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## Gynecology & Obstetrics

The Odyssey of a Gynaecologist

Reproductive Age Group Women

Highlights

Complications of Intracaearean

Analytical Study of Symptomatology

Discovering Thoughts, Inventing Future

VOLUME 19      ISSUE 2      VERSION 1.0



GLOBAL JOURNAL OF MEDICAL RESEARCH: E  
GYNECOLOGY AND OBSTETRICS

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GYNECOLOGY AND OBSTETRICS

VOLUME 19 ISSUE 2 (VER. 1.0)

OPEN ASSOCIATION OF RESEARCH SOCIETY

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GLOBAL JOURNAL OF MEDICAL RESEARCH: E  
GYNECOLOGY AND OBSTETRICS  
Volume 19 Issue 2 Version 1.0 Year 2019  
Type: Double Blind Peer Reviewed International Research Journal  
Publisher: Global Journals  
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

# Clinical Trends, Indications, Postoperative Complications of Hysterectomy Patients- A Retrospective Study

By Dr. Tushar T Palve & Dr. Mridula Raghav

*Grant Government Medical College and Sir JJ Group of Hospitals*

**Abstract-** *Background:* Hysterectomy is today a relatively safe routine operation performed commonly worldwide done in women next only to cesarean delivery. Our study aims to know the clinical profile, indications, post-operative complications of patients who underwent an abdominal hysterectomy.

**Methods:** This is the retrospective study of 41 cases of abdominal hysterectomy done for benign conditions of the uterus. The study period was from August 2018 to January 2019 at tertiary care hospital, Mumbai. We chose women who underwent abdominal hysterectomy in the period 6 months irrespective of their age, parity or clinical presentation.

**Results:** The study group had women between 35-65 years. 46.3% belonged to 45-50 years of age. Majorly, hysterectomy was performed in para two and para three cases. Most common complaint was abnormal menstrual flow (70.7%). Commonest indication for hysterectomy was Fibroid (56%) and DUB (26.8%).

**Keywords:** *hysterectomy, mumbai, clinical profile, fibroid, menorrhagia.*

**GJMR-E Classification:** NLMC Code: WJ 140



CLINICAL TRENDS INDICATIONS POSTOPERATIVE COMPLICATIONS OF HYSTERECTOMY PATIENTS - A RETROSPECTIVE STUDY

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**Conclusions:** Women aged between 45-50 years with multiparous status were commonly affected. Abnormal menstrual flow was the most common presenting complaint. Commonest indications for hysterectomy in our study were Fibroid and dysfunctional uterine bleeding.

**Keywords:** hysterectomy, mumbai, clinical profile, fibroid, menorrhagia.

## I. INTRODUCTION

Hysterectomy is today a relatively safe routine operation performed commonly. In India, only extrapolated figures are available based on international data base 2004. According to this, out of 1,065,070,607 women, 2,310,263 have had hysterectomy (2.16/1,000 women) (1). The rate of hysterectomy in India seems to be on the rise.

The common indication of hysterectomy are fibroid uterus, dysfunctional uterine bleeding (DUB), prolapsed genital organ, etc. The various techniques and approaches include abdominal, vaginal, and laparoscopy. The lifetime risk of hysterectomy ranges from 30-40% (5). We gave considerable attention to the rate of concurrent oophorectomy with this procedure because of the early menopause that ensues specially in the premenopausal women. Although hysterectomy is the definitive treatment for many conditions, it is not risk-free. It is associated with the risk of iatrogenic

premature menopause, surgical and anesthetic complications. Hence an audit is mandatory to evaluate the indications of hysterectomy. This study of 41 cases of abdominal hysterectomies for the benign condition of uterus has been taken to study the clinical profile, indications, complaints, and complications. In response to the consistent demand for this procedure, recent reports have identified hysterectomy as a key health indicator used to measure and compare hospital performances (1). The present study attempts to analyze the trend of abdominal hysterectomy over the past six months in a tertiary care centre at Mumbai, India.

## II. METHODS

This is a retrospective study done from August 2018 to January 2019, in the department of obstetrics and gynecology, attertiary care hospital, Mumbai, India. Data collected were analyzed using descriptive statistics based on the parameters of age, parity, complaints, indications, complications and presented in percentages.

## III. RESULTS

41 women who had undergone abdominal hysterectomy for benign conditions of the uterus were studied attertiary care hospital, Mumbai, India between August 2018 to January 2019.

**Table 1:** The study group had women between 35-65 years. 46.3 % belonged to 45-50 years of age.

Age	Percentage
35-40	9.7%
40-45	26.8%
45-50	46.3%
50-55	9.7%
55-60	4.8%
60-65	2.4%

Majorly, hysterectomy was performed in para two and para three cases.

**Table 2:** Most common presenting symptom was abnormal menstrual flow (70.7%).

Complaints	Percentage
Abnormal uterine bleeding	70.7 %
Pain	9.7%
Genital organ prolapse	12.1%
Postmenopausal bleeding PV	7.3%

**Table 3:** Commonest indication for hysterectomy was Fibroid (56%) and DUB (26.8%).

Indications	Percentage
DUB	26.8 %
Fibroid	56 %
Adenomyosis	9.7%
Prolapse	4.8%
Polyp	2.4 %

Febrile morbidity, hemorrhage, wound infection and urinary tract infection was commonly encountered complications after a hysterectomy. No mortality was seen in 41 cases studied.

#### IV. DISCUSSION

In this study on 41 hysterectomy cases, a few observations were read regarding the anthropometric data, clinical presentation, indications, postoperative complication study observations are described below.

We divided the patients into six groups depending on their age. Most common age group was between 45-50 years, and similar reports were also given by Sucheta KL et al. (3), Watts et al. (2) reported that 45.2% of hysterectomies were done between 41-50 years, Sivapragasam V et al. (4) reported 52.5%. In this series, no women were nulliparous whereas Sucheta KL et al. only 5% of women were nulliparous, Sivapragasam V et al. 2%. So we can say that parity has got a definite role to play.

The patient presented with the various symptom. The main complaint was abnormal menstrual flow in 70.7% of cases, pain abdomen 9.7%, prolapse 12.1% of cases, post-menopausal bleeding 7.3%. It was observed that the single most complaint was abnormal menstrual flow comprising of 70.7% of cases. Similarly

Sucheta KL et al. (62%) and Watts et al. in (57.7%), Sivapragasam V et al. 28 %, reported that abnormal menstrual flow was the most common complaint. Next common complaint was prolapse in 12.1% of cases. Sucheta KL et al. reported 24%, Watts et al. found in 12.5%, Sivapragasam V et al. 16%. We observed abdominal pain in 9.7% of cases. Watts et al. reported 17.2%, Sucheta KL et al. 25%. We saw post-menopausal bleeding in 7.3 % of cases as compared to 4% in Sucheta KL et al. series.

A fibroid is the most common indication for hysterectomy constituting about 56 %, 23% of cases in Sucheta KL et al., Sivapragasam V et al. 21 %. DUB about 26.8 %, 33% of cases in Sucheta KL et al. Prolapse of the uterus constituted 12.1% cases in this study. We found adenomyosis in 9.7% of cases, Sucheta KL et al. reported 4 % cases, Sivapragasam V et al. 1 %. So, in our study dysfunctional uterine bleeding and Leiomyoma were found to be the main indications for hysterectomy and similar reports were observed in other series also. Seven of the patient had hypertension, two patients had hypothyroidism, and one patient had bronchial asthma. 36.5% of the patient had associated bilateral salpingo-oophorectomy, 19.05 % had associated right salpingo-oophorectomy, and 21.9% had associated left salpingo-oophorectomy. 4.8 % of patient had subtotal hysterectomy; subtotal hysterectomy was done because of adhesion and difficult tubo-ovarian mass.

In our study following complications are noted:

Post-operative wound infection occurred in 5 cases comprising 12.1% of cases. Hemorrhage: Blood transfused to patients in intra operative or post-operative period is included in this category. Eight patients out of 41 cases required one or more pints of blood either intraoperatively or postoperatively. That means 19.5% of cases required one or more pints of blood either intraoperatively or postoperatively. We observed wound dehiscence in three cases which needed re-suturing of the wound (7.3%). Miscellaneous: Urinary bladder rent seen in one case.

**Table 4**

Parameters	Our Study	Sucheta KL et al	Sivapragasam V et al
Age group	45-50 yrs (46.3 %)	41- 50 yrs (50%)	41-50 yrs (52.5%)
Parity	All multiparous	5 % Nulliparous	2% Nulliparous
Complaints	AUB (70.7 % ) Prolapse (12.1 % )	62 % 24%	28% 16 %
Indication	Fibroid ( 56 % ) DUB (26.8 % )	23 % 33%	21 % 28%

#### V. CONCLUSION

Hysterectomy will remain a common gynecological operation in both developing and developed countries. Women aged between 45-50

years with multiparous status were commonly affected. Abnormal menstrual flow was the most common presenting complaint. Commonest indications for hysterectomy were fibroid and dysfunctional uterine bleeding. We found no mortality in this study.

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GLOBAL JOURNAL OF MEDICAL RESEARCH: E

GYNECOLOGY AND OBSTETRICS

Volume 19 Issue 2 Version 1.0 Year 2019

Type: Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals

Online ISSN: 2249-4618 & Print ISSN: 0975-5888

# Correlational Analytical Study of Symptomatology, Pap and Colposcopic Findings in Reproductive Age Group Women in a Tertiary Care Centre

By Qazi Jaweria Amber, Dr. Tushar T Palve & Dr. Shreya Chinchoriya

*Cama and Albeless JJ Group of Hospital*

**Abstract-** *Background:* The current study is done to study cervical epithelial changes in a reproductive age group women at tertiary care center through investigation modality called Pap smear and its correlation with various symptoms and colposcopic findings.

**Methods:** This is a retrospective analytical study of 79 women of reproductive age group done at CAMA AND ALBLESS HOSPITALS. The cervical smear was taken from all patients using the Ayre's spatula by scrape cytology method. Then we did Colposcopy for patients with highly suspicious malignant and unhealthy cervix and with inflammatory pap smear not relieved on antibiotics. Finally, cervix biopsy was done for cases for suspected malignancy on the Pap smear.

**Results:** Inflammatory smears were seen in 35.44 %, ASCUS in 5.06%, LSIL in 3.7% and invasive carcinoma in 5.06% patients. The patients having white discharge PV or menorrhagia had ASCUS and AGCUS on Pap smear which had squamous metaplasia (3.3%), HPV infection (1.6%) and invasive cancer. HSIL and Invasive carcinoma showed invasive carcinoma.

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**Results:** Inflammatory smears were seen in 35.44 %, ASCUS in 5.06%, LSIL in 3.7% and invasive carcinoma in 5.06% patients. The patients having white discharge PV or menorrhagia had ASCUS and AGCUS on Pap smear which had squamous metaplasia (3.3%), HPV infection (1.6%) and invasive cancer. HSIL and Invasive carcinoma showed invasive carcinoma.

**Conclusions:** The Pap smear is a simple, safe, practical and cost-effective method for early detection of cervical cancer and its precursors. In low resource countries like India, it is the most logical screening modality although it has a very low sensitivity; detection rates could be further improved using liquid-based cytology and the use of endocervical cytobrush.

## I. INTRODUCTION

Cervical cancer continues to be a worldwide problem. In developing countries, with limited health care facilities, cervical carcinoma is the second most common cause of cancer death in women. Invasive cancer of cervix is considered a preventable disease because it has a prolong preinvasive state and with the help of cervical cytological screening programmes and treatment of preinvasive lesions, we can reduce the incidence of cervical cancer. It is anticipated that in developing countries the percentage of women who never had PAP test; leading to cervical cancer is around 60%. (1). It accounts for 80% of deaths in a developing country like India. (2)

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However worldwide the incidence of cervical cancer is decreasing and it is being diagnosed at an earlier stage.

Epidemiological data indicate that the incidence of cervical cancer will continue to be high due to poor hygiene, early marriage, multiparity, lack of screening facility. In order to control the disease, cytological screening should be undertaken routinely and intensively (3). The dramatic reduction in the incidence of cervical cancer in developed countries is because of the widespread use of cytological screening test. (4) Various screening methods are available like cytology by Pap smear, visual inspection of the cervix with acetic acid and/or Lugol's iodine, HPV- DNA Test, Liquid-based cytology, etc.

Pap smear is an effective method of cervical cancer screening with a low sensitivity rate. It is the laboratory method to examine the exfoliated or scraped cells to detect dysplasia. It is a simple routine outpatient procedure which is less expensive and popular screening modalities at various centers. PAP smear and gynecological examination should be performed for any unexplained discharge or irregular bleeding as they may be signs of cervical and other genital malignancies as there have been cases who had bleeding PV and were denied Pap smear many times only to present with advanced cervical cancer.

In 2012, all the three-organization the American College of Obstetricians and Gynecologists (ACOG), American Cancer Society (ACS) and U.S. Preventive Services Task Force (USPSTF) recommended that: (5)

- Screening by Papanicolaou test (pap) should not be used for women aged less than 21 years, regardless of initiation of sexual activity.
- A screening interval of three years should be maintained by pap smear for women aged 21-30 years. An HPV test is not essential.
- Women aged 30-65 years should have a Pap test and an HPV test (co-testing) every five years or is even acceptable to have a Pap test alone every three years.



The cytology-based screening programmes have been successful in reducing the incidence of cancer cervix by 80 % and deaths due to it by 70%.

## II. METHODS

We did a retrospective analytical study of 79 women in reproductive age group women over one year at Cama and Albless hospitals, Mumbai.

We established the correlation of clinical symptomatology and Pap smear findings and colposcopic findings. The patients in the reproductive age group that is 18-45 were selected. We included patients with chief complaints of pain, menstrual complaints, patients who had come for follow up and patients who had come for infertility consultation. A detailed history taken and per speculum examination of the patient was done. Patients who came to the Gynaecology OPD the procedure was explained to the patient in detail and examination done in dorsal position after emptying the bladder. Per speculum examination was done without using lubricants. Naked eye examination of the cervix was done to evaluate its color, shape, size, the presence of any lesions, discharge. The cervical smear was then taken using the scrape technique using the Ayre's spatula.

The longer end of the spatula was inserted into the external Os and rotated through 360° maintaining firm pressure so as to scrape the squamocolumnar epithelial junction throughout its circumference. Care

was taken to include all abnormal looking areas. Then we withdraw the spatula without touching the vaginal walls to avoid contamination with cells from the lower genital tract. The smear was made by spreading the scraped material evenly, with a circular motion on a glass slide having the patients' identity labeled then we fixed it in a fixative solution, which contains 95% alcohol and ether for 15-30 minutes and then sent to the cytopathology laboratory. The smears were stained according to the modification of Papanicolaou (1942). (6)

The patients who had completed a course of antibiotics, but continued to have symptoms, patients who had high suspiciousness of cervical cancer underwent colposcopy. A colposcopic examination in which whole of transformation zone visualized completely we labeled to be a satisfactory colposcopy. If a squamo-columnar junction is inside the endocervical canal and complete transformation zone is not visible it is an unsatisfactory colposcopy.

We then correlated the findings of symptoms of the patients with PAP and colposcopic findings.

## III. RESULTS

We did highest pap screening in the age group of 40-45 years followed by 35-39 years. As the parity increases we found a higher incidence of pap and colposcopy.

*Table 1:* Age distribution of Pap smear

Age	No of cases studied	Percentage
21-24yrs	3	3.8
25-29 yrs	11	13.9
30-34 yrs	15	18.9
35-39 yrs	23	29.1
40-45 yrs	27	34.3

*Table 2:* Parity wise comparison of different cases screened

Parity	No of cases screened	Percentage
p0	6	7.5%
P1	21	26.5%
P2	24	30.3%
>p2	28	35.7%

*Table 3:* Pap findings in the patients coming with different symptoms

Symptom	Inflammatory	Normal	ASCUS	AGCUS	Endometrial Cells	HPV Koliocytes	Reactive Columnar Cells	Necrotic Malig Cells	LSIL	Total
Pain	6	2	-	-	2	1	-	-	-	11
White discharge pv	11	7	2	1	4	6	2	1	3	37
Menorrhagia	6	1	-	-	2	1	-	-	-	10
Infertility	1	1	-	-	1	1	-	-	-	4
Menstrual Irregularities	1	2	1	1	-	-	1	-	-	6
SCOPV	3	1	-	-	-	-	-	-	-	4
Postcoital Bleeding	-	-	-	-	-	1	-	-	-	1
Spotting pv	-	-	1	1	-	-	-	2	-	4
Others	-	1	-	-	-	1	-	-	-	2
	28	15	4	3	9	11	3	3	3	79

As per this study, PAP screening was most commonly done in 40-45 years age group followed by 35-40 years. The most common symptom for which this reproductive age group underwent PAP screening was white discharge per vagina followed by pain in the abdomen and menorrhagia. The PAP results revealed that most patients presenting with a complaint of white discharge had an inflammatory smear, cervicitis. Some patients around 11.39% (no-9) had HPV infection which was confirmed by HPV DNA and colposcopy.

The patients presenting with menorrhagia had an inflammatory smear in 7.59 %, some had endocervical cells in 4.08% present and were advised repeat Pap, but did not follow up.

The patients who presented with something coming out per vagina had an inflammatory smear in most of them. (Around 75%)

Patients having HPV infection had the most common complaint of white discharge PV and few of them presented with other complaints like pain, menorrhagia and post-coital bleeding PV.

Amongst this reproductive study group, 5.06% of patients had invasive cervical cancer .75% of them were diagnosed on Pap smear showing necrotic cells Malignant cells and with a hemorrhagic background.

*Table 4:* Corresponding colposcopic findings

	Inflammatory	Normal	LSIL	AGCUS	ASCUS	HSIL	Endocervical cells	Haemorrhagic smear	Columnar cells
Normal	6	8	-	1	-	-	-	-	-
Ectropion	2	2	-	-	1	-	-	-	-
Cervicitis	8	1	-	-	-	-	-	-	-
HPV	5	-	-	-	1	-	-	1	-
Squamous Metaplasia	7	4	-	2	-	1	1	-	-
Invasive Cancer	-	-	-	-	1	-	-	3	-
CIN I	-	-	3	-	-	-	-	-	1

*Table 5:* Summary of cases diagnosed with carcinoma cervix

	Case 1	Case 2	Case 3	Case 4
Age	42 years	45 years	40 years	37 years
Complaint	Menorrhagia	Reddish discharge pv	Menorrhagia	White discharge pv
Comorbidity	Hypothyroidism	Seropositive, thrombocytosis		HPV Positive
Parity	P3L3	P5L5	P3L3	
Pap	Haemorrhagic smear	Normal	ASCUS-H	Haemorrhagic smear
Colposcopy	Invasive cancer	Invasive cancer	Invasive cancer	Invasive cancer
Eua	Growth on post lip	Ut bulky, growth bleeds on touch, medial parametrium involved	Ut normal, proliferative growth on the cervix which bleeds on touch	
Surgery	TAH + BSO	Cervical biopsy	Modified radical hysterectomy	Adv RT
HPR	Chronic cervicitis, leiomyoma	Large cell keratinising mod diff sq cell carcinoma	Mod diff sq cell carcinoma involving a lower uterine segment	

Amongst the four cases which were identified to be invasive carcinoma on colposcopy, 75 % were true positive results. One case was diagnosed to be HPV positive presenting with a chief complaint of white discharge and was confirmed on histopathological reports.

#### IV. DISCUSSIONS

In this prospective study in which 79 women of the reproductive age group who came to gynecology Outpatient Department at Cama and Albless hospitals from January 2018 to December 2018. Out of 79 patients, 59 patients had a colposcopic examination. In

the present study, around 10 % of cases reported have normal smears. And 10 % of cases had normal cervical cytology and colposcopic findings.

Papanicolaou and Traut first described Papanicolaou test in 1943. We recommend that all women over the age group of 35 years should undergo an annual check-up with the Pap test. Apart from diagnosing premalignant and malignant changes, we can also recognize other local conditions by PAP tests like condyloma accuminata and herpes. As PAP is only a screening test hence further investigations like a colposcopy, cervical biopsy, and fractional curettage. A Pap test can detect only 60-70% of cervical cancers and

70% of endometrial cancers. Single testing detects 10-15% false negative reading. Hence a repeat PAP testing is advised every three yearly. (7)

In this retrospective analytical study we studied the pattern of cervical cytology in patients presenting with various symptomatology and their correlation with colposcopy. The Pap smear results showed normal cervical cytology findings in 21.51 %, inflammatory smears in 32.91 %, ASCUS in 5.06%, LSIL in 3.7% and invasive carcinoma in 5.06% patients. The results were similar to Thobbi VA et al. and Ghazal et al. (8). Another study done by Suma R shows normal 36% inflammatory smear 61.9% ASCUS 0.3 % LSIL 0.6% HSIL 1.2%. (9)

As the PAP smear screening is advised from 21 years, hence patients within the age group of 21 to 45 years were studied. The commonest age group which was screened by us was 40-45 years with 34.3 % of patients belonging to this age group. Most of the patients who were studied were multipara with parity > 2. It was similar to observations made by Thobbi VA et al. (8)

It was observed that amongst the study subject number of patient symptomatic were 35% parity 2 and above similar to observation by Dasgupta A et al. (10)

The various epithelial cell abnormalities were studied. ASCUS smear was advised to repeat cytology after 6 and 12 months and HPV DNA testing. ASC- H, HSIL, and LSIL we advised colposcopy.

Colposcopy was introduced in 1927 by Hinselmann in 1927. Colposcopy is the visualization of cervix under magnification for cervical lesions. In developing countries like India, it is not economic and possible to have universal cervical cancer screening due to low sources. WHO has recommended at least one smear for all women at about 40 years to reduce cancer deaths by 50 % (11).

In this study correlation between PAP and colposcopic findings revealed that most patients presenting with symptom of white discharge PV had inflammatory smear which had either normal colposcopy or showed findings suggestive of HPV infection and squamous metaplasia. We further advice HPV DNA testing. Some cases had polyp and ectopion on colposcopy. Most of the patients with abnormal PAP presented with the complaint of white discharge PV and menorrhagia.

Patients having HPV infection had the most common complaint of white discharge PV and few of them presented with other complaints like pain, menorrhagia and post-coital bleeding PV.

The correlation between Pap smear, symptomatology, and colposcopic findings suggested that most patients presented with white discharge PV, menorrhagia or pain in the abdomen. The PAP results showed inflammatory findings with evidence of metaplasia and cervicitis and infection of HPV DNA.

The patients having white discharge PV or menorrhagia had ASCUS and AGCUS on Pap smear which had squamous metaplasia (3.3%), HPV infection (1.6%) and invasive cancer.

## V. CONCLUSIONS

The Pap smear is a simple, safe, practical and cost-effective method for early detection of cervical cancer and its precursors. In low resource countries like India, it is the most logical screening modality although it has a very low sensitivity; detection rates could be further improved using liquid-based cytology and the use of endocervical cytobrush.

We can increase the specificity of this screening test by a repeat Pap test at least every three yearly. As the progression from pre-invasive to invasive cancer is very slow, hence repeat PAP can detect early invasive cancers and eventually decrease morbidity and mortality following cervical cancers. Women education and awareness regarding cervical cytology testing should be encouraged. At the same time, the false negative of Pap smear unreported needs consideration.

Thus Pap smear along with colposcopy can be an efficacious tool for screening to diagnose the early invasive cancer stages which stay relatively asymptomatic.

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GLOBAL JOURNAL OF MEDICAL RESEARCH: E

GYNECOLOGY AND OBSTETRICS

Volume 19 Issue 2 Version 1.0 Year 2019

Type: Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals

Online ISSN: 2249-4618 & Print ISSN: 0975-5888

# Safety, Efficacy and Complications of Intracaeasarean CuT 380A

By Dr. Shivraj More

**Abstract-** *Background:* Copper Intrauterine Contraceptive Device is a form of long acting reversible contraceptive device and is considered to be one of the most effective forms of birth control available. Copper T 380A has lowest pregnancy rate among all copper IUDs and can be used for a lifespan of 10 years. The advantages of post placental insertion include the assurance that the women is not pregnant, high motivation, convenience and eliminates the 6 week post partum wait. This study examines the factors associated with acceptability of post partum IUCD insertion according to their socio-demographic and obstetrics characteristics and the rates of perforation, expulsion, pelvic infection, lost strings and displacement following insertion among acceptors till 12 months.

**Objective:** To assess the safety, efficacy and complications of post placental Copper T 380A insertion following caesarean section.

**Study Design:** This was a prospective study conducted on 500 women who underwent LSCS and were willing for CuT 380 A insertion after proper counselling in a tertiary care hospital. After placental delivery CuT was inserted into the endometrial cavity through the incision. The study participants were then followed up after discharge at 6 weeks, 6 month and one year postpartum.

**GJMR-E Classification:** NLMC Code: WQ 1



*Strictly as per the compliance and regulations of:*



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**Results:** Of the 500 patients studied, 487(97.4%) patients came for follow up at 6 weeks, 454(90.8%) at 6 months and 411(82.2%) at 12 months. 15(3%) patients had expulsion of Cu T, of which 3(0.6%) expelled within 6 months, 10(2%) expelled in between 6-12 months and 2(0.4%) expelled at 12 months follow up. A total of 37(7.4%) patients removed the IUD, 12(2.4%) due to increased bleeding per vaginum, 8(1.6%) due to displacement, 4(0.8%) due to abdominal pain, 1(0.2%) due to leucorrhoea and 12(2.4%) patients removed due to their misperceptions like discomfort, fear of displacement into the abdomen and social pressure.

Complications were seen in 162(32.4%) patients such as bleeding in 20(4%), strings not visible in 105(21%), pain abdomen in 5(1%), leucorrhoea in 4(0.8%) and 15 (3%) expelled the IUD. Pregnancy occurred in 3(0.6%) patients out of which 2(0.4%) patients had intrauterine pregnancy and 1(0.2%) ectopic pregnancy.

**Conclusion:** Post placental Copper T 380 A insertion following caesarean section is a safe, effective low cost and convenient method of long term reversible contraception with a low incidence of expulsion and high continuation rates.

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## I. INTRODUCTION

With a population of 1.27 billion by the year of 2015, India is the second most populous country in the world next only to China, and the need of the hour is control of population, for which several family planning measures have been introduced. Family planning can have a positive impact on population growth, maternal morbidity, newborn and infant outcomes. CuT is one of the effective and safest method of temporary family planning methods among the numerous methods available.<sup>1</sup>

Spacing the pregnancies is very crucial as it helps not only in improving mother's health but also allows the mother to provide proper care and adequate attention to the neonate. In case of primi parous as well as multiparous not desirous of permanent contraception, CuT 380A insertions provides temporary contraception with effectiveness up to 10 years.<sup>1</sup>

Postpartum period is an ideal time to begin contraception, as women are highly motivated to adopt contraception during this period with an advantage of convenience to patient and also service provider, ease of insertion and cost savings.<sup>2,3</sup>

The contraceptive prevalence rate in India is 56.3% and the unmet need is 12.8% according to NFHS 3. The main reasons are lack of awareness, non accessibility of services, restricted women mobility due to cultural factors.<sup>4,5</sup>

In our country this method is more applicable because delivery may be the only time when a healthy women comes in contact with health care personnel.<sup>3,6</sup>

## II. MATERIALS AND METHODS

This was a prospective study conducted at a tertiary care hospital in Pondicherry over a period of 2 years. Clearance from the Ethical committee of institute for the study was obtained and 500 women who fulfilled the inclusion and exclusion criteria and underwent caesarean section with consent for IUD insertion were included in the study. Counselling was done in prenatal period or when in labour. Procedure of the study was explained to the patients before enrolling into the study and an informed, valid, written consent was obtained.

CuT 380A was introduced through uterine incision, following the delivery of the placenta and membranes after ruling out atony and uterine

anomalies. Insertion was done either manually or using ring forceps. Patients were examined before hospital discharge and follow up visits were scheduled at 6 weeks, 6 months and 12 months.

Pelvic examination and USG were done during each visit to verify presence of IUCD and to check for displacement and signs of infection and bleeding. Expulsions were confirmed clinically and radiologically.

Data obtained from the study was analysed using SSPS 11.5 software with chi square test for categorical data and mean SD, frequency for continuous data.

*a) Inclusion Criteria*

1. Women delivered by LSCS (elective and emergency) without any contraindication who accepted for IUCD insertion after counselling in prenatal period or in labour.
2. Age greater than or equal to 18 years.

*b) Exclusion criteria*

1. Clinical chorioamnionitis.
2. Prolonged rupture of membranes (> 18 hours).
3. Antepartum haemorrhage.
4. Refractory postpartum haemorrhage.
5. Intrauterine death.
6. Active diseases like pelvic tuberculosis, coagulation disorders, uncontrolled diabetes, Sub acute bacterial endocarditis.
7. Uterine anomalies, leiomyomata distorting endometrial cavity space or surface.
8. History of allergy to copper, Wilsons disease, Abnormal uterine bleeding prior to pregnancy.
9. Non counselled or unwilling patients.

### III. RESULTS

A total of 500 eligible and willing women were enrolled in the study.

Mean age of the patient was  $23.57 \pm 3.64$  years and 57.2% patients belonged to class 2 of modified Prasad's classification of socioeconomic strata.

Out of 500 recruited, 63.2% were educated upto secondary and 23.2% till higher secondary. Acceptance was significantly high among primipara compared to multipara as 82.2% of the study population was primipara (table 1).

*Table 1*

	N= 500(%)
Age (years)	$23.57 \pm 3.64$
SES	
I	81 (16.2)
II	286 (57.2)
III	107(21.8)
IV	23 (4.6)
V	1 (0.2)
Education	
Illiterate	5 (1)
Primary	63 (12.6)
Secondary	316 (63.2)
Higher	116 (23.2)
Parity	
1	411 (82.2)
2	88 (17.6)
3	1 (0.2)

411 patients were followed up till 12 months and 89 were lost to follow up at the end of 1 year. Table 2 shows the period at which the patients were lost to follow up.

*Table 2*

	Followed up	Lost to follow up
6 weeks	487 (97.4)	13 (2.6)
6 months	454 (90.8)	46 (9.2)
1 year	411 (82.2)	89 (7.8)

Among the 411 followed up patients, expulsion of the IUCD was seen in 15 patients and the period at which it was expelled is shown in table 3.

*Table 3*

Time of expulsion	N = 15 (%)
<6 months	3 (20)
6-12 months	10 (66.7)
>1 year	2 (13.3)

Complications were seen in 162 patients, like bleeding, expulsion, displacement, pain abdomen, failure and strings not visible (table 4).

*Table 4*

Complications	N = 162 (%)	Strings not visible N= 120 (%)
Bleeding	20 (12.3)	5 (4.2)
Expulsion	15 (9.2)	3 (2.5)
Displacement	10 (6.2)	4 (3.3)
Failure	3 (1.9)	2 (1.7)
Pain abdomen	5 (3)	1 (0.8)
Strings not visible without other complications	105 (65)	105 (85.7)
Others	4 (2.4)	-

A total of 3 patients had failure with IUCD, 2 patients had intrauterine pregnancy and one had ectopic pregnancy (table 5).

Table 5

Failure	N = 3 (%)
Intrauterine	2 (66.7)
Ectopic	1 (33.3)

37 patients removed IUCD among the followed up for reasons such as bleeding, displacement, pain abdomen and did not want to continue (table 6).

Table 6

Reasons for removal	n = 37 (%)
Bleeding	12 (32.4)
Displacement	8 (21.7)
Don't want to continue	12 (32.4)
Pain abdomen	4 (10.8)
Others	1 (2.7)

#### IV. DISCUSSION

The IUCD is an effective long lasting and reversible method of birth control. The postpartum period provides opportunity to the healthcare provider for counselling a woman regarding the family planning services to avoid unintended conception. It is observed that women who have been counselled for PPIUCD have 10 times higher chance of using IUCD than those where insertion was delayed till complete involution of uterus<sup>6</sup>.

Immediate postplacental insertion following caesarean is an ideal time to achieve long term contraception with minimal discomfort to the woman and is being increasingly practiced after reported safety and lower expulsion rates<sup>5,6,7,8,9</sup>.

In this study, majority of the women (63.2%) in the study population had secondary level of education. Acceptance of PPIUCD was higher among women with higher and secondary education (23.2% and 63.2). This was similar to a study done in Egypt by Safwatet al<sup>10</sup> and Thomas D<sup>11</sup>.

Primipara were more compliant towards IUCD insertion when compared to multipara. And this finding was contrary to that of the study by Grimes et al<sup>12</sup> where they found higher acceptance in multiparous clients (65.1%).

Though bleeding was seen in 12.3% of the followed up patients only 2.9% of them insisted on getting it removed. Whereas study by Mishra S<sup>13</sup> found bleeding as the main complication (23.5%).

In the present study, among the 411 followed up patients strings were not visible in 120 patients. Out of these 3 expelled the IUCD and in the remaining 117 patients strings were curled up in the cervical canal. Among the 117 patients though strings were not visible, only 12 had complications like leucorrhoea, bleeding, pain abdomen, displacement and failure which is comparable to the study by Mishra S<sup>13</sup>. Among 10

patients who had displaced CuT only 2 were willing for reinsertion.

Expulsion of IUCD is an important factor affecting the efficacy of device. In the present study 15 (3.6%) patients had expulsion of IUCD with maximum between 6 and 12 months, while CelenS et al<sup>9</sup> had an expulsion rate of 17.6% at the end of 12 months.

In the present study, 37 patients removed IUCD for reasons such as bleeding (32.4%), displacement (21.7%), pain abdomen (10.8%), others (2.7%) and remaining (32.4%) removed due to their misperceptions like discomfort and fear of displacement into abdomen. In the study conducted by Mishra S<sup>13</sup> and Sharma A et al<sup>14</sup> cumulative removal rate was 7% and 13.5%, respectively. The commonest cause for removal was psychosocial followed by menstrual complaints and persistent pelvic pain.

Failure of IUCD was seen in 3 patients in the present study, whereas CelenS et al<sup>9</sup> and SunitaSinghal et al<sup>15</sup> have quoted a failure rate of 0.4% and 0.67%, respectively.

#### V. CONCLUSIONS

Post placental Copper T380A insertion following caesarean section is a safe, effective, Low cost and convenient method of long term reversible contraception with a low incidence of expulsion and high continuation rates.

The acceptance of PPIUCD was high in the present study, and it is comparable to other studies done globally. Awareness of the PPIUCD among these women was very poor despite high acceptance. Majority of the women had never heard about the PPIUCD and the acceptance was higher among educated women and primigravida.

A little more than 50% opted out despite counselling for intra caesarean CuT, which shows that counselling has to be strengthened qualitatively and quantitatively by recruiting and training a dedicated work force. The low rates of complications can be further be reduced by consolidating training of the post graduates. The government needs to develop strategies to increase the public awareness of IUCD through different media sources which will further promote PPIUCD acceptance and reduce the accompanying misconceptions.

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GLOBAL JOURNAL OF MEDICAL RESEARCH: E

GYNECOLOGY AND OBSTETRICS

Volume 19 Issue 2 Version 1.0 Year 2019

Type: Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals

Online ISSN: 2249-4618 & Print ISSN: 0975-5888

# Removing Ovarian Tumours Vaginally: The Odyssey of a Gynaecologist

By Gunjan Bahuguna & Dr. Ashok R. Anand

*Grant Government Medical College and JJ Group of hospitals*

**Abstract-** Ovarian enlargement can be due to non-neoplastic conditions or neoplastic condition. The most common functional cyst is the follicular cyst, which rarely is larger than 8 cm. Most ovarian tumours (80 to 85%) are benign and two thirds of these occur in women between 20 and 44 years. The chance that a primary ovarian tumor in a patient younger than 45 years of age is less than 1 in 15. In postmenopausal women the incidence of malignant ovarian tumours increases to about 30 %.

Most benign ovarian tumours are cystic and presence of solid component makes it more likely to be malignant.

In my study 18 women underwent vaginal hysterectomy with ovarian cystectomy with bilateral salpingectomy. Investigations (usg pelvis, CT/MRI, Tumour markers) were done to rule out ovarian malignancy. After vaginal hysterectomy, veress needle was used to puncture the cyst vaginally, aspirate it and deliver it out. Histopathology proved the benign nature of the cysts. This study illustrates vaginal removal of benign ovarian cysts as large as 30wks size successfully. After all vaginal route is the prerogative of a gynaecologist.

**Keywords:** benign ovarian tumours, vaginal hysterectomy, vaginal removal of benign ovarian tumours, veress needle.

**GJMR-E Classification:** NLMC Code: WP 540, WP 660



REMOVING OVARIAN TUMOURS VAGINALLY THE ODYSSEY OF A GYNAECOLOGIST

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# Removing Ovarian Tumours Vaginally: The Odyssey of a Gynaecologist

Gunjan Bahuguna <sup>a</sup> & Dr. Ashok R. Anand <sup>a</sup>

**Abstract-** Ovarian enlargement can be due to non-neoplastic conditions or neoplastic condition. The most common functional cyst is the follicular cyst, which rarely is larger than 8 cm. Most ovarian tumours (80 to 85%) are benign and two thirds of these occur in women between 20 and 44 years. The chance that a primary ovarian tumor in a patient younger than 45 years of age is less than 1 in 15. In postmenopausal women the incidence of malignant ovarian tumours increases to about 30 %.

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**Keywords:** benign ovarian tumours, vaginal hysterectomy, vaginal removal of benign ovarian tumours, Veress needle.

## I. INTRODUCTION

Most ovarian tumours (80 to 85%) are benign and two thirds of these occur in women between 20 and 44 years. Normal functioning ovary produces cysts 4-5 times every year. In most cases, these functional masses are self-limiting and will resolve within 2-3 cycles. Sometimes, they persist longer or become larger than 5 cm size and transforms into pathological condition. The chance of a primary ovarian tumor in a patient younger than 45 years of age is less than 1 in 15.<sup>1</sup> In postmenopausal women the incidence of malignant ovarian tumours increases to about 30 %.<sup>2</sup>

### a) Aims and Objectives

Removing ovarian tumours vaginally.

### b) Selection Criteria

Patients with more than 35 years of age and have completed their family and wanted hysterectomy along with cystectomy.

Patients who have an ovarian mass with investigations suggestive of benign etiology.

### c) Exclusion Criteria

Pts with ovarian mass suggestive of neoplastic etiology. Pts less than 35 years of age and want further child bearing.

## II. MATERIALS AND METHODS

**Study period:** April 2014 to April 2018.

**Place:** JJ Hospital, Mumbai.

18 women presented with pelvic mass.

History and clinical examination was done.

Trans vaginal ultrasound was done to know the nature of the cyst, excluding the malignant ones; multilocular appearance, irregular border, intracystic papillary projection or the presence of ascites. Color doppler to rule out the increased blood flow in malignancy. (Picture 1)

CT/MRI was done to confirm the benign nature in doubtful cases. (Picture 2)

Tumour markers s/o benign etiology.

Preoperatively, the patients were counseled and written consent was obtained for the surgery to be performed vaginally. In 10 women (55.6%) vaginal hysterectomy was performed for heavy menstrual bleeding. As these women came from remote areas where follow up was difficult, they wished for a hysterectomy. All the women consented to possible laparotomy, oophorectomy and hysterectomy.

Pre anesthesia fitness obtained. After careful clinical examination, mobility of the uterus and the cyst was checked for adhesions. This was further ascertained and reassessed under anesthesia. (Picture 3, 4)

Vaginal hysterectomy/non descent vaginal hysterectomy done. Endometriomas required adhesiolysis which was done digitally along with fine dissection. The cyst was gently pulled down with the help of a Allis forceps or Babcocks and the cyst fixed abdominally. The head end was raised (Reversed Trendelenberg position) to assist gravitational forces in bringing the cyst down in the pouch of Douglas.

For cystic masses a Veress needle was used for cyst aspiration vaginally, the Veress needle was attached to a tubing leading to a suction apparatus. The cyst would come down to the pouch of Douglas after volume reduction; thereafter cystectomy was done. Using the Veress needle for aspiration reduces



the chances of spillage of the cyst contents in the peritoneal cavity.

Image (Image 5, 6, 7)

Cystic wall was sent for frozen analysis in doubtful cases Image (Image 8). All frozen analysis were s/o benign etiology.

Prophylactic bilateral salpingectomy was done on all. In postmenopausal women, prophylactic b/l salpingo-oophorectomy was done .

Extra-peritonization of pedicles done. Vault closure done.

Histopathological examination of the excised specimen was done by the pathology department of the hospital.

Average blood loss was 150 ml to 200 ml. Average time taken for surgery was 1.5 to 2 hrs. (Image 9)

Patients were discharged day 5 post operatively.

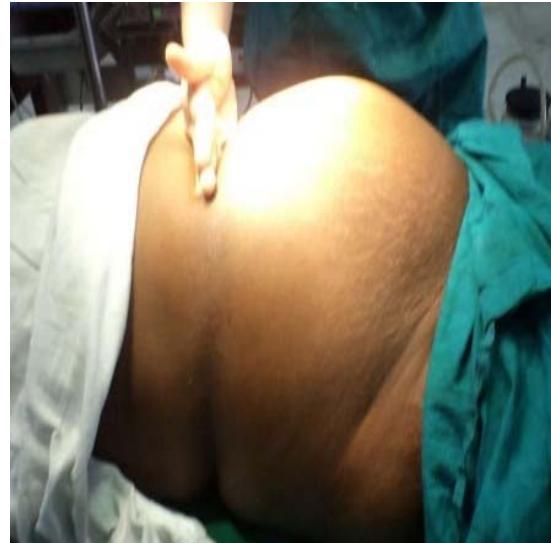


Image 1, 2: Pre-operative assessment in ot reveals a



Image 3: Doppler image

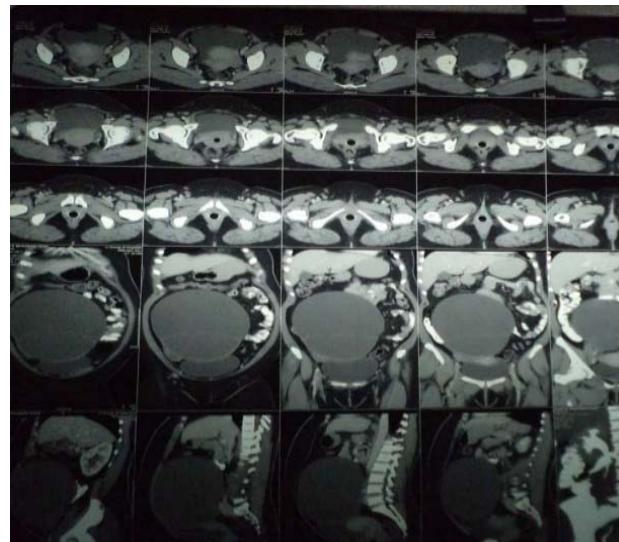


Image 4: CT image of a benign serous cyst adenoma

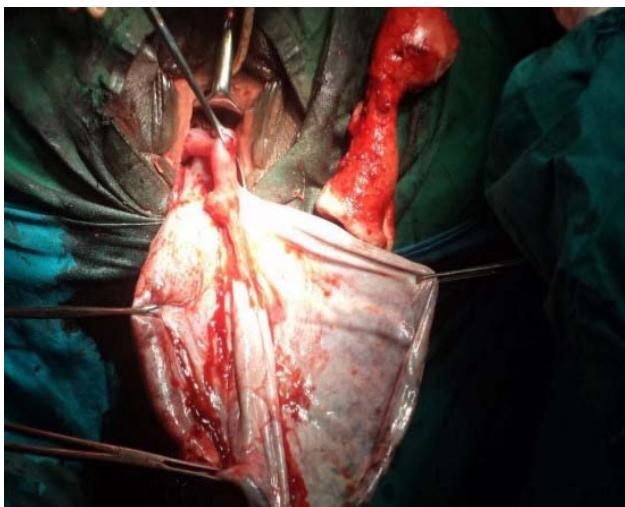


Image 5: Uterus with cyst wall



Image 6: Cyst wall



Image 7: 6 litres fluid drained



Image 8: Cyst wall, uterus with cervix, with an accessory horn



Image 9: Abdomen after the cyst is deflated.

### III. RESULTS

Table 1 shows the age distribution. Maximum women belonged to the age group of 46 to 55 years who underwent vaginal hysterectomy with removal of benign ovarian cyst vaginally. They compromised about

44.5 % and least were in the age group of 66 to 75 years.

Table 1: Age Distribution

Age	Frequency	Percentage
35 to 45 Years	4	22.2
46 to 55 Years	8	44.5
56 to 65 Years	4	22.2
66 to 75 Years	2	11.1

Table 2 and figure 1 show the parity distribution. Maximum women were multiparous, 50 % had 3 to 4 live issues.

Table 2

Parity	Frequency	Percentage
Nulliparous	1	5.6
P1L1-P2L2	5	27.7
P3L3-P4L4	9	50
P5L5-P6L6	1	5.6
P7L7-P9L9	2	11.1

Table 3 shows the association with previous surgeries. 5 women had tubal ligation done and 3 had a previous LSCS.

Table 3

Surgery	Frequency	Percentage
LSCS	3	16.7
TL	5	27.8

Table 4 and figure 2 depicts that maximum women had pelvic mass upto 14 weeks size. Though there were 2 women with 30 weeks size pelvic mass.

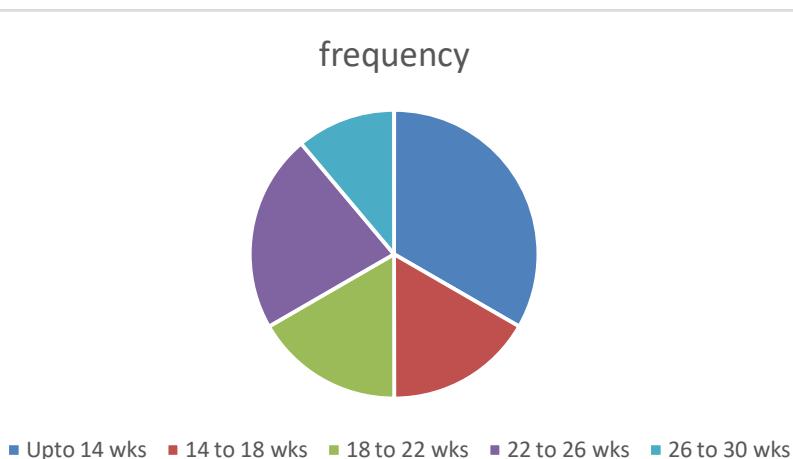


Figure 2

Table 5 and figure 3 illustrates that most of the ovarian cysts were simple cysts and serous cystadenoma 55.6%. Mucinous cystadenoma fall the next with 22.2% and then endometriotic cyst 11%. There was 1 corpus luteal cyst and 1 cystic teratoma. Endometriomas 11% required adhesiolysis to access the peritoneal cavity. It was done digitally and with sharp dissection.

Table 4

	Frequency	Percentage
Upto 14 wks	6	33.3
14 to 18 wks	3	16.7
18 to 22 wks	3	16.7
22 to 26 wks	4	22.2
26 to 30 wks	2	11.1

Table 5

Types	Frequency	Percentage
Simple cyst	5	27.8
Serous cystadenoma	5	27.8
Mucinous cystadenoma	4	22.2
Corpus luteal cyst	1	5.6
Cystic teratoma	1	5.6
Endometriotic cyst	2	11

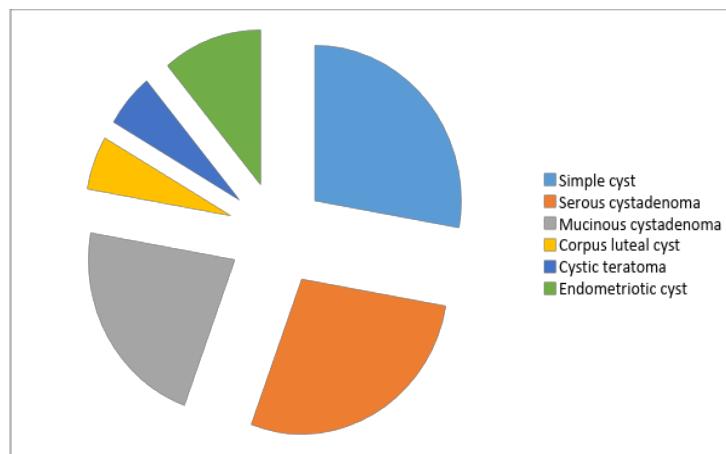


Figure 3

Table 6 shows that 4 ovarian cysts had undergone torsion.

Table 6

	Frequency	Percentage
Serous	1	5.6
Mucinous	1	5.6
Simple cyst	2	11.1

There were no intraoperative complications including rectal / bladder injury.

Average blood loss was 150 ml, no patient required blood.

#### IV. DISCUSSION

Robert Glassgow is credited for the first cystectomy in 1701 AD. Since then cystectomies have been performed either via the vaginal route or abdominal route.

Earlier ovarian cyst aspiration was done by vaginal ultrasonography<sup>3</sup> ultrasound-guided culdotomy using a renal balloon dilator catheter for transvaginal ovarian cystectomies<sup>4</sup> has been done. Here in this study veress needle is used after vaginal hysterectomy to aspirate the contents of the cyst and extract it vaginally. Intraperitoneal spillage of cyst contents is minimized because of direct puncture of the ovarian cyst wall.

Though maximum number of women were multiparous, there was 1 nulliparous patient. Nulliparity and even virginity should not themselves be considered as contraindications to VH or as an indication for the abdominal route or laparoscopic assistance.<sup>5</sup>

16.7% of women had previous LSCS. It was possible to perform vaginal hysterectomy safely in patients with previous cesarean sections.<sup>6</sup>

Vaginal hysterectomy is not contraindicated per se after previous abdominal pelvic operations.<sup>7</sup>

There have been studies, where women with dermoid cysts were operated on vaginally via the posterior cul-de-sac without laparoscopic assistance.<sup>8</sup> They had concluded that the vaginal route offers an

excellent alternative to laparoscopic surgery and eliminates, in most cases, the need for invasive laparotomy. We had 1 case of a teratoma (5.6%), where cystectomy along with vaginal hysterectomy was done successfully.

4 Ovarian cysts that were removed had undergone torsion.

In postmenopausal women, prophylactic salpingo-oophorectomy on the opposite side should be performed<sup>9</sup>.

Vaginal ovarian cystectomy is the only cystectomy procedure that leaves no surgical scars on the abdomen.

If vagina is the gateway to the abdomen a big fibroid uterus, large ovarian cysts can be easily removed vaginally. Every hysterectomy unless absolutely contraindicated should begin by vaginal route.<sup>5</sup>

A uterus with a volume up to 300 cm<sup>3</sup> or uterine size up to 12 weeks should be dealt vaginally, and as surgeons become more experienced larger uteri and also the adnexa can be approached in the same manner, at least as trial vaginal hysterectomy.<sup>10</sup>

Proponents and practitioners of vaginal hysterectomy have widened their indications and decreased the contraindications through liberal usage of debulking, performing oophorectomy, laparoscopic evaluation and trial vaginal hysterectomy.<sup>11</sup> VH with better outcomes and fewer complications than laparoscopic/TAH.<sup>12</sup> Cochrane Review concluded VH is far superior to other technique and has the best outcomes.<sup>13</sup>

#### V. CONCLUSIONS

Cystectomies through the vaginal route paves the way for a scarless surgical technique. It offers less blood loss, with less operative time.

With minimum intraoperative complications, minimum hospital stay and a swift recovery.

There were no ureteric or bladder /bowel injuries. From pelvic masses of 14 wks to 30 wks size

pelvic masses can be removed vaginally .irrespective of size of tumour. After all surgery through the vaginal route is the prerogative of a gynaecologist.

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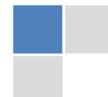
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Authors should carefully consider the preparation of papers to ensure that they communicate effectively. Papers are much more likely to be accepted if they are carefully designed and laid out, contain few or no errors, are summarizing, and follow instructions. They will also be published with much fewer delays than those that require much technical and editorial correction.

The Editorial Board reserves the right to make literary corrections and suggestions to improve brevity.



## FORMAT STRUCTURE

***It is necessary that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.***

All manuscripts submitted to Global Journals should include:

### **Title**

The title page must carry an informative title that reflects the content, a running title (less than 45 characters together with spaces), names of the authors and co-authors, and the place(s) where the work was carried out.

### **Author details**

The full postal address of any related author(s) must be specified.

### **Abstract**

The abstract is the foundation of the research paper. It should be clear and concise and must contain the objective of the paper and inferences drawn. It is advised to not include big mathematical equations or complicated jargon.

Many researchers searching for information online will use search engines such as Google, Yahoo or others. By optimizing your paper for search engines, you will amplify the chance of someone finding it. In turn, this will make it more likely to be viewed and cited in further works. Global Journals has compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

### **Keywords**

A major lynchpin of research work for the writing of research papers is the keyword search, which one will employ to find both library and internet resources. Up to eleven keywords or very brief phrases have to be given to help data retrieval, mining, and indexing.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy: planning of a list of possible keywords and phrases to try.

Choice of the main keywords is the first tool of writing a research paper. Research paper writing is an art. Keyword search should be as strategic as possible.

One should start brainstorming lists of potential keywords before even beginning searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in a research paper?" Then consider synonyms for the important words.

It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

### **Numerical Methods**

Numerical methods used should be transparent and, where appropriate, supported by references.

### **Abbreviations**

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

### **Formulas and equations**

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

### **Tables, Figures, and Figure Legends**

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



## Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

## PREPARATION OF ELECTRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

**Color charges:** Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

## TIPS FOR WRITING A GOOD QUALITY MEDICAL RESEARCH PAPER

**1. Choosing the topic:** In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

**2. Think like evaluators:** If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

**3. Ask your guides:** If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

**4. Use of computer is recommended:** As you are doing research in the field of medical research then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

**5. Use the internet for help:** An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



**6. Bookmarks are useful:** When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

**7. Revise what you wrote:** When you write anything, always read it, summarize it, and then finalize it.

**8. Make every effort:** Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

**9. Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

**10. Use proper verb tense:** Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

**11. Pick a good study spot:** Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

**12. Know what you know:** Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

**13. Use good grammar:** Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice.

Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

**14. Arrangement of information:** Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

**15. Never start at the last minute:** Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

**16. Multitasking in research is not good:** Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

**17. Never copy others' work:** Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

**18. Go to seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.

**19. Refresh your mind after intervals:** Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.



**20. Think technically:** Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.

**21. Adding unnecessary information:** Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

**22. Report concluded results:** Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

**23. Upon conclusion:** Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

## INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

### **Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

### **Final points:**

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

*The introduction:* This will be compiled from reference material and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

### **The discussion section:**

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

### **General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

**To make a paper clear:** Adhere to recommended page limits.



#### **Mistakes to avoid:**

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.
- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

#### **Title page:**

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

**Abstract:** This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

#### *Reason for writing the article—theory, overall issue, purpose.*

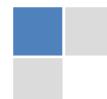
- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

#### **Approach:**

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

#### **Introduction:**

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.



*The following approach can create a valuable beginning:*

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.

**Approach:**

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

**Procedures (methods and materials):**

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

**Materials:**

*Materials may be reported in part of a section or else they may be recognized along with your measures.*

**Methods:**

- Report the method and not the particulars of each process that engaged the same methodology.
- Describe the method entirely.
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- Simplify—detail how procedures were completed, not how they were performed on a particular day.
- If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

**Approach:**

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

**What to keep away from:**

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings—save it for the argument.
- Leave out information that is immaterial to a third party.



## **Results:**

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.

## **Content:**

- Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation of an exacting study.
- Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

## **What to stay away from:**

- Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- Do not include raw data or intermediate calculations in a research manuscript.
- Do not present similar data more than once.
- A manuscript should complement any figures or tables, not duplicate information.
- Never confuse figures with tables—there is a difference.

## **Approach:**

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

## **Figures and tables:**

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

## **Discussion:**

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."



Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- Give details of all of your remarks as much as possible, focusing on mechanisms.
- Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

**Approach:**

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

## THE ADMINISTRATION RULES

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*Please read the following rules and regulations carefully before submitting your research paper to Global Journals Inc. to avoid rejection.*

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*Written material:* You may discuss this with your guides and key sources. Do not copy anyone else's paper, even if this is only imitation, otherwise it will be rejected on the grounds of plagiarism, which is illegal. Various methods to avoid plagiarism are strictly applied by us to every paper, and, if found guilty, you may be blacklisted, which could affect your career adversely. To guard yourself and others from possible illegal use, please do not permit anyone to use or even read your paper and file.



**CRITERION FOR GRADING A RESEARCH PAPER (COMPILED)**  
**BY GLOBAL JOURNALS**

**Please note that following table is only a Grading of "Paper Compilation" and not on "Performed/Stated Research" whose grading solely depends on Individual Assigned Peer Reviewer and Editorial Board Member. These can be available only on request and after decision of Paper. This report will be the property of Global Journals.**

Topics	Grades		
	A-B	C-D	E-F
<b>Abstract</b>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
<b>Introduction</b>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<b>Methods and Procedures</b>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<b>Result</b>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<b>Discussion</b>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<b>References</b>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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ISSN 9755896



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