Sexually Transmitted Infections and Travel

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Learning objectives

- Sexual health risks taken by travellers
- STI exposures and prevalence of STIs in travellers
- Potential and proven behavioural interventions to reduce the risk in travellers
- Post travel screening for STIs
- Diagnosis and management of STIs in travellers

Data on travel and sex

Travel & sex abroad, Natsal-3 2012, Natsal-2 2000

- More than 12,000 British residents aged 16-74 (Natsal-3, 16-44y Natsal-2)
  - who reported 1 or more partner in previous 5 yrs
  - asked if travelled outside of UK in past 5 years
  - If so: any new sexual partner(s) while outside UK
  - country/region of origin of (all) new sexual partner(s)

Sex abroad Natsal-3

- 9% men, 5% women in last 5 years
  - Associated
    - New non-UK in UK*
    - higher partner numbers
    - Other sexual and risk behaviour
    - No condom with new partner
    - Same sex (men only)
    - Overlapping partners*
    - Paying for sex*, and outside UK*
    - Alcohol and drugs*

New partners on holiday

- UK STI clinic attendees who had been abroad past 3 months
  - 25% had new partner & 2/3 not used condoms
- Medical students
  - 32% had new partner on holiday
- Norway - 41% STI clinic NP in 5 years
- Sweden FPC 28%
Partner change on holiday

- New sexual encounters per week 0.098 before holiday, 0.247 while away.

Systematic review of travel associated casual sex

- Pooled prevalence 21%, 50% being unprotected
- More in young men, single, travelling alone with friends, multiple partners, STIs
- Destination and country of origin affect likelihood of SI
- Travel to Peru less than to Ibiza/Tenerife
- UK residents 27% vs 16% other countries
- Travel sex and unprotected sex
- Abroad longer
- MSM
- Men and women same for unprotected SI 62%
- 33% UK residents consume more alcohol whilst on holiday abroad

Who has sex with who? (Natsal-3)

- Non-UK partners
  - 72% men, 58% women
  - > white other/non-white vs white British
  - Higher numbers of partners
  - New non-UK partners in the UK
  - Paying for sex (men only)

Who has sex with who? #2 (Natsal-3)

<table>
<thead>
<tr>
<th>Geographical region</th>
<th>Men %</th>
<th>Women %</th>
<th>significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>European</td>
<td>40</td>
<td>29</td>
<td>sig</td>
</tr>
<tr>
<td>N America</td>
<td>12</td>
<td>6</td>
<td>sig</td>
</tr>
<tr>
<td>Australia/New Zealand</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>12</td>
<td>4</td>
<td>sig</td>
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<tr>
<td>Sub-Saharan Africa</td>
<td>3</td>
<td></td>
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</tr>
<tr>
<td>S America</td>
<td>4</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Middle East/N Africa</td>
<td>2</td>
<td>6</td>
<td>sig</td>
</tr>
<tr>
<td>Caribbean</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Geographical region concordant with ethnicity

Ibiza data

- SI abroad associated with
  - Illicit drugs
  - More partners prior to travel
- Unprotected SI and >1 partner associated with
  - Smoking
  - More partners prior to travel
- Working abroad increases risks further

Non-consensual sex

- Unstudied anecdotally appears a risk of travel
- 38/124 sexual assault cases audited occurred abroad
- 8/124 were on holiday
- Effects of alcohol
- Rohypnol use
British Consular help after sexual assault and rape 2009-10 % of visitors

Additional data re sexual assault
- Of 6,000 16-35 year olds returning from holiday in Southern Europe
  - 1.5% sex against their will
  - Holiday duration mean 8.8 days

Pre-travel advice that could have been given by travel clinician
- Potential to meet new partners abroad
- Planned or not planned
- Condoms
- Need for STI screen on return if sexually active
- Risk of sexual assault
- Associated with new place, alcohol, drugs

UK university students
- Students who travelled abroad
  - more likely to use alcohol and cannabis and to have casual sex (relative risk 2.7) during holidays
  - more sexual relationships after returning
- New partnerships during holidays associated with
  - being single, foreign travel, alcohol previously large number of partners

Backpackers in Australia
- 18-30 yrs international backpackers in Australia travelling median 4 mths
- 67% had new partner
- 51% had more than 1 new partner
- 87% fellow traveller
- 29% with local Australian
- 40% always condoms with new partner

Backpackers in Thailand (#1)
- English-speaking excluding US or Thai citizens, travel without long-term sex partner
- New partner 52% males, 29% female, total 39%
- Partners
  - BP home country 40% (m 38, f 44)
  - BP foreign country 86% (m 86, f 86)
  - Local 31% (m45, f 13, p<0.001)
Backpackers Thailand (#2)

- 36% inconsistent condom associated with
  - <25yo
  - Not taking condoms from home
  - Country of origin

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Backpackers Thailand (#3)

<table>
<thead>
<tr>
<th>Country</th>
<th>New partner %</th>
<th>Inconsistent/no condom %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>53</td>
<td>Sweden</td>
</tr>
<tr>
<td>Netherlands</td>
<td>47</td>
<td>UK</td>
</tr>
<tr>
<td>Australia</td>
<td>46</td>
<td>France</td>
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<tr>
<td>Sweden</td>
<td>44</td>
<td>Rest of world</td>
</tr>
<tr>
<td>UK</td>
<td>43</td>
<td>Germany</td>
</tr>
<tr>
<td>Rest of world</td>
<td>39</td>
<td>Netherlands</td>
</tr>
<tr>
<td>France</td>
<td>32</td>
<td>Australia</td>
</tr>
<tr>
<td>Germany</td>
<td>27</td>
<td>Canada (21 *)</td>
</tr>
</tbody>
</table>

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STI prevalence
female and male
15–49yo

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Backpacker couple

- What advice could you have given?
- Drug and alcohol use
- PEPSE
- Take condoms with them
- Hepatitis B vacc for sexual risks
- HPV vaccination for male/female
- STI screen

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Investigations for STIs

- CT/GC DNA NAAT + 2 weeks after LSI
  - Men – urine
  - Women - self-taken vulvovaginal swab
  - MSM - rectal and pharyngeal – also for others if risk
- Serology baseline plus
  - Syphilis 4–6 weeks post LSI
  - HIV 4–6 weeks using 4th generation test but need final test at 12 weeks if high risk
  - Hepatitis B (and C for some) at 12 weeks
- Ulcers/discharge/pain
  - Refer for specialist assessment
  - HSV positivity doesn’t exclude co-infection
  - Requires STIs and repeat

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History for patient with Shigella

- Other symptoms
- Sexual history
  - And if partners male/female/trans
- Travel history
  - for several months
  - from all sexual partners

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What to look out for

- Any genital symptoms
- Rectal symptoms
  - Bleeding, pain, tenesmus, discharge, constipation, diarrhoea
- Single painless or painful ulcer
- Inguinal nodes, general lymphadenopathy
- Rashes
  - May be unusual
  - Palms and soles of feet
- Oral lesions
- Watery lesions
- Glandular-fever like illness

Gonorrhoea, Chlamydia, TV

- Vaginal or penile discharge
- Dysuria
- Lower abdo pain
- Epidymo-orchitis
- Arthritis, rash
- Peri-hepatitis

Management MSM with Shigella/rectal symptoms

- HIV, syphilis and HCV testing with verbal consent
- Proctoscopy; / Rectal swab for GC/CT/Lymphogranuloma venereum
- Hepatitis B vaccination
  - Recent exposure in high risk situation
  - Useful up to 6 wks after exposure and future protection
- PEP
  - LSIV within 72 hrs
  - Prevention advice for next holiday
- Hepatitis A

PEP 1

- Consider for all if present upto 72 hrs
- Consider
  - Type of sexual activity
  - HIV status of contact
  - Contact characteristics
    - sexual orientation, IVDU, country of origin, viral load of contact
  - Country where SI occurred
  - Sexual assault/trauma
  - Discuss with local STI/ID specialist
  - http://www.bhiva.org/PEPSE.aspx

PEP 2

- Triple drug therapy, close follow-up, repeat HIV testing at 3m post treatment end (and can do at 4-6wks)
- Treatment has risks
- Need baseline HIV test, but don’t wait for results
- Consider wishes of patient
- Truvada (tenofovir/ emtricitabine) plus raltegravir

Truvada (tenofovir / emtricitabine)
- Safe and effective in preventing HIV acquisition
- Daily or event-driven
- Event driven only suitable for anal sex and HBV negative
  - On demand PEP is as effective as daily PEP when taken correctly
  - Two tablets 2-24hrs before sex
  - One tablet every 24hrs after the first dose
  - Continue for at least 2 doses after the last risk
Gonorrhoea and resistance
- 21% global increase in GC 2005-2008
- 106 million adults
- Multi-drug resistance emerging even to extended spectrum cephalosporins
- Extensively drug resistant (XDR) emerged in Japan in CSW and in Europe in MSM
- Essential to get culture before treat
- Real threat of untreatable GC

Sex tourism
- German study
  - 30-40 years range 20-76
  - Single, well paid job
  - 30-40% used condoms
  - Thais not prostitutes but “intimate friends”
  - Other destinations Philippines, Kenya, Brazil
  - 50% also German contacts
  - onward transmission
  - Latin America increasingly popular with Americans
  - 215,000 men vs 142,000 women leisure trips to Thailand - ?cause

Paying for Sex (1)
- Expats
  - Dutch having casual sex abroad 59% more pay vs those staying at home
- Military personnel
  - Overseas deployment associated with casual sex with locals and paying
  - CSW associated with younger age and single/divorced
  - Lack of condoms with older age
- Backpackers
  - 4% had paid for SI (8 SE Asia, 1 Brazil, 1 Africa) and of these 75% had consistent condom use

Paying for Sex (2)
- Businessmen
  - Japanese users of CSW
    - sense of freedom/anonymity, loneliness, peer influence, low cost

Percentage of sex workers with active syphilis (map updated 2008)
- 25% of sex workers are infected with syphilis in 18 of 31 reporting countries for 2017
Self perception
- Qualitative study HIV positive men in Western Australia
- "Travelers" or "foreigners living abroad"; not "tourists"
- Get advice from each other through social networks

Culture, health & sexuality

New info
- Differentiate primary vs secondary
- Use of apps in MSM – 27% had engaged in sex tourism
- MSM from middle/lower income countries travel to high income
  – increased HIV risk

New info re female sex tourism
- Travel to eg Carribean and Indonesia
- Women sex tourists in Jamaica and effect on the men and
  their community
- Debate on are they different to male sex tourists

Child sex tourism
- USA accounts for CS Tourists
  - 25% worldwide
  - 60% Latin America
- re child abuse home and away
  - German study, anonymous online
  - >6,000 men who desire or do have sex with children
  - 0.2% of these report CST
- Practice of "marrying" and "divorcing" identified in Egypt

Pre travel advice if maybe sex tourist
- Anything else you would discuss?
- Is he travelling for the purpose of Sex?
- Advice re hepatitis B, HIV, condoms
- Legal issues – prosecution in home country if child sex tourist

Onward transmission from male partner
- STIs that present risk to both mother and baby
  and cause fever:
  - Syphilis
  - HIV
  - Zika
  - Ebola
HIV

- 2-6 weeks after exposure
- Glandular fever / flu symptoms
- Fever, sore throat, rash, lymphadenopathy
- Muscle and joint pain
- Mouth ulcers/candida
- Pneumonia
- Viral meningitis/other neurological symptoms
- Any age

Presentations of syphilis

- The great imitator
- Single painless genital ulcer 9 - 90 days
  - Maybe multiple and painful esp if co-infected
- Secondary 6 - 12 weeks
  - Generalised rash
  - Palms and soles of feet
  - Wart-like lesions of genital
  - Skin/teeth ulcers of mouth
  - Hair loss
  - Flu, lymph nodes enlarged
  - Bone pain, joint pain
  - Liver & kidney problems
  - Viral meningitis, iritis

Presentations of other STIs

- Herpes
  - Blisters, ulcer(s) usually painful, dysuria, systemic illness
- Tropical STIs (chancroid / donovanosis)
  - Pustule
  - Painful or painless ulcer(s)
  - Lymphadenopathy
- LGV in MSM
- Proctocolitis

NEW KIDS ON THE BLOCK

- Shigella
  - 2 outbreaks New York, London
  - Associated with MSM
  - Often resistant to antibiotics
- Hepatitis C in MSM if HIV positive
- Mycoplasma genitalium
- Ebola virus
- Zika virus

Disease risk

- LGV, Chancroid, granuloma inguinale
- Syphilis, hepatitis B
- HTLV-1 Caribbean and Japan
- GC - resistant
- HIV 2001-2005
  - 63% UK born hetero men acquired HIV via SI abroad
  - 23% of women
  - 43% Africa,29% from Thailand

Ebola as an STI

- RNA detected after symptom onset
  - Serum - up to 406 days (13mths)
  - Vaginal swabs- 33 days
  - Rectal - 29 days
  - Saliva - mostly when acutely ill
- Durations may not represent the longest that Ebola virus can persist
Ebola advice

- 2016 sexual transmission confirmed
- Abstinence from sex (including oral sex) or condom use is recommended until semen negative on 2 occasions
- If an Ebola survivor's semen has not been tested, he should continue to practice safer sex for at least 12 months after the onset of symptoms

Zika as an STI

A person with Zika can transmit the virus to his or her partner(s) through vaginal sex, anal sex, and likely oral sex. The sharing of sex toys may also put someone at risk. Zika has been detected in semen, vaginal fluids, saliva, urine, and breast milk.

Zika advice - pregnancy

- If pregnant woman or her partner travel to or live in endemic area
  - Abstain from sex or condoms for duration of pregnancy (US CDC)
  - Pregnant women advised to avoid travel to areas

Zika sexual transmission

- Is symptomatic Zika or travel to high risk area, advise:
  - Women
    - Use condoms or avoid sex for 8 weeks from symptom onset or return date
  - Men
    - Use condoms or avoid sex for 3 months from symptom onset or return date

Zika and conception

- Consequences of infection at time of conception unknown and needs to be weighed against difficulty in conceiving and consequences of delay

Risks of STIs and military

New data shows
- USA military
  - Most STIs in shipboard community from local not foreign ports
  - For SI with non-primary partner 30% service member, condom use 24%
  - Change to 1993? Because women now deployed
  - Condom use greater during deployment
French military
- CT rates in women 10% vs 4% men
- 18-24 women 12.7% vs 3.6% population
- No screening for women vs targeted prevention advice to men pre-deployment, condoms
- 76% have male military partners

Pregnant woman with fever – STI history
- Other symptoms
- Sexual history and travel history
  - From her and her partner(s)
  - For several months
- Risks to baby
- Syphilitic babies increasingly common
  - From non-abroad travel

Summary

Advice to travellers
- STI/HIV prevalence
- Safer sex - take condoms with them
- Dangers of Rohypnol/alcohol
- Hep B vacc –
  - Travelers to high/intermediate prevalence areas who may place themselves at risk including sexual activity
- Sex tourists
- Zika
  - Women and men who are planning to conceive in the near future should consider avoiding nonessential travel to areas with active Zika virus transmission;
- PEP ± PrEP info
- STI screen on return

Management of travel-related STIs
- Phone for advice
- Refer to a specialist service
- Difficult to diagnose even in specialist sexual health or infectious diseases services
- Remember partners
  - When travelling
  - On return

Additional Key Points
- Travellers becoming more knowledgeable but little effect on behaviour
- Screening, prevention and initial management including knowledge of PEP is essential for those working in travel medicine
- New STIs continue to appear
  - Ebola
  - Zika virus
  - Enteric infections
- Education of travellers/GPs/travel clinics/tourism industry
Review of STIs and Travel

Rogstad K.
Sexually transmitted infections and travel.
Cur. Opin Infect Dis 2019 32:56-62

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