



# A case series of cervico-vaginal cytology findings of female sex workers in an urban slum in Mumbai.

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## ABSTRACT

### INTRODUCTION

Female sex workers (FSWs) belong to a marginalized social group, and lag in physical, psychological, social and economic spheres of their lives. It ultimately compromises their health. Belonging to a high-risk behaviour group, FSWs are at a higher risk of Sexually Transmitted Infections (STIs) and cervical cancers. Regular health check-ups can help them secure their physical health. Papanicolaou (Pap) smear test for cervico-vaginal cytology is an important component of health check-up, performed to detect infections and screen for cervical cancers.

### METHODS

The study included 24 FSWs, who reported at the Malvani Urban Health Training Center (UHTC), Malvani Slum, Malad, Mumbai for routine investigations. Investigations included: complete blood count, random sugar levels, urine routine microscopy, Rapid Plasma Reagin test, HIV test, clinical breast examination and Pap test were done.

### RESULTS

All of the 24 study participants gave history that male condoms were used during every intercourse. Seventeen of them gave history of occasional use of female condom or a vaginal sponge during intercourse. The investigations carried out were normal. Pap test used for screening of infections and cervical cancer was normal for 19 of the study participants (79.2%, n=19) and inflammatory changes were seen in others.

### CONCLUSIONS

Using condoms and awareness among FSWs regarding STIs and cancer cervix may aid in preventing genital HPV infections.

**Keywords:** Human Papilloma Virus (HPV), Papanicolaou smear test (Pap test), Female Sex Workers (FSWs), Condom, Urban slum, Metropolitan city. COVID-19 disease & vaccination, awareness, attitude and practices.

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## INTRODUCTION

Female sex workers (FSWs) belong to an extensively marginalized social group, and go through the trial in physical, psychological, social and economic spheres of their lives, ultimately compromising their health. Belonging to a high-risk behavior group, FSWs are at a higher risk of Sexually Transmitted Infections (STIs) and cervical cancer<sup>1&2</sup>. High rates of epithelial lesions due to Human Papilloma Virus (HPV) suggestive of cancer cervix are reported amongst them<sup>1-4</sup>. According to Globocan 2020, cervical cancer accounted for 9.4% of all cancers and 18.3% (123,907) of new cases in 2020 in India<sup>5</sup>.

Regular health check-ups can aid FSWs secure their physical health. Papanicolaou (Pap) smear is a simple, safe and an effective test for detection of infections and cancer cervix on cervico-vaginal cytology<sup>6</sup>. Consistent use of condom is known to provide good protection from HPV infections and associated cervical lesions<sup>7&8</sup>. This case series highlights the findings of cervical cytology amongst FSWs and the importance of creating awareness regarding safe sex practices, importance of maintaining genital hygiene, appropriate contraceptive use; and periodic screening for STIs, cancer cervix and breast.

### Material and methods

This case series included 24 FSWs who reported at the Malvani Urban Health Training Centre (UHTC), Malvani Slum, Malad(W), Mumbai; over a period of a year after taking their informed consent. The study was carried out after taking Ethical Clearance from the Institutional Ethics Committee (EC/70/2019). As

per records available at the UHTC, there were 32 FSWs who visited the UHTC for seeking treatment for common ailments/routine checkup. Complete enumeration of the FSWs was done in order to include them in the study, and 24 of them who gave informed consent were included in the study. The history taking and examination was done by the researchers, maintaining privacy and confidentiality of the study participant. Samples of Pap smear test were taken by Ayre spatula, fixed in alcohol and stained using the standard Pap staining technique. Reporting was done by the consultant cytopathologist according to The Bethesda system<sup>9</sup>, 2014.

### Results

Twenty-four apparently healthy female sex workers who came to the UHTC for routine check-up were included in the study and Table 1 gives the sociodemographic details of the study participants. All of them were self-motivated and used to get their routine check-up done at the UHTC every 6 month, for 3-3.5 years. All the study participants had a regular menstrual cycle. Two had an intrauterine contraceptive device (Copper T) since 2 and 3.5 years respectively. Four study participants were living with their family (nuclear type of family) and had 2 children each. Of the 11 study participants staying the brothel house, seven had aborted at least once during past five years; none had delivered a child. Nine study participants denied their family and residence details. Most of them (n=16) used oral contraceptive pills (Norethisterone acetate 1mg).

Table 1: Sociodemographic details of the study participants (N=24)

Age	28±6.2 years
Years of profession	8.7±1.2 years
Education	Frequency 16
Primary school	06
Higher Secondary school	02
Graduate	
Place of residence	
Brothel house	11
Own house	04
Not willing to disclose	09

All the 24 study participants gave history that male condoms were used during every intercourse. Seventeen of them gave history of occasional use of female condom or a vaginal sponge during intercourse. The routine tests done for FSWs at the UHTC included: Complete blood count, random blood sugar, liver and kidney function tests, lipid profile, urine routine microscopy, clinical breast examination, Pap smear test. All the tests mentioned above including clinical breast examination were normal. Cervico-vaginal cytology was done by using the conventional Pap smear test. All the samples collected for the Pap smear test were satisfactory for evaluation and showed findings illustrated in Table II. The Illustrations I, II and III,

depict the cervical cytology pictures for the study participants.

Those with Trachomonas and Candida infections were treated using the KIT2/Green as per syndromic management guidelines for STIs of NACO (Secnidazole 1gm BID dose + Fluconazole 150mg single dose); advices sexual abstinence for 07 days and were followed up after a week. All of them were counselled by medical doctors posted at the centre regarding safe sex practices, importance of maintaining genital hygiene and were made aware about the use of contraceptives, potential threat of sexually transmitted diseases like Syphilis, HIV; and cancer of cervix and breast.

**Table 2 Pap smear test findings among study participants**

Cytodiagnosis	Total no. of cases(N=24)	Percentage
Normal smear	19	79.2
Inflammatory smear	03	12.5
<b>Specific infections</b>		
• Trichomonas vaginalis	01	4.1
• Candida albicans	01	4.1
<b>Squamous cell abnormalities</b>		
• ASCUS	00	00
• ASC-H	00	00
• LSIL	00	00
• HSIL	00	00
• SCC	00	00
<b>Glandular cell abnormalities</b>		
• Atypical [Endocervical cells (NOS)/Enometrial cells(NOS)/Glandular cells(NOS)]	00	00
• Atypical [Endocervical cells (Favor neoplastic)/Enometrial cells (Favor neoplastic) ]	00	00
• Endocervical Adenocarcinoma in situ	00	00
• Adenocarcinoma [Endocervical /Enometrial/Extrauterine/NOS]	00	00
ASCUS – Atypical squamous cells-Undetermined significance ASC-H – Atypical squamous cells-Cannot exclude LSIL – Low-grade HSIL – High-grade SCC- Squamous cell carcinoma NOS – Nederlandse omroep stichting		

Illustration 1: Smear shows superficial and intermediate squamous cells with few polymorphs in the background. Diagnosis- Negative for intraepithelial lesion or malignancy (NILM)

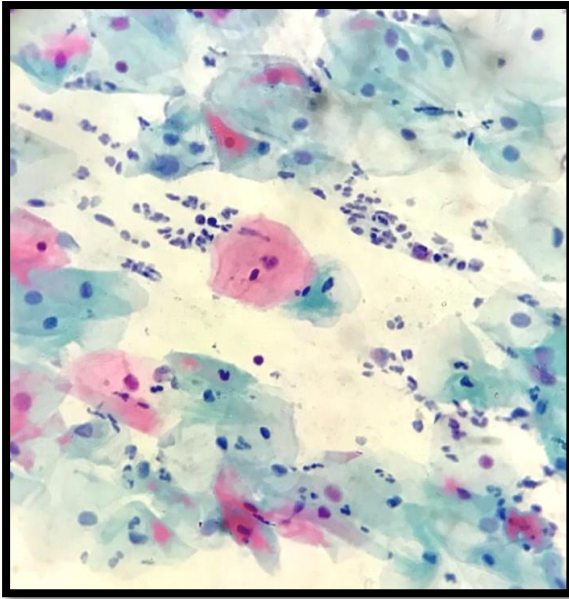
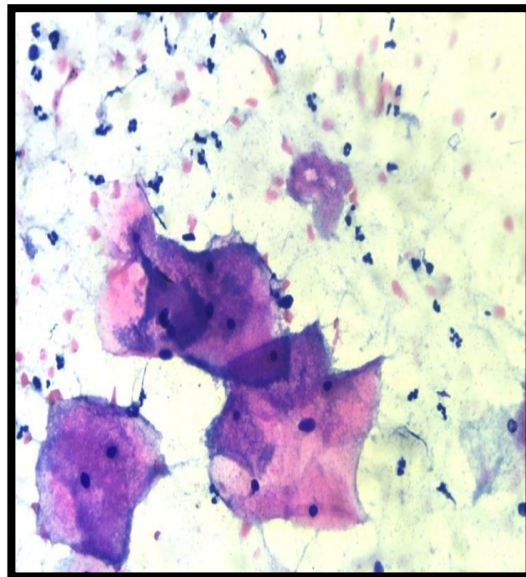
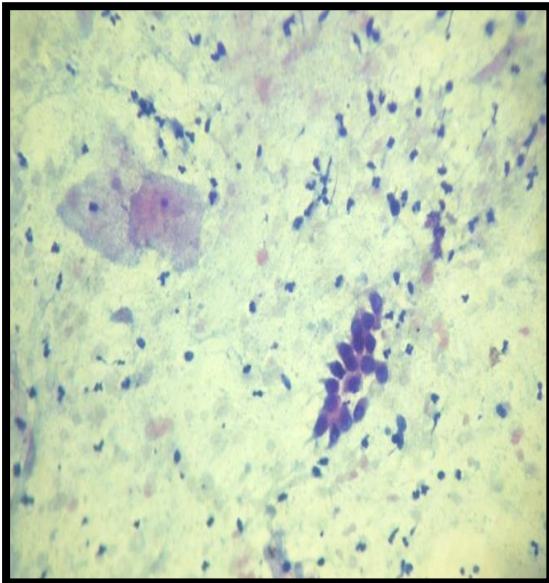
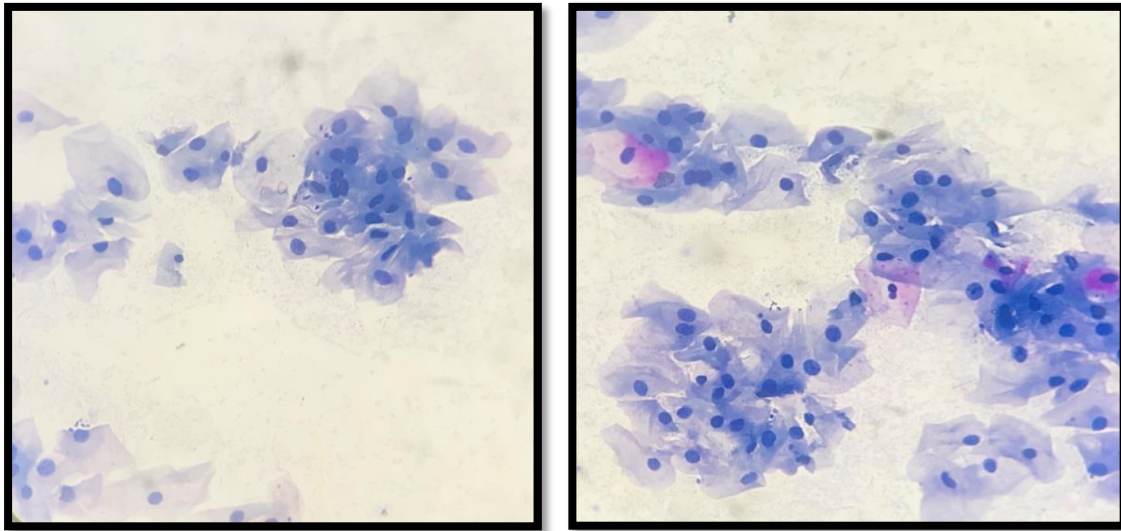


Illustration II.a. and II.b. Smear shows superficial and intermediate squamous cells. Few endocervical cells seen. Clue cells seen. Background shows inflammatory cells. Diagnosis- Negative for intraepithelial lesion or malignancy (NILM). Inflammatory smear showing organism morphology suggestive of bacterial vaginosis



**Illustration III.a. and III.b.** Smear shows superficial and intermediate squamous cells with yeast forms of fungus resembling *Candida* species. Diagnosis-Negative for intraepithelial lesion or malignancy (NILM) with fungal organism.



## DISCUSSION

This case series highlights two findings, firstly: the normal cervico-vaginal cytology amongst the FSWs which may be because of the use of condoms<sup>7&8</sup>; and secondly: counselling FSWs can help them to be better aware and responsible about their health.

The cervical cytology findings in this study were compared with findings of some studies done in FSWs and general population (Refer Table III). A very high incidence of epithelial lesions was found in other studies, unlike the present study<sup>6, 10-12</sup>. This may be attributed to the use of condoms by the FSWs.

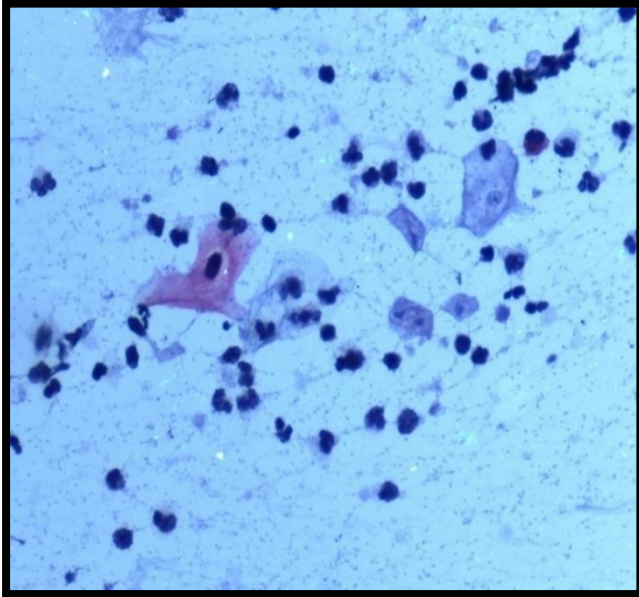
It is important to note that the study participants were self-motivated to report to the health centre for their routine check-up. They were counselled by medical doctors posted at the centre regarding safe sex practices, importance of maintaining genital hygiene and were made aware about the use of contraceptives, potential threat of sexually transmitted diseases like Syphilis, HIV; and cancer of cervix and breast. These females still continue to get their Rapid Reagin Test for Syphilis and HIV tests done at the UHTC every six months.

Table III Comparison of cytodiagnosis (as per The Bethesda System for reporting cervical cytology) of present study with other studies using percentages of findings in each category.

Cytodiagnosis	Present study	Sachan et al <sup>10</sup>	Mondal et al <sup>11</sup>	Bal et al <sup>6</sup>	Mulay et al <sup>12</sup>
Normal	79.2	48.9	13.3	16.7	Data not available
Inflammatory	12.5	42.7	20.0	74.3	19.6
ASCUS	00	2.9	3.3	0.3	0.64
LSIL	00	5.09	15.0	2.7	0.216
HSIL	00	0.48	38.0	0.7	0.16
SCC	00	Data not available	3.3	1.3	0.06



**Illustration IV.** Smear shows intermediate squamous cells with few polymorphs and organism morphology suggestive of *Trichomonas vaginalis* in the background. Diagnosis- Negative for intraepithelial lesion or malignancy (NILM). Inflammatory smear showing organism morphology suggestive of *Trichomonas vaginalis*



#### CONCLUSION

This case series underlines significant deductions. Firstly, normal vaginal cytology amongst the FSWs may be because of the use of condoms. Secondly, it is a reminder to clinicians, and public health workers, that counselling

FSWs can help them to be better aware about safe sex practices, importance of maintaining genital hygiene, appropriate contraceptive use; and periodic screening for STIs, cancer cervix and breast.



Sno	Abbreviations	
1	FSWs	Female Sex workers
2	HPV	Human Papilloma Virus
3	Pap Test	Papanicolaou smear test
4	UHTC	Urban Health Training Center
5	STI	Sexually Transmitted Infection
6	HIV	Human Immunodeficiency Virus
7	RVR	Rapid Plasma Reagin.

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