

An Audit of Hysterectomies: Indications, Clinicopathological Analysis in a Tertiary Care Centre

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Abstract: *Introduction:* Hysterectomy is commonest surgical procedure performed in gynaecology worldwide. Clinicopathological audit of hysterectomies can help us define and improve our standard of diagnosis and justification of hysterectomies performed. *Methods:* This retrospective study involves 101 patients who underwent hysterectomy at MGM Medical College and Hospital Aurangabad. Case records collected from the medical records department were reviewed to collect data of patient sociodemographic characteristics, clinical diagnosis, radiological diagnosis, and histopathological findings. Statistical analysis was subsequently performed to assess the correlation between clinical, radiological and histopathological diagnosis. *Results and Conclusion:* The Most common age group that underwent hysterectomy was 41 - 50 years (48.5%). Among the patients undergoing hysterectomy, 37.6% were from urban areas and 62.4% were from rural areas. The most common indication for hysterectomy was found to be uterine fibroids (40.6%). Majority of hysterectomies were done through abdominal route (68.31%). There is significant positive correlation between the clinical diagnosis and ultrasound diagnosis, clinical diagnosis - HPR diagnosis, Radiological diagnosis and HPR diagnosis.

Keywords: Hysterectomies, Fibroids, Clinical, Radiological, Histopathological, Co relation

1. Introduction

Hysterectomy is the commonest surgical procedure performed in gynaecology worldwide¹. The common indications for hysterectomy are fibroid uterus, uterovaginal prolapse, DUB and malignancy. Although it is the treatment of choice in various conditions, it is associated with risks including surgical and anaesthetic complications. The mean onset of menopause in those that underwent hysterectomy was 3.7 years earlier even with ovaries preserved². Clinicopathological audit of hysterectomies can help us define and improve our standard of diagnosis and justification of hysterectomies performed. So we embarked on this study to analyse indications, correlate preoperative diagnosis with radiological diagnosis and final histopathological report.

2. Materials and Methods

This retrospective study involves 101 patients who underwent hysterectomy at MGM Medical College and Hospital Aurangabad during the period of 1st July 2018 to 30th June 2019. This study was approved by the institutional ethics committee. Case records were collected from medical record department and were reviewed to collect data of patient socio - demographic characteristics, parity, indication

of hysterectomy, route, preoperative clinical examination findings, radiological findings, and histopathology report.

Caeserian hysterectomy cases were excluded from study. Categorical data were presented as numbers and percentage. Pearson correlation coefficient was used for showing correlation between clinical, radiological and histopathological diagnosis.

3. Results

A total 101 cases were included in study. Most common age group that underwent hysterectomy was 41 - 50 years (48.5%) followed by 31 - 40 years (24.8%).

Table 1: Frequency distribution of study participants according to age

Age	Frequency	Percent
<30	2	2.0
31 - 40	25	24.8
41 - 50	49	48.5
51 - 60	16	15.8
>60	9	8.9
Total	101	100.0

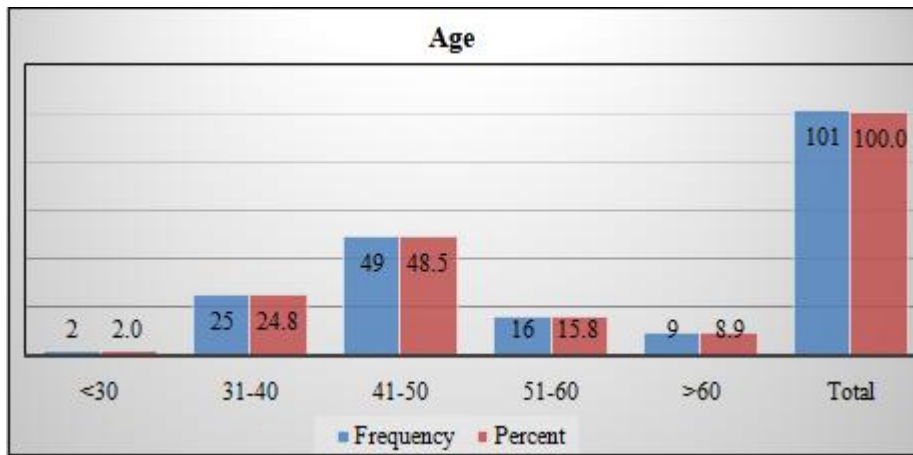


Table 2: Frequency distribution of study participants according to Residence

Amongst the patients undergoing hysterectomy, 37.6% were from urban areas and 62.4% were from rural areas.

Residence	Frequency	Percent
Urban	38	37.6
Rural	63	62.4
Total	101	100.0

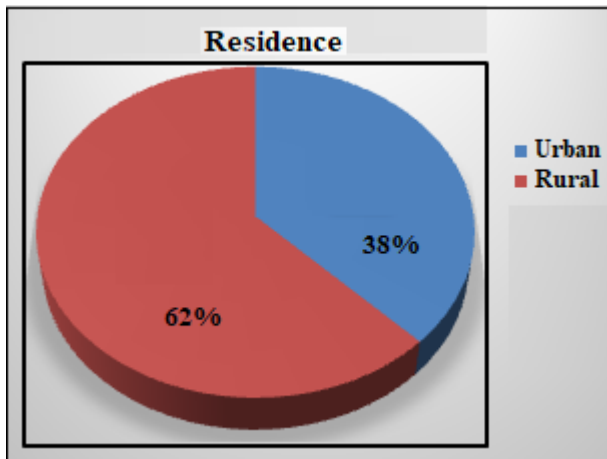


Table 3: Frequency distribution of study participants according to Parity

Majority of the women (95%) who underwent hysterectomy were multipara, while 2% were nulliparous and 3% were para one.

Parity	Frequency	Percent
Nulligravida	2	2.0
Para one	3	3.0
Multipara	96	95.0
Total	101	100.0

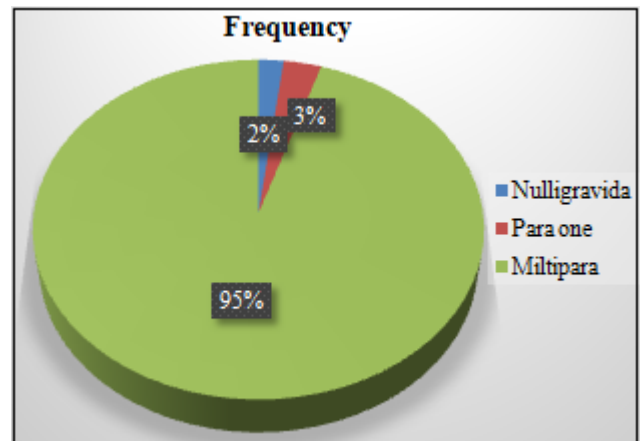


Table 4: Frequency distribution of study participants according to Clinical diagnosis

Table 4 shows distribution of preoperative diagnosis of all the patients undergoing hysterectomy during study period. Out of 101 cases 36 (35.6%) were clinically diagnosed as fibroid uterus, 20 (19.8%) were DUB cases, 12 (11.9%) patients had benign ovarian tumors, 12 (11.9%) were uterovaginal prolapse, 10 (9.9%) patients with adenomyosis, 5 (5%) patients had malignant ovarian tumor.

Clinical Diagnosis	Frequency	Percent
Fibroid	36	35.6
Adenomyosis	10	9.9
DUB	20	19.8
UV prolapse	12	11.9
CIN	2	2.0
CA cervix	1	1.0
Benign ovarian tumor	12	11.9
Malignant ovarian tumor	5	5.0
CA endometrium	3	3.0
Total	101	100.0

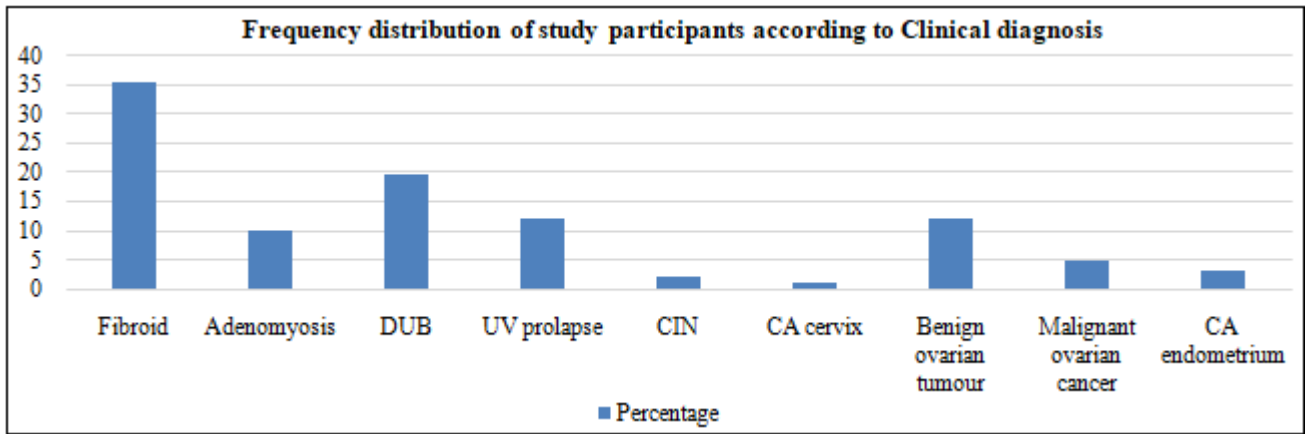
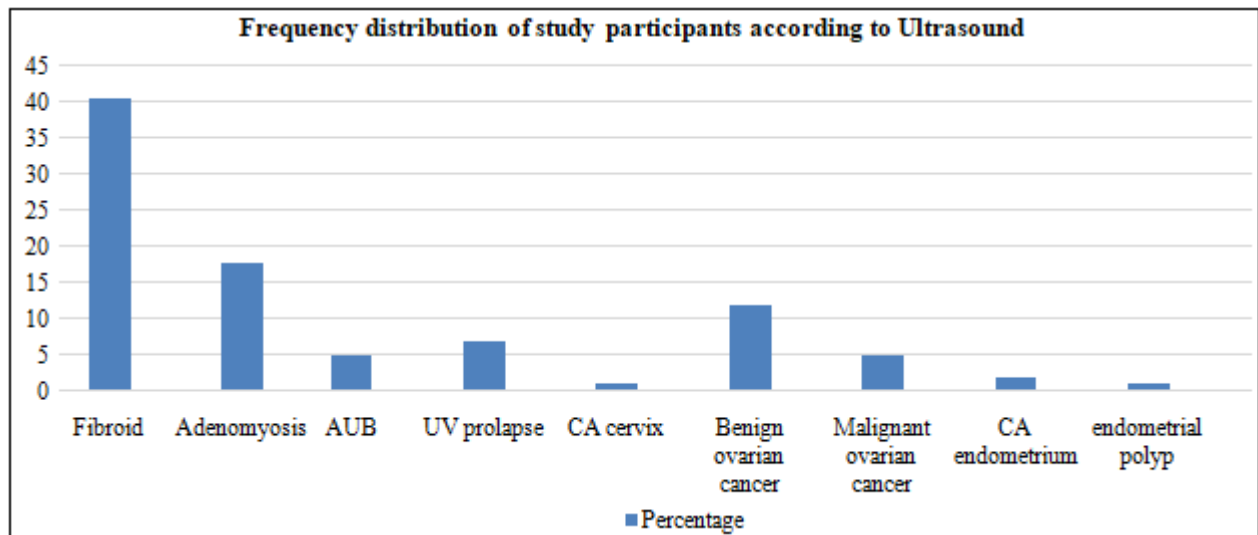


Table 5: Frequency distribution of study participants according to Ultrasound

Out of 101 cases 41 (40.6%) were diagnosed as having uterine fibroid by ultrasonography, 18 (17.8%) with adenomyosis, 12 (11.9%) with benign ovarian neoplasm while 5 (5%) with malignant neoplasm.

Ultrasound	Frequency	Percent
Fibroid	41	40.6
Adenomyosis	18	17.8
DUB	5	5.0
UV prolapse	7	6.9
CA cervix	1	1.0
Benign ovarian cancer	12	11.9
Malignant ovarian cancer	5	5.0
CA endometrium	2	2.0
endometrial polyp	1	1.0
Others	9	8.9
Total	101	100.0



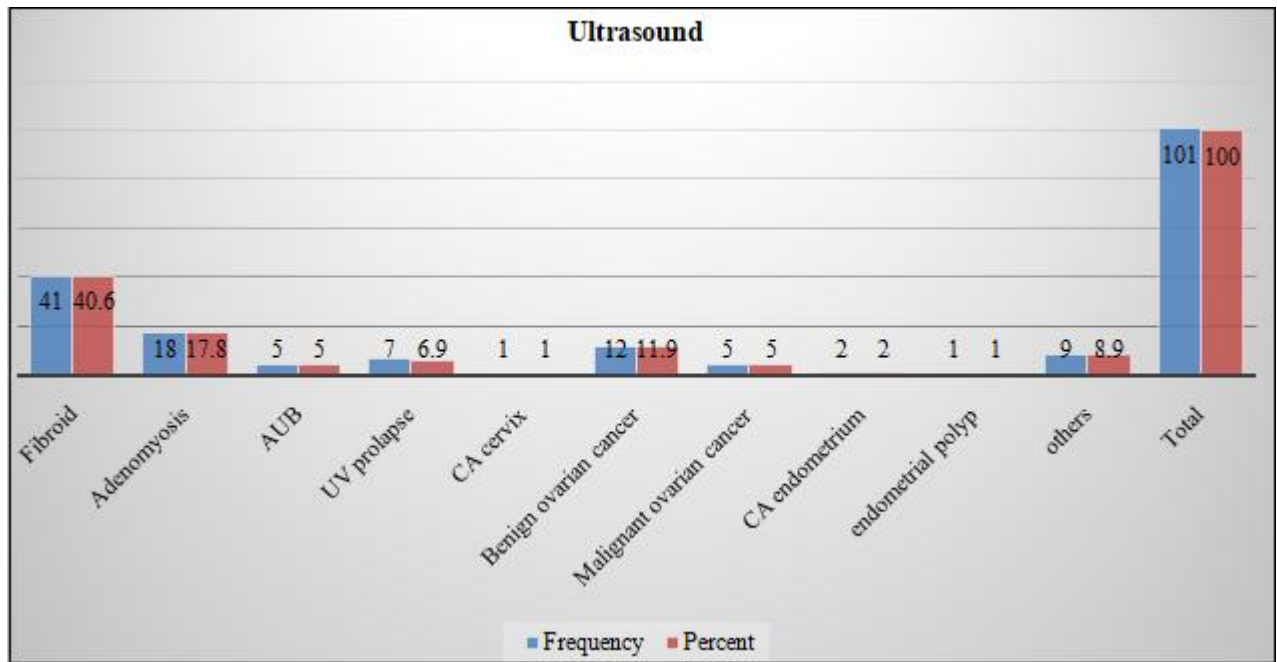
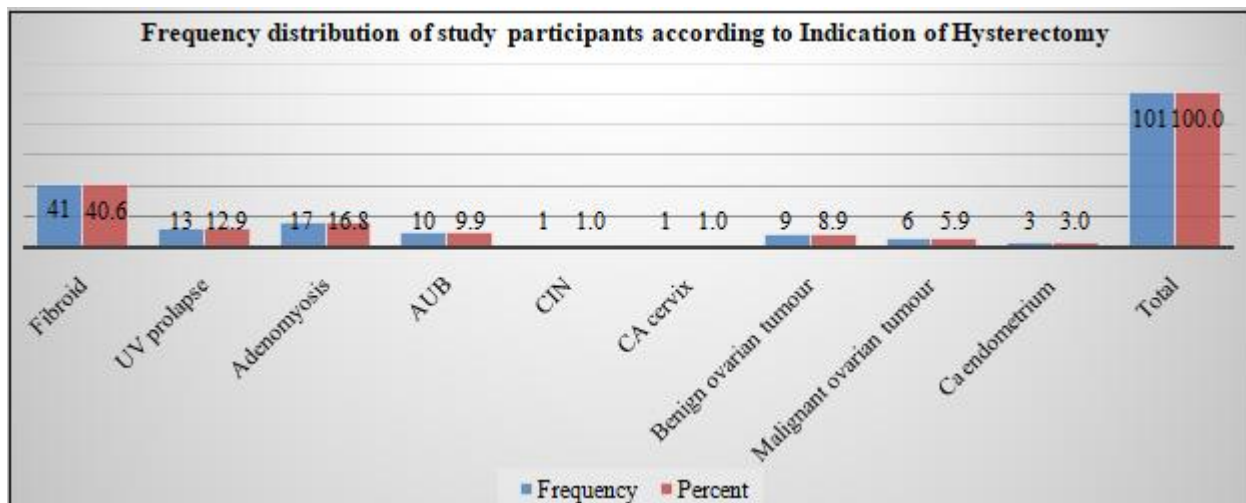


Table 6: Frequency distribution of study participants according to Indication of Hysterectomy

The most common indication for hysterectomy was found to be uterine fibroids (40.6%) followed by Adenomyosis (16.8%), uterovaginal prolapse (12.9%). Other indications were benign ovarian tumor (8.9%), AUB (9.9%). the less common indications being CA endometrium, malignant ovarian tumor CIN, CA cervix.

Indication of Hysterectomy	Frequency	Percent
Fibroid	41	40.6
UV prolapse	13	12.9
Adenomyosis	17	16.8
AUB	10	9.9
CIN	1	1.0
CA cervix	1	1.0
Benign ovarian tumour	10	9.9
Malignant ovarian tumour	5	4.9
Ca endometrium	3	3.0
Total	101	100.0



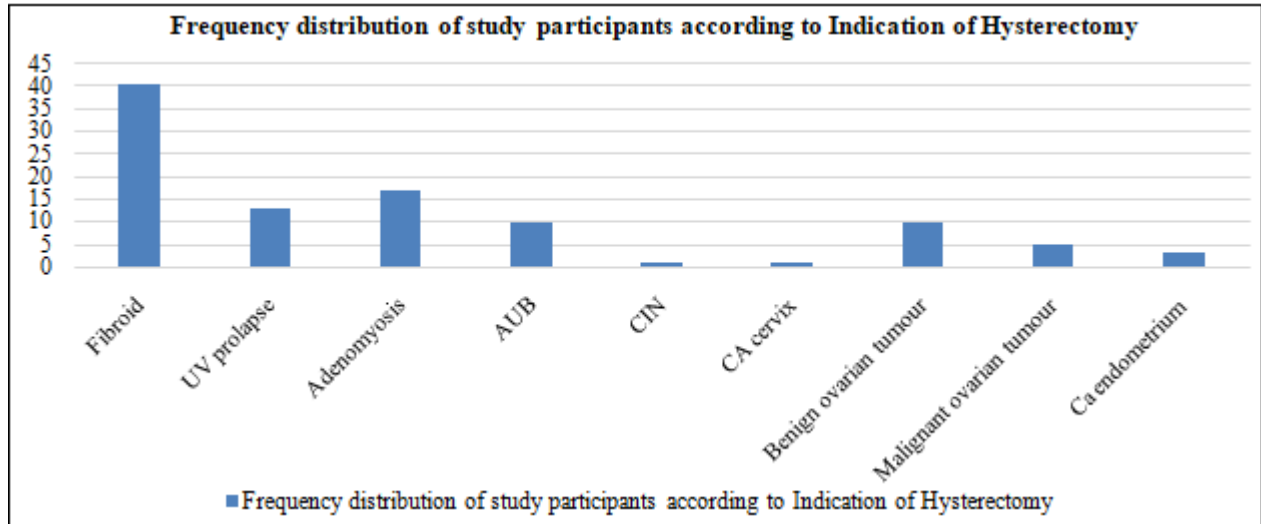
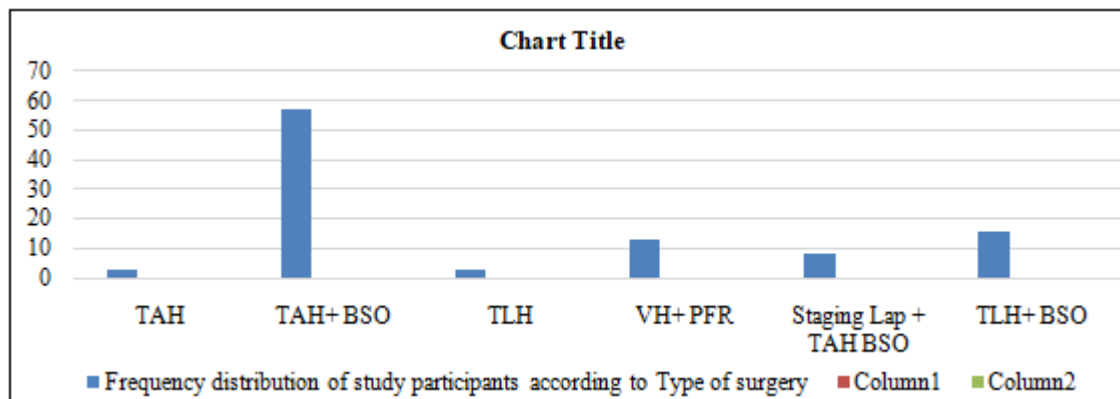


Table 7: Frequency distribution of study participants according to Type of surgery

Type of surgery	Frequency	Percent
TAH	3	3.0
TAH+ BSO	58	57.4
TLH	3	3.0
VH+ PFR	13	12.9
Staging Lap + TAH BSO	8	7.9
TLH+ BSO	16	15.8
Total	101	100.0



Majority of the hysterectomies were done through abdominal route (68.31%), out of which 58 (57.4%) were TAH+BSO, 3 (3%) were TAH, and staging laparotomy with TAH+BSO was done in 8 (7.9%) cases. Vaginal hysterectomy with pelvic floor repair was done in 13 (12.9%) cases. Total laparoscopic hysterectomy was performed in 19 cases out of which 16 were with BSO.

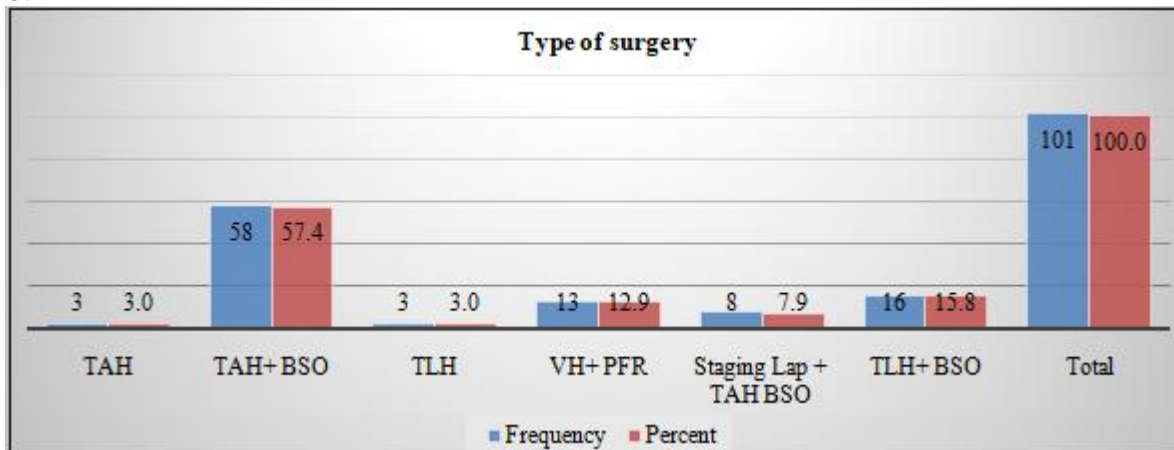


Table 8: Frequency distribution of study participants according to HPR

HPR diagnosis	Frequency	Percent
Fibroid uterus	41	40.6
Adenomyosis	20	19.8
Endometrial hyperplasia	3	3
Proliferative endometrium	68	67.3
Secretary endometrium	4	4
Atrophic endometrium	9	8.9
Chronic endometritis	8	7.9
Endometrial polyp	1	1.0
Endometrial Adenocarcinoma	1	1.0
Benign ovarian tumors	14	13.8
Malignant ovarian tumors	6	5.9
Carcinoma cervix	2	1.9
Cervical fibroid	1	1

Histopathology findings of myometrium, endometrium, cervix, ovary noted in all 101 hysterectomy specimen. Out of which 41 (40.6%) were reported Fibroid uterus, 25 (24.8%) were Adenomyosis, 1 (1%) patient had endometrial adenocarcinoma. Benign ovarian tumors were reported in 14 (13.8%) specimen while malignant ovarian tumors were reported in 6 (5.9%) cases. Cervical carcinoma was reported in 2 (1.9%) cases.

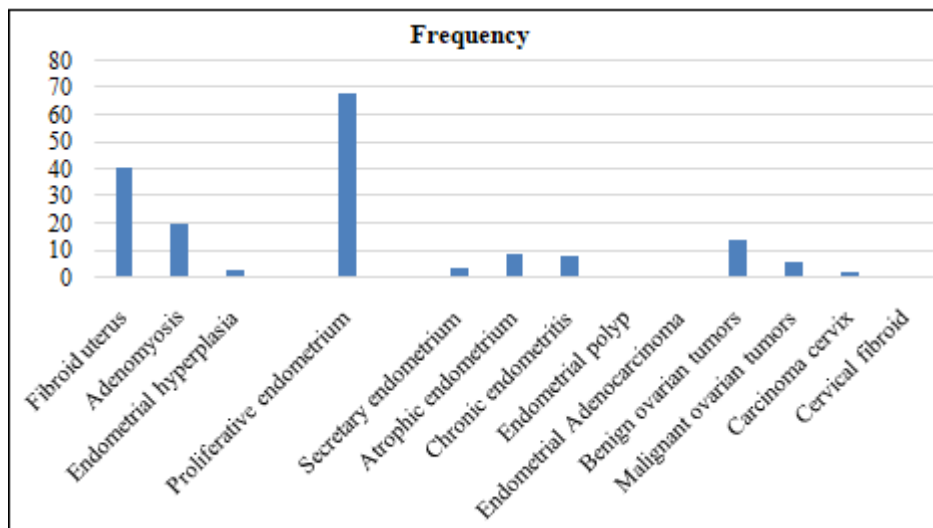


Table 10: Correlation between clinical diagnosis and Ultrasound diagnosis

Pearson correlation	Ultrasound diagnosis	
Clinical diagnosis	Pearson Correlation coefficient	.766**
	Sig. (2 - tailed) P value	.0001
	N	101

P value less than 0.05 is statistically significant and there is a significant positive correlation between clinical diagnosis and ultrasound diagnosis.

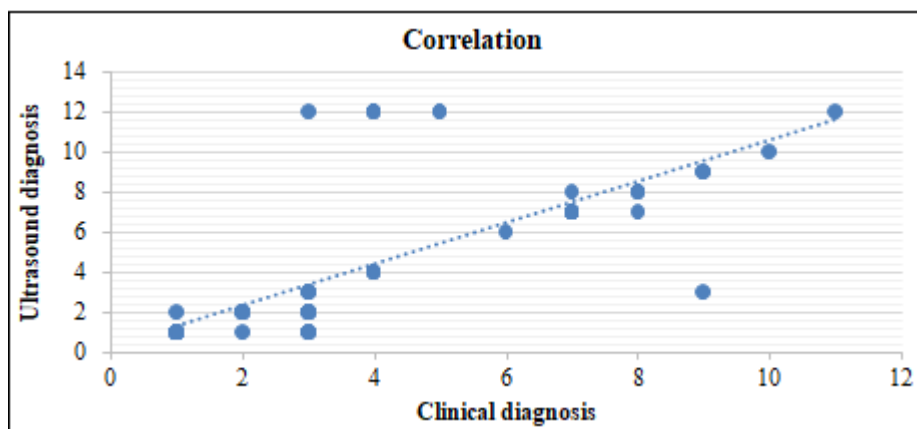


Table 11: Correlation between clinical diagnosis and Histopathological diagnosis

Pearson correlation	Histopathological diagnosis	
Clinical diagnosis	Pearson Correlation coefficient	0.726
	Sig. (2 - tailed) P value	0.0001
	N	101

P value less than 0.05 is statistically significant and there is a significant positive correlation between clinical diagnosis and Histopathological diagnosis.

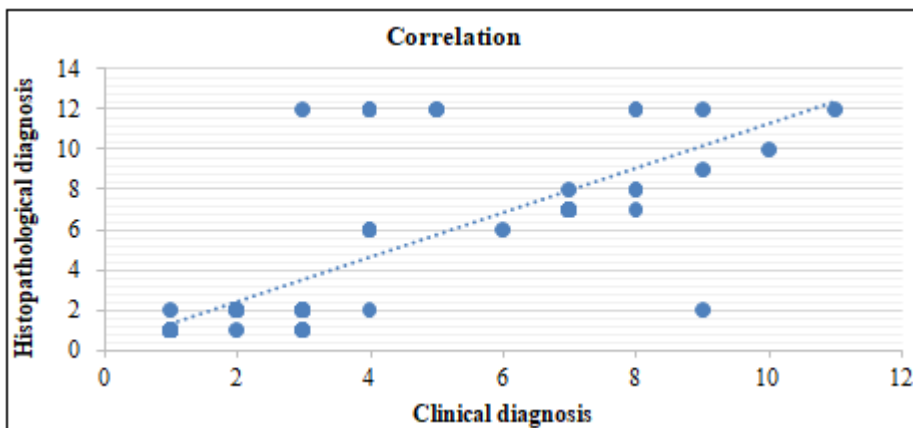
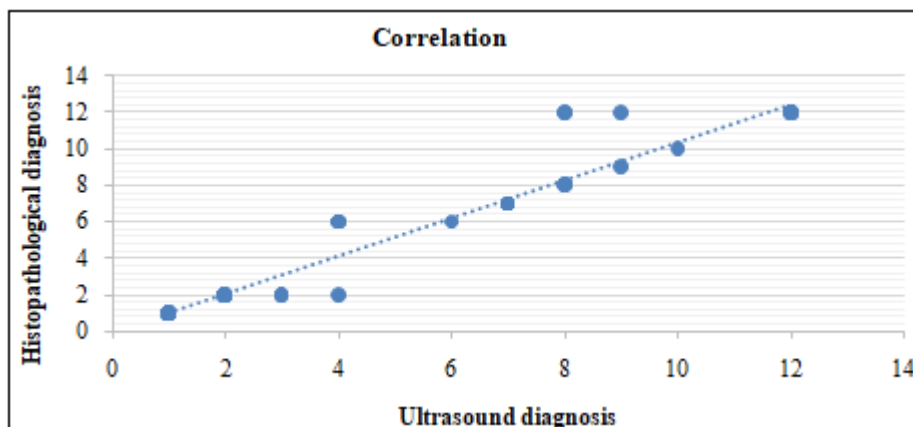


Table 12: Correlation between Ultrasound diagnosis and Histopathological diagnosis

Pearson correlation	Histopathological diagnosis	
Ultrasound diagnosis	Pearson Correlation coefficient	0.926
	Sig. (2 - tailed) P value	0.0001
	N	101

P value less than 0.05 is statistically significant and there is a significant positive correlation between Ultrasound diagnosis and Histopathological diagnosis.



4. Discussion

Hysterectomy is one of the most commonly performed surgeries worldwide. However decision to do such major procedure is vital and to be taken judiciously after all conservative modes of management are exhausted. The most common age group undergoing hysterectomy was found to be 41 - 50 years in our institute. This is comparable with various studies like Tara Mandhar et al³ Pandey D et al⁴, Yadav DP et al⁵ where mean age of patients was 46.4 years while most common age group was 41 - 50 years. Around 95% women were multipara while only 2 % were nulliparous, which was similar to study by Mahendra et al⁶. In a study at our institute, 62.4% women were from rural area while 37.6% were from urban area, these findings were comparable with results from study by Chander et al⁷, Rout et al⁸ Priyanka Kumari et al⁹. Uterine fibroid (40.6%) was most common indication of hysterectomy at our institute. This is consistent with the findings of the study by Rajora et al¹⁰ where in 40% cases indication of hysterectomy was uterine fibroid. In another study by Sarvana et al¹ fibroid

(44%) was the most common indication for hysterectomy followed by DUB (37%). Although recently there has been rise and preference towards laparoscopic hysterectomy, abdominal hysterectomy (57.4%) was most common surgical approach at our institute which in concurrence with findings from study by Sivapragasam V et al¹¹ where 52% cases underwent TAH BSO. In a study by Rajora et al¹⁰, abdominal hysterectomy was most common approach (46.4%), vaginal hysterectomy was performed in 10.4% cases which is comparable with study at our institute while laparoscopic hysterectomy was performed in 2% cases vs 15.8 % cases in our institute. Most common diagnosis in final HPR report was fibroid uterus 41 (40.6%), next common was adenomyosis 20 (19.8%). Endometrial adenocarcinoma was reported in 1 (1.0%) cases, these results are consistent with findings from study done by A Savarna et al¹. HPR results from study at our institute also comparable with study done by Sivapragasm et al¹¹ in which HPR report as 51% were fibroid, 15% adenomyosis, 41% proliferative endometrium, 45 cases of benign ovarian tumors and 3 cases of malignant ovarian tumors.

Statistical analysis using Pearson correlation showed significant positive correlation between clinical diagnosis and ultrasound diagnosis consistent with studies by Halvadiya et al¹² and Ajeet Kumar et al¹³. Also there is significant positive correlation between clinical diagnosis-HPR diagnosis consistent with study by Sivapragasm et al¹¹, Pradhan et al¹⁴. Radiological diagnosis and HPR diagnosis shows strong positive correlation similar to studies by Ajeet Kumar et al¹³.

5. Conclusion

There is need for women education regarding their reproductive rights and access to reproductive services especially in rural area to avoid unwarranted hysterectomies. Medical audits and surveillance of hysterectomy cases are of great help. Though clinical and radiological diagnosis correlate well, histopathological confirmation is mandatory.

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