

“Education for Knowledge, Science and Culture”

-Shikhanmaharshi Dr. Bapuji Salunkhe



**VIVEKANAND COLLEGE, KOLHAPUR (Autonomous)**

**DEPARTMENT OF STATISTICS**

**A PROJECT REPORT**

**on**

**“Severity of the Menstrual Faced by Women”**

***Submitted by***

**Ms. Rane Prachi Sunil  
Ms. Jadhav Asmita Appaso  
Ms. Patil Nisha Ravindra  
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Ms. Kumbhar Gouri Eknath**

***in partial fulfillment for the award of***

***the degree of***

**BACHELOR OF SCIENCE**

***in***

**STATISTICS**

**2019-20**

“Education for Knowledge, Science and Culture”

-Shikhanmaharshi Dr. Bapuji Salunkhe



(स्वायत्त) कोल्हापूर

**VIVEKANAND COLLEGE, KOLHAPUR(Autonomous)**  
**DEPARTMENT OF STATISTICS**

## Certificate

This is to Certify that,

Sr. No.	Name	Roll No.
1	Ms. Rane Prachi Sunil	8202
2	Ms. Jadhav Asmita Appaso	8205
3	Ms. Patil Nisha Ravindra	8207
4	Ms. Umranikar Supriya Appasaheb	8212
5	Ms. Kumbhar Gouri Eknath	8220

Have satisfactorily completed the project work on “Severity of the Menstrual Faced by Women” as prescribed by *Vivekanand College, Kolhapur* in partial fulfilment for **B. Sc. III** skill enhancement course in **STATISTICS**, in the academic year **2019-20**.

This project has been completed under our guidance and supervision. To the best of our knowledge and belief, the matter presented in this project report is original and has not been submitted elsewhere for any other purpose.

**Project Guide**

**(Mr. Barale M. S.)**

**Examiner**

**Head**

**(Ms. Pawar V. V.)**

**HEAD**

**DEPARTMENT OF STATISTICS**  
**VIVEKANAND COLLEGE, KOLHAPUR**  
**(AUTONOMOUS)**



# DECLARATION

We undersigned, here by declaring that the project report entitled “ **Severity of the Menstrual Problems Faced by Women**” written and submitted to Vivekanand College, Kolhapur as a partial fulfillment of BSc III (Statistics) under the guidance of Prof. \_\_\_\_\_ is our original work. The empirical results in this project are based on the data collected by ourselves.

We understand that any such copying is liable to be published as the authorities deem fit.

Date :

Place : Vivekanand College, Kolhapur

- |                                      |        |
|--------------------------------------|--------|
| 1. Miss. Rane Prachi Sunil           | (8202) |
| 2. Miss. Jadhav Asmita Appaso        | (8205) |
| 3. Miss. Patil Nisha Ravindra        | (8207) |
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| 5. Miss. Kumbhar Gouri Eknath        | (8220) |

# ACKNOWLEDGEMENT

We express our deep gratitude towards the principal **Hon. Dr. S.Y.Hongekar.** We feel great pleasure in submitting this project report on "**Severity of the Menstrual Problems Faced by Women**".

We wish to express true sense of gratitude towards our project guide, Prof. \_\_\_\_\_, for granting to undertake this project and for constant encouragement and inspiration without which we could not have completed this task. We also express our deep gratitude towards **H.O.D Prof. V.V.Pawar,** for valued guidance and giving inspiration to complete this project.

We are indebted to the library personal for offering all the help in completing the project work. Last but not the least we are thankful to our colleagues and those help us directly or indirectly throughout this project work.

**Sincerely,  
Project Team**

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# INTRODUCTION

Menstrual problems are the major Gynecological problems which occur frequently in majority of women. Menstrual problem affect the physiology ,psychology and well being of women . By knowing that type of symptoms and when to expect symptoms ,helps women to schedule her activities .The problems may be due to heredity or normal imbalance.

The menstrual problems are not always problem but bodily reaction to various changes inside. Most of women have some symptoms or a combination of a few or all of them, which may be either physical or emotional. The most common external symptoms of menstrual period are acne it can be on the face or any other part of body and can be bothersome for the week before the period . They feel disinterested and tired three days before (PMS) & during the periods . Insomnia or change in appetite is also a part of menstrual cycle.

Some women experiences back ache ,headache or abdominal pain during their menstrual cycle. Joint pain or muscle pain also occurs to some women . Pain around the breast , swelling , soreness or heaviness also occurs during menstruation . Abdominal cramps are the worst among the menstrual pain that really bother all activities. Women tend to have mood swings, anxiety & depression along with physical stress during those days . Our study focuses on effects of various factors like identifying different symptoms and identifying association between various factors and symptoms.

## **MENSTRUAL PROBLEMS :**

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## **OBJECTIVES -**

1. To identify different physiological and psychological symptoms during menstrual cycle.
2. To study whether the different factors viz. age ,area, education, occupation , marital status affect the symptoms during menstrual cycle or not.
3. To study whether ,there is change in symptoms due to generation gap or not.

## **MATERIAL AND METHODS-**

A survey was carried out to study various menstrual problems experienced by the girls and women with the age group between 10-40years. A questionnaire was designed and the women with the age up to 40 were interviewed personally and their details are collected.

## **PLACE OF SURVEY-**

Personal report of 385 women was collected from rural and urban areas of Kolhapur District.

## **STATISTICAL ANALYSIS –**

The data collected from the individuals are fed on the R-software for further analysis.

### **Chi-Square Test-**

The study is analyzed for the level of significance with respect to various factors using Chi-square test. The test emphasizes that if the difference is lesser then the significance level is greater that is the factor have a significant relation with other factors that was analyzed. The difference is analyzed at different probability levels according to the level of confidence.



## Questionnaire

Name:

Age:

Marital status:

Age of menarche:

Menstrual period: Regular/ Irregular

If irregular: Twice in a month/ Once in 3 months/

Once in 6 months/ Once in 9 months/

Once in a year/ Never have bleeding after 1st period

Days between two: More than 28 days/ 28 days/

successive periods Less than 28 days

Period of **menses**: 1 day/ 1-3 days/ 5 days/ 7 days

**Bleeding**: Light/ Medium/ Heavy

Bleeding /spotting

between the periods: Yes/No

Pain during menstrual periods: Yes/ No/ Sometimes

Stomach pain: Intense/ Less intense/ Sometimes

Pain in the hip: Intense/ Less intense/ Sometimes

Pain in arms: Intense/ Less intense/ Sometimes

Pain in legs: Intense/ Less intense/ Sometimes

Pain in joints: Intense/ Less intense/ Sometimes

Chest pain: Intense/ Less intense/ Sometimes

Days of **severe pain**: 1st day/ 2nd day/ First 3 days/

All the days

### **Physiological symptoms**

Head ache: Intense/ Less intense/ Sometimes

**Fatigue**: Intense/ Less intense/ Sometimes

Nausea or vomiting: Intense/ Less intense/ Sometimes

Dizziness: Intense/ Less intense/ Sometimes

Constipation/loose bowels/diarrhea: Intense/ Less intense/ Sometimes

Increased appetite: Intense/ Less intense/ Sometimes

Fainting: Intense/ Less intense/ Sometimes

Indigestion: Intense/ Less intense/ Sometimes

---

### Psychological symptoms

---

Anxiety: Yes/ No/ Sometimes

---

Confused: Yes/ No/ Sometimes

---

Depression: Yes/ No/ Sometimes

---

Forgetfulness: Yes/ No/ Sometimes

---

Irritability: Yes/ No/ Sometimes

---

Difficulty in concentrating: Yes/ No/ Sometimes

---

Mood swing: Yes/ No/ Sometimes

---

Anger: Yes/ No/ Sometimes

---

Have symptoms as before marriage: Yes/No

---

### Treatment

---

Taking treatment: Yes/ No

---

Type of treatment: Drugs/ Hormones/ Others

---

Taken tablets to post - pone periods: Yes/ No/ Sometimes

---

Any other major disease: Yes/ No

---

Mention the disease:

---

<b>Sr.No</b>	<b>Factors</b>	<b>Condition</b>	<b>Values</b>
1.	Marital Status	Unmarried Married	0 1
2.	Menstrual Period	Regular Twice in a month Once in 3 months Once in 6 months Once in 9 months Once in a year Never had bleeding after first menses Once in two months	
3.	Days between two successive	More than 28 days 28 days Less than 28 days	1 2 3
4.	Period of menses	1 day 1 – 3 days 5 days 7 days	1 2 3 4
5.	Bleeding or spotting	Light Medium Heavy Spotting between the periods	1 2 3 4
6.	Stomach pain	Intense Less Intense Sometimes No	1 2 3 4
7.	Hip pain	Intense Less Intense Sometimes No	1 2 3 4
8.	Pain in arms	Intense Less Intense Sometimes No	1 2 3 4

9.	Pain in legs	Intense Less Intense Sometimes No	1 2 3 4
10.	Pain in joints	Intense Less Intense Sometimes No	1 2 3 4
11.	Chest pain	Intense Less Intense Sometimes No	1 2 3 4
12.	Constipation, loose bowels or diarrhea	Intense Less Intense Sometimes No	1 2 3 4
13.	Increased appetite	Intense Less Intense Sometimes No	1 2 3 4
14.	Fainting	Intense Less Intense Sometimes No	1 2 3 4
15.	Indigestion	Intense Less Intense Sometimes No	1 2 3 4
16.	Type of treatment	Drugs Harmones Others	1 2 3 4
17.	Area	Rural Urban	0 1

**No. Of respondents of Pain-**

<b>Sr. no</b>	<b>Symptoms</b>	<b>Variable</b>	<b>Number of respondents</b>	<b>Percentage</b>
1.	Pain	Yes No	382 3	99.22 0.78
2.	Stomach Pain	Intense Less Intense Sometimes No	99 64 54 168	25.71429 16.62338 14.02597 43.63636
3.	Hip pain	Intense Less Intense Sometimes No	104 64 28 189	27.01299 16.62338 7.272727 49.09091
4.	Pain in arms	Intense Less Intense Sometimes No	24 11 15 335	6.233766 2.857143 3.896104 87.01299
5.	.Pain in legs	Intense Less Intense Sometimes No	95 52 39 199	24.67532 13.50649 10.12987 51.68831
6.	Pain in joints	Intense Less Intense Sometimes No	19 18 23 325	4.935065 4.675325 5.974026 84.41558
7.	Chest pain	Intense Less Intense Sometimes No	18 7 9 351	4.675325 1.818182 2.337662 91.16883
8.	Days of severe pain	No 1 <sup>st</sup> day 2 <sup>nd</sup> day First 3 days All the days	62 103 139 51 30	16.1039 26.75325 36.1039 13.24675 7.792208

No	Symptoms	Variables	Number of respondents	Percentage
1	Head ache	Intense	23	5.974026
		Less Intense	25	6.493506
		Sometimes	49	12.72727
		No	286	74.28571
2	Fatigue	Intense	82	21.2987
		Less Intense	80	20.77922
		Sometimes	46	11.94805
		No	175	45.45455
3	Nausea or vomiting	Intense	24	6.233766
		Less Intense	13	3.376623
		Sometimes	24	6.233766
		No	322	83.63636
4	Dizziness	Intense	11	2.857143
		Less Intense	17	4.415584
		Sometimes	38	9.87013
		No	319	82.85714
5	Constipation, Loose bowels or diarrhea	Intense	3	0.779221
		Less Intense	8	2.077922
		Sometimes	14	3.636364
		No	358	92.98701
6	Increased appetite	Intense	30	7.792208
		Less Intense	27	7.012987
		Sometimes	7	1.818182
		No	319	82.85714
7	Indigestion	Intense	16	4.155844
		Less Intense	22	5.714286
		Sometimes	28	7.272727
		No	317	82.33766
8.	Fainting	Intense	3	0.779221
		Less Intense	5	1.298701
		Sometimes	5	1.298701
		No	370	96.1039

No. of respondents and Percentage Psychological symptoms –

S.No	Symptoms	Variables	Number of respondents	Percentage
1.	Anxiety	Yes No Sometimes	69 290 26	17.92208 75.32468 6.753247
2.	Confused	Yes No Sometimes	72 273 40	18.7013 70.90909 10.38961
3.	Depression	Yes No Sometimes	94 261 30	24.41558 67.79221 7.792208
4.	Forgetfulness	Yes No Sometimes	55 299 31	14.28571 77.66234 8.051948
5.	Irritability	Yes No Sometimes	215 128 42	55.84416 33.24675 10.90909
6.	Difficulty in concentrating	Yes No Sometimes	131 211 43	34.02597 54.80519 11.16883
7.	Mood swing	Yes No Sometimes	159 194 32	41.2987 50.38961 8.311688
8.	Anger	Yes No Sometimes	184 167 34	47.79221 43.37662 8.831169

## Chi Square Table for marriage and menstrual problems -

Sr. No	Factors	Degrees of freedom	Chi-square value	P-Value	Decision
1	Irregular periods	3	13.438	0.00378	Dependent
2	Days between two successive periods	3	7.5094	0.05732	Independent
3	Period of menses	3	32.922	$3.345 \times 10^{-7}$	Dependent
4	Bleeding	4	10.762	0.02937	Dependent
5	Pain during the period	1	$6.7791 \times 10^{-30}$	1	Independent
6	Stomach pain	3	4.852	0.183	Independent
7	Hip pain	3	7.5365	0.05663	Independent
8	Pain in arms	3	0.90638	0.8239	Independent
9	Pain in legs	3	13.802	0.003187	Dependent
10	Pain in joints	3	10.428	0.01657	Dependent
11	Chest pain	3	0.78948	0.852	Independent
12	Days of severe pain	4	1.2193	0.8749	Independent
13	Headache	3	3.092	0.3777	Independent
14	Fatigue	3	4.6079	0.2029	Independent
15	Nausea or vomiting	3	4.4058	0.2208	Independent
16	Dizziness	3	7.6142	0.05469	Independent
17	Constipation, Loose bowels or diarrhea	3	2.5994	0.4576	Independent
18	Increased appetite	3	3.0871	0.3784	Independent
19	Fainting	3	0.79507	0.8506	Independent
20	Indigestion	3	1.7575	0.6242	Independent
21	Anxiety	2	2.197	0.3334	Independent
22	Confused	3	1.7476	0.6262	Independent
23	Depression	3	0.88787	0.8284	Independent
24	Forgetfulness	3	1.3531	0.7166	Independent
25	Irritability	3	6.9752	0.07269	Independent
26	Difficulty in concentrating	3	4.9297	0.177	Independent
27	Mood swing	3	1.6375	0.6509	Independent
28	Anger	3	1.3297	0.7221	Independent



## Chi Square table for Age and Menstrual Problems –

Sr.No	Factors	Degrees of freedom	Chi-square value	P-Value	Decision
1	Irregular periods	6	9.4757	0.1485	Independent
2	Days between two successive periods	6	27.935	9.664*10 <sup>-5</sup>	Dependent
3	Period of menses	6	56.544	2.259*10 <sup>-10</sup>	Dependent
4	Bleeding	8	22.218	0.004525	Dependent
5	Pain during the period	2	4.4384	0.1087	Independent
6	Stomach pain	6	16.756	0.01023	Dependent
7	Hip pain	6	11.148	0.0839	Independent
8	Pain in arms	6	6.7442	0.3452	Independent
9	Pain in legs	6	18.81	0.004497	Dependent
10	Pain in joints	6	14.879	0.02122	Dependent
11	Chest pain	6	1.3273	0.9701	Independent
12	Days of severe pain	2	4.4384	0.1087	Independent
13	Headache	6	5.3435	0.5006	Independent
14	Fatigue	6	12.888	0.04485	Dependent
15	Nausea or vomiting	6	16.999	0.009288	Dependent
16	Dizziness	6	6.1035	0.4117	Independent
17	Constipation, Loose bowels or diarrhea	6	6.0678	0.4156	Independent
18	Increased appetite	6	8.9054	0.179	Independent
19	Fainting	6	4.5092	0.6081	Independent
20	Indigestion	6	7.526	0.007533	Dependent
21	Anxiety	4	1.6144	0.8062	Independent
22	Confused	6	3.0845	0.7982	Independent
23	Depression	6	2.6572	0.8505	Independent
24	Forgetfulness	6	10.555	0.1031	Independent
25	Irritability	6	9.143	0.1657	Independent
26	Difficulty in concentrating	6	11.195	0.08253	Independent
27	Mood swing	6	6.8122	0.3386	Independent
28	Anger	6	8.8093	0.1846	Independent

## Chi Square table for Area and Menstrual Problems –

Sr.No	Factors	Degrees of freedom	Chi-square value	P-Value	Decision
1	Irregular periods	3	1.7652	0.6225	Independent
2	Days between two successive periods	3	1.9905	0.5744	Independent
3	Period of menses	3	8.0375	0.04524	Dependent
4	Bleeding	4	9.1322	0.05788	Independent
5	Pain during the period	1	0.088712	0.7658	Independent
6	Stomach pain	3	1.0825	0.7813	Independent
7	Hip pain	3	3.255	0.354	Independent
8	Pain in arms	3	3.1458	0.3697	Independent
9	Pain in legs	3	0.49519	0.9199	Independent
10	Pain in joints	3	4.9953	0.1721	Independent
11	Chest pain	3	1.2827	0.7332	Independent
12	Days of severe pain	4	6.962	0.7379	Independent
13	Dizziness	3	4.0286	0.2584	Independent
14	Headache	3	11.133	0.01103	Dependent
15	Fatigue	3	4.4604	0.2158	Independent
16	Nausea or vomiting	3	4.6033	0.2033	Independent
17	Constipation, Loose bowels or diarrhea	3	6.1496	0.1046	Independent
18	Increased appetite	3	1.4193	0.701	Independent
19	Fainting	3	0.78072	0.8541	Independent
20	Indigestion	3	0.52548	0.9133	Independent
21	Anxiety	2	2.4622	0.292	Independent
22	Confused	3	3.1704	0.3661	Independent
23	Depression	3	3.2526	0.3543	Independent
24	Forgetfulness	3	6.261	0.09958	Independent
25	Irritability	3	2.5429	0.4670	Independent
26	Difficulty in concentrating	3	1.3716	0.7122	Independent
27	Mood swing	3	5.0058	0.1714	Independent
28	Anger	3	4.0706	0.25390	Independent

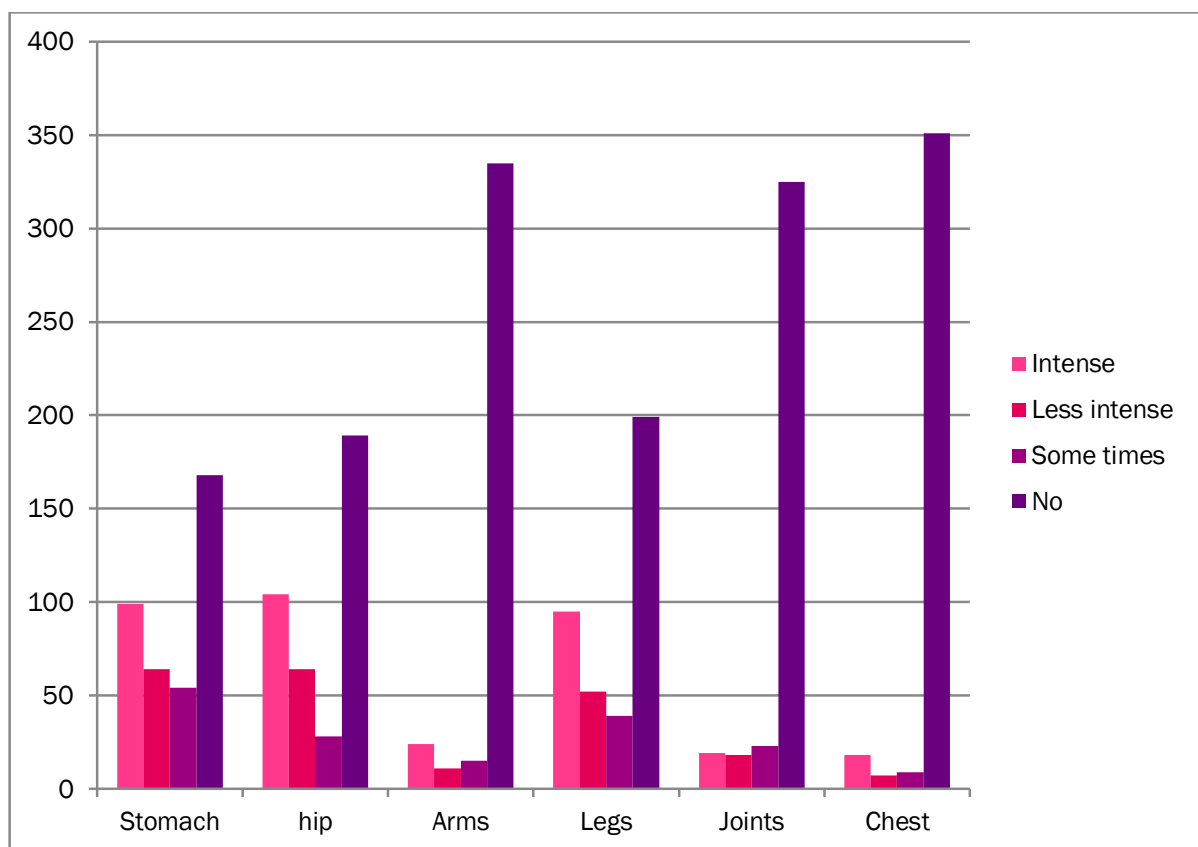
## Intensity of Problem (k-means Clustering ):

We have used k-means clustering for grouping women in four intensity levels using R-software. Cluster centers and no. of women lie in that cluster are as follows:

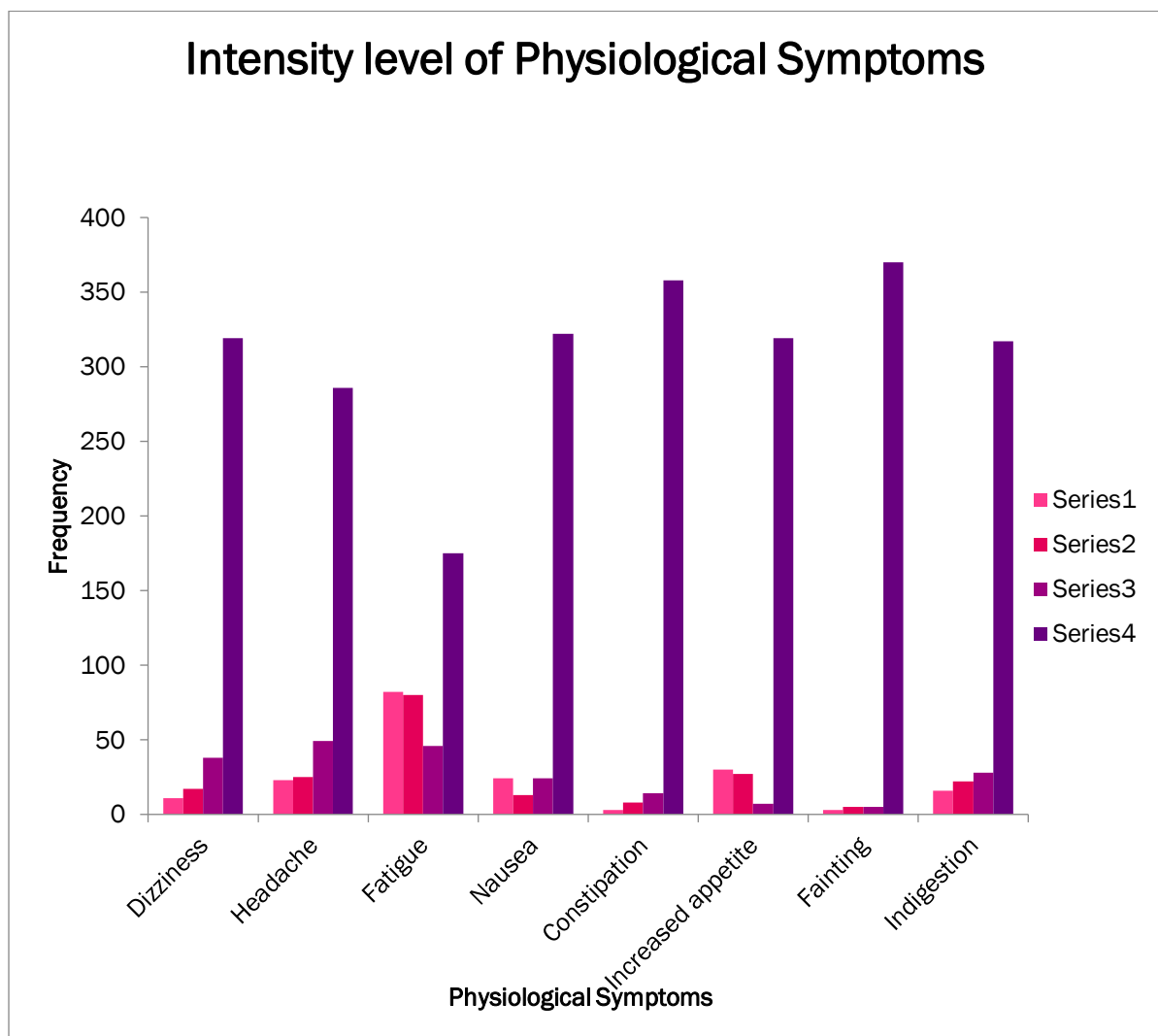
centers	Pain	Physiological Symptoms	Psychological symptoms	Intensity level	No. Of Women
Cluster 1	2.14	1.04	15.84	No	170(44)
Cluster 2	3.55	2.55	11.70	Sometimes	128(33)
Cluster 3	3.52	7.95	15.19	Less Intense	63(16)
Cluster 4	11.79	9.13	13.25	Intense	24(6)

From above table we conclude that there are more than 50% women have problems during their menstrual cycles. However, the problem is not highly intense. Intense problem is observed in 6% women and 16% women suffers from problem but intensity is quite low.

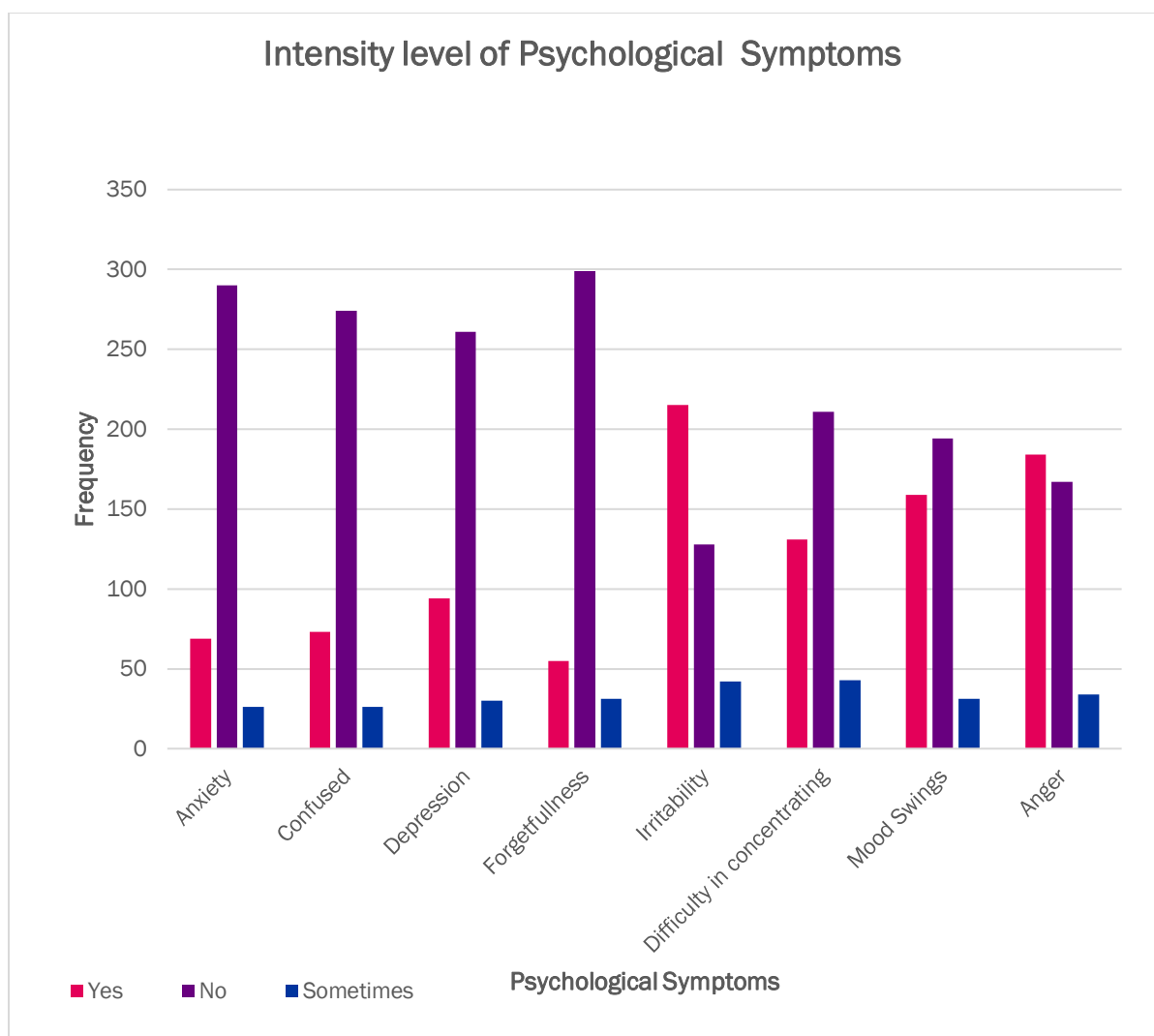
## Intensity level of Pain and No. of respondents-



## Intensity level of Physiological Symptoms and No. of respondants-



## Intensity level of Psychological Symptoms and No. of respondants-



## RESULT

A total of 385 members were interviewed randomly in and around the rural and urban areas of Kolhapur district. Among the respondents about 31.61% of women belong to the age group of 10-20, and in the age group of 21-30 & 31-40 the percentage of respondents are 32.21 and 36.10 respectively. When marital status was taken in account the number of married and unmarried respondents are more or less equal with the percentage of 58.70% & 41.3% respectively.

The age of menarche of these women was studied of which 29.61% had their first menses at the age of 14, 11.43% of women obtained menarche at 16th year and above. The prevalence of irregular menstrual period was too low i.e. 11.69% of which about 8.31% women experiences menstrual periods twice in a month and 3.37% have their menses once in 3 months .

About 36.62% of women have the menstrual cycle of more than 28 days. 28 days cycle was found in 26.75% of cases whereas only 36.62% of women experiences less than 28 days of menstrual cycle. And the period of menses is nearly normal in majority of the respondents with the period length of 5 days. Only 10.65% have bleeding more than 5 days . And only 2.6% of women experiences period of menses for only one day.

The bleeding range is also medium in majority of the respondents (68%) and only 1.5% women experiences bleeding or spotting in between the periods .

Prevalence of pain was studied among the women of which majority (99.22%) of them experiences pain during their menstrual periods. Stomach pain and hip pain was found to be more common followed by pain in arms and legs. Chest pain is found in very meager amount of cases. And the days of severe pain seems to be the 1st day of the menses, which was reported by 26.75% of cases.

Some of the other physiological symptoms such as head ache, fatigue, vomiting, dizziness etc are also studied of which fatigue (21.3%) is more prevalent compared to other symptoms .

Among the psychological symptoms, 17.92% experiences anxiety, 18.70% have a confused condition during their menses. Depression was seen in 24.42% of cases, 14.29% reported to have forgetfulness, 47.80% experiences anger, followed by difficulty in concentrating (34.03%) and mood swing (41.30%). Of which the most prevalent symptoms is irritability which is reported in 55.84% of individuals .

Age of women have a significant relationship ( $P < 0.05$ ) with Days between two successive period, Period of menses, Bleeding, Stomach Pain, Pain in legs, Pain in joints, Fatigue, Nausea(Vomiting), Indigestion. Whereas age has no significant effect on other menstrual problems like irregular periods, pain in arms, hip pain, chest pain, days of severe pain, head ache, dizziness, constipation, increased appetite, fainting, anxiety, confusion, depression, forgetfulness, difficulty in concentrating, irritability, mood swing and anger.

Irregular periods, period of menses, bleeding, pain in legs, pain in joints differs significantly with the marriage ( $P < 0.05$ ).

Women living in Allithurai area have shown significantly higher irregular periods, stomach pain, pain in arms, legs and joints. Head ache, nausea and vomiting, constipation, increased appetite, indigestion, confusion and depression. Whereas other symptoms are not significant. In the Allithurai area there is a large Modern rice mill affecting the quality of women living in that area (Table 6).



# REFERENCES

- ❑ Kavitha, T. (2015). A random survey of menstrual problems in Allithurai and Lalgudi areas of Tiruchirapalli district. Journal of Health Education Research & Development, 1-12.
- ❑ Gupta, G. K. (2014). Introduction to data mining with case studies. PHI Learning Pvt. Ltd

Thank  
you

