



Position statement from the New Zealand Microbiology Network (NZMN) regarding female genital specimen processing

Routine screening (of asymptomatic women) for sexually transmitted infections (STIs) is often requested concurrently with cervical smears in the absence of other risk factors (age, past STIs, relevant sexual history); this practice is not recommended.

NZMN recommends that STI screening at the time of cervical smear is not routinely performed in the absence of risk factors as determined by taking a sexual history.

New Zealand Microbiology Network

The New Zealand Microbiology Network (NZMN) core membership comprises clinical microbiologists representing laboratories interested in and supporting public health microbiology testing in New Zealand, representatives of the Ministry of Health and Ministry for Primary Industries, and representatives of the Institute of Environmental Science and Research Limited (ESR).

The vision of the NZMN is to build national capability, optimise technical methods and collaborative processes in public health microbiology across New Zealand.

Relevance

This position statement from the New Zealand Microbiology Network (NZMN) contains information for relevant stakeholders including smear takers, GPs, midwives, practice nurses, sexual health services, family planning, and O & G specialists.

Introduction

Testing for sexually transmitted infections (STIs) can be in response to symptoms or in asymptomatic women during screening for other disease processes. This position statement addresses testing for STI at the time of screening only.

Healthcare providers may routinely collect swabs and request STI screening in asymptomatic patients at the time of cervical smear collection, regardless of risk factors or clinical / social history.

Discussion

Asymptomatic STI screening is recommended in the following sexually active women: (1)

- Aged < 25 years
- Two or more sexual partners in the past year
- STI in the past 12 months
- Sexual partner with a STI
- Pre-termination of pregnancy, insertion of intra-uterine device
- Pregnant

Testing for chlamydia and gonorrhoea in asymptomatic women is by nucleic acid amplification test (NAAT); these tests have very good sensitivity and specificity. (2). The predictive value of a test depends on the test's sensitivity and specificity, and most importantly on the prevalence of the disease in the population being tested. In low prevalence populations for STI, such as asymptomatic women with low risk profiles, the positive predictive value of a test may be low. In this case most positive results will be false positive results. Tables 1 and 2 of Appendix 1 demonstrate the impact of prevalence on PPV. False positive results have the potential to cause harm to patients.

Recommendation

That healthcare workers take a sexual history at the time of cervical smear collection, and only request STI screening on asymptomatic women where there are risk factors as outlined above.

References

1. Best Practice Guidelines - NZSHS - The New Zealand Sexual Health Society Inc. [Internet]. [cited 2017 Jul 28]. Available from: <http://www.nzshs.org/guidelines>
2. Field N, Clifton S, Alexander S, Ison CA, Hughes G, Beddows S, et al. Confirmatory assays are essential when using molecular testing for *Neisseria gonorrhoeae* in low-prevalence settings: insights from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3). *Sex Transm Infect.* 2015 Aug;91(5):338–41.

APPENDIX 1.

Tables 1 and 2 – Impact of infection prevalence on the positive predictive value (PPV) of a test

Table 1 PPV with a test specificity of 99%

Prevalence	0.3%	1%	5%	10%
Population number	1000	1000	1000	1000
Number with infection	3	10	50	100
Number without infection	997	990	950	900
True positives (assuming 100% sensitivity)	3	10	50	100
False positives (assuming 99% specificity)	9.97	9.9	9.5	9
Total numbers test positive	12.97	19.9	59.5	109
Positive predictive value (PPV)	23%	50%	84%	92%

Table 2 PPV with a test specificity of 99.9%

Prevalence	0.3%	1%	5%	10%
Population number	1000	1000	1000	1000
Number with infection	3	10	50	100
Number without infection	997	990	950	900
True positives (assuming 100% sensitivity)	3	10	50	100
False positives (assuming 99.9% specificity)	0.997	0.99	0.95	0.9
Total numbers test positive	3.997	10.99	50.95	100.9
Positive predictive value (PPV)	75%	91%	98%	99%

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