

# International Conference and Expo on Women And Reproductive Health

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## Cervical Cancer Screening Methods in LMIC

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### Abstract

Cervical cancer is the fourth most frequently diagnosed cancer and the fourth leading cause of cancer death in women, with an estimated 604,000 new cases and 342,00 deaths worldwide in 2020. Cervical cancer is the most commonly diagnosed cancer in 23 countries and is the leading cause of cancer death in 36 countries with the vast majority of these countries found in sub-Saharan Africa, Melanesia, South America, and South-Eastern Asia. Human papillomavirus (HPV) is a necessary but not sufficient cause of cervical cancer. Other important cofactors include some sexually transmissible infections (HIV and Chlamydia trachomatis), smoking, a higher number of childbirths, and long term use of oral contraceptives. Cervical cancer is considered nearly completely preventable because of the highly effective primary (HPV vaccine) and secondary (screening) prevention measures. However, these measures have not been equitably implemented across and within countries. As of May 2020, <30% of LMICs had implemented national HPV vaccination programs compared with >80% of high-income countries. Only 44% of women in LMICs have ever been screened for cervical cancer, with the lowest prevalence among women in sub-Saharan Africa (country-level median, 16.9%; range, 0.9%-50.8%), compared with >60% in high-income countries.

Since India belongs to the LMIC group of countries it has centres which follow good screening programs in cities while rural areas still lack the facilities. In addition poverty and ignorance has led to mortality and morbidity of the women. There is thus a need of creating awareness of the various low cost facilities available. The available facilities are conventional pap smear (CPS), manual liquid based cytology (MLBC), cell block technique (CB), HPV testing, visual inspection with acetic acid (VIA), biomarker study wherever needed. The latest concept is of the microflora in the vagina influencing the causation of cervical cancer in LMIC where there is poor hygiene in the women. Conventional pap smear has been the norm for screening cervical cancers. It has its limitations with presence of obscuring factors like blood mucus and inflammatory cells which reduces the detection of malignancies. This we overcame by using low cost manual liquid based cytology method (MLBC) which makes the cells form a monolayer and removes the obscuring factors. It helps in performing ancillary techniques like HPV testing and cell block which help in increasing the diagnostic accuracy. Biomarkers like p16 in situ which are important in differentiating CIN1 and CIN2 can be done on MLBC and cell block. The latest concept of vaginal microflora playing a role in increasing the incidence of cervical cancer in poor hygiene women of LMIC countries has been worked on which enhances the action of HPV virus. We are showcasing our studies done over 10 year period on various methods of cervical cancer study.

**Key words** -Cervical Cancer, Cps, Mlbc, Cell Block, Biomarker, Hpv Testing, Lmic

### Importance of the research

Cervical cancer is the 4th most common cause of cancer in women, with increased mortality in women of LMIC. The present work highlights the approach to screen and diagnose various conditions of cervix. The work is low cost with presence limited facilities, but still providing good results. The various methods used are commonly conventional pap smear. The other methods introduced to improve on cervical cancer are manual based liquid based cytology, cell block,

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HPV testing and cervico vaginal lavage. Each method has its advantages and limitations which are being taken into consideration for the diagnosis and treatment

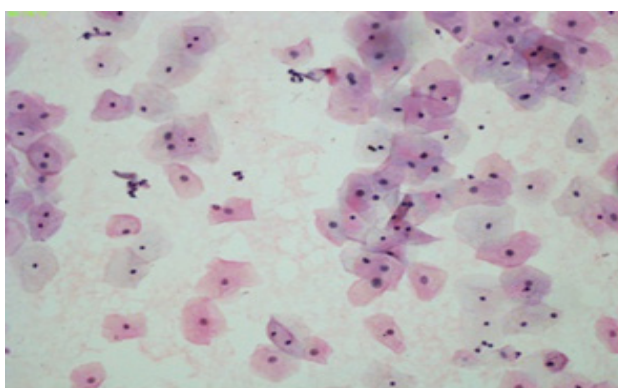
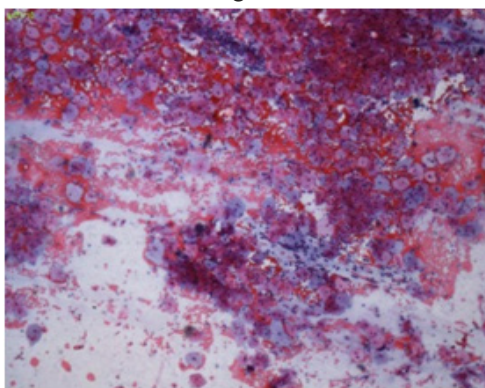


Fig showing conventional pap smear (CPS) NILM      Fig showing manual liquid-based cytology MLBC, NILM

TYPE	# OF CASES = 308 (48.51%)
Bacterial Vaginosis	59 (19.15) #
Trichomonas vaginalis	16 (5.19)
Candida	8 (2.59)
Herpes simplex	1 (0.32)
Leptothrix	1 (0.32)
Inflammation	149 (48.37)
Atrophic smear	42 (13.63)
Unsatisfactory	19 (6.16)
ASCUS <sup>1</sup>	4 (1.28)
LSIL <sup>2</sup>	4 (1.28)
HSIL <sup>3</sup>	2 (0.64)
Squamous cell carcinoma (SCC)	3 (0.96)

Table showing the distribution of cervical conditions by conventional Pap smear

## Biography

Dr Nandini N. M, Professor, JSS Medical College, Mysore, is attached as a teaching faculty from the past 25 years in the department of pathology . She has worked in the field of cytology of cervix and breast. She has attended many national and international conferences in countries like U.K, USA, Singapore and Netherland. She has worked on liquid based cytology, cell block technique and has come up with indogenous methods. She has several publications and books to her credit written on cervical and breast cancer.

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