



### Assessment of cervical cytomorphological changes in infertile women

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#### Abstract

**Background:** Infertility is a global problem, affecting approximately one-fifth of couples trying to conceive. with the incidence similar in most countries independent of the level of the country's development.

**Methods:** The hospital based prospective study was conducted in the Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur from January 2017 to Dec. 2018.

**Results:** On pap smear 77.14% patients were present NILM, 15.71% patients were present ASC-US, 4.29% patients were present inflammatory and 1.42% patients were present HSIL & LSIL.

**Conclusion:** We observed that infertile patients, may benefit from cervical cytological screening as they show a higher tendency for cervical cytological abnormalities. It is recommended to increase the awareness of the population about the importance of cancer cervix screening programs.

**Keywords:** pap smear, cancer cervix, ASC-US, HSIL, LSIL.

#### Introduction

Infertility is a global problem, affecting approximately one-fifth of couples trying to conceive.<sup>1</sup> with the incidence

similar in most countries independent of the level of the country's development.

The incidence of infertility in men and women is almost identical. Infertility is exclusively a female problem in 30-40% of the cases and exclusively a male problem in 30-40% of the cases. Problems common to both partners are diagnosed in 10-15% of infertile couples.

Various factors may contribute to the infertility of males and females, including several types of microorganism, e.g., bacteria, fungi, viruses, and parasites.<sup>2</sup>

A higher frequency of abnormal cervical smears is expected in subfertile women suffering from a tubal pathology<sup>3</sup>. The presumed increase in promiscuous, precarious sexual behaviour results in sexually active adolescents who are at risk of acquiring HPV and *C. Trachomatis* infections unaware of the fact that (tubal factor) subfertility and (the treatment of) severe cervical pathology could negatively affect family planning even many years following an infection.<sup>4</sup>

#### Material And Methods

The present study was conducted in the Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur from January 2017 to Dec. 2018.

#### Inclusion Criteria

- Women of reproductive age group who were in the follicular phase of their cycle and had primary and secondary infertility prior to hormonal treatment (not taken hormonal treatment within 3 months).
- Who has given written and informed consent for study.

**Exclusion Criteria**

- Female with pelvic inflammatory disease at present.
- female with diagnosed genital tract pathologies.
- women who had started hormonal treatment within 3 months.
- women who were on immunosuppressive drugs.
- Couple who use any type of contraceptive method.

The inclusion and exclusion criteria were applied and patients who are eligible to participate and gave consent were thoroughly interviewed and investigated for etiology of infertility.

A detailed history was taken regarding age, socioeconomic status, menstrual history, age of marriage and first coitus, duration of infertility, age of 1<sup>st</sup> conception, obstetric history, personal history, spouse history, multiple sexual partner, STDs and health check up status including liquid base pap smear.

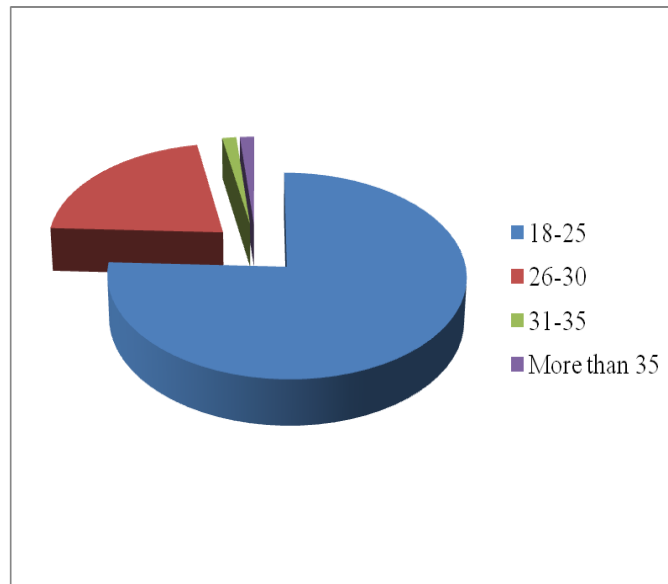
History was taken regarding previous treatment taken for infertility.

After enrolling the patient detailed history of both partner's was taken then complete physical examination including vitals parameter and systemic examination & detailed gynaecological examination was carried out then routine investigation and complete work-up for infertility in both partner & diagnostic procedure was carried out as required for infertility etiology.

After written informed consent pap smear taken by cervical broom, material on cervical broom was rinsed in 10-15 ml of pap spin collection, a buffered methanol preservative solution in vial. Pap spin collection fluid

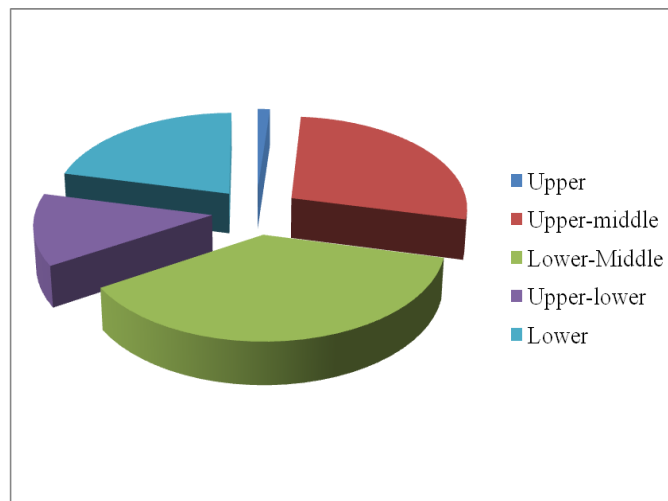
along with collected material was sent to laboratory for histopathological reporting.

**Observations**



**Age**

Mean age of patients were 23.78±2.29 Yrs. Maximum patients (81.40%) were 18-25 Yrs age group. 77.14% patients were from urban area and 22.86% patients were from rural area. Out of 70 cases 42.86% patients were lower middle class followed by 31.42% patients were upper middle class, 24.29% patients were lower class, 14.28% patients were upper-lower class and only 1.43% patients were upper class.



**Socio-economic status**

Table no.1 Pap smear of cases wise distribution

Pap smear	No. of cases	Percentage
NILM	54	77.14%
LSIL	1	1.42%
HSIL	1	1.42%
ASC-US	11	15.71%
Inflammatory	3	4.29%
Total	70	100.00%

On pap smear 77.14% patients were present NILM, 15.71% patients were present ASC-US, 4.29% patients were present inflammatory and 1.42% patients were present HSIL & LSIL.

### Discussion

Hospital based descriptive observational study at Department of Obstetrics and Gynaecology, SMS Medical College, Jaipur. 70 women of reproductive age group who were in the follicular phase of their cycle and had primary and secondary infertility prior to hormonal treatment (not taken hormonal treatment with in 3 month's) were included in this study.

Infertility is a serious problem to the couple and brings about family unhappiness and mental trauma and is a matter of financial burden. Screening by Pap smear enables for early detection of cervical cell abnormalities and prompt action. Consequently, we observe a significant decrease in the incidence of invasive cervical cancer. This study was designed to evaluate the results of cytology Pap smear test in infertile women.

In our study mean age of patients were 23.78±2.29 Yrs. Maximum patients (81.40%) were 18-25 Yrs age group. Similar result were found by Sairem Mangolnganbi Chanu et al<sup>5</sup> they observed that A total number of 151 patients underwent DHL out of which 88 (58.28%) suffered from primary infertility and 63 (41.72%) suffered from secondary infertility. The mean age of patients with primary infertility was 27.2 ± 2.6 years while the mean age of secondary infertility group were 32.4 ± 2.2 years.

Nasrin Jalilian et al<sup>6</sup> was also found that mean (SD) age of the patients was 28.7 (6.3) years.

In our study on pap smear 77.14% patients were present NILM, 15.71% patients were present ASC-US, 4.29% patients were present inflammatory and 1.42% patients were present HSIL & LSIL.

Nasrin Jalilian et al<sup>6</sup> was also found Cervical cytology was normal in 569 cases (97.8%). There were 390 normal reports in 2007 (97.5%) and 179 normal cases (98.4%) in 2011. In 10 cases (1.7%), Pap smear result was unsatisfactory and only for 3 cases this was abnormal (0.5%). Most cases of unsatisfactory result were reported in 2007 (9 cases out of 10 cases). Abnormal epithelial cells were ASCUS (one patient) and LSIL (two cases). The only ASCUS report was reported in 2011 and one LSIL was reported in the same year.

### Conclusion

We observed that infertile patients, may benefit from cervical cytological screening as they show a higher tendency for cervical cytological abnormalities. It is recommended to increase the awareness of the population about the importance of cancer cervix screening programs.

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