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The behaviour and sexual health of young international travellers (backpackers) in Australia

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ABSTRACT

Objectives To study the demographics, risk behaviours and morbidity of young long-term international travellers (backpackers) attending a sexual health service in Sydney, Australia.

Methods Data on new patients were extracted from the Sydney Sexual Health Centre database for the period 1998 to 2006. The sexual risk behaviours and morbidity of the backpackers were compared with other patients of a similar age.

Results The 5698 backpackers who attended the centre reported higher numbers of sexual partners (three or more partners in the past 3 months, 18% vs 12%, p<0.001) and a greater proportion drank alcohol at hazardous levels (22%) than the comparison group (9%, p<0.001). Rates of consistent (100%) condom use in the past 3 months were low in both backpackers (22%) and the comparison population (19%). Backpackers had higher rates of genital chlamydia infection (7% vs 5%, p<0.001) and reported higher rates of previous sexually transmitted infections (15% vs 10%, p<0.001). **Conclusions** Backpackers should be a priority population for sexual health promotion and access to services.

The significance of international travel for the global diffusion of sexually transmitted infections (STI), including HIV, is widely recognised.^{1–5} The likelihood of sexual contact with a new sexual partner while travelling in another country varies from 5% to 50% depending on the population surveyed.^{4 6} Long-term travellers are more likely than short-term travellers to have a new sexual partner while travelling.^{6–8} New sexual partners may include both other travellers and local residents.^{5 9} Studies of international travellers who have sex with a new sexual partner while travelling indicate that condom use is inconsistent, with rates of 'always used' ranging between 24% and 75%.^{7–9}

In 2006, 545 000 backpackers visited Australia, accounting for 10% of overseas visitors; their average stay was 72 nights, with Sydney the most popular city to visit, hosting 407 000.¹⁰ Australia's popularity among backpackers is partly due to the employment opportunities that the working holiday maker (WHM) programme visa offers; this visa permits young people (18-30 years) from 24 other countries to stay for a period of up to 12 months and to supplement their funds through incidental employment.¹¹ Backpackers patronise sexual health clinics in Australia as publicly funded sexual health services are free to all clients. whereas non-residents are required to pay for testing and treatment if they attend a private practitioner. We sought to describe the demographics, risk behaviours and morbidity in this population attending a sexual health clinic.

METHODS

Sydney Sexual Health Centre (SSHC) is situated in the central business district of Sydney and is the main service for the beach suburbs and inner city areas where backpackers tend to congregate.¹² The centre actively triages symptomatic patients and those at high risk of STI and HIV into the service. SSHC collects proforma data on patient demographics, sexual and drug use behaviours, tests performed and diagnoses, which are entered into the clinic database.

For the period January 1998 to December 2006, data were extracted on all new patients who were aged between 18 and 30 years, and those we defined as 'backpackers' were compared with all other patients who met the inclusion criteria. As there is no agreed definition of backpackers, for the purposes of our study backpackers were defined as having been born outside of Australia in one of the 24 countries involved in the WHM programme. In addition, backpackers were required to have lived outside of Australia for most of the past 5 years and to have been in Australia for less than 2 years; or to self-identify as a 'traveller' when recording their occupation. An internationally recognised social phenomenon, backpackers exhibit a preference for budget accommodation, seek association with other travellers and locals, have an independently organised and flexible travel schedule, and favour informal and participatory recreational activities.⁹

Comparison patients had to have been born in Australia or to have arrived more than 2 years previously, implying that they were not on WHM visas. Commercial sex workers, students and homosexually active men were excluded from each group because of inherently different sexual and social dynamics; many migrant sex workers in Sydney are on student visas and homosexual men visiting Australia associate more with the local (gay) community than other travellers.

Statistical analysis was performed using StataA release 10.0. Student's t tests and Fisher's exact tests were used to analyse the continuous and categorical variables, respectively.

Ethical approval for the study was obtained from the South Eastern Sydney and Illawarra Area Health Service Human Research Ethics Committee.

RESULTS

During the 1998–2006 study period 5702 backpackers and 7256 comparison patients first attended SSHC. The most common source country for backpackers was the UK. The median age of the

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backpackers was 25 years for both men and women and for the comparison patients it was 25 years for women and 26 years for men. Backpackers were more likely to be women, 52% compared with 46.5% of the comparison population (p<0.001), and were less likely to have ever married (table 1).

Backpackers were more likely to be current tobacco smokers and were twice as likely to report drinking alcohol at hazardous levels. Hazardous drinking was at that time defined by the Australian National Health and Medical Research Council¹³ as more than 280 g per week for men and more than 140 g for women. Of the female backpackers, 27% reported drinking at this level compared with 14% of comparison women (p<0.001), whereas 17% of male backpackers drank more than 280 g per week compared with 5% of comparison men (p<0.001). Backpackers rarely reported a history of injecting drugs (table 1) or having a sexual partner who injected (data not shown).

Backpackers reported higher rates of partner change, with 39% (49% of men and 30% of women) reporting two or more sexual partners in the past 3 months compared with 30% (36% of men and 22% of women) of comparison patients (p<0.001) (table 1). Low rates of consistent condom use in the past 3 months were reported both by backpackers and comparison patients, with two-thirds of each reporting any unprotected vaginal or anal sex. Overall, 10% of backpackers (16% of men and 3% of women) reported sex in Thailand in the preceding 12 months, significantly more than the 3% of comparison patients (4% of men and 1% of women; p<0.001). It was not

possible to determine if these sexual partners were Thai nationals or fellow travellers.

Backpackers and comparison patients were equally likely to have attended because of anogenital symptoms and they presented for broadly comparable reasons. More backpackers (15%) gave a history of bacterial STI, particularly chlamydia, than comparison patients (10%; p<0.001), but had similar histories of genital warts and herpes. At initial assessment 7% of backpackers (8% of men and 5% of women) and 5% of comparison patients (7% of men and 3% of women) were diagnosed with chlamydia (p<0.001), whereas genital warts and herpes were significantly less common in the backpackers (table 2). There were no diagnoses of HIV infection in the backpacker group.

DISCUSSION

Backpackers who attended SSHC had higher rates of genital chlamydial infection than comparison patients and reported higher rates of previous chlamydial infection. Backpackers also had higher rates of partner change and a higher proportion drank alcohol at hazardous levels. Rates of consistent condom use were low for both groups.

Although a number of studies have looked at sexual risk behaviour among backpackers, this is the first study to report a higher prevalence of chlamydia among backpackers. However, it is not possible to determine whether backpackers acquire their infection before departure or from sexual contacts while travelling. Young age, lack of condom usage and partner change are

Table I Demographic and sexual risk behaviour characteristics of backpackers and a comparison group attend	ding SSH(HC
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	Men			Women		
	N=6645			N=6313		
	Backpackers N = 2765	Comparison N = 3880	p Value	Backpackers N = 2937	Comparison N = 3376	p Value
Age in years, median (IQR)	25 (23–27)	26 (24-29)	<0.001	25 (23-27)	25 (23-28)	<0.001
Age in years, mean (SD)	25.3 (3)	26 (3)	<0.001	24.7 (3)	25.0 (3)	< 0.001
Country of birth, n (%)						
Australia	_	2388 (62)	_	_	2061 (61)	_
England	1310 (47)	206 (5)	<0.001	1313 (45)	147 (4)	< 0.001
Ireland	593 (21)	45 (1)	<0.001	504 (17)	32 (1)	
New Zealand	293 (11)	166 (4)	<0.001	255 (9)	101 (3)	< 0.001
Canada	87 (3)	17 (0.44)	<0.001	151 (5)	10 (0.30)	< 0.001
Other	479 (17)	1058 (27)	<0.001	717 (24)	1021 (30)	< 0.001
Marital status, n (%)			<0.001			< 0.001
Never married	2610 (95)	3305 (85)		2706 (92)	2726 (81)	
Married/cohabiting	105 (4)	361 (9)		157 (5)	402 (12)	
Other unknown	44 (2)	211 (5)		40 (1)	136 (4)	
English spoken at home, n (%)	2471 (90)	3480 (90)	0.887	2500 (85)	2940 (87)	0.0154
Cigarette smoking, n (%)	1066 (39)	1311 (34)	< 0.001	1220 (42)	1221 (36)	< 0.001
Excess alcohol, n (%)	472 (17)	209 (5)	< 0.001	794 (27)	467 (14)	< 0.001
Condom use in past 3 months, n (%)			<0.001			< 0.001
No sex	249 (9)	402 (10)		262 (9)	349 (10)	
Always	614 (22)	816 (21)		662 (23)	604 (18)	
No condom	644 (23)	1152 (30)		797 (27)	1154 (34)	
Sometimes (<50%)	517 (19)	655 (17)		488 (17)	553 (16)	
Usually (>50%)	677 (25)	688 (18)		654 (22)	571 (17)	
Unknown	57 (2)	163 (4)		77 (3)	141 (4)	
No of opposite sex partners in past 3 months, n (%)			<0.001			<0.001
None	271 (10)	510 (13)		303 (10)	428 (13)	
One	1137 (41)	1972 (51)		1743 (59)	2191 (65)	
Two	640 (23)	790 (20)		588 (20)	501 (15)	
Three or more	710 (26)	605 (16)		306 (10)	253 (7)	
Injecting drug use ever, n (%)	32 (1)	235 (6)	<0.001	20 (0.7)	130 (4)	< 0.001

IQR, interquartile range; SSHC, Sydney Sexual Health Centre.

Table 2 Reason for presentation and STI diagnoses

	Men			Women		
	Backpackers N = 2765	Comparison N = 3880	p Value	Backpackers N = 2940	Comparison N = 3376	p Value
Reason for presentation						
HIV testing	323 (12)	391 (10)	0.037	252 (9)	271 (8)	0.433
Genital or anal symptoms	1362 (49)	1991 (51)	0.104	1225 (42)	1407 (42)	0.997
Emergency contraception	_	_		31 (1)	16 (0.5)	0.0074
STI test	930 (33)	1195 (31)	0.031	1011 (34)	1081 (32)	0.046
STI contact	114 (4)	193 (5)	0.105	161 (6)	177 (5)	0.680
Genital warts/genital herpes management	90 (3)	127 (3)	0.971	78 (3)	104 (3)	0.312
Other symptoms	44 (1)	79 (2)	0.186	52 (2)	69 (2)	0.427
Past diagnosis, n (%)						
Chlamydia	419 (15)	381 (10)	< 0.001	368 (13)	293 (9)	< 0.001
Gonorrhoea	49 (2)	63 (2)	< 0.001	17 (0.58)	23 (0.68)	0.607
Syphilis	_	5 (0.13)	_	1 (0.03)	5 (0.15)	0.142
Genital warts/genital herpes management	441 (16)	534 (14)	0.0124	526 (18)	651 (19)	0.156
Trichonomoniasis	_	1 (0.03)	_	12 (0.41)	9 (0.27)	0.330
Current diagnosis, n (%)						
Chlamydia	228 (8)	255 (7)	< 0.001	147 (5)	101 (3)	<0.001
Gonorrhoea	32 (1)	54 (1)	0.407	9 (0.31)	14 (0.41)	0.475
Syphilis	1 (0.04)	3 (0.08)	0.501	_	2 (0.06)	_
Genital warts	292 (11)	512 (13)	0.0012	256 (9)	348 (10)	0.0310
Genital herpes	74 (3)	139 (4)	0.04	120 (4)	161 (5)	0.186
Trichonomoniasis	_	_	_	4 (0.14)	6 (0.18)	0.678
HIV	_	3 (0.08)	_	_	2 (0.06)	_

STI, sexually transmitted infection.

all independently associated with genital chlamydial infection. Our finding is in contrast to that of Hawkes *et al*,¹ who in a 1993 UK study, reported genital chlamydial infection in 1.6% of travellers compared with a rate of 3.4% in non-travellers. The low prevalence in the study by Hawkes *et al*¹ may be explained by changes in testing practices for chlamydia over time.

As we found, higher rates of reported previous genital chlamydial infection in travellers have been reported by others. In a 1990 Swedish study of women attending family planning clinics who reported casual travel sex, those who were termed 'vagabond' travellers were more than three times more likely than non-travellers to report a history of genital chlamydial infection.¹⁴

We found that backpackers had a higher number of sexual partners in the past 3 months than non-backpackers. We were unable to determine if these sexual partners were other travellers or local residents. In a 1996 population-based study in the UK of those aged 18–34 years who had travelled abroad without a partner in the past 2 years, predictors of a new sexual relationship abroad included being male, single, long-term travel and reports of being drunk while on the trip.⁸ Hughes *et al*⁶ found that 69% of single British backpackers had had sex since arriving in Australia and almost half of these had had more than one sexual partner. Egan¹⁵ reported that of 559 backpackers surveyed in Australia, 48% reported sex with a local resident.

International travellers are a potential risk population for either acquiring or transmitting STI to other travellers or local residents. Although we could not determine the extent of the risk of transmission to local residents from our study, it has been demonstrated that being born overseas or having a partner from overseas was a risk factor for chlamydia infection in Sydney women.¹⁶

We found low rates of condom use in both the backpacker and comparison population. In the 1996 study of Bloor *et al*,⁸ 75% of those who had a new sexual partner abroad reported that condoms were used on all occasions. Other UK studies of travellers attending genitourinary medicine clinics report higher

rates of consistent condom use than we found. In a 1997 study in Glasgow, 50% of women and 59% of men who reported sex abroad were inconsistent condom users,¹⁷ and in a 1993 Birmingham study 42% were consistent condoms users.¹⁸ None of those studies distinguished short-term from longer-term travellers, which may explain the higher rates of consistent condom use that we found in our study. A community-based sample of British backpackers in Australia⁶ recruited from hostel accommodation found that 40.9% reported inconsistent condom use, which is lower than in our clinic-based study.

Many backpackers in Australia congregate in hostels and entertainment venues that are specifically targeted at them. In these situations short-term relationships are more likely to develop and condom use may become inconsistent. It may also be that the travellers' destination country and who they are having sex with also influences decisions about condom use.

As with other studies of travellers, excess alcohol consumption was more common in the traveller group,¹⁴ and was independently associated with the risk of an STI diagnosis. Bellis *et al*,¹⁹ in a 2007 cross-sectional study of UK backpackers in Australia, found that the proportion of participants drinking alcohol five or more times per week increased from 20.7% when resident in the UK, to 40.3% during their travels in Australia. In contrast, a study of young people who had holidayed in Ibiza²⁰ found that smoking but not alcohol consumption was independently associated with sexual risk behaviour in this group.

Our study is limited by its retrospective nature and the indirect measure of backpacker status. It is possible that some temporary residents who are employed on business visas were misclassified as backpackers.

Our study suggests that backpackers in Australia should be a priority population for sexual health promotion and access to sexual health services. They are a potential bridging population for the transmission of STI to Australians as well as to other travellers and internationally.

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Key messages

- International backpackers attending the clinic had higher rates of genital chlamydial infection than a local comparison population.
- International backpackers have high rates of partner change, hazardous levels of alcohol consumption and low rates of condom usage, creating an environment conducive to STI transmission.
- Backpackers should be a priority population for sexual health promotion and access to services.

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Competing interests None.

Ethics approval This study was conducted with the approval of the South Eastern Sydney Illawarra Area Health Service Ethics Committee.

Contributors CE developed the study idea and assisted with study design; HW analysed the data; AMM designed the study and wrote the manuscript; BD designed the study and edited the manuscript. All authors reviewed the study manuscript.

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Hettiarachchi N, Ashbee HR, Wilson JD. Prevalence and management of non-albicans vaginal candidiasis. *Sex Transm Infect* 2010;**86**:99–100. The surname of the first author was misspelled. The correct name is Hettiarachchi not Hetticarachchi. The journal apologises for this error.

Sex Transm Infect 2010;86:250. doi:10.1136/sti.2009.040386corr1

Jurstrand M, Christerson L, Klint M, *et al*. Characterisation of *Chlamydia trachomatis* by *ompA* sequencing and multilocus sequence typing in a Swedish county before and after identification of the new variant. *Sex Transm Infect* 2010;**86**:56–60. There was an error in the order of the references. The corrected version is available online.

Sex Transm Infect 2010;86:250. doi:10.1136/sti.2009.037572corr1

Bertozzi SM, Padian N, Martz TE. Evaluation of HIV prevention programmes: the case of Avahan. *Sex Transm Infect* 2010;**86**:i4–5. There were several errors in this editorial. Reference 9 referred to an unpublished paper by Vickerman, not to the paper by Pickles, which was published in the same supplement.

Secondly, the statement "Finally Ramesh *et al* came closest to examining the impact of Avahan on FSW using dynamic transmission models. They used prevalence from two cross-sectional surveys...." is incorrect. Ramesh does not use a dynamic transmission model—this is referring to one of the two modelling papers. Ramesh uses a time-trend analysis from two cross sectional surveys.

Finally, the name Alary is misspelled Alery twice in the editorial.

The journal apologies for these errors.

Sex Transm Infect 2010;86:250. doi:10.1136/sti.2009.039263corr1

Laga M, Galavotti C, Sundaramon S, *et al*. The importance of sex-worker interventions: the case of Avahan in India. *Sex Transm Infect* 2010;**86**:i6–7. The surname of the author Sundar Sundaramon was incorrectly spelt. The correct spelling is Sundaraman.

Sex Transm Infect 2010;86:250. doi:10.1136/sti.2009.039255corr1



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