
- Medications: Eye Drops like Systane.
- Regularly Eye Exams & Improve sleep wake up cycle.

THANK YOU

Any Question?