

RESEARCH ARTICLE

A Comparative study of depression between post hysterectomy and healthy women of reproductive age group in tertiary health care centre of eastern India.

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Abstract: *Background* Hysterectomy, particularly when conducted in women younger than 45 years, has been associated with increased risk of depression. In India, research indicates that hysterectomy is a common procedure for women, but there have been no studies on its long-term effects. We examined the patients of hysterectomy amongst women in childbearing age group of Odisha / India and associations with their mental health and well-being in later life. *Aim Of The Objective:* A Comparative study of depression between post hysterectomy and healthy women of reproductive age group. *Material and method:* Study Design: Cross-sectional study. *Population:* Women under 45 years who underwent hysterectomy for non-malignant reasons, compared to a control group who have not undergone the procedure. *Sample Size:* 120 participants, with 60 in the post-hysterectomy group and 60 in the control group. *Data Collection:* Collected from operation theatre records of O&G Department of S.C.B Medical College, Cuttack, Odisha, with informed consent obtained. *Instruments:* Depression assessed using the Patient Health Questionnaire (PHQ-9) & HAM -D. *Statistical Analysis:* Comparative analysis of depression prevalence and severity between groups, with descriptive and inferential statistics. *Results:* This study underscores a notable prevalence of depressive symptoms among women of reproductive age (young) who have undergone a hysterectomy for non-malignant conditions, with specific symptoms and demographic distinctions contributing to the psychological profile observed. Our findings reveal that [76.66%] of women in the post-hysterectomy group experienced depressive symptoms, as measured by the PHQ-9, significantly higher than in the control group of women without hysterectomy. *Conclusions* In India, evidence suggests that hysterectomy is associated with mild to moderate depressive disorder. The assessment of depression after hysterectomy to be assets & regular advice to be taken by consulting mental health professionals as a treatment option for gynaecological morbidity should consider potential health consequences in later life.

Keywords: Hysterectomy, Depression, women in childbearing age group, India, Chronic disease, Women's health, Menopause

INTRODUCTION

Hysterectomy, the surgical removal of the uterus, is one of the most common gynaecological surgeries performed worldwide. Indications for hysterectomy include benign conditions such as fibroids, endometriosis, and abnormal uterine bleeding. While the physical outcomes of hysterectomy are well-documented, the psychological impacts, particularly depression, are less understood, especially in younger women.

Hysterectomy is a surgical procedure that involves the removal of the uterus, the female reproductive organ where a foetus develops during pregnancy. The term hysterectomy originates from two Greek words: "hystero" which means uterus and "ectomy" which means resection removal from the human body (Papadopoulos et al., 2010). Hysterectomy, the surgical

removal of uterus, is the second most frequently performed non- obstetric surgery after caesarean section in many parts of the world. It had border socio- economic, demographic and medical phenomenon (Prusty et al., 2018). Hysterectomy has traditionally been considered the method of choice for treating a variety of benign gynecological disorders due to the low perioperative morbidity and definite cure of these diseases (Carlson et al., 1993). Hysterectomy artificially ends the reproductive function and has several positive and negative effects on women's physical and psychosocial health (Singh et al., 2021). It is a significant procedure that causes morbidity and the beginning of menopausal symptoms in females. Existing evidence suggests that age at menarche, age at first birth and parity may all be associated with subsequent hysterectomy risk (Cooper et al., 2008). Knowledge regarding hysterectomies in India is limited, partly due to lack of information from

large scale national representative surveys (Shekhar et al., 2019). Women's health in middle and early life undergoes several changes related to the mental health.

In India, the prevalence of hysterectomy operation is 3.3 per cent among women aged 15-49 years as per the study based on fifth National Family Health Survey (NFHS 5) for the year 2019-21. There is a marginal increase from NFHS 4, which recorded a rate of 3.2 per cent. LASI (2017-18) shows that 11 per cent of older adult women age 45 and above in India reported having undergone hysterectomy. Variation in hysterectomy rates have been associated with women's demographic characteristics such as race, education and socio-economic status and insurance status, as well as their physician's gender, training and geographical location, suggesting that the procedure is related to the broader social and health system environment as well as to biological risk (Gimbel et al., 2002; Materia et al., 2002). The majority of hysterectomies are performed on benign reasons in order to increase quality of life; nevertheless, it can bring about some post-operative long-term problems such as depression, sexual dysfunction and especially urine incontinence (Goktas et al., 2015). Among them depression symptoms are most common. In addition, depending on the lack of uterus among women after hysterectomy and the termination of the capacity of reproduction, the anxiety for no longer having any sex increases the risk of depression, having an impact on the thoughts, social life and partnering communication of women focusing too much on reproduction (Farooqi, 2005). The relationship between hysterectomy and depressive symptoms is complex and multifaceted. Undergoing a hysterectomy has a strong effect on a woman's sexuality, causing poor body image and other factors which could lead to depression (Asgharnia and Esmailpoor, 2008). Women often consider the uterus to be a sexual organ, and the controller and regulator of important physiological functions in the body, as well as the source of youth, energy, activity and a symbol of childbearing capacity (Alipour and Pour, 2010).

Mental health is an integral part of health and well-being of young & adults (WHO, 2013). Depression is defined as an extended period (at least two weeks) in which a person experiences a depressed mood or loss of interest or pleasure in activities that were once enjoyed (Gururaj et al., 2016). Depression can cause great suffering and can lead to impaired functioning in daily life. Healthcare professionals should be vigilant in assessing and monitoring the mental health of women both before and after a hysterectomy, offering appropriate support and interventions as needed.

Increasing number of hysterectomies raises public health concerns, as they can cause physical, sexual, and psychological problems for women. Among them, depressive symptoms are most common. Depression

significantly affects a person's well-being and quality of life. For women of childbearing women undergoing hysterectomy, experiencing depression can intensify feelings of sadness, loss and emotional distress related to the removal of a reproductive organ.

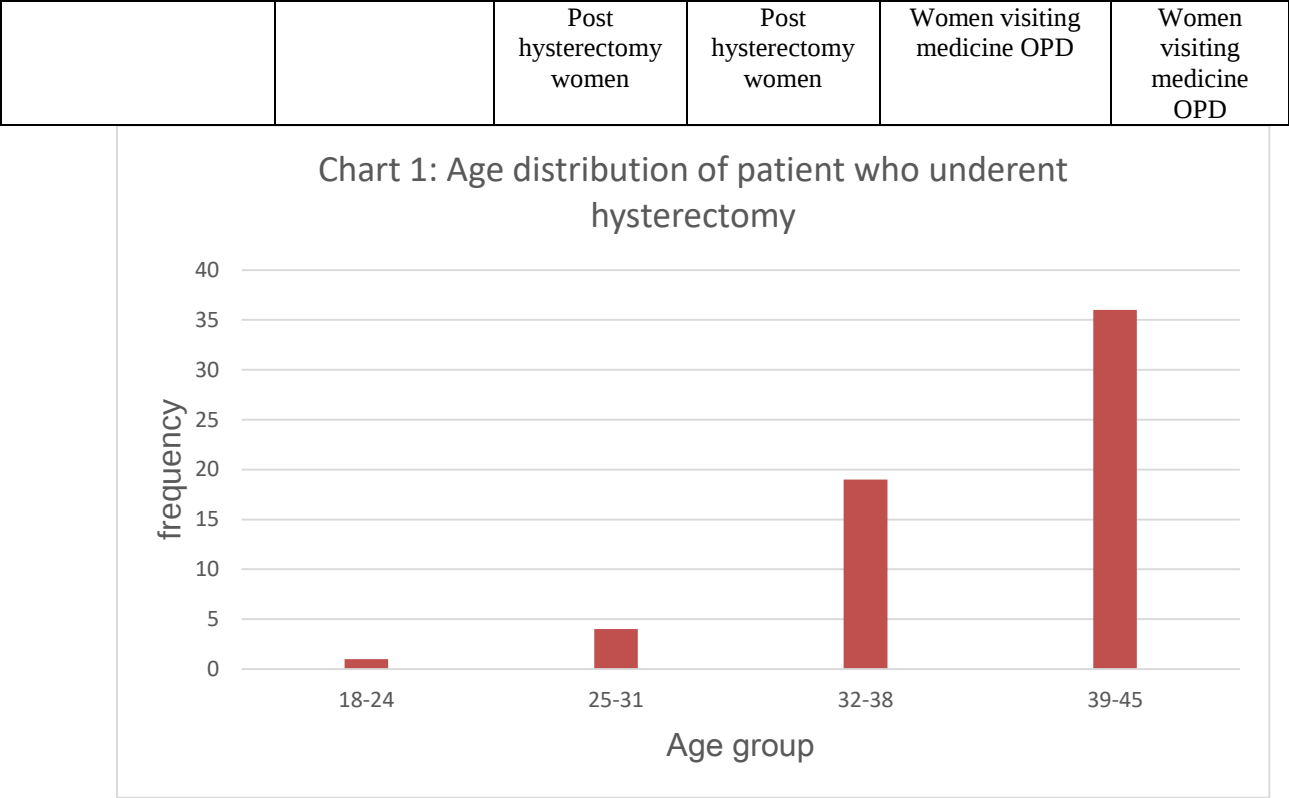
MATERIAL AND METHOD

- **Study Design:** Cross-sectional study.
- **Population:** Women under 45 years who underwent hysterectomy for non-malignant reasons, compared to a control group who have not undergone the procedure.
- **Sample Size:** 120 participants, with 60 in the post-hysterectomy group and 60 in the control group.
- **Data Collection:** Collected from OBG OT records, with informed consent obtained.
- **Inclusion Criteria:**
 - Group 1- Women aged 18-45 years who have undergone a hysterectomy within the last 1-5 years.
 - Group 2- Women aged 18-45 years who have not undergone hysterectomy but visiting general medicine outdoor for other cause.
 - Willingness to participate and provide informed consent.
- **Exclusion Criteria:** Women with a history of psychiatric disorders and other comorbid major medical condition.
- Women who have had a surgery due to cancer, to focus on non- malignant conditions
- **Instruments:** Depression assessed using the Patient Health Questionnaire (PHQ-9), HAM -D.
- **Statistical Analysis:** Comparative analysis of depression prevalence and severity between groups, with descriptive and inferential statistics.
- This is a study carried out in Department of psychiatry of SCB Medical College and hospital Cuttack. The hospital has all the major specialty and superspecialist departments. The study period was from 17august 2024to 17october 2024 (2 Month). Patient details were obtained from OBG OT records, were followed up on OPD basis if not possible telephonically. Similarly, data was collected from the patient visiting medicine outdoor.

Detailed assessment of the sociodemographic pattern, psychiatric history, and mental status examination, presenting complaints, physical diagnosis, current treatment for all participant and reason for hysterectomy, psychosocial impact of hysterectomy, including changes in body image, sexual function, and perceived social support of the patient who underwent hysterectomy was recorded using a semi-structured proforma, Patient Health Questionnaire

(PHQ-9) scale was administered then and there to obtain a baseline severity of illness. . Psychiatric diagnosis was made as per ICD 11.

RESULT:



- Our study involved a total of 120 participants. The average age of the patients was 40.65. The majority of participants fell within the 39-45years age group, as detailed in Chart 1.

Table 1: Socio demographic characteristics of patients

The majority identified as Hindu, accounting for 63.33%. Additionally, the study revealed that 78.33% of the post hysterectomy patients were married, and 38.33% had an educational level up to the secondary level, 55% from rural habitat as outlined in Table 1.

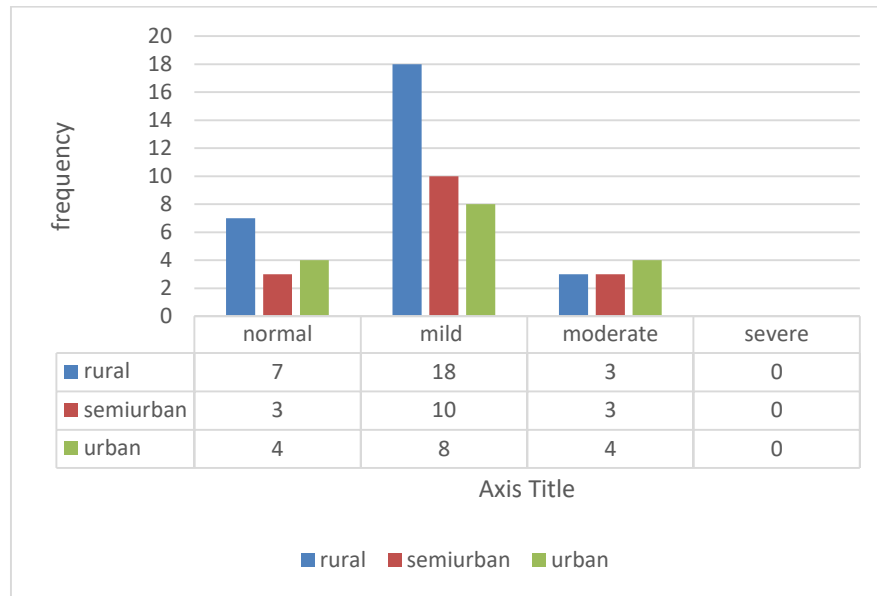
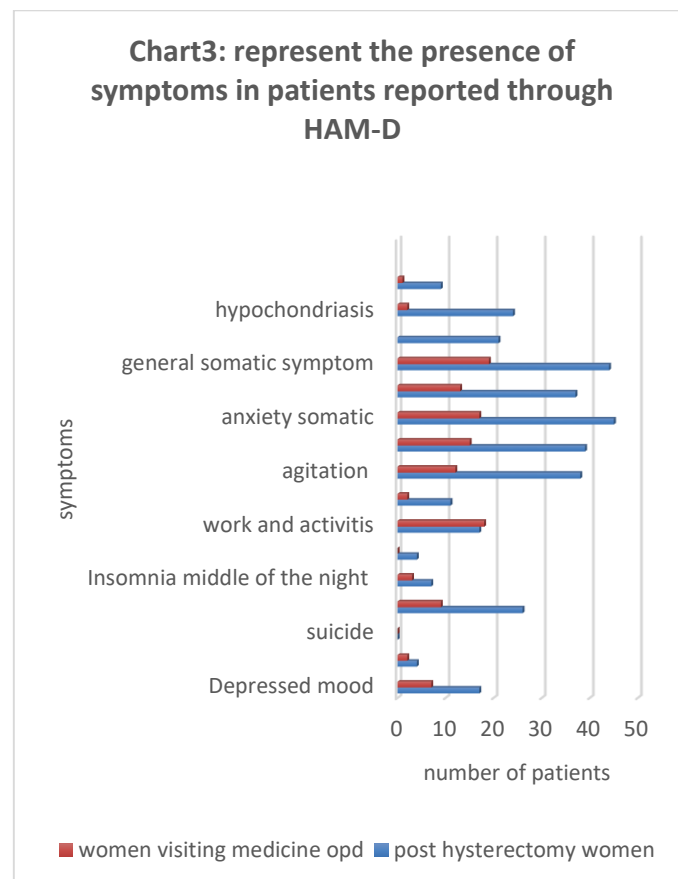


chart 2: showing distribution of prevalence of depression in post hysterectomy patient according to their Habitat

The chart shows that 35% of the post-hysterectomy women from rural area compared to 21.66% of the semiurban and 20% of patient from urban are experiencing depressive symptoms.



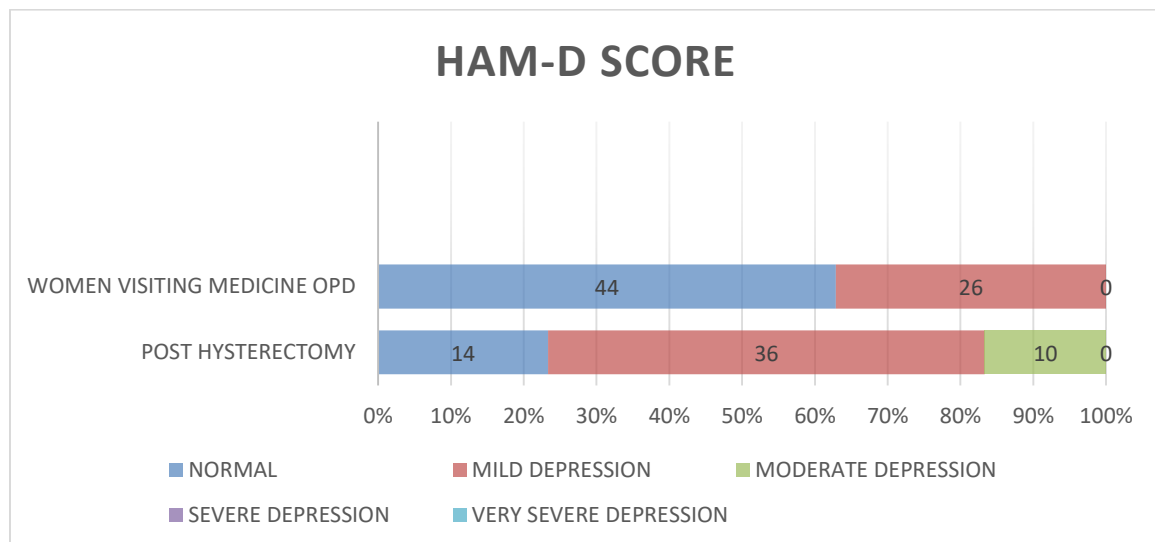


Chart4: showing the distribution severity of symptom on HAM-D of group1 and group 2 patient.

Group 1: post hysterectomy shows 60% women has mild depression, 16.66 %has moderate depression, 0% has severe depression.

Group 2: women visiting medicine OPD shows 43.33% women has mild depression, 0% moderate depression, 0% severe depression.

PHQ9	Group1	Group2
Depression PHQ9>_5(N%)	46(76.66%)	26(43.33%)
Depression PHQ<5(N%)	14(23.34%)	44(56.67%)

Table 2: Distribution of patients with depression, Group1: post hysterectomy. Group 2: patient visiting medicine OPD.

DISCUSSION

This study underscores a notable prevalence of depressive symptoms among women of reproductive age (young) who have undergone a hysterectomy for non-malignant conditions, with specific symptoms and demographic distinctions contributing to the psychological profile observed. Our findings reveal that [76.66%] of women in the post-hysterectomy group experienced depressive symptoms, as measured by the PHQ-9, significantly higher than in the control group of women without hysterectomy. The p-value for the difference in depression prevalence between Group 1 and Group 2 is approximately 0.000014. This highly significant result ($p < 0.001$) suggests a statistically significant difference in depression rates between the two groups, findings aligning with existing research that underscores the psychological impact of this procedure. Previous studies conducted in the United States have reported that approximately 34.455% of post-hysterectomy women experience depression as measured by the PHQ-9 (Patient Health Questionnaire). Our study's results resonate with these findings, further reinforcing the need to consider mental health outcomes when recommending and conducting hysterectomies in younger women.

Furthermore, [aprox~38.33%] of women reported experiencing somatization symptoms, suggesting a heightened somatic response to the psychological stressors associated with hysterectomy. 35% women experience symptoms such as loss of libido, impaired sexual performance.

A critical demographic factor in our findings was the higher prevalence of depressive symptoms and somatization in women from rural backgrounds, with [35%] of rural participants showing elevated PHQ-9 scores compared to [percentage] of urban participants. This rural-urban discrepancy may be attributed to limited access to mental health resources, heightened social stigma surrounding mental health, and differing cultural attitudes towards reproductive surgery in rural settings. The absence of adequate support systems and lower healthcare accessibility in rural areas may exacerbate the psychological burden on these women, underscoring the need for targeted mental health interventions.

notable aspect of our study is its focus on younger women under 45, a population that often experiences distinct psychosocial and emotional challenges compared to older women undergoing hysterectomy. Loss of fertility and perceived changes in femininity may contribute to depressive symptoms in this group.

Given that many women undergoing hysterectomy are not necessarily informed about potential psychological impacts, these findings underscore the importance of preoperative counselling that includes discussions about mental health and resources for post-surgery psychological support.

The strengths of this study

1. **Focus on Young Women:** By specifically targeting women under 45 who underwent hysterectomy for non-malignant reasons, this study sheds light on an often-under-researched population that may face unique psychosocial challenges, including loss of fertility and changes in body image, which are critical for understanding the psychological impact of the procedure.
2. **Comparison Group:** The inclusion of a comparison group (women who did not undergo hysterectomy) strengthens the study by allowing for a direct comparison of depression prevalence, helping to clarify the potential association between hysterectomy and depressive symptoms.
3. **Use of Validated Measurement Tools:** The use of the Patient Health Questionnaire (PHQ-9) as a validated and reliable tool for measuring depressive symptoms provides robustness to the findings. This standardized assessment allows for comparability with other studies and enhances the credibility of the results.
4. **Attention to Rural Demographics:** Highlighting differences between rural and urban populations adds depth to the study by addressing the social determinants of mental health. This is particularly valuable in settings where access to healthcare and mental health resources may vary based on geographic location, making the study findings more applicable to public health strategies.
5. **Contribution to Limited Literature:** As there is limited research on post-hysterectomy depression in younger populations, especially in non-Western settings, this study contributes valuable insights and fills a gap in the existing literature.
6. **Potential for Clinical Application:** The findings may encourage healthcare providers to implement preoperative mental health counselling and postoperative support, particularly for rural patients, improving holistic care for women undergoing hysterectomy.

Limitations of the study.

1. The sample size, restricted to a single institution, may limit the generalizability of the findings.
2. the cross-sectional design restricts causal interpretations between hysterectomy and depressive symptoms. Future studies should aim for a longitudinal approach to capture the progression of symptoms over time and consider additional variables, such as hormonal therapy and social support, which may mitigate depressive outcomes.

CONCLUSION

Findings emphasize the need for preoperative counselling that addresses potential psychological outcomes for women considering hysterectomy. Special attention to rural populations and the integration of mental health support as part of postoperative care may improve quality of life outcomes for this vulnerable demographic, also there is need of follow up and treatment by mental health professional. Future research should aim to explore the efficacy of psychosocial support interventions in managing post-hysterectomy depression and somatization, with a particular focus on the challenges faced by rural women.

The prevalence of depressive symptoms among women following hysterectomy is a significant and multifaceted healthcare issue in India, shaped by a combination of hormonal, psychological, physical, and socio-cultural factors. Hysterectomy, commonly performed for conditions such as uterine fibroids, endometriosis, pelvic inflammatory disease, or cancer, often results in profound hormonal changes and emotional distress. The uterus, beyond its reproductive role, contributes to hormonal balance and overall well-being; its removal can lead to psychological challenges, including feelings of loss, grief, and a diminished sense of femininity.

In India, where societal and cultural norms closely tie a woman's identity and self-esteem to her reproductive health, the psychological impact can be even more pronounced. Additionally, the physical recovery process, marked by pain, fatigue, and changes in daily functionality, may exacerbate feelings of frustration, helplessness, and isolation, further contributing to depressive symptoms. Factors such as age, pre-existing mental health conditions, and the presence of robust social support systems significantly influence the likelihood of developing depression. Effective management of these challenges requires a comprehensive approach that integrates medical care, psychological counselling, and social support. Open communication with healthcare providers, mental health professionals, and support groups is vital for addressing concerns, learning coping strategies, and fostering emotional resilience. By addressing the intricate interplay of these factors, tailored interventions can be designed to promote the mental and emotional well-being of women undergoing this life-altering procedure.

FINACIAL SUPPORT: - NIL

CONFLICT OF INTEREST: - NIL

REFERENCE

1. Alipour A and Pour Y (2010), "Effect of cognitive behavioral therapy in hastening recovery of women after hysterectomy surgery", *International Journal of Behavioral Sciences*; Vol 4(2), page no. 91-95

2. approach to women's reproductive health and chronic disease events. *Maturitas.* 2013;74(3):235–40.
3. Asgharnia M and Esmailpoor N (2008), "Comparison the women's quality life before and after hysterectomy", *Journal of Guilan University of Medical Sciences*, Vol 17(67), page no. 73-79
4. Carlson K J, Nichols D H and Schiff Isaac (1993), "Indications for hysterectomy", *The New England Journal of Medicine*, 328, page no. 856-860
5. Cooper Rachel, Hardy Rebecca and Kuh Diana (2008), "Timing of menarche, child bearing and hysterectomy risk", *Maturitas*, 61(4), page no. 317-322
6. Desai S, Campbell OM, Sinha T, Mahal A, Cousens S. Incidence and determinants of hysterectomy in a low-income setting in Gujarat, India. *Health Policy Plan.* 2016;32(1):68–78.
7. Farooqi Y N (2005), "Depression and anxiety in patients undergoing hysterectomy", *Journal of Pakistan Psychiatric Society*, Vol 2, page no. 13-16
8. Farquhar CM, Sadler L, Harvey SA, Stewart AW. The association of hysterectomy and menopause: a prospective cohort study. *BJOG Int J Obstet Gynaecol.* 2005;112(7):956–62.
9. Gimbel Helga, Ottesen Bent and Ann Tabor (2002), "Danish gynaecologist's opinion about hysterectomy on benign indication: results of a survey", *Acta Obstetrica et Gynaecologica Scandinavica*, Vol 81, Issue 12, page no. 1123-1131
10. Goktas S B, Gun Ismet, Yildiz Tulin and Caglayan Sabiha (2015), "The effect of total hysterectomy on sexual function and depression", *Pakistan Journal of Medical Sciences*, Vol 31 No. 3, page no.700-705
11. Gururaj G, Varghese M, Benegal V and Rao G N (2016), "National Mental Health Survey of India, 2015-16: prevalence, patterns and outcomes", National Institute of Mental Health and Neuro Sciences (NIMHANS) Publication, Vol 129, page no. 90-121.
12. Ingelsson E, Lundholm C, Johansson AL, Altman D. Hysterectomy and risk of cardiovascular disease: a population-based cohort study. *Eur Heart J.* 2010;32(6):745–50.
13. Jungari, S. B and Chauhan, B. G. (2017), "Prevalence and determinants of premature menopause among Indian women: issues and challenges ahead", *Health and Social Work*, 42(2), 79-86.
14. Laughlin-Tommaso SK, Khan Z, Weaver AL, Smith CY, Rocca WA, Stewart EA. Cardiovascular and metabolic morbidity after hysterectomy with ovarian conservation: a cohort study. *Menopause (New York, NY).* 2018;25(5):483.
15. Longitudinal Ageing Survey of India (LASI), 2017-18 National Family Health Survey (NFHS)-5, 2019-21
16. Madueke-Laveaux OS, Elsharoud A, Al-Hendy A. What we know about the long-term risks of hysterectomy for benign indication—a systematic review. *J Clin Med.* 2021;10(22):5335.
17. Mishra GD, Anderson D, Schoenaker DA, Adami H-O, Avis NE, Brown D, et al. InterLACE: a new international collaboration for a life course
18. Moorman PG, Myers ER, Schildkraut JM, Iversen ES, Wang F, Warren N. Effect of hysterectomy with ovarian preservation on ovarian function. *Obstet Gynecol.* 2011;118(6):1271–9.
19. National Institute of Health (NIH) (2018), "Aging changes in the female reproductive system" Available at <https://medlineplus.gov/ency/article/004016.htm>
20. Papadopoulos M S, Tolikas A C and Miliaras D E (2010), "Hysterectomy- current methods and alternatives for benign indications", *International Journal of Gynaecology and Obstetrics*, Vol 10, page no. 356-361
21. Prayas. Understanding the reason for rising number of hysterectomies in India: national consultation: Prayas; 2013.
22. Prusty Kumar Rajan, Choithani Chetan and Duttgupta Shiv (2018), "Predictors of hysterectomy among married women 15-49 years in India", *Reproductive Health*, 15(1), page no. 3
23. Shekhar Chander, Paswan Balram and Singh Abhishek (2019), "Prevalence, socio economic determinants and self-reported reasons for hysterectomy in India", *Reproductive Health*, 16, page no. 118
24. Singh Angad and Govil Dipti (2021), "Hysterectomy in India: Spatial and multilevel analysis", *Women's Health*, Volume 17, page no. 1-13