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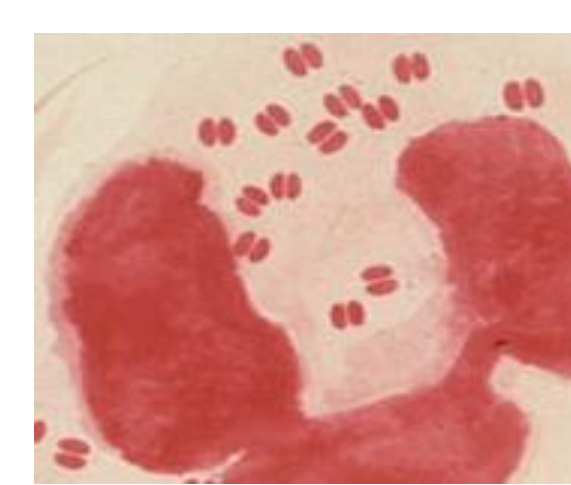
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Introduction

- 106 million of the 498 million yearly new cases of curable STIs are caused by *Neisseria gonorrhoeae*.
- Nucleic acid amplification tests (NAATs) are now preferred over microbial culture for the identification of *N. gonorrhoeae*; because of increased sensitivity, quick turn-around time, and multiple pathogen detection.
- Use of Swabs™ for specimen collection results in enhanced uptake and release of bacteria compared to dry swabs.
- These can be stored at room temperature and transported without loss of viability of *N. gonorrhoeae* up to 24 hours.
- Dry swabs often collect insufficient specimen material making it difficult to perform both phenotypic and genotypic assays from the same sample.

Aim

To evaluate the ESwab™ system versus routine urethral dry swabs in detecting *N. gonorrhoeae*, using molecular assays.



Methods

- Male patients with urethritis attending a busy STI clinic had 3 urethral swabs collected; 2 with ordinary dry swabs and one with ESwab™.
- The one dry swab was smeared onto a glass slide and inoculated onto NYC plate immediately after collection.
- All specimens were then transported to the laboratory within 4 hrs of collection.
- The Xpert® CT/NG assay (Cepheid, USA), was performed on both swab types while Anyplex STI-7 (Seegene) was performed on ESwab™ samples only

Results

Education		Marital Status	
Primary	15.7 %	Single	76.8 %
Secondary	52.0 %	Married	9.91 %
Tertiary	10.7 %	Divorced	0.82 %
undisclosed	21.60 %	Cohabitation	12.47 %

HIV Status		Area	
Pos	19 %	Rural	10.74 %
Neg	46.3 %	Urban	60.33 %
Undisclosed	34.7 %	Informal	12.39 %
		Undiscl	16.54 %

Results

- Urethral swabs were collected from 121 patients over a 3-month period in 2015.
- The Gram stain showed gram negative diplococci resembling *N. gonorrhoeae* in 92(76%) cases and 34(28%) cultures grew *N. gonorrhoeae*.
- Ninety-seven (80%) patients had both dry and ESwab™ samples collected and 40 of each had Xpert® CT/NG.
- The same 40 ESwab™ samples were also tested using Anyplex STI-7.
- Of these 40 ESwab™ samples, *N. gonorrhoeae* was positive in 37 (92.5%) and 34 (85%) using the Xpert® CT/NG and Anyplex assays respectively whereas the dry swabs yielded 28 (70%) Xpert® CT/NG positive results.
- The Xpert® CT/NG assay showed a sensitivity of 92.5% and 70% for ESwab™ and dry urethral swab respectively.

Complaint		Age	
Discharge/Drop	93.38%	19-30	50.40 %
Burning urine	3.32%	31-35	13.22 %
Ulcer	1.65%	36-40	14.87 %
Other	1.65%	41-60	6.60 %
		undiscl	14.91 %

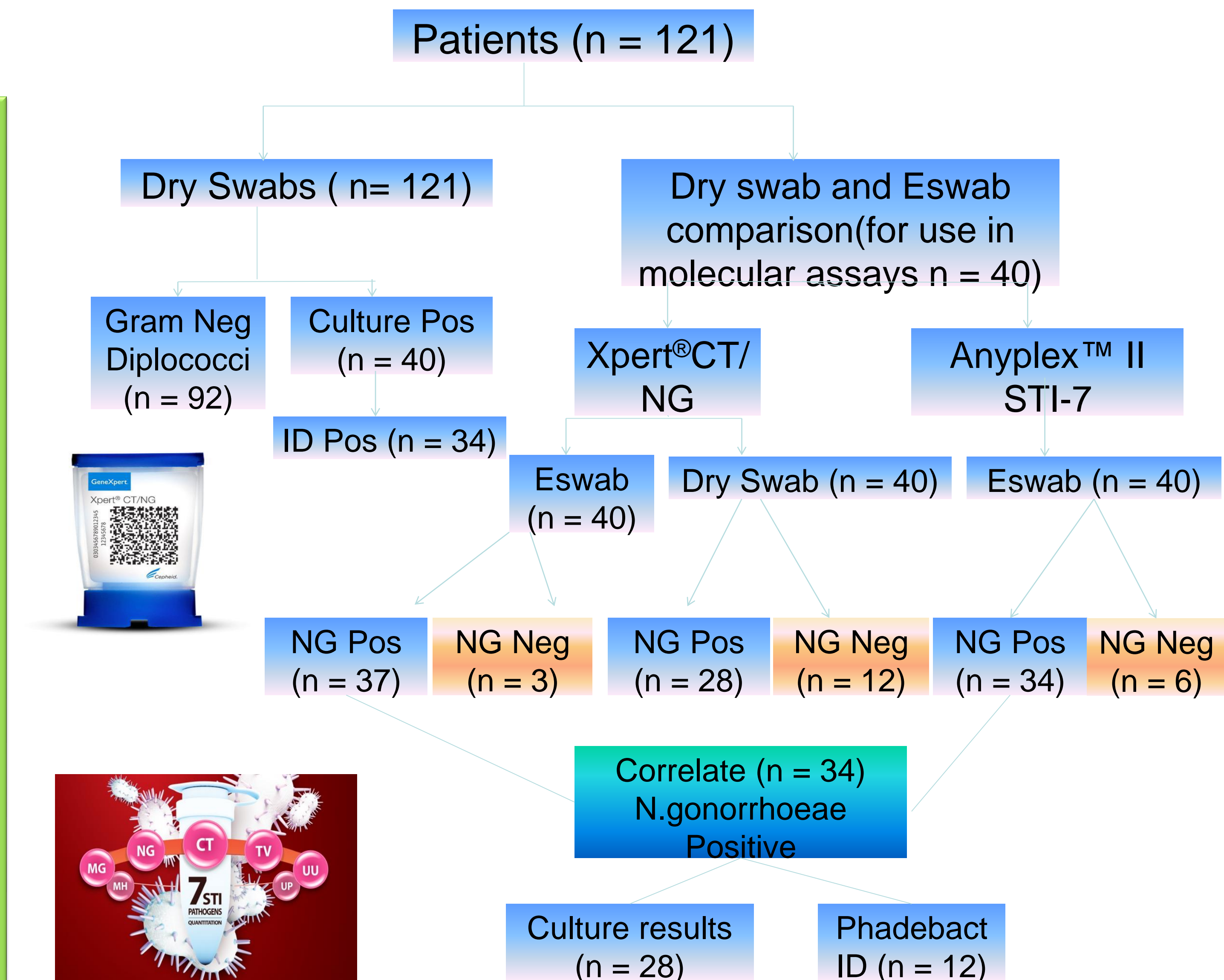


Fig. 1 Snapshot of cohort

Conclusion

- Urethral specimens collected using ESwab™ performed better than the dry swab (92.5% vs 70%) when using the Xpert® assay.
- There was agreement in 85% (34 of 40) between Xpert® and Anyplex STI-7 assays.
- In poorly resourced settings, the ESwab™ has proven to be superior to the dry swab in maintaining viability and in detecting *Neisseria gonorrhoeae* using molecular assays.
- The ability to perform both phenotypic and genotypic assays with ESwab™ is an added advantage. This will aid in better diagnosis and treatment of STIs.