



HUMAN PAPILLOMAVIRUS SEROTYPES AND DETERMINANTS AMONGST WOMEN WITH CERVICAL CANCER IN NORTHWEST-NIGERIA

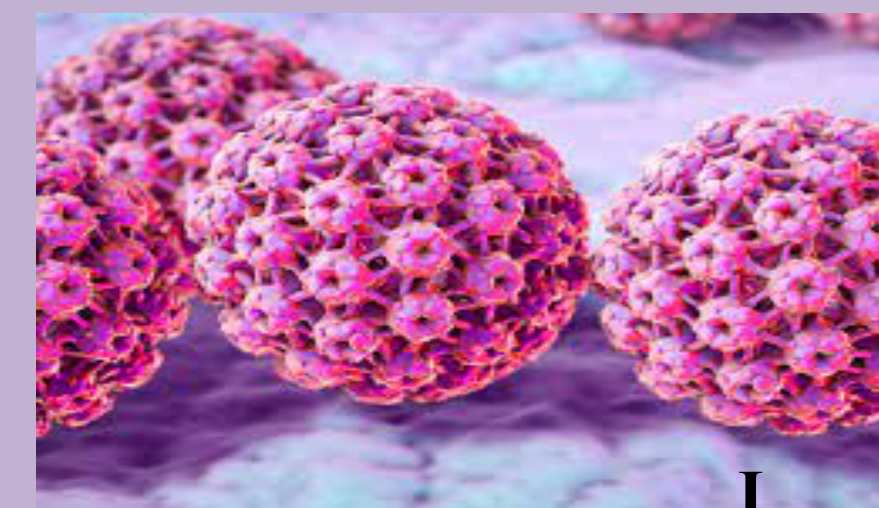


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Background

- Invasive Cervical cancer is the leading cause of gynaecologic oncology-related deaths in Nigeria.¹
- Treatment of gynaecological cancers is one of the greatest challenges we are facing right now in Nigeria.²
- Luckily, it is the most preventable of all cancers because its infectious aetiological agent, Human Papilloma virus (HPV) is known.¹
- The knowledge of HPV serotype distribution is key to implementation of an appropriate HPV vaccination programme.
- Safe and effective vaccination against HPV now offer the best options for prevention of cervical cancer in all resource settings.



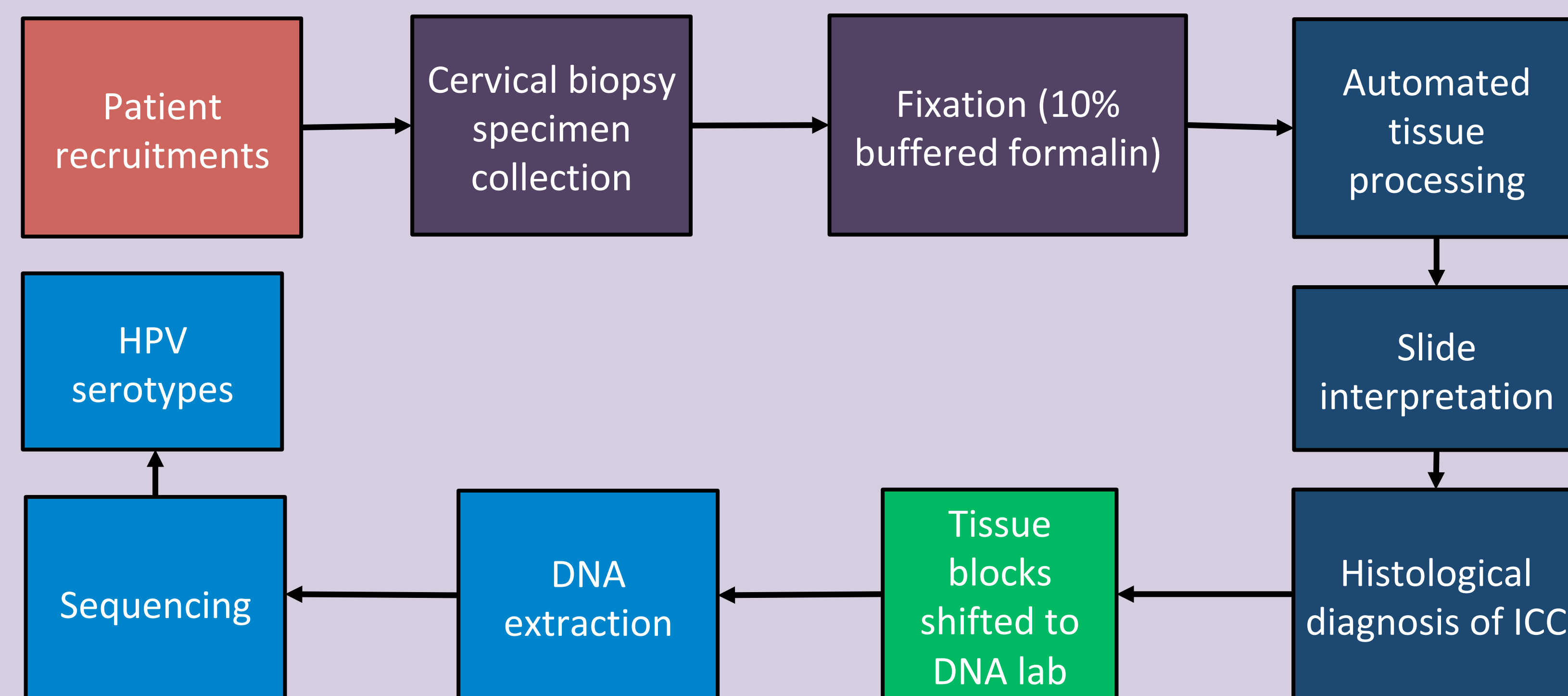
I: Human Papillomavirus (HPV).⁴



II: Cervical cancer logo.⁵

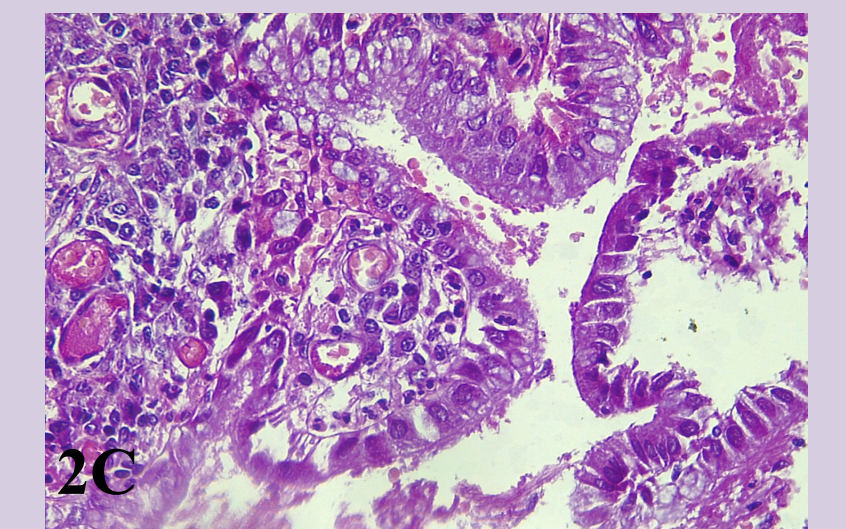
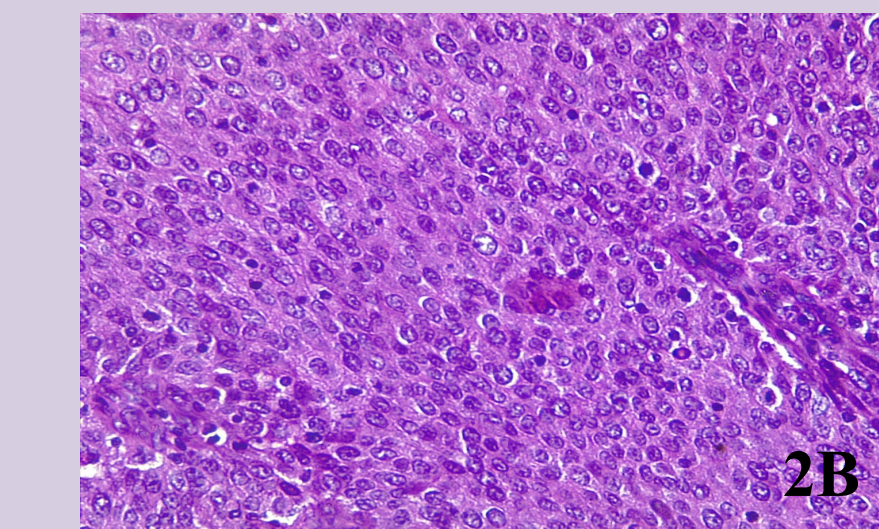
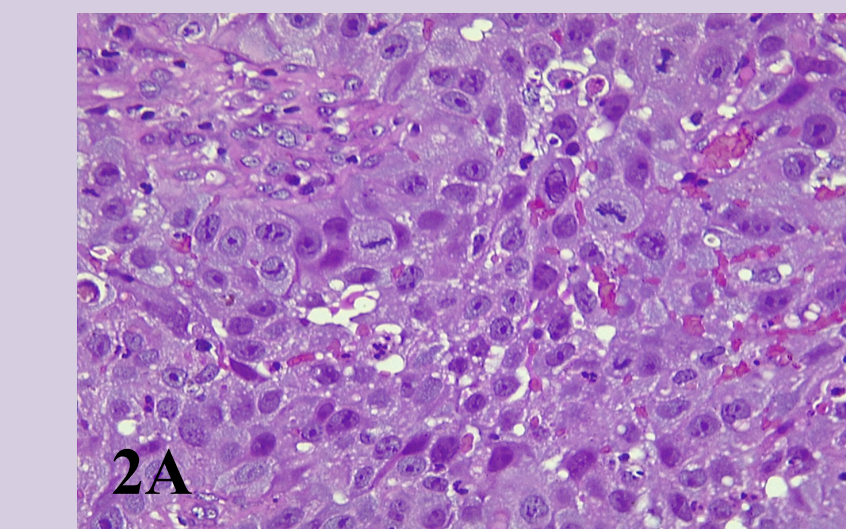
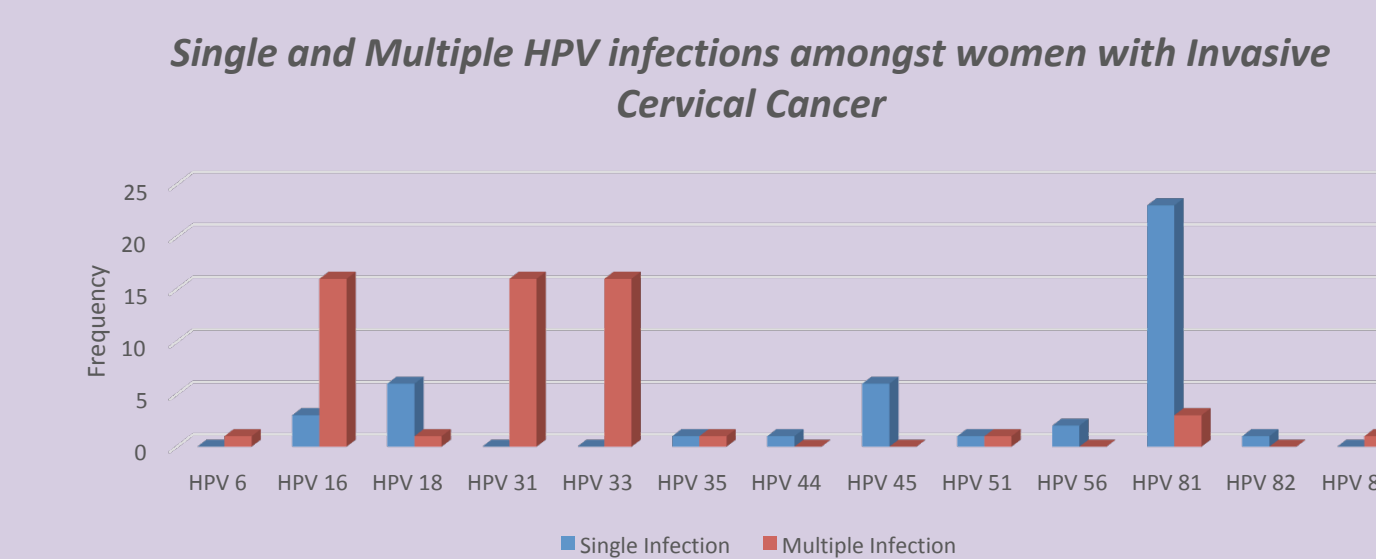
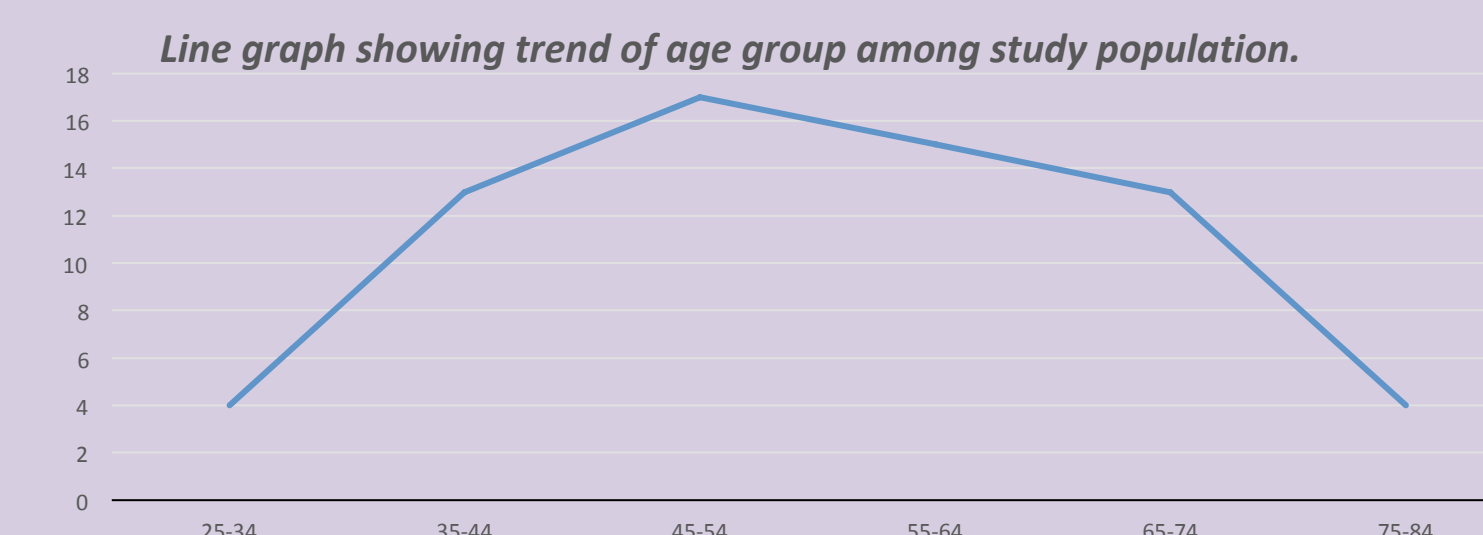
Methods

- This was a cross-sectional, multicenter study.
- A total of 63 women with histologically confirmed cervical cancer after examination with staging and biopsy, who fulfill the criteria were recruited into the study.

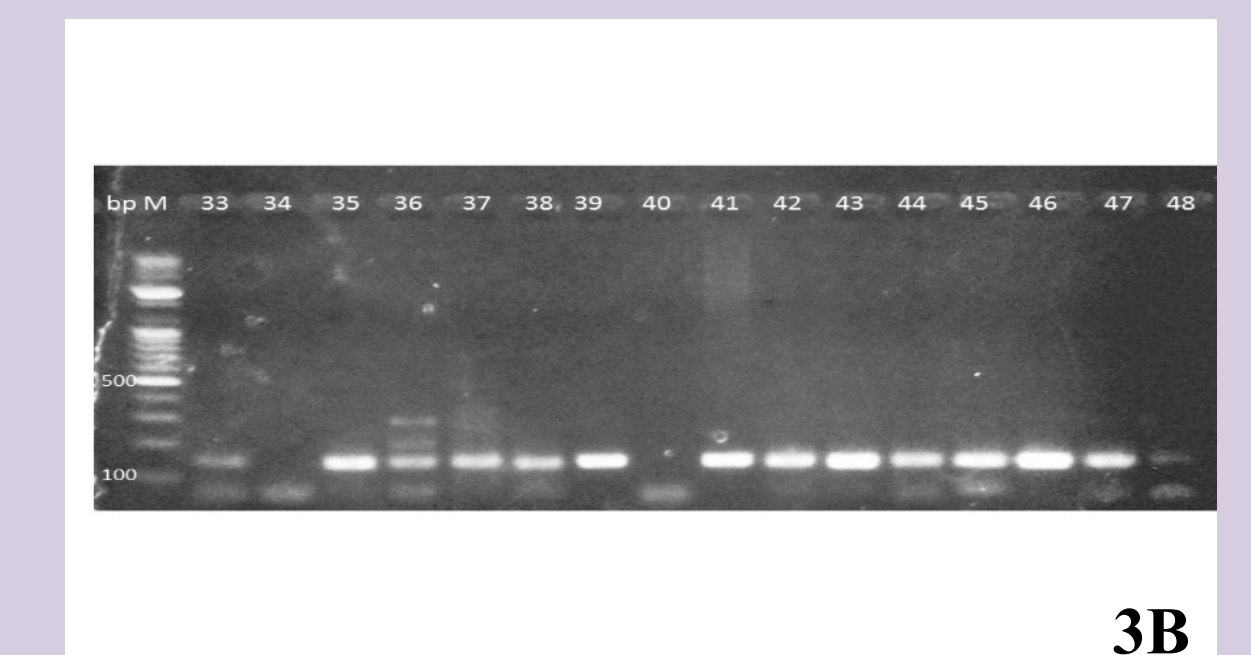
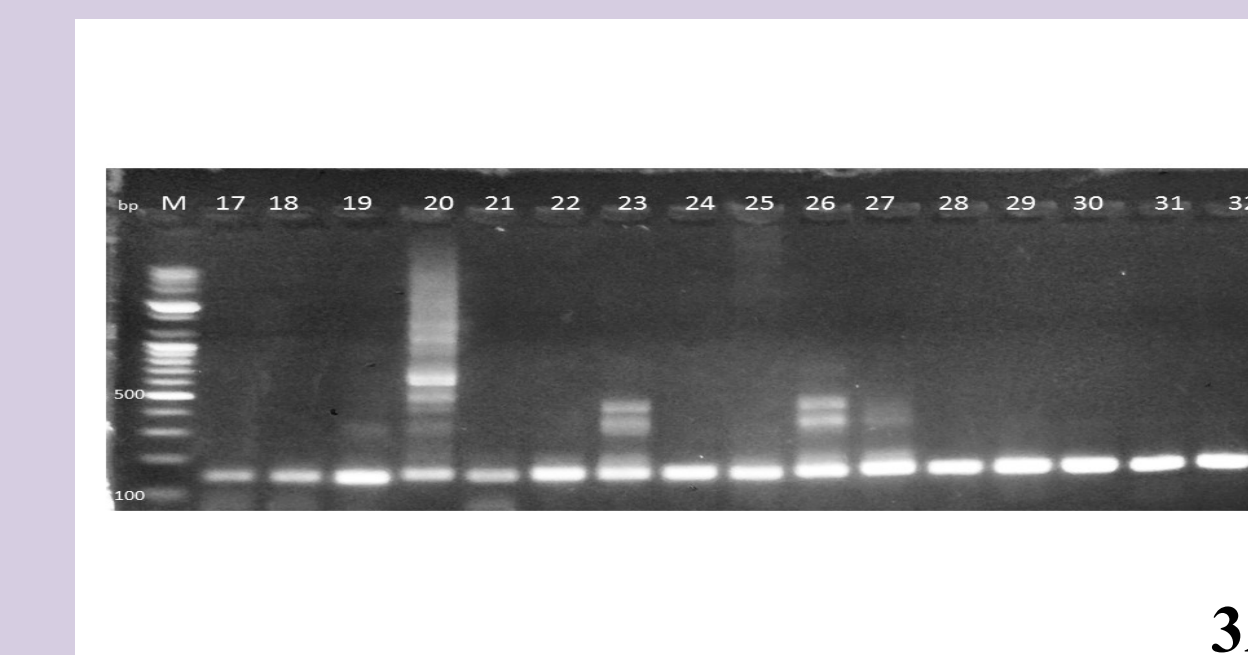


Results

- HPV-positivity rate in Invasive cervical cancer was **95.5%** with thirteen HPV-serotypes detected.
- The most commonly detected HPV serotype amongst women with single HPV infection was **HPV 81** seen in **40.9%**.
- HPV 16** was found in (28.8%) among those with single infection, but the commonest detected amongst women with multiple HPV infection.
- Other detected serotypes were **HPV 31** and **33** (24.2% each), **HPV 18** (10.6%), HPV 35 (3.0%), HPV 45 (9.1%), HPV 44 (1.5%), HPV 51 (3.0%), HPV 56 (3.0%), HPV 82 (1.5%), HPV 89 (1.5%) and HPV 6 (1.5%).
- We found no statistically significant difference in terms of socio-demographic, sexual and reproductive characteristics amongst those women with histologically confirmed ICC that were positive for HPV-DNA and the group that were negative for HPV-DNA.
- But, there was a statistically significant association between **HPV 16** and Squamous cell carcinoma (SCC).



- Figure 2A: Photomicrograph of an adenocarcinoma of the cervix showing atypical endocervical glands exhibiting hyperchromasia and loss of polarity. H & E. Magnification X400 from block 2.
- Figure 2B: Photomicrograph of a large cell non-keratinizing squamous cell carcinoma of the cervix showing moderately pleomorphic polygonal cells and frequent mitoses (arrow). H & E. Magnification X400. From block 51.
- Figure 2C: Photomicrograph of a large cell keratinizing squamous cell carcinoma of the cervix showing atypical squamous cells with individual cell dyskeratosis (arrow) and brisk mitotic activity. H & E. Magnification X400. From block 56.



Figures 3A&B: Some electron micrograph showing HPV-DNA bands from DNA labs.

Conclusion

- The study demonstrates a prevalence of HPV-DNA as 95.5% amongst women with invasive cervical cancer.
- The most commonly detected HPV serotype was HPV 81 which was an uncommon finding.
- Furthermore, a statistically significant association between HPV 16 and SCC was seen. Thus, a polyvalent vaccine incorporating HPV 81 serotype for our sub-region is recommended.

References

- Ogembo RK, Gona PN, Seymour AJ, Park HS, Bain PA, Maranda L, et al. Prevalence of human papillomavirus genotypes among African women with normal cervical cytology and neoplasia: a systematic review and meta-analysis. PLOS one. 2015;10(4): e0122488.
- Anorlu RI. Cervical cancer: the sub-Saharan African perspective. *Reproductive health matters*. 2008;16(32):41-9.
- <https://www.ucsfhealth.org/medical-tests/oral-human-papillomavirus-infection>
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Recommendation/ Future work

- Conducting a bigger multicenter study with a larger sample size across the country to establish the serotypes in the each geopolitical zone
- Study the disease progression of HPV 81 in both pre-invasive and ICC especially in Nigeria.
- The feasibility of developing a polyvalent vaccine incorporating this additional HPV serotype for our sub-region (HPV 81).
- Sensitization programs on cervical cancer screening, role of vaccination as a primary preventive measure