

A STUDY ON FEMTECH IN MANAGING PCOS SYMPTOMS AMONG INDIAN WOMEN

**Submitted by: Dr. Bhagyashree Kelkar
Roll No: 1271
Guided by: Dr. Susmit Jain**



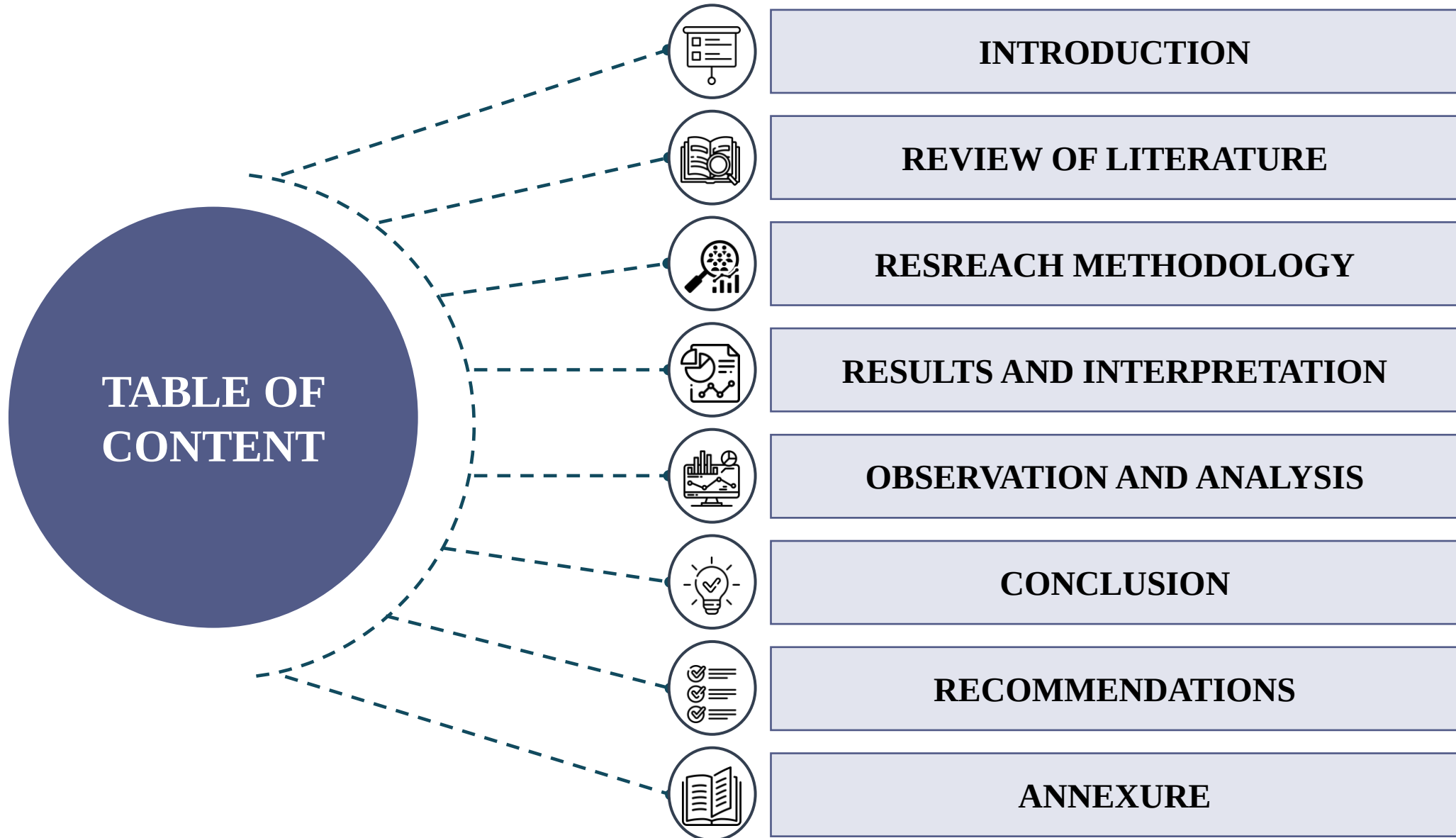
RESEARCH QUESTION

What is the current market landscape of FemTech in India and how can it be useful for managing symptoms of Polycystic Ovary Syndrome (PCOS) among Indian women?

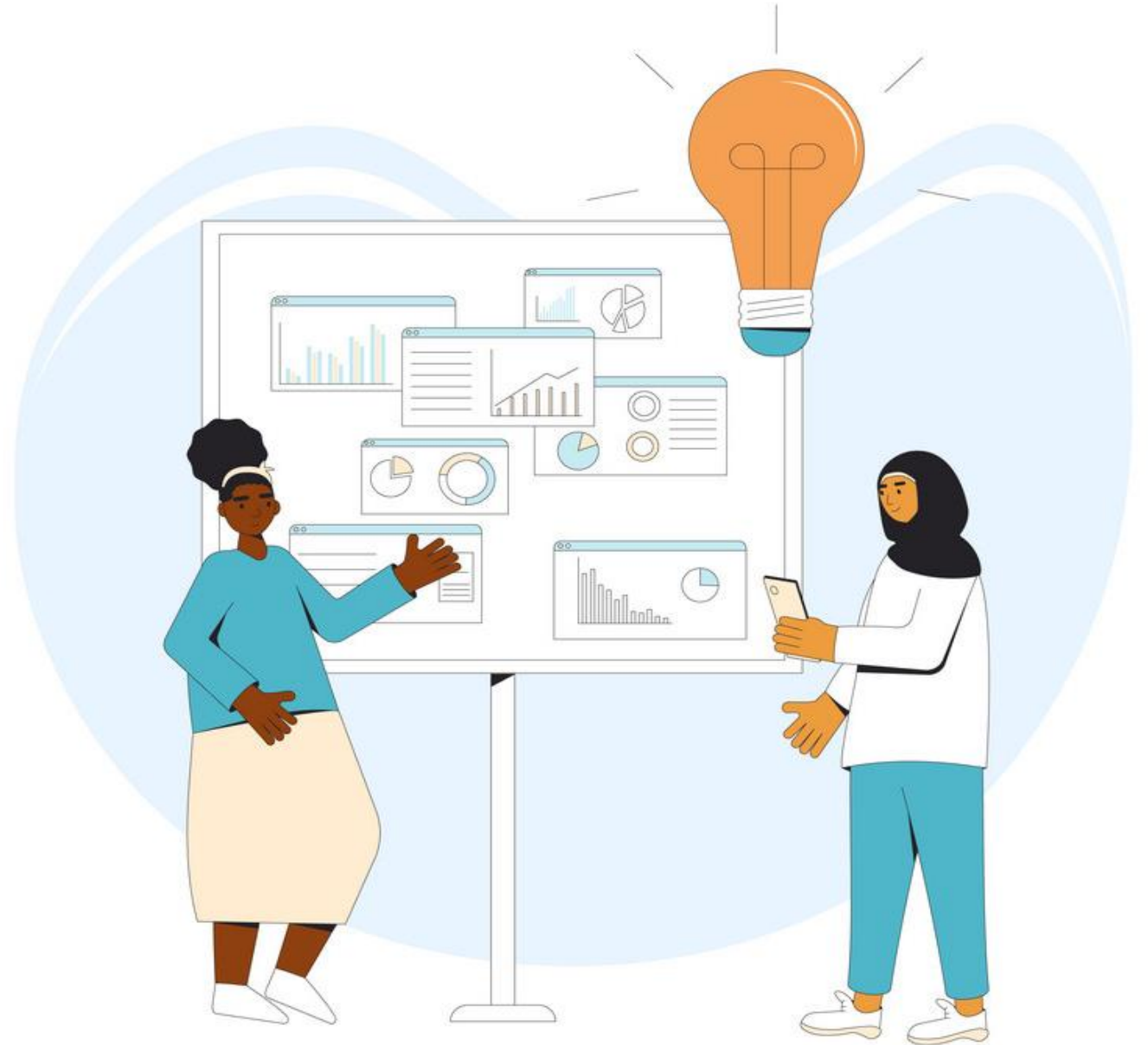
OBJECTIVE OF THE RESEARCH

The study was carried with the following objectives:

1. To assess the present scenario and market of FemTech in India.
2. To evaluate the perception and awareness levels of FemTech and its products among women suffering from PCOS in India.



INTRODUCTION





POLYCYSTIC OVARY SYNDROME

PCOS or Polycystic Ovary Syndrome is a **hormonal disorder** that affects women of reproductive age with **genetic and environment** factors contributing to the probable cause.

It is characterized by symptoms such as **irregular or absent menstrual periods, excessive hair growth, acne, and weight gain** and hormonal imbalances and **cyst development in ovaries**

While there is **no cure for PCOS**, the symptoms can be managed through **lifestyle changes**, medications, and other treatments to improve hormonal balance and alleviate associated health concerns.

FEMTECH

‘FemTech’, short for female technology is a rapidly growing sector of technology focused on **addressing women's health** and well-being needs.

It encompasses a wide range of digital health products, services, and applications specifically designed for women focusing on **reproductive health, fertility, menstruation, pregnancy, sexual wellness, and menopause**.

Examples of Femtech products and services include **period tracking apps, fertility trackers, pelvic floor trainers, virtual healthcare consultations, pregnancy monitoring devices, and menopause management tools**.



Evolution of Femtech

The importance towards **gender equality and digital technology** had started growing exponentially on a global scale. This led to an abundance of **women led startups** who worked tirelessly to serve the health needs of women.

The evolution of Femtech in India has been fueled by increased awareness about women's health, advancements in technology, and a shift towards **patient-centric care**.

With digital initiative and innovations in India, Femtech started gaining momentum in early 2010's with some creative innovation paving their way.

Product like **menstrual and fertility tracking apps, wearable devices like smart watches, female hygiene products**, screening tools have been gaining popularity

BENEFITS

- **Empower women** to take care of their own health
- Addresses **sensitive issue** like menstruation, sexual and reproductive health
- **Breaks taboos** and barriers, helps women to overcome shame about their problems

DRIVERS

- Government initiatives promoting **technological capacities and start-ups**
- Shift of focus to **preventive care**
- Fostering a culture of partnerships and collaborations to increase customer base

DRAWBACK

- Limited **accessibility** and affordability
- There is a lack of **digital literacy**, even among urban women of India
- **Data privacy** and security is often a concern for women

RESTRAINTS

- Internet connectivity and **digital penetration** in major parts of India
- **Limited awareness** about Femtech products and services
- **No clear regulations** or standard protocols for data privacy and security



EXAMPLES OF FEMTECH

GLOBAL



Founded in 2018, Clue is a period and cycle tracking app to help women understand their bodies better.



Founded in 2015, Flo is a female health app focusing on menstruation and pregnancy



Founded in 2014. Willow provides a product that is a hands-free breast pump, without cords and is app-connected

NURX.

Founded in 2016. Nurx focuses on birth control prescription, HIV preventions, telemedicine and e-prescription

INDIAN



Founded in 2012, Maya is a health tracking app containing a blend of mobiles, wearables, telemedicine and personalized insights



Founded in 2016, PregBuddy is a health and wellness platform for women during early years of pregnancy and motherhood



Founded in 2016, Niramai is a novel breast cancer screening that uses machine intelligence for a non-contact screening procedure



Founded in 2015, Baby Chakra fast growing platform for pregnancy and childcare with a personalised ecosystem connecting parents online



EXAMPLES OF FEMTECH FOR PCOS



Founded in 2020, PERLA Health provides awareness of polycystic ovary syndrome to women through evidence-based & integrative approach



Founded in 2020, Veera Health offers an app that combines evidence-backed therapy with coaching and specialist support and is helping 110M women in India get treated for PCOS.



Founded in 2016, Gynov focuses on the development of innovative solutions to address several areas of concern in female reproductive health, including managing PCOS.



Founded in 2020, Allara is a virtual care team for polycystic ovary syndrome and provides services such as gynecologists, nutrition plans or mental health support



Rural India

- Rural India presents its own set of challenges and benefits
- While **internet connectivity and digital literacy** is still an issue, Femtech can help address the health needs of rural women
- Collaboration with **rural authorities, panchayats** and primary healthcare levels can be considered



Government Initiative

- There are certain government schemes which are helping Femtech expand its reach
- National Digital Health Mission
 - Atal Innovation Mission
 - Startup India
 - Digital India
 - Ayushman Bharat



Regulation Scenario

- Currently there's **no specific regulatory** framework tailored specially for Femtech
- **Medical Device Rule 2017** provides guidelines for certain devices and safeguards personal data
- **Telemedicine Practise Guidelines** by ICMR for remote delivery of healthcare services



Investment Opportunities

- India serves a plethora of investment opportunities in Femtech
- Mobile applications
 - Wearable devices
 - Telemedicine
 - Digital therapeutics
 - Health education and awareness



REVIEW OF LITERATURE



REVIEW OF LITERATURE

TITLE OF THE STUDY	AUTHOR	SALIENT FEATURES
The role of menstrual apps in healthcare: provider and patient perspectives	Bryndl E Hohmann Marriott, Tiffany A Williams, Jane E Girling	The study was carried in New Zealand in 2023 in which sample of 144 women were taken. It shows that although respondents use smartphones for symptoms but they are concerned about data accuracy and a range of applications is needed to help the customers select based on their problem
Tales of self-empowerment through digital health technologies: a closer look at ‘Femtech’	Tereza Hendl, Bianca Janskya	The study was carried out in 2023 and it shows that Femtech innovations like menstrual tracking help in empowering women by talking about female sexuality and can identify the gaps and whitespaces of the same.
FemTech and Older Women	Alan S. Gutterman	The study was carried out in 2023 and it says that venture capital allocated to industries working for women’s health is relatively lower and there need to be a focus on older women’s health and wellness prospects
Usage of mobile health interventions among obese PCOS patients undergoing assisted reproductive technology treatment during the COVID-19 pandemic	Meiying Sang, Qing Wu, Yanyuan Tao, Feifei Huang, Lianlian Lu, Wenting Zhou, Axiang Li, Shun Bai	The study was done in China with sample size of 79 obese women in WeChat application in 2022. The study showed that respondents using a mobile application were able to lose their weight and had better live birth rate , suggesting that Femtech apps have the potential to improve the pregnancy and health of women



REVIEW OF LITERATURE

TITLE OF THE STUDY	AUTHOR	SALIENT FEATURES
Vision: Too Little too Late? Do the Risks of FemTech already Outweigh the Benefits?	Maryam Mehrnezhad, Laura Shipp, Teresa Almeida, Ehsan Toreini	The study was done in 2022 and throws light on how hackers and attackers can use the private data of its customers and use it for unethical means and that Femtech being useful, is equally hazardous to the confidentiality, safety and privacy of a woman
FemTech A Feminist Technoscience Analysis	Madelin Burt-D'Agnillo	The study was done in 2022 and it signifies that Femtech are closely associated with the economics of society and commercialization of women's bodies . It also highlights the ease of using a mobile monitoring rather than a paper-based monitoring
Monitoring Female Fertility Through 'Femtech': The Need for a Whole-System Approach to Regulation	Catriona McMillan	The study was done in 2022. The study says that a method to govern Femtech that focuses on fertility concerns needs to be made which is efficient and dependable . The regulation process may take longer but needs to be seen
Characterization of PCOS in Flo application user in the world	Tarun Jain, Olivia Negriz, Danielle Browne, Isabel Galic, Rodion Salimgaraev Ludmila Zhanova	The study was done in USA, Philippines, UK, India and Australia with sample size of 40,092 from India in 2021. The study showed that Indian doctors diagnosed PCOS more frequently and these women were the highest users of Flo app with common symptoms as baldness, hyperpigmentation, and irregular periods



REVIEW OF LITERATURE

TITLE OF THE STUDY	AUTHOR	SALIENT FEATURES
Femtech: Digital Help for Women's Health Care Across the Life Span	Brenda K. Wiederhold	The study was done in 2021 and it highlights how women make up almost fifty percent of world's population, yet technological advancement made for women are given less percentage of money allocations of the overall tech industry
Enhancing PCOS awareness using private social network	Mohammed Alotaibi, Amani Ali Shaman	The study was conducted in Tabuk, Saudi Arabia in 2020 with a sample size of 50 women diagnosed with PCOS. The study shows how mobile technologies, such as the private social network, might raise awareness of the condition among Saudi women through messages and feedback by cutting costs and hospital visits
Lifestyle Interventions for PCOS: Cross-Sectional Survey to Assess Women Treatment and Outcome Preferences	Laura R Saslow and James E Aikens	The study was done through an online survey website-Amazon Mechanical Turk with a sample size of 197 women. The study showed that programs targeting weight, diabetes prevention, menstrual cycle control, hirsutism, anxiety, and depression are popular among women and with younger ages , an association with need of treatment for acne and fertility is seen



RESEARCH METHODOLOGY



RESEARCH METHODOLOGY



Study Design:

Descriptive cross-sectional study



Study Population:

Women of age group 15-45 years suffering from PCOS



Sample Size:

259 women suffering from PCOS



Sampling Technique:

Non-random sampling



Data Collection Tool:

Semi-structured google form



Study Duration:

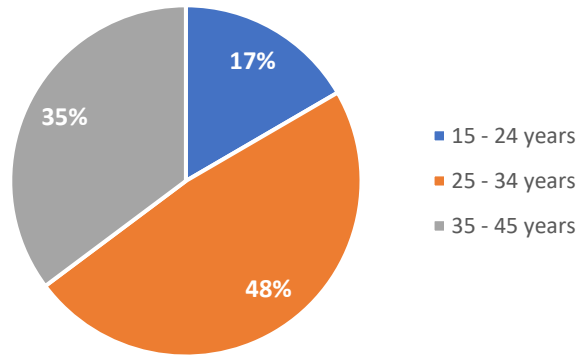
March 1st to May 19th 2023



RESULTS AND INTERPRETATION



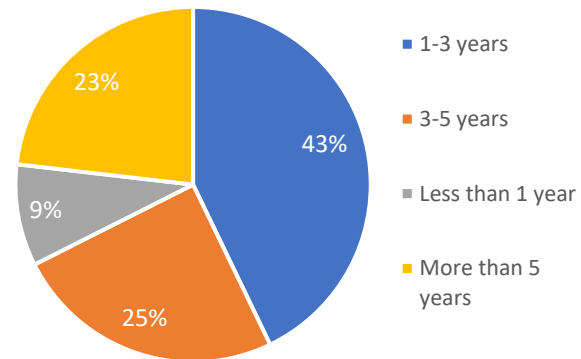
Age distribution of respondents



1.

The graph represents the age distribution of the study participants, age 25-34 constituting highest; 48%

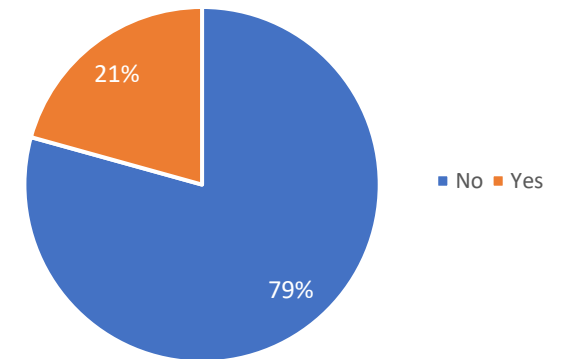
Percentage of women suffering from PCOS since diagnosis



2.

The graph represents duration of the syndrome suffered by the study participants after diagnosis; 1-3 years constituting 43%

Have you hear about Femtech products?

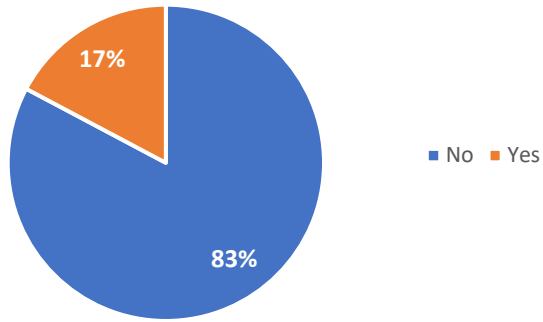


3.

The graph represents the knowledge and awareness about Femtech product in study participants; 79% showing “No”

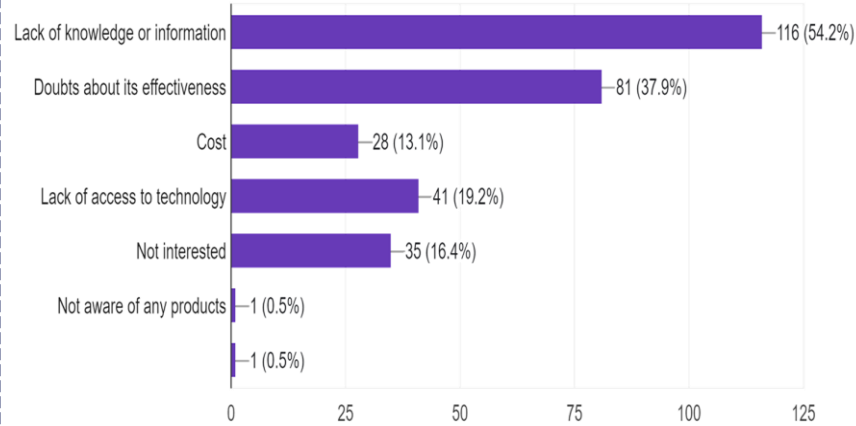


Percentage of women who have used Femtech for managing PCOS



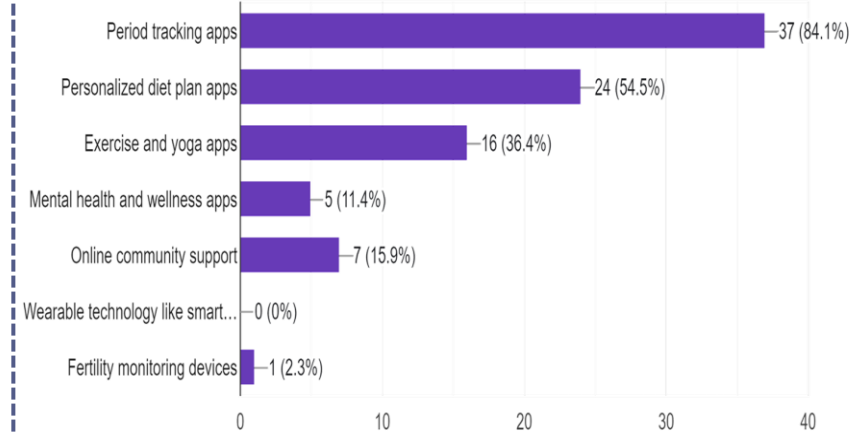
4.

The graph represents the percentage of study participants using Femtech products to manage their PCOS symptoms



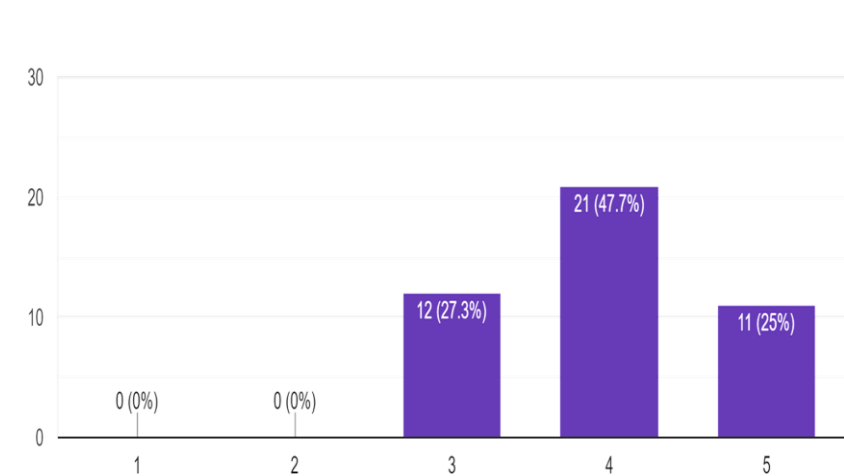
5.

The graph represents reasons behind not using Femtech products for study participants who opted "No"



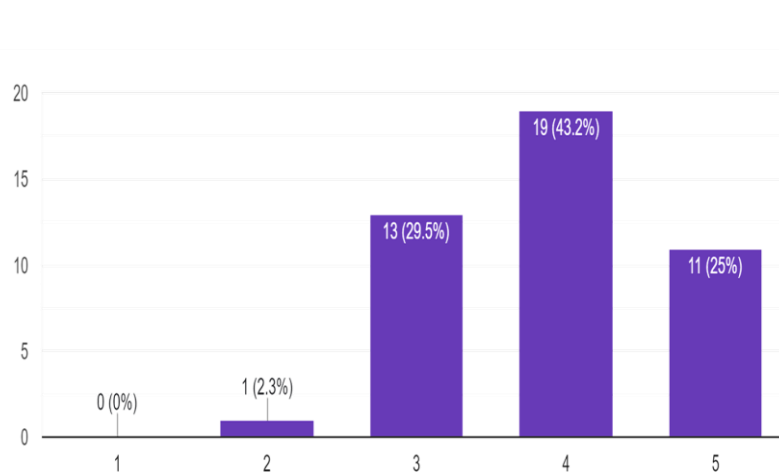
6.

The graph represents the most popular and known Femtech product used by study participants



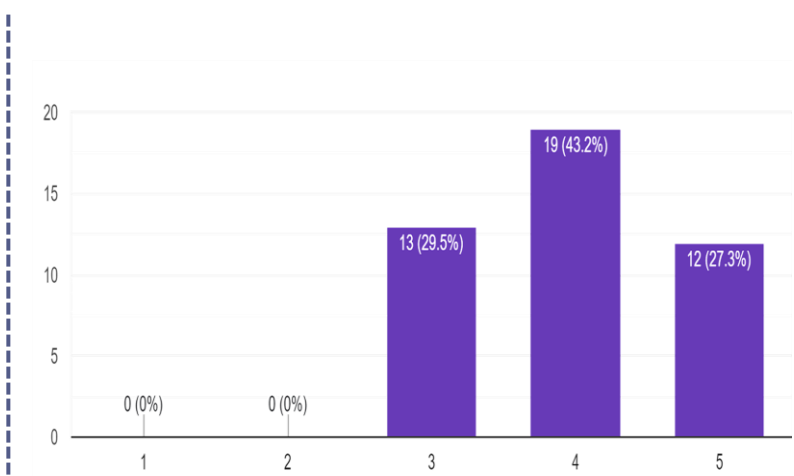
7.

The graph represents on scale of 1(least) to 5 (most), the helpfulness of Femtech product to manage symptoms



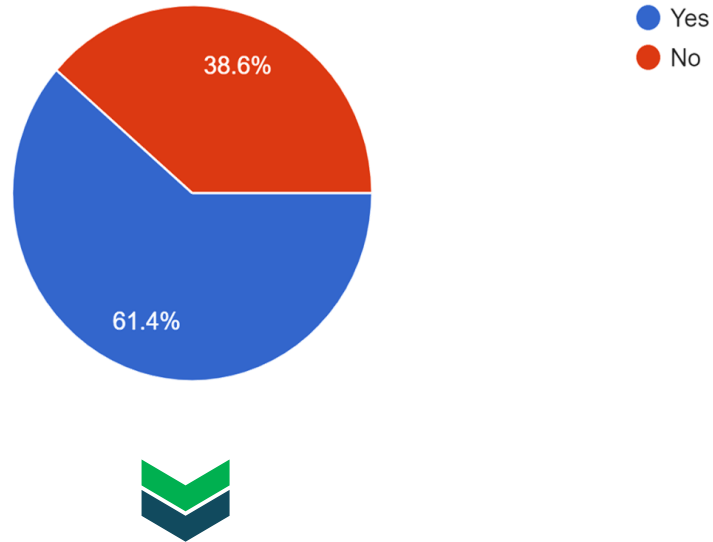
8.

The graph represents on scale of 1(least) to 5 (most), the ease of finding a Femtech product



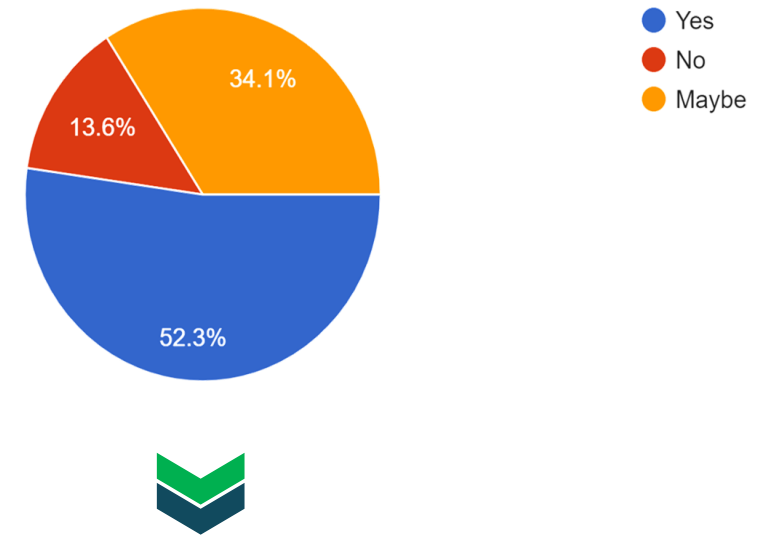
9.

The graph represents on scale of 1(least) to 5 (most), the level of satisfaction in using a Femtech product



10.

The graph represents the percentage of study participants who saw a positive effect on symptoms after using the product



11.

The graph represents the percentage of study participants who would recommend Femtech to others suffering from the same



OBSERVATION AND ANALYSIS

- 1.** Age distribution of the study participants, in which age group 15-24 years comprised of 17%, age group 25-34 comprised of 48% and age group 35-45 comprised of 35%; **the maximum respondents were from the age category 25-34 years old.**

- 2.** Out of 259 study participants suffering from PCOS, 42.9% had been suffering for 1-3 years, followed by 24.7% for 3-5 years, 23.2% for more than years and 9.3% for less than a year. **The results also showed that maximum respondents had been suffering from PCOS for 1-3 years**

- 3.** Only 20.5% study participants who had heard of a concept called as Femtech and knew of its products, the rest of them, 79.5% hadn't heard about or knew any Femtech related products. **This showed the lack of knowledge and awareness among study participants regarding the subjects**

- 4.** Only 17% women out of 259 study participants were currently using or had used Femtech product for managing their PCOS symptoms **which shows the level of penetration of Femtech products among study participants, which is quite less**



5. **54.2% study participants chose lack of knowledge or information for not using Femtech products** 37.9% women had doubts about the effectiveness, 13.1% gave cost as the reason, 19.2% chose lack of access to technology as the reason, and 16.4% of respondents were not interested in knowing about it

6. **84.1% study participants were using period tracking app**, 54.5% used personalized diet plan, 36.4% used yoga and exercise apps, 15.9% were using online community support groups via apps, 11.4% were using mental health and wellness apps, and 2.3% were using fertility monitoring devices

7. 47.7% study participants answered level 4 as the helpful level, 27.3% answered 3 level and 25% said they were completely helpful, **which shows that Femtech products had been helpful for study participants in managing their symptoms**

8. 43.2% study participants answered level 4 in the ease of finding a product, 29.5% answered level 3 and rest answered as level 5, **which shows that Femtech products are quite accessible on various platforms to women**

9.

43.2% of study participants answered level 4, 29.5% answered level 3 and the rest were completely satisfied with the products, **which shows that the products and services of Femtech are quite satisfactory towards providing a solution towards the health issue**

10.

61.4% study participants answered “Yes”, and the rest answered “No”, when asked if they had seen any significant change in their symptoms after using a Femtech product, **which shows that these products had the capacity to bring about positive changes**

11.

52.3% of study participant responded “Yes”, 34.1% said “Maybe” and the rest said “No”, when asked if the study participants would recommend Femtech products to other women they knew who were suffering form PCOS

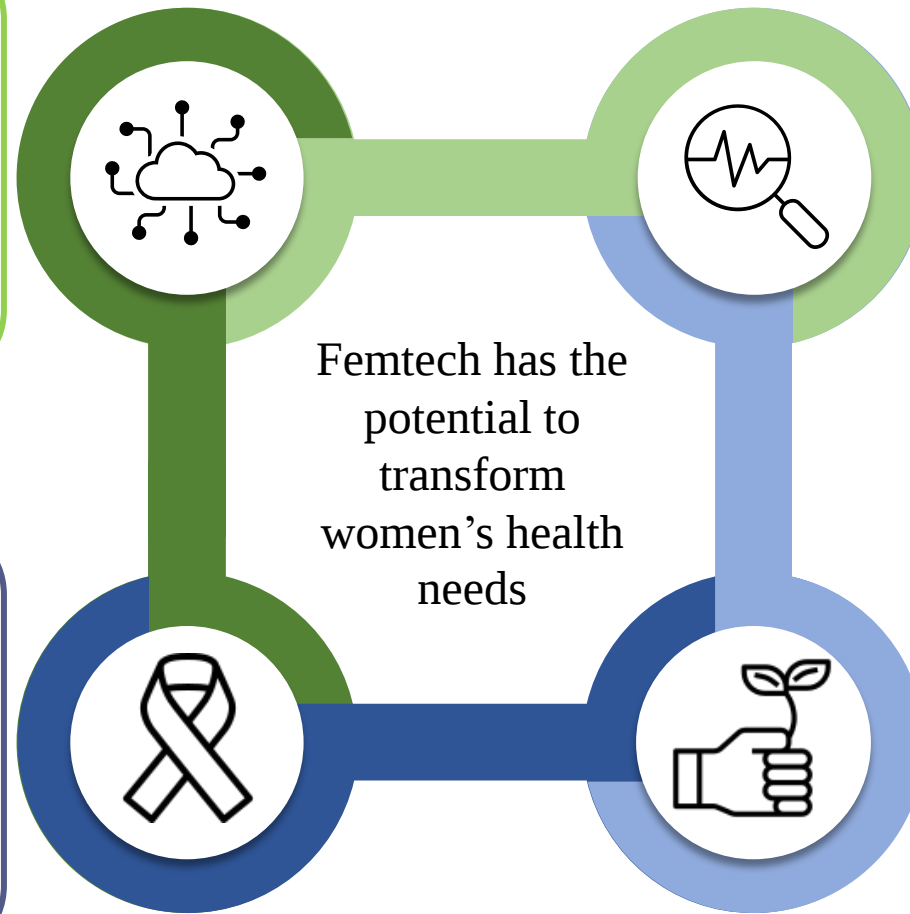


CONCLUSION



Culturally sensitive and user-friendly Femtech solutions have the **potential to revolutionize PCOS management** in India, providing personalized support to women in need.

Femtech solutions can enable **early detection of health issues**, such as polycystic ovary syndrome (PCOS), endometriosis, and cervical cancer leading to timely interventions



They **can bridge healthcare gaps** and contribute to economic growth. Prioritization of Femtech awareness campaigns, investing in research and development can help

They have the **power to address the taboo and silence** surrounding women's health issues in Indian society helping break down societal barriers and encourage conversations about women's health

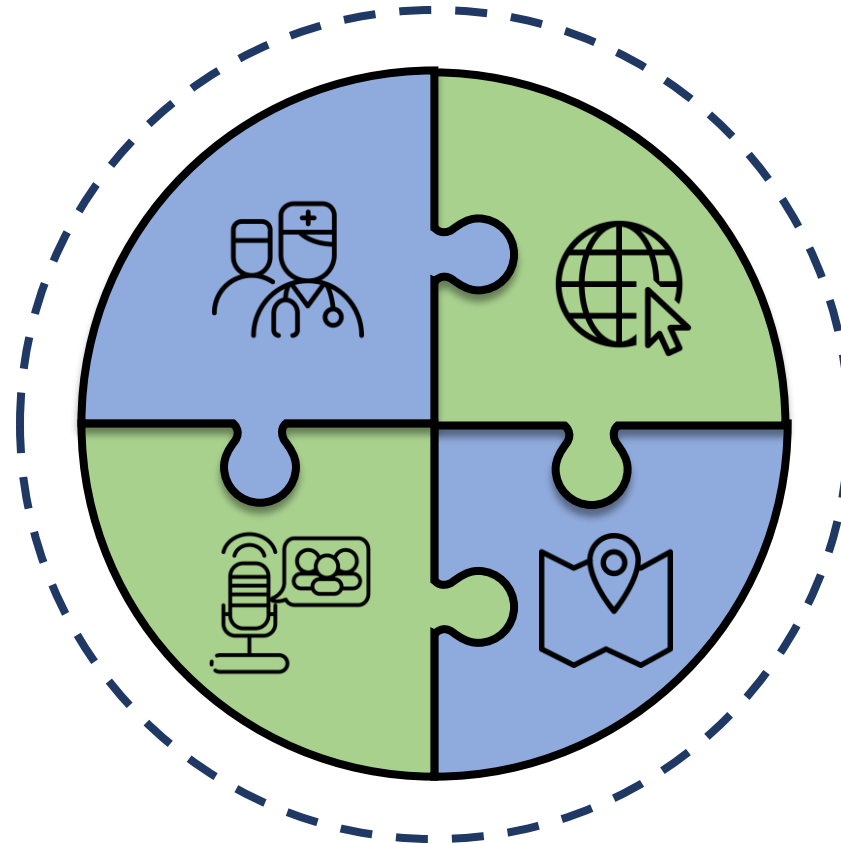
RECOMMENDATIONS





Femtech companies can **collaborate with physicians and gynecologists** for boosting visibility and credibility. The doctors can also cooperate with medical groups and host workshops.

Societies who advocate for issues related to women's reproductive health like PCOS Society of India, FOGSI, IFS, can be involved. Women looking for knowledge can benefit greatly from this



Using social media marketing for enhancing the information portal. Sites like Facebook, Instagram, and Twitter can be used by Femtech businesses to market their goods and services.

Femtech businesses should **produce local content** for the Indian market so that women can better understand it in their own language and through pictorial representation and involves some local content creators



Femtech businesses can provide **reasonably**, widely available solutions. They may also think **about collaborating with healthcare organizations** to sell their products at discounted prices.

Femtech businesses can develop solutions with **user-centric design principles** specific to Indian women and can **engage women in the design and development process** through focus groups, surveys



Femtech business can offer **digital literacy programs** and conduct **training session** for women, especially in rural areas, to enhance their familiarity and comfort with using technology.

Femtech businesses can **engage with regulatory authorities to create an enabling environment** in terms of regulations, standards, and approvals to encourage more companies to enter the Indian

ANNEXURE



A Study on FemTech for Managing PCOS

The purpose of this survey is to understand the level of awareness and user perception among women who suffer from PCOS/PCOD about female technology products. Your participation in this survey is voluntary and all responses will be kept confidential and anonymous.

bhagyashree@healtharkinsights.com [Switch account](#)



Not shared

* Indicates required question

How old are you? *

- ☐ 15 - 24 years
- ☐ 25 - 34 years
- ☐ 35 - 45 years

Have you been diagnosed with PCOS(Polycystic Ovary Syndrome)? *

- ☐ Yes
- ☐ No

A Study on FemTech for Managing PCOS

bhagyashree@healtharkinsights.com [Switch account](#)



Not shared

* Indicates required question

If you have been diagnosed with PCOS, then proceed with the next section.

How long have you been suffering from PCOS? *

- ☐ Less than 1 year
- ☐ 1-3 years
- ☐ 3-5 years
- ☐ More than 5 years



What are your symptoms for PCOS? *

(You can select multiple options)

- ☐ Irregular periods
- ☐ Acne and oily skin
- ☐ Excessive body hair
- ☐ Weight gain
- ☐ Baldness or thinning hair
- ☐ Other: _____

Have you heard of FemTech products (includes period tracking apps, wearable devices like smart watch, hormone tracking apps, etc) before? *

- ☒ Yes
- ☐ No

Have you ever used FemTech to manage your PCOS symptoms? *

- ☐ Yes
- ☐ No

A Study on FemTech for Managing PCOS

bhagyashree@healtharkinsights.com [Switch account](#)



Not shared

If you haven't used FemTech products, proceed with this section

If no, what are the reasons for not using? (You can select multiple options)

- ☐ Lack of knowledge or information
- ☐ Doubts about its effectiveness
- ☐ Cost
- ☐ Lack of access to technology
- ☐ Not interested
- ☐ Other: _____

[Back](#)

[Submit](#)

[Clear form](#)



If you have used FemTech products, please continue with the questions.

If yes, which type of FemTech products have you used? (You can select multiple options) *

- ☐ Period tracking apps
- ☐ Personalized diet plan apps
- ☐ Exercise and yoga apps
- ☐ Mental health and wellness apps
- ☐ Online community support
- ☐ Wearable technology like smart watch, fitness tracker
- ☐ Fertility monitoring devices
- ☐ Other: _____

On a scale of 1-5, how helpful has FemTech been in managing your PCOS symptoms? *

1 2 3 4 5
Not helpful ○ ○ ○ ○ ○ Extremely helpful

On a scale of 1-5, how easy was it to find and use FemTech products for managing PCOS? *

1 2 3 4 5
Very difficult ○ ○ ○ ○ ○ Very easy

On a scale of 1-5, what is your level of satisfaction of using FemTech products? *

1 2 3 4 5
Completely dissatisfied ○ ○ ○ ○ ○ Completely satisfied

Have you noticed any specific improvements in PCOS symptoms since using FemTech products? *

- ☐ Yes
- ☐ No



If yes, please describe the improvements.

Your answer

Would you recommend FemTech products to other women suffering from PCOS? *

- ☐ Yes
- ☐ No
- ☐ Maybe

What changes or innovations or improvements do you want to see in FemTech products?

Your answer

Back

Submit

Clear form

**THANK
YOU**

