

“Education for Knowledge, Science and Culture”

-Shikhanmaharshi Dr. Bapuji Salunkhe



VIVEKANAND COLLEGE, KOLHAPUR (Autonomous)

DEPARTMENT OF STATISTICS

A PROJECT REPORT

on

“Study of Menstrual Cycle Among the Female’s in Kolhapur City”

Submitted by

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Ms. Kumbhar Tejaswini Tanaji
Ms. Shinde Sanika Sarjerao
Ms. Chougale Pratiksha Rajaram
Ms. Patil Shraddha Bajirao**

in partial fulfillment for the award of

the degree of

BACHELOR OF SCIENCE

in

STATISTICS

2022-23

“Education for Knowledge, Science and Culture”

-Shikhanmaharshi Dr. Babuji Salunkhe



(स्वायत्त) कोल्हापूर

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

Certificate

This is to Certify that,

Sr. No.	Name	Roll No.
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Have satisfactorily completed the project work on “**Study of Menstrual Cycle Among the Female’s in Kolhapur City**” as a part of skill enhancement course for **B. Sc. III**, prescribed by the Department of Statistics, *Vivekanand College, Kolhapur (Autonomous)* in the academic year **2022-23**.

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

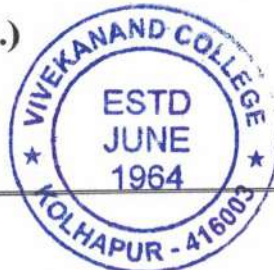
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Examiner

Head

(Ms. Pawar V. V.)

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(AUTONOMOUS)



DECLARATION

We the undersigned hereby declare that the project entitled “**STUDY OF MENSTRUAL CYCLE AMONG THE FEMALE’S IN KOLHAPUR CITY**” is an original work prepare by ours, under the guidance of **Miss. A. M. MAKANDAR. Assistant** Professor Department of Statistics, Vivekanand College, Kolhapur (AUTONOMOUS). The findings in this report are based on the data collected by us. The matter included in this report is not a reproduction from any other sources.

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Date: / /2023

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ABSTRACT

The menstrual cycle is a very important indicator of women's reproductive health and of their endocrine function. Menstruation, and the menstrual cycle are characterized by variability in volume, pattern and regularity. The purpose of this study was to determine the age of menarche, age of menopause, source of information regarding menstrual cycle, patterns, and problems faced by the adolescent females, of Kolhapur region, during menstruation. For collection of data Self structured questionnaire based on issues related to menstruation cycle was used. This survey was conducted in Kolhapur region. By using survey method. Average age of menarche for overall sample taken, of adolescent girls of Kolhapur is 14 years. The girls whose age is present in between 21-30 8 girls show irregularity. the woman's whose age between 31-40, 4 women show irregularity, 3 women show Oligomenorrhea, 4 women show Menorrhagia. Higher percentage of females in Kolhapur city experience problem during menstruation cycle. Most of the females are suffer from Oligomenorrhea and Menorrhagia due to hormonal imbalance. Intervention program for awareness regarding Menstrual cycle and associated issues for adolescent girls and their parents should be planned so that the problems of the girls can be minimized. The aim of present study is to investigate among females, strategies of menstrual cycle.

Introduction

The menstrual cycle is naturally occurring function in women of reproductive age. The average length of the cycle is 28 days and is comprised of four phases: menstruation, follicular phase, ovulation, luteal phase. The cycle is required for the production of oocytes and for preparation of the uterus for pregnancy. During the menstrual cycle, body undergoes many physiological and hormonal changes. The process begins with brain triggering certain hormones to stimulate egg growth.

Once the egg matures it will release from the ovary and travel through the fallopian tube into the uterus. If the egg is not fertilized by the sperm, it will disintegrate and be absorbed. When the egg goes unfertilized hormone levels will drop causing the lining of the uterus to shed and bleed resulting in a discharge through the vagina. Bleeding also known as “Menstruation”. The first period usually begins between 12 and 15 years of age, a point in time known as menarche.

The typical length of time between the first day of the next is 21 to 45 days in young women and 21 to 35 days in adult. Bleeding usually lasts around 2 to 7 days. Menstruation stops occurring after menopause which usually occurs between 45 and 55 years of age. Women have common symptoms include acne, tender breasts, bloating, feeling tired, irritability and mood changes. These symptoms interfere with normal life and therefore known as premenstrual syndrome. In follicular phase, increasing amount of estrogen results in discharges of blood (menses) flow stop and the lining of the uterus thickens. Follicles in the ovary begin developing under the influence of a complex interplay of hormones, and after several days one or occasionally two become dominant (non –dominant follicles shrink and die).

OBJECTIVES

1. To study the average age of menarche.
2. Average days of menstrual cycle.
3. To study the awareness about sanitary napkins in society.
4. To study the relation between family income and use of sanitary pads or washable pads.
5. To study the relation between education and use of sanitary pads or washable pads.
6. To study how many women's use the pads provided by government and how many females know the scheme of free pads.
7. To study why the females not use the pads.
8. To study what symptoms, feel during periods & how many women's use pain killer.

DATA COLLECTION

For the statistics project on the topic “STUDY OF MENSTRUAL CYCLE AMONG THE FEMALE’S IN KOLHAPUR CITY”, we took a survey for the analysis. For the data collection, we have selected some females from Kolhapur district.

We have taken this survey by questionnaire method. The required information is collected with the question-answer form. For that we made a Google form of some question regarding on the topic “**STUDY OF MENSTRUAL CYCLE AMONG THE FEMALE’S IN KOLHAPUR CITY**”. We sent this Google form link on WhatsApp, Email& Telegram to the females and our friends from Kolhapur district to collect the necessary information in specific period of time.

By this method we collected data of 120 females out of which few females are belonging to rural area and few belongs to urban areas and some belongs to sub-urban areas. We made some objectives to study the collected data. To represent the data, we used different graphical representations. We represented the data in tabular form and bar diagram, pie chart for graphical representation.

We used different statistical tools to interpret the collected data. We used different test to find the result which are indicated in the objectives.

The Statistics project on the topic “STUDY OF MENSTRUAL CYCLE AMONG THE FEMALE’S IN KOLHAPUR CITY”, is done by the group of students of Vivekanand College Kolhapur (Autonomous). We took help of teachers to analysis the data and find the result on the objectives.

STATISTICAL TOOL

1) Graphical representation.

Graphical Representation

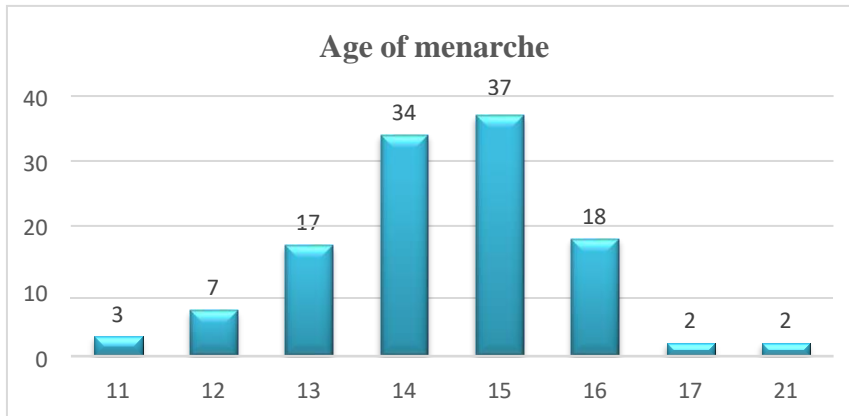
To represent our data graphically, we use the multiple pie chart methods etc. To construct the appropriate divided pie diagram of given data we use Microsoft excel.

- **Pie chart:** -A pie chart displays a data, information and statistics in an easy-to-read pie slice format with varying slice size telling you how much of on data element exists. The bigger the slice the more of that particular data was gathered.
- **Bar chart:** - It is usually present categorical variables, discrete variables or continuous variables grouped in class intervals. The bars depict frequencies of different values of a variable or simply the different values themselves.

STATISTICAL ANALYSIS

1. To study the average age of menarche.

○ Observation: -

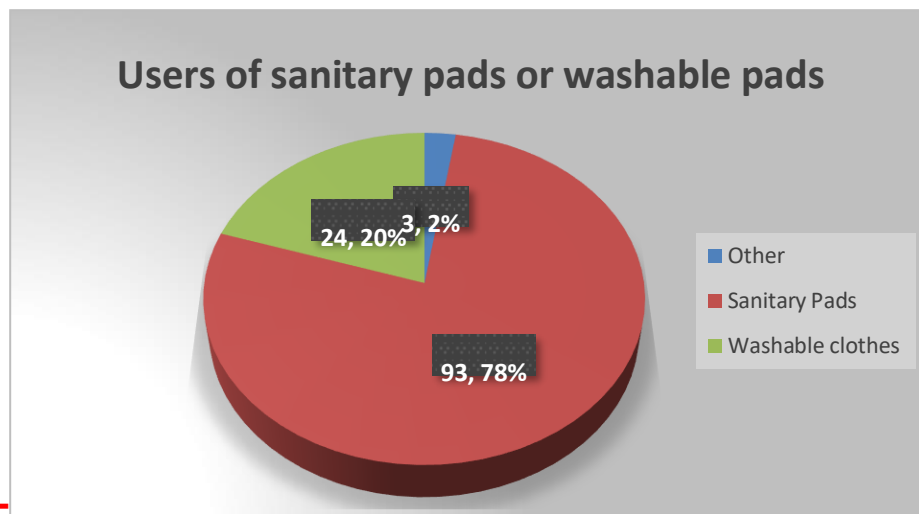


○ Conclusion: -

The average age of menarche in females is 14-15 (i.e. 14.4416) years.

2. To study the awareness about sanitary napkins in society.

○ Observation:

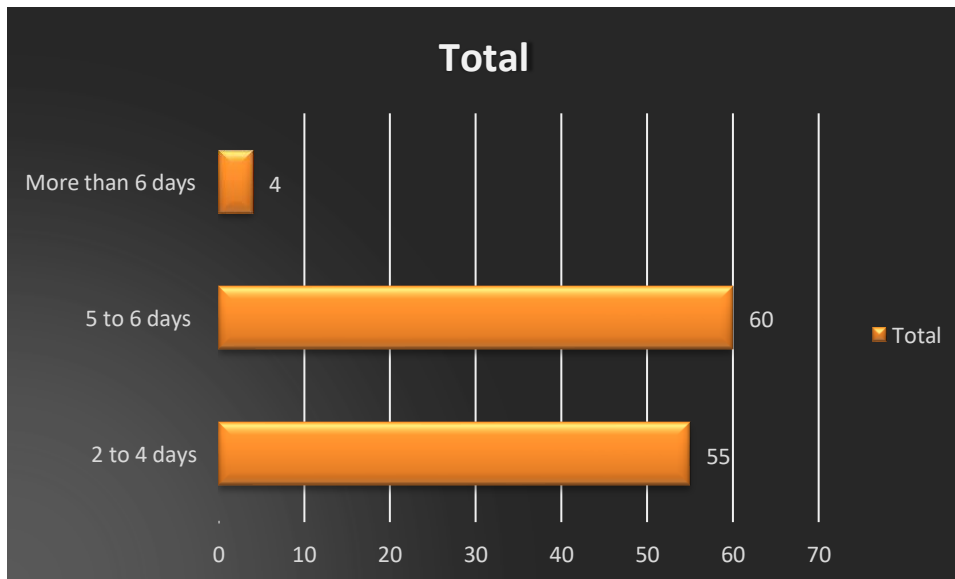


○ Conclusion: -

There is 93.78% women's use sanitary pads i.e. awareness about sanitary napkins in society is more.

3. Average days of menstrual cycle.

○ **Observation: -**



○ **Conclusion: -**

The average days of menstrual cycle in females is 5-6 days.

4. To study the relation between family income and use of sanitary pads or washable pads.

○ **Formula: -**

By using Microsoft Excel,

Formula for chi-square test

Here we use test for goodness of fit.

$$x^2_{cal} = \frac{N(ad - bc)^2}{(a + b) * (c + d) * (a + c) * (b + d)} \sim x^2_1$$

○ **Hypothesis: -**

H_0 : Use of sanitary pads or washable pads is depending on family income.

v/s

H_1 : Use of sanitary pads or washable pads is not depending on family income.

○ **Observation: -** Here $N = 120$

	Yes	No
1 lack & below 1 lack	79	22
Above 1 lack	14	5

○ **Calculation: -**

Here,

$$x^2_{Cal} = 0.1885$$

$$x^2_{Tab} = x^2_{1,5\%} = 3.841459$$

Here,

$$x^2_{Cal} < x^2_{Tab}$$

Therefore, we accept H_0 at 5% l.o.s and conclude that use of sanitary pads or washable pads is depending on family income.

○ **Conclusion: -**

The use of sanitary pads or washable pads is depending on family income.

5. To study the relation between education and use of sanitary pads or washable pads.

○ Formula:-

By using Microsoft Excel,
Formula for chi-square test

Here we use test for goodness of fit.

$$\chi^2_{cal} = \frac{\sum \sum (O_{ij} - E_{ij})^2}{E_{ij}} \sim \chi^2_{(m-1)(n-1), \alpha}$$

○ Hypothesis: -

H₀: Use of sanitary pads or washable pads is depending on education.

v/s

H₁: Use of sanitary pads or washable pads is not depending on
education.

○ Observation: - Here N = 120, m=4, n=2

	Yes	No
Below 10 TH	7	5
10 TH	7	10
12 TH	19	5
Graduation & PG	60	7

○ **Calculations:**

Here,

$$\chi^2_{Cal} = 21.00686$$

$$\chi^2_{Tab} = \chi^2_{3,5\%} = 7.814728$$

Here,

$$\chi^2_{Cal} > \chi^2_{Tab}$$

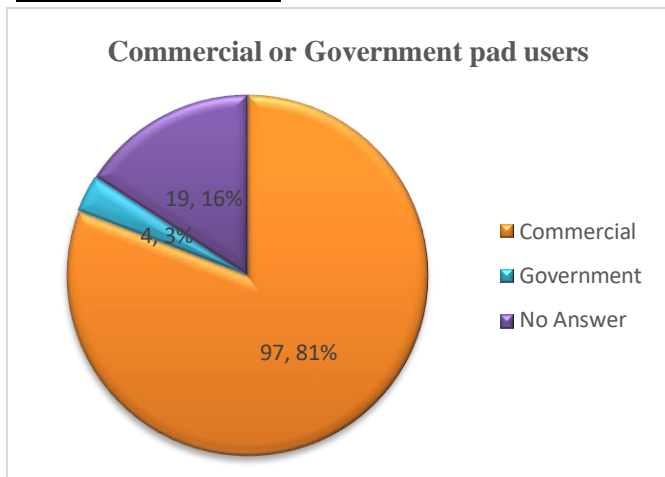
Therefore, we reject H_0 at 5% l.o.s and conclude that use of sanitary pads or washable pads is not depend on education.

○ **Conclusion: -**

The use of sanitary pads or washable pads is not depending on education.

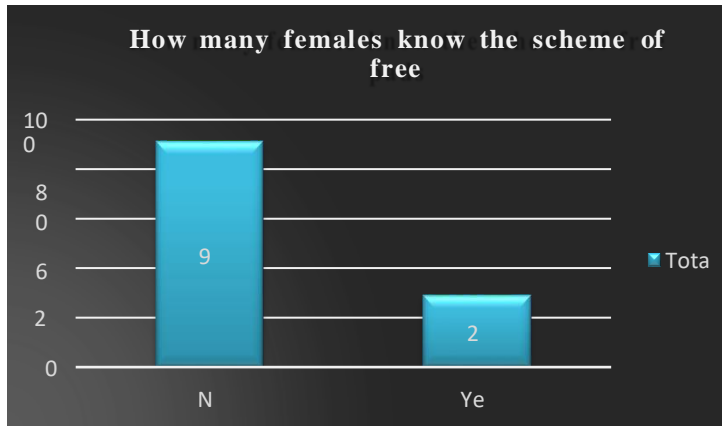
6.To study how many women's use the pads provided by government and how many females know the scheme of free pads.

○ **Observation: -**



○ **Conclusion:**

- Maximum females are unknown about government scheme of free pads.



- **Conclusion: -**
- From above chart we say that most of the women's use commercial pads.

7.To study why the females not use the pads.

- **Observation: -**

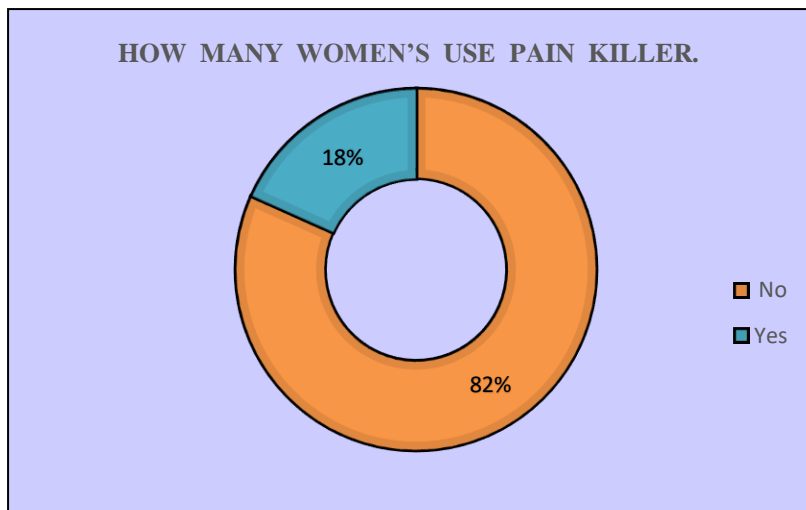
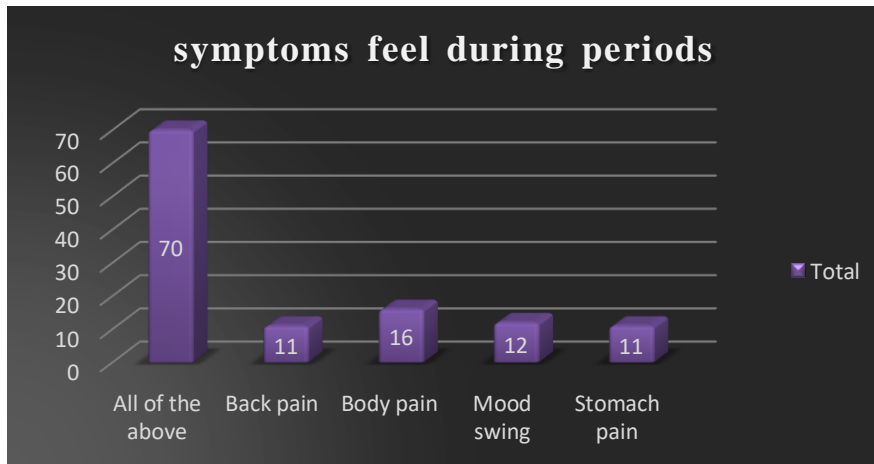
Row Labels	Obs.
High cost	22
Lack of knowledge how to use	58
Other	25
Shame to buy from shops	2
Tradition of using clothes	13
Grand Total	120

- **Conclusion: -**

From above table we can conclude that females not use pads due to 'lack of knowledge how to use'.

8.To study what symptoms, feel during periods & how many women's use pain killer.

○ Observation: -



○ Conclusion: -

- From the above chart we can see that most of the females feels body pain, back pain, mood swing, stomach pain during periods.
- 82% of the females don't use pain killers.

CONCLUSION

- The age of menarche in females is **14-15** years.
- There is 93.78% women's use sanitary pads i.e., awareness about sanitary napkins in society is more.
- The average days of menstrual cycle in females is 5-6 days.
- The use of sanitary pads or washable pads is depending on family income.
- The use of sanitary pads or washable pads is not depending on education.
- From above chart we say that most of the women's use commercial pads.
- Maximum females are unknown about government scheme of free pads.
- From above table we can conclude that females not use pads due to 'lack of knowledge how to use'.
- From the above chart we can see that most of the females feels body pain, back pain, mood swing, stomach pain during periods.
- Most of the females don't use pain killers but few females use it during periods.
- **From the above conclusions we say that maximum females not aware about government scheme of free pads.**

BIBLIOGRAPHY

I) Reference Books:

- 1) Fundamentals of Mathematical Statistics –S. C. Gupta & V. K. Kapoor
Fourth Revised Edition.
- 2) 100 Statistical tests- Gopal. K. Kanji.

QUESTIONARY

1. Area: - a) Rural b) Urban c) Sub-urban
2. Occupation: - a) Student b) Housewife
 c) Working women d) Other
3. Your age: -
4. At what age did you have your first period?
5. Education: -
6. Annual Family Income (In ₹)
7. Ovulatory cycle (in days)
 a) 28 days b) More than 28 days c) Less than 28 days
8. Are your periods regular or irregular?
 a) Regular b) Irregular
9. After menarche for first few years, it is regular or irregular?
 a) Regular b) Irregular
10. Duration of blood flow.
 a) 2 to 4 days b) 5 to 6 days c) More than 6 days
11. How is your menstrual flow?
 a) Heavy b) Low c) Normal
12. What do you use during periods?
 a) Washable cloths b) Sanitary pads c) Other

13. Which type of Pad you use?

- a) Commercial
- b) Government

14. Reason for not using Government Pad (Not compulsory).

- a) Low quality
- b) Lack of knowledge

15. If you are not using Pads then reason.

- a) Lack of knowledge how to use.
- b) High cost
- c) Scheme to buy from shop
- d) Tradition of using cloths

16. Do you know about the scheme of free pads?

- a) Yes
- b) No

17. Do you take painkillers for pain?

- a) Yes
- b) No

18. What symptoms do you feel during periods?

- a) Mood swing
- b) Back pain
- c) Body pain
- d) Stomach pain
- e) All the above

