



A Study on Women's Sexual and Psychological Health

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Abstract— The aim of the study is to examine the sexual health status of women in India, including their physical, psychological and social factors. Our motivation is to understand the loss of potential due to unsustainable sexual development. We reviewed relevant journals and articles from various sources to gain a deeper understanding of the sexual health status of Indian women around. The results showed that India faces many challenges to women's access to sexual health and rights, including gender-based violence, inadequate access to reproductive health care, sexual taboos health care, lack of information and low contraceptive use among married women aged 15-49 years. Even in today's time Indian women have a strong belief that children are God's gift and we humans have no right to point fingers at this blessing. The whole amount for the Union health budget in India is channeled through the ministries of AYUSH, health and family welfare and finance respectively. The proposed budget allocates Rs-1,06,654 crores towards health across three ministries during 2023-24. The allocated amount has reduced slightly from last year's budget; about Rs 1,07,433 crores. Regarding female health workers/Auxiliary nursing midwives, it has gone up from 4.75% in 2005 to Furthermore, it should be noted that there are no specialists available in all community health centers of Sikkim, while just 5% of centers in Madhya Pradesh have specialists. 43. There are also 2% primary health centers without a doctor in Chhattisgarh, plus 37.7% in West Bengal. A total of 90-73 percent of Sub Centers have no female health care manager in Sindh and Bihar states respectively. It's the need of time that women understands that every individual has right to govern their own body. Food insecurity and socioeconomic nutritional status are also a concern for women's sexual and mental health

women's ill health (O'Donnell). Article 12 of the international covenant on economic, social and cultural rights envisages the right to attainment of the highest attainable level of physical and mental health. Food insecurity amongst women has been found to be associated with increased sexual risk behavior. According to the statistics of The State of Food Insecurity in the World (2012), India hosts more than 217 million individuals suffering from undernourishment. In previous Indian cities' studies, food insecurity prevalence ranges 51–77%. Nevertheless, information on food insecurity in rural areas constituting over 70% of Indian population is still scarce. Various studies also suggest that although sexuality and sex is equally essential for a woman in every age group including postmenopausal stage, it appears as if the wider society does not fully understand the importance of this factor to an older man. Such women could even mistakenly hold the view that their HPC's will think of their sexual health issues as being unimportant and hence not bother to attend to this matter. It is also possible for them to argue that one meeting is not enough to discuss such an intricate matter. This article, with this aim in mind, reviewed crucial impediments to better sexual health outcomes amongst women and recommended ways of overcoming them. This paper has described the major challenges, suggesting possible solutions that form part of figure 1.

Keywords— Providing Guidance, Health Status, Food Insecurity, STD, Gender based Violence, PCOS and MMR.

I. INTRODUCTION

Sexual health has a significant impact on overall health and wellbeing; however, it does not receive much attention or funding. It should be noted that more than one and a half million poor people live in the country's urban areas, and they have access to below average medical care services. Poor reproductive health has negative implications for women's physical, mental and social well-being in India which result in adverse effects like unintended pregnancies, STDs and

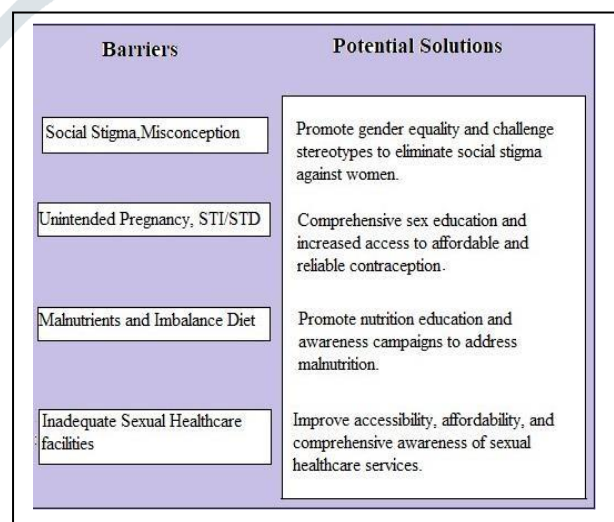


Fig.1 Barriers with their Solutions.

A. Highlighting the problems of PCOS

Polycystic ovary syndrome (PCOS) is a disorder that affects women's fertility, metabolism, and hormonal regulation. Doctors do not fully understand the underlying causes of PCOS but nutrient deficiencies in the diet can lead to PCOS or related problems. A healthy diet with proper nutrition plays an important role in overcoming PCOS issues. New programs have been developed to manage their weight through proper nutrition. In the present era, women spend a lot of time on family responsibilities and their careers. Women are overweight to fulfill all such responsibilities in daily activities and even if they do not eat properly even on time they are unable to maintain unhealthy eating habits for the risk of diseases chronic types in women such as PCOS, insulin resistance, cancer, diabetes and so on.

1. How your PCOS can be diagnose?

- a) **Ultrasound:** This test uses sound waves and a computer to map blood vessels, nerves and organs. This test is used to evaluate the size of the cervix and check for tumors. It can examine the endometrium's thickness as well.
- b) **Blood tests:** These are looking for high levels of hormones such as androgens. Your healthcare provider can also check your blood glucose levels. Doctors use blood tests to monitor levels of hormones such as testosterone, luteinizing hormone (LH), and follicle-stimulating hormone (FSH). It is common to see testosterone and LH levels, as well as FSH levels, in women with PCOS.
- c) **Glucose Tolerance Test:** To evaluate your blood sugar levels and how your body responds to insulin doctors may conduct a glucose tolerance test since insulin resistance is often seen in PCOS.
- d) **Pelvic Ultrasound.** To examine your ovaries doctors may perform either an abdominal ultrasound. This imaging test can help identify the presence of cysts or enlarged ovaries which're signs of PCOS.

2. How is PCOS treated?

- a) **Changes in diet and activity:** A healthy diet and plenty of exercise can help you lose weight and reduce symptoms. They can help your body use insulin better, lower blood glucose levels, and help you ovulate.
- b) **Ovulation therapy:** Medications can help the uterus release eggs normally. These drugs also have some risks. The chances of multiple births (twins or more) can be increased. and can cause ovarian hyperstimulation. This happens when the uterus releases too many hormones. Symptoms can include abdominal bloating and pelvic pain.

B. Addressing the problem of MMR

Maternal mortality is defined as the number of maternal deaths in a given period divided by 100,000 living mothers in the same period. According to the statistics obtained from the Sample Registration System (SRS), a gradual decline of MMR has been observed in our country as described below:

| Country | 2010-12 | 2014-16 | 2018-20 |
|----------------|---------|---------|---------|
| India | 178 | 130 | 97 |
| kerala | 66 | 46 | 19 |
| Maharashtra | 87 | 61 | 33 |
| Telangana | 110 | 81 | 43 |
| Andhra Pradesh | 110 | 74 | 45 |
| Tamil Nadu | 90 | 66 | 54 |
| Jharkhand | 219 | 165 | 56 |
| Gujrat | 122 | 91 | 57 |
| Karnataka | 144 | 108 | 69 |
| Uttrakhand | 292 | 201 | 103 |
| West Bengal | 117 | 101 | 103 |
| Punjab | 155 | 122 | 105 |
| Haryana | 146 | 101 | 110 |
| Rajasthan | 255 | 199 | 113 |
| Bihar | 219 | 165 | 118 |
| Odisha | 235 | 180 | 119 |
| Chattisgarh | 230 | 173 | 137 |
| Uttar Pradesh | 292 | 201 | 167 |
| Madhya Pradesh | 230 | 173 | 173 |
| Assam | 328 | 237 | 195 |

Fig 2. MMR cases from 2010-2020

Progress in reducing maternal mortality ratio is indeed achievable, but it will require collective and determined efforts. Addressing this critical issue demands a comprehensive approach involving various stakeholder, including government, healthcare systems, communities, and international organizations.

C. Another issue is Gender-Based Violence.

Gender-based violence (GBV) encompasses any form of violence specifically targeting women or disproportionately affecting them. It encompasses various types of violence, such as physical, sexual, psychological, economic, and social violence. Domestic violence, a subset of GBV, occurs within the confines of a home and can manifest in multiple ways, including physical and sexual assault, emotional abuse, and economic exploitation. Several new trends in GBV are given below: -

1. Technological Violence:

With the rise of technology, GBV has taken new forms. Cyberbullying, cyberbullying, and the distribution of non-consensual images commonly referred to as "revenge porn"

are rampant. Criminals use digital means to control, intimidate and harm their victims.

2. COVID-19 and Lockdown:

The COVID-19 pandemic and subsequent lockdown have had a significant impact on GBV. Stressors associated with the pandemic, as well as limited mobility and isolation, led to increased cases of domestic violence. Victims and abusers were often trapped at home, and it was difficult to get help.

3. Intermediate classification:

The increased recognition of interpersonal gender in GBV means that the experiences of marginalized and vulnerable groups such as LGBTQ+ individuals, people with disabilities and ethnic minorities are now receiving more attention. These groups often face challenges uniqueness and violence interacting with their gender identity.

II. RESEARCH METHODOLOGY

A. Menopause and aging

Menopause is a natural biological phase marking the conclusion of a woman's reproductive years, typically occurring between the ages of 45 to 55. It brings about notable hormonal changes, primarily characterized by a decrease in estrogen levels. These hormonal fluctuations have several implications for women's sexual health and overall quality of life:

- 1. Libido Changes:** During menopause, many women experience a reduction in sexual desire, often termed hypoactive sexual desire disorder (HSDD). These changes can be attributed to hormonal shifts, as well as psychological and relationship factors like mood, relationship quality, and self-esteem.
- 2. Vaginal Dryness:** The decrease in estrogen levels can lead to vaginal dryness, potentially resulting in discomfort or pain during sexual intercourse. Vaginal dryness is a common issue during menopause and can negatively impact a woman's sexual satisfaction.
- 3. Physical Changes:** Menopause can induce physical alterations in the female reproductive system, such as thinning of the vaginal walls and changes in tissue elasticity. These changes may contribute to discomfort during sexual activity.
- 4. Psychological Impact:** Hormonal fluctuations associated with menopause can lead to mood swings, anxiety, and depression, influencing a woman's overall well-being and sexual health.
- 5. Relationship Dynamics:** Changes in sexual desire, physical discomfort, and emotional fluctuations can influence the dynamics of intimate relationships. Open communication with a partner and understanding these changes are vital.

- 1. Introduction to STIs and Women's Health:** Commence with a concise definition of STIs and underscore their relevance to women's health. Highlight the fact that STIs encompass a range of infections

- 6. Treatment Options:** Various treatment options are available to address menopause-related sexual health concerns, including hormone therapy, vaginal moisturizers, lubricants, and counseling. These treatments can help alleviate symptoms and enhance sexual satisfaction.

B. STD/STI's:

When researching the impact of Sexually Transmitted Infections (STIs) on women's health conditions for a research paper, it's crucial to delve into this multifaceted topic in a thorough and original manner. Here's an elaboration of the key points to include in your research, emphasizing women's health:

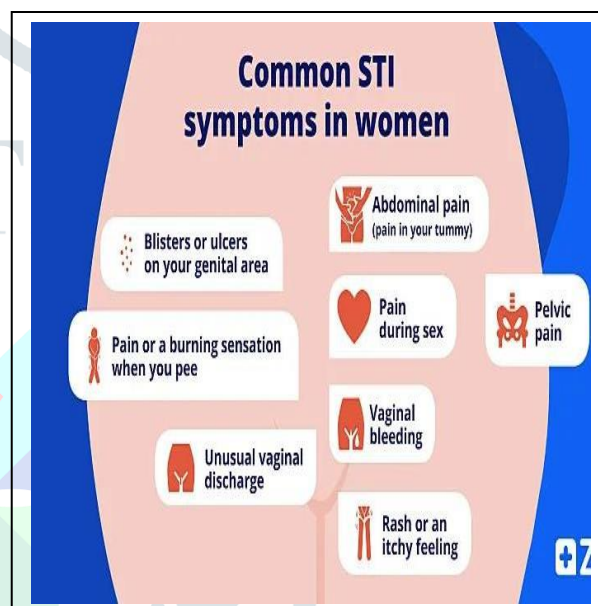


Fig 3. Common STI symptoms in women by Dr Babak Ashrafi on zavamed.com ,7 Jan 2022

- transmitted through sexual contact and emphasize their specific implications for women's well-being.
- 2. Prevalence of STIs in Women:** Provide a detailed overview of the prevalence of STIs in women, shedding light on how women may face a disproportionate burden due to a combination of biological, socioeconomic, and cultural factors.
- 3. STIs Affecting Women:** Discuss specific STIs that have a notable impact on women's health. Illustrate the transmission modes, clinical manifestations, and potential long-term consequences of prominent STIs such as Human Papillomavirus (HPV), Chlamydia, and Human Immunodeficiency Virus (HIV).

4. **Reproductive Health Implications:** Investigate how certain STIs can lead to substantial consequences for women's reproductive health, including infertility, ectopic pregnancies, and chronic pelvic pain. Emphasize that early detection and effective treatment are crucial to mitigating these risks.
5. **Risk Factors and Vulnerabilities:** Explore the multifaceted factors contributing to women's heightened vulnerability to STIs. These may encompass biological disparities, economic disparities, and the prevalence of gender-based violence. Analyze the societal influences, such as stigma and discrimination, that can obstruct women's access to healthcare and testing.

III. FINDINGS AND DISCUSSION

A. Availability of sexual health services:

1. **Family Planning Services:** Effective healthcare planning should prioritize the wide availability of family planning services. These services should encompass a range of contraceptive options, comprehensive counseling, and accessible education on pregnancy prevention. Planning efforts must consider the distribution of these services across urban, rural, and remote areas, ensuring equitable access for all women.
2. **Gynecological Care:** To develop comprehensive healthcare plans, gynecological care must be integrated into primary and specialized care settings. This includes regular screenings for conditions such as cervical cancer, breast cancer, and sexually transmitted infections. Planning should accommodate the need for various healthcare facilities, from private practices to community clinics, and address geographic discrepancies.
3. **Sexual Health Screenings:** In-depth healthcare planning should encompass sexual health screenings as a core component. These screenings, including Pap smears, mammograms, and HIV tests, are crucial for early detection and prevention of diseases. Planning should consider equitable distribution, especially in underserved regions.
4. **Food Supplements and Nutrition:** Nutrition in Indian women remains a complex issue. While traditional diets provide essential nutrients, concerns like anemia, micronutrient deficiencies, and changing dietary patterns contribute to health challenges. Government initiatives like the National Nutrition Mission aim to address these issues, emphasizing nutrition education and awareness. The nutritional status of Indian women can vary widely based on factors such as region and socioeconomic conditions. When it comes to living a healthy

lifestyle, the type of food you eat is just as important as the amount. All food is broken down into three groups, or macronutrients: carbohydrates, protein, and fat. The required nutritional supplements are described through a flowchart below:

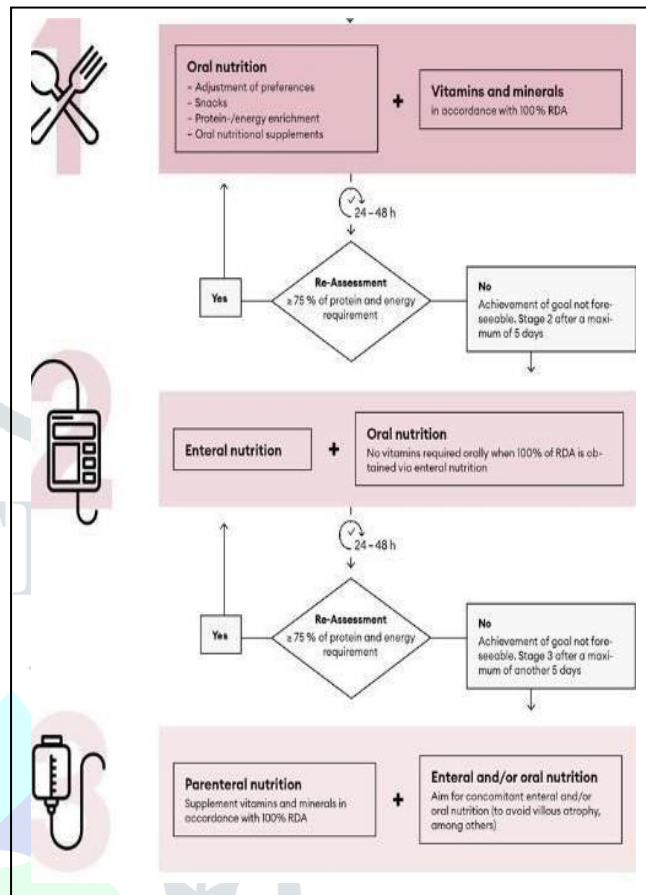


Fig. 4. Dynamic diet planner: a personal diet recommender system based on daily activity and physical condition by P. Ghosh, D. Bhattacharjee, and M. Nasipuri [11]. Women in India need to consume a diet that is balanced properly.

Here the food and containing multi nutrition is shown.

| Food Item | Calories | Fats | Proteins |
|------------------|----------|------|----------|
| Asparagus Cooked | 22 | 0.2 | 2.4 |
| Avocados | 160 | 15 | 2 |
| Banana | 89 | 0.3 | 1.1 |
| Wheat | 250 | 1.5 | 10 |
| Berries | 349 | 0.4 | 14 |

TABLE 1. FOOD ITEMS WITH NUTRIENT VALUES

Calories requirement in women according to their age has been illustrated through a table

| Calories requirement | Age |
|----------------------|-------|
| 2600 to 3000 | 19-20 |
| 2400 to 3000 | 21-35 |
| 2400 to 2800 | 36-40 |
| 2200 to 2600 | 41-55 |
| 2000 to 2600 | 61-75 |

Table 2. Calories requirement

B. Obesity & non-communicable diseases:

Obesity and Non-Communicable Diseases (NCDs); Non communicable diseases refer to health conditions that are not caused by agents. Rather they arise from a combination of factors, lifestyle choices and environmental influences. Obesity plays a role, in increasing the risk of NCDs, such as diabetes and cardiovascular ailments. Here, we have described a vicious cycle in which high-energy diets harm the hippocampus This progressively weakens the ability of satiety signals to inhibit the capacity of environmental food-related stimuli to elicit appetitive behaviors, and results in positive energy balance, weight gain, and further harm to the hippocampus.

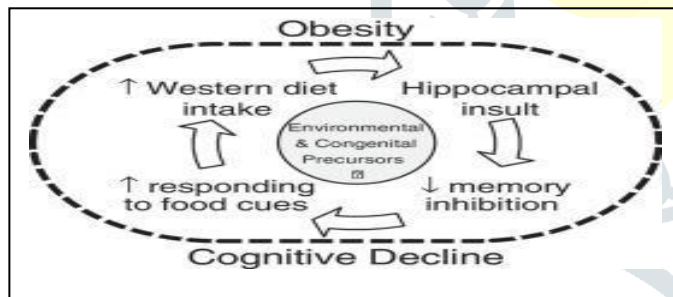


Fig. 5. The outward spiral: a vicious cycle model of obesity and cognitive dysfunction by Sara L Hargrave, Sabrina Jones, Terry L Davidson [2].

While undernutrition remains a concern, there is also a growing issue of obesity and diet-related non-communicable diseases, such as diabetes and cardiovascular diseases, particularly in urban areas. This is often attributed to changing dietary patterns and a more sedentary lifestyle. Descriptive statistics and bivariate and multivariate analysis were used to check the significant relationship between overweight and obesity, and other background characteristics. The concentration index and the

concentration curve were used to quantify the disparity in overweight and obesity among women based on income. Additionally, the concentration index was broken down into the individual factors' contributions to the income-related disparities using Wagstaff decomposition analysis.

Here we are projecting trend in obesity till 2035. Women in India are going at higher rate .

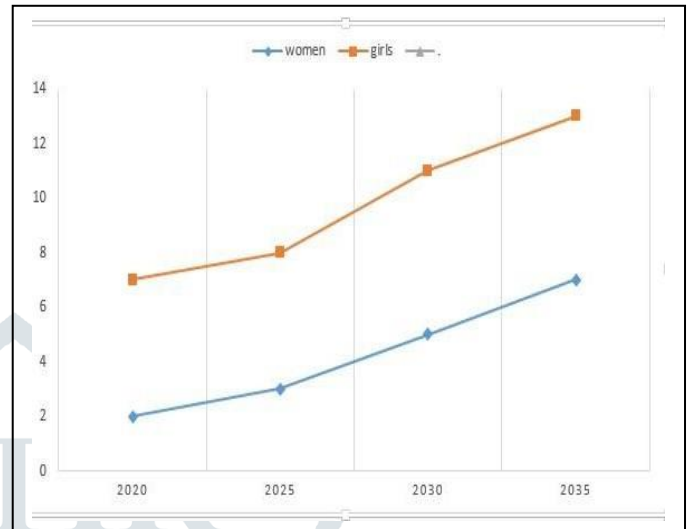


Fig6. Trend in obesity.

IV. RELATED WORK

1. Management of PCOS:

In [1] Lie Fong S, Douma A, Verhaeghe J. Studies have explored the development of international guidelines for PCOS. These guidelines typically involve a comprehensive review of the existing literature and are often authored by experts in the field. Researchers have analyzed the process of guideline development and the evidence-based recommendations they contain.

2. Machine learning model:

To predict the coming trends in obesity and diabetes, data has been collected from authorized sources and by applying supervised machine learning algorithm ie. Linear regression.

3. Rule-Based Methods:

Rule-based methods rely on manually crafted rules to assign datasets to categories. These rules are typically based on specific keywords, phrases, or patterns found in organized information set While rule-based methods are simple to implement, they may lack accuracy, especially when dealing with noise containing data.

4. Diet Recommendation: Zhang et al. presented the effect of a Low Carbohydrate Diet (LCD) in women suffering from PCOS. Long-term LCD diets and low-fat low-CHO diets were recommended to reduce the BMI and used to treat PCOS. Mehrabani et al. explored the impacts of various diet compositions on insulin levels in women with PCOS. A group of 60 women with PCOS and overweight were recruited and assigned different diet groups hypocaloric diet

(15% protein of daily energy) and modified hypocaloric diet (30% protein of daily energy with low GI foods from the list) for a clinical trial.

V. TREATMENT OPTIONS:

Treatment options for menopause-related sexual health concerns are multifaceted and can significantly improve a woman's overall well-being during this transitional phase. These options are tailored to address specific issues that often accompany menopause, such as changes in libido, vaginal dryness, and hormonal fluctuations.

1. **Hormone Therapy:** Hormone therapy, often referred to as hormone replacement therapy (HRT), is a common approach to manage the hormonal imbalances that occur during menopause. It involves the administration of estrogen and, in some cases, progesterin to alleviate symptoms like vaginal dryness and hot flashes. However, it's crucial to discuss the benefits and risks of HRT with a healthcare provider as it may not be suitable for everyone.
2. **Vaginal Moisturizers and Lubricants:** Vaginal moisturizers and lubricants are over-the-counter options that can alleviate vaginal dryness and discomfort during intercourse. Regular use of these products can help improve sexual satisfaction and minimize discomfort.
3. **Polycystic Ovary Syndrome (PCOS) Management:** For women with PCOS, which can affect hormonal balance, treatment options are specific to the condition. These may include lifestyle modifications, hormonal medications, and fertility treatments, depending on the individual's goals and symptoms.

VI. RESULT AND CONCLUSION:

The women's sexual and psychological health is quite complicated. It comprises a lot of biology, psychology, society, and culture. Further studies are called for in order to examine other significant factors required for developing preventive and curative approaches to women's health and welfare.

1. **Maternal Mortality:** India has made significant progress in reducing maternal mortality over the years. Government initiatives, such as the Janani Suraksha Yojana (a maternal health program), have contributed to improved maternal healthcare access. However, maternal mortality rates remain high in some regions due to disparities in healthcare access.

2. **Childbirth and Family Planning:** Many Indian women still face challenges in accessing contraception and family planning services. While there has been progress in increasing awareness and availability of contraceptives, there are disparities in usage rates, with rural and less-educated women having less access.
3. **Anemia:** Anemia remains a significant public health issue among women in India. It is linked to nutritional deficiencies and poor healthcare. Government programs have aimed to address this issue by providing iron and folic acid supplements and improving nutrition.
4. **Reproductive Health:** Access to quality reproductive health services, including antenatal and postnatal care, remains a concern, particularly in rural areas. Many women lack access to skilled birth attendants and essential services.
5. **Sexual and Reproductive Rights:** Women's sexual and reproductive rights continue to be a complex issue. While there are laws and regulations in place, there are still challenges related to gender-based violence, child marriage, and access to safe abortion services.
6. **Non-communicable diseases (NCDs):** Non-communicable diseases, such as diabetes and cardiovascular diseases, are increasing among women in India, attributed to lifestyle changes. Improvement in awareness, prevention and management of NCDs is the need.
7. **Mental Health:** Mental health is a growing concern for women in India, especially in urban areas. Stigma and lack of knowledge about mental health issues can be barriers to accessing care and support.
8. **Malnutrition:** Female malnutrition is a major issue in some parts of India, especially in terms of malnutrition. Government schemes such as Integrated Child Development Services (ICDS) aim to address this issue by providing nutrition to pregnant and lactating women.
9. **Education:** Education has a significant impact on the health and well-being of women and girls. Increased female literacy and education can have positive effects on aspects of women's health.
10. **Gender equality:** Gender inequality and cultural norms continue to affect women's health in India. Women's empowerment through gender-sensitive policies and the prevention of gender-based violence is essential to improve women's overall well-being.

REFERENCES

- [1] Lie Fong S, Douma A, Verhaeghe J. Implementing the international evidence-based guideline of assessment and management of polycystic ovary syndrome.
- [2] The outward spiral: a vicious cycle model of obesity and cognitive dysfunction by Sara L Hargrave, Sabrina Jones, Terry L Davidson [1].
- [3] Lin AW, et al. Dietary and physical activity behaviors in women with polycystic ovary syndrome per the new international evidence-based guideline. *Nutrients*.
- [4] Sowah RA, Bampoe-Addo AA, Armoo SK, Saalia FK, Gatsi F, Sarkodie- Mensah B. Design and development of diabetes management system using machine learning.
- [5] Erin e. Mazur msn rn fnp-bc, nancy a. Litch ms rdn Lutz's Nutrition and Diet Therapy 2018.
- [6] MARLENE B. GOLDMAN, REBECCA TROISI, KATHRYN M. REXRODE. WOMEN AND HEALTH. DECEMBER 17, 2012.
- [7] Common Diseases Of Women Paperback – 1 JUNE 1998 by Renu Gupta.
- [8] Zhang et al. presented the effect of a Low Carbohydrate Diet (LCD) in women suffering from PCOS.
- [9] S. L. Hargrave, S. Jones, and T. L. Davidson, "The outward spiral: a vicious cycle model of obesity and cognitive dysfunction," *Neurosci. Biobehav. Rev.*, vol. 9, June 2016
- [10] R.S. Legro et al., "Diagnosis and treatment of polycystic ovary syndrome: an endocrine society clinical practice guideline," *C*, pp. 1–29, 2013, doi:10.1210/jc.2013-2350
- [11] Ghosh P, Bhattacharjee D, Nasipuri M. Dynamic diet planner: a personal diet recommender system based on daily activity and physical condition. *Innov Res BioMed eng* 2021;42(6):442–56.
- [12] Perelman D, Coghlan N, Lamendola C, Carter S, Abbasi F, McLaughlin T. Substituting poly- and mono-unsaturated fat for dietary carbohydrate reduces hyperinsulinemia in women with polycystic ovary syndrome. *Gynecol Endocrinol* 2017;33(4):324–7. <https://doi.org/10.1080/09513590.2016.1259407>.
- [13] S. A. Kingsberg et al., "Female Sexual Health: Barriers to Optimal Outcomes and a Roadmap for Improved Patient–Clinician Communications," *J. Women's Health*, published online, 10 Apr. 2019, doi: 10.1089/jwh.2018.7352.
- [14] N. F. Russo and A. Pirlott, "Gender-Based Violence: Concepts, Methods, and Findings," Department of Psychology, Arizona State University, Arizona, USA.
- [15] Vora KS, Mavalankar DV, Ramani KV, Upadhyaya M, Sharma B, Iyengar S, et al. Maternal health situation in India: a case study. *J Heal Popul Nutr* 2009;27:184–201.
- [16] Almaz T, Larson CP. Modern contraception use in Ethiopia: does involving husbands make a difference? *Am J Public Health* 1993;83(11):1567-71.
- [17] ncaer.org.news ,budget-2023-24,even-post-covid-india-needed-health-budget-hike
- [18] Armstrong, P., et al. (2012) *International Views on Women and Health Care Reform in Canada*. The Women's Press, Toronto.
- [19] WHO ,Sexual and reproductive health and rights: infographic snapshot , WHO-SRH-21.21, April 2022
- [20] Womenshealth.gov , genital-herbs, OASH , us department health (HHS) services
- [21] Dr Aparna Govil Bhasker, women's lifestyle and health issues AT. TOI February 7,2023.