Short paper

The health of female sex workers from three industry sectors in Queensland, Australia.

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Abstract

Previous studies have reported poor mental health amongst sex workers without distinguishing the context in which commercial sex is provided. This study describes the self-reported mental and physical health of female sex workers in three industry sectors in Queensland, Australia. In 2003, cross-sectional convenience sampling was used to collect data from 247 female sex workers working in licensed brothels (n=102), as private sole operators (n=103) and illegally (n=42). The average age was 32 years (range 18 to 57), with most participants being born either in Australia or New Zealand. Overall, there were few differences in the physical health of women from different industry sectors. Illegal (and predominantly street-based) sex workers were four times more likely to report poor mental health (95% CI 1.94-11.58) with some of this difference attributable to the particular social background of this group. Much of the increased levels of poor mental health among illegal sex workers were associated with more negative experiences before, and subsequent to entering the sex industry. These patterns were not seen among women from the legal industry sectors. This research suggests that illegal, street-based sex workers, from whom many previous results have been derived, may show patterns of disadvantage, and health outcomes not seen in sex workers from other industry sectors.

Key words: sex work; sex industry; physical health; mental health; illegal sex work; violence.

Introduction

Many studies have found that work related exposures may influence health. Indeed, work stress, shift work, low autonomy and poor physical working conditions may all contribute to poor health (Boyd, 2002; Lindblom, Linton, Fedeli, & Bryngelsson, 2006). Specific work attributes have also been associated with a range of preventable injuries and accidents, for example musculoskeletal disorders, infectious diseases and other physical and psychological conditions (Collins & Schneid, 2001; Lloyd, 2002). Few studies have examined the specific work circumstances of workers in the sex industry. Of course sex workers are not a homogenous group and include workers whose personal and work characteristics may differ substantially. If the health of sex workers differs from that of other women, such differences might be attributed to one of three explanations.

First, sex work itself may have a negative impact on health. Such negative impact might be because of the work involved or might be associated with social stigma or the emotional cost attached to working in the sex industry. For instance, sex work may involve extensive "emotional labor expenditure" coupled with complex role delineation associated with secrecy and stigma (Brewis & Linstead, 2000; Biswas-Diener & Diener, 2001; Dollard, Winefield, & Winefield, 2003). Sex work may also be socially isolating and provide only limited opportunities to develop supportive and collegial relationships with other workers (Pyett & Warr, 1997; Dalla, 2000).

Second, sex workers may be exposed to poor health conditions at work. These would include physical danger. Estimates of workplace violence experienced by different cohorts of sex workers have ranged from 35% to almost 94% (Miller & Schwartz, 1995; Church, Henderson, Barnard, & Hart, 2001; El-bassel & Witte, 2001). Sexual service provision may also be associated with a range of musculoskeletal disorders like back pain, discomfort in knees and repetitive strain injuries in the wrists, hands, and shoulders (Alexander, 1998;

Scarlet Alliance and AFAO, 2000). Finally, selection effects may be involved, i.e., an unhealthy worker effect. Indeed, a number of studies have suggested that poor mental health, as well as injecting drug use and early age of leaving home may be a characteristic of women who enter the sex industry (Boyle et al., 1997a; Brannigan & Van Brunschot, 1997; Potter, Martin, & Romans, 1999).

However, many previous studies exploring the health of sex workers have been derived from street-based populations and therefore our understanding of health of workers in the sex industry is frequently limited by the samples researchers have obtained. Among opportunistic and street-based sex workers, there was evidence of an increased level of psychological distress, even after adjustment for illicit drug use (El-bassel, Schilling, Irwin, & Faruque, 1997). Physical health among street-based sex workers may also be poor. A study from Hong Kong reported that, compared with women outside the sex industry, street-based workers reported higher levels of pain, discomfort and fatigue (Wong, Holroyd, Gray, & Ling, 2006).

Conversely, studies in broader sex worker populations have found less consistent evidence of impaired health. For instance, in diverse samples of New Zealand and Australian workers in the sex industry the levels of psychological distress experienced were similar to distress reported by women in the general population (Boyle et al., 1997a; Romans, Potter, Martin, & Herbison, 2001). Some studies suggest that the physical health of some samples of sex workers may not be significantly different to those of comparable women (Romans et al., 2001). Romans et al. (2001) reported that sex workers soliciting on the streets and working privately had self-reported physical health which was not different from women in the general population. By contrast, Perkins and Lovejoy (1996) found variation between sex workers in different work contexts, with ‘call girls’ reporting better physical health and healthier life-styles than brothel-based counterparts. The existing evidence is inconsistent in documenting

the health of workers in the sex industry. Few previous studies have been able to determine whether and why the health of sex workers might differ from that of comparable populations.

The purpose of this study is to examine health differences between sex industry sectors, by focusing on the mental and physical health of sex workers across work settings (both legal and illegal). This study examines whether those sex workers with poorer health might reflect:

i. Socio-demographic differences between women in different industry sectors. For example, more disadvantaged socio-demographic backgrounds, older age, child care responsibilities.
ii. An 'unhealthy worker' effect, e.g., women with worse mental health and substance use disproportionately enter some sectors of the sex industry.
iii. Exposures to an unhealthy working environment, e.g., violence and injuries.

Methods

Participants

A heterogeneous sample of sex workers was recruited using a range of strategies. This included contacting private sex workers and escorts who had placed advertisements in newspapers and on the internet, visiting women at their place of work both on the street and in licensed brothels, and encouraging referrals from individual sex workers and agencies that had contact with sex workers.

A total of 247 female sex workers aged 18 and over, completed structured questionnaires between December 2002 and August 2003. Overall, 131 sex workers were approached directly in licensed brothels (96% response rate) or whilst soliciting on the streets (93% response rate). Private sex workers were recruited from lists compiled through newspaper advertisements in local papers and from an adult escort website. Overall, 185 telephone numbers were called, of which 10 participants were recruited, another 10 women

had completed the questionnaire previously, 55 women refused to participate, and the remainder were unable to be contacted despite two attempts to do so. With regard to the adult escort website, 17 emails were sent and 4 women agreed to participate (24% response rate). The remainder of the sample (n=106) were referred to the study by other sex workers or other agencies.

The final sample included similar numbers of legal private sex workers (103/247) and licensed brothel workers (102/247) and a smaller number of women working illegally (42/247). The majority of illegal sex workers in the 2003 sample were street-based (33/42). Data were collected through either self-completed or interviewer administered questionnaires depending on the location of the interview and preference of the participant. For example, privacy was limited in many licensed brothels and therefore for many participants self-completion was the preferred mode of administration. Participants were reimbursed $A25 for any out of pocket expenses for their participation. Ethical approval was granted from the University of Queensland and Queensland University of Technology Ethics Committees prior to commencing data collection.

The structure of the sex industry in Queensland, Australia

Before 1992 the Queensland sex industry operated illegally, although prostitution was potentially widespread and visible due largely to infrequently enforced penalties (Fitzgerald, 1989). In 1992, legislation was enacted that allowed individual sex workers to operate from private premises (known as private sex workers or sole operators). Further legislation was enacted in 1999 that saw the introduction of licensed boutique brothels throughout Queensland. Within licensed brothels sex workers operate as sub-contractors and provide a portion of the service fee to the brothel for use of the facilities. All other sectors of the sex industry including street-based sex work, escort agencies, and unlicensed brothels (defined as two or more sex workers operating together) remain illegal.

Measures

Quantitative data were collected using a structured questionnaire. The survey instrument included socio-demographic information, details of substance use, experiences of violence, workplace characteristics and self-reported health status.

Mental and physical health

Self-reported mental and physical health was measured using the Short Form 36 (SF-36). The SF-36 is a widely used instrument to measure health status and has been used in a wide range of population samples (Brazier et al., 1992; Vostanis, Tischler, & Cummella, 2001; Laffaye, Kennedy, & Stein, 2003). The SF-36 measures eight dimensions of health: general health, mental health, physical functioning, bodily pain, role limitation due to physical health problems, role limitation due to emotional health problems, vitality and social functioning (Ware & Sherbourne, 1992). These eight dimensions are summed and transformed into physical and mental health component summary scales. The summary scales are allocated a value between 0 and 100, with 100 being the highest possible score and zero being the lowest possible score. From the summary scales we created a categorical variable (with three values) to denote the overall health status of the sample. Sex workers who scored more than one standard deviation either above or below the mean were determined to have good and poor health respectively.

Experiences of childhood sexual abuse

This study used standard questions related to abuse experiences. The eight items about penetrative and non-penetrative sexual experiences were initially developed by Wyatt (1985) and subsequently modified by Fleming (1997). For analysis, items were collapsed into a single dichotomous variable indicating whether or not participants had experienced childhood sexual abuse. This variable was used to assess whether sex workers were likely to exhibit poor health before entering the sex industry.

Adult abusive experiences

Sex workers in the sample were also asked a number of questions about unwanted sexual experiences as an adult. Items relating to unwanted sexual experiences since the age of 16 were taken from a study of Queensland sex workers undertaken in 1991. Additional items were added to examine recent reported rape and bashing (Boyle et al., 1997b). This variable was used to assess working conditions including workplace violence.

Data analysis

All analyses were performed using SPSS 12.0 statistical package (SPSS, 2001). Differences between discrete variables were tested with χ^2 test of independence while comparisons between normally distributed continuous variables used independent sample T-tests (for two groups) and one-way ANOVA (for three groups).

The main independent variable considered in this analysis was current work sector. A three group categorical variable was created to examine the health outcomes of sex workers working in licensed brothels, privately, or illegally (most illegal sex workers were street-based). A number of previously identified correlates of mental and physical health were considered in the analysis. Two background personal factors (age and child maltreatment) and two work factors (recent sexual or physical assault by a client and having been offered money for sex without a condom) were considered.

Results

Table 1 presents the socio-demographic, background personal and work-related information which distinguished licensed brothel, private and street-based female sex workers. Private sex workers were older than both licensed brothel and illegal sex workers. Over three-quarters (78%) of private sex workers were aged 30 years or over compared with around half of licensed brothel (49%) and illegal (55%) sex workers (χ^2=21.12, df=4, p

<0.01). Most women were born in either Australia or New Zealand (78%) and one fifth (20%) spoke a language other than English at home (data not shown). These results are consistent with those observed for the broader Australian population. According to the Australian Bureau of Statistics (ABS, 2004) around three quarters (73%) of Australian residents aged 15-64 years were Australian born. Illegal sex workers were significantly more likely to report having been exposed to sexual abuse during childhood. Overall, 83 per cent reported child maltreatment compared with 45 per cent of licensed brothel workers and 48 per cent of private sex workers (χ^2=20.42, df=2, p=<0.01). Illegal sex workers were also more likely to report having injected drugs during their lifetime (χ^2=20.42, df=2, p=<0.01).

The sex workers in this study were also asked a number of questions about their work experiences. Over half (52%) of illegal sex workers reported having been raped or bashed by a client in the past 12 months compared with 3 per cent of brothel-based sex workers and 15 per cent of private sex workers (χ^2=48.08, df=2, p <0.01). Illegal sex workers were also significantly more likely to report having been offered extra money by a client to have sex without a condom. Half (50%) of illegal sex workers reported requests for sex with no condom all or most of the time compared with 18 per cent of private sex workers and 8 per cent of brothel-based sex workers (χ^2=41.716, df=4, p=<0.01).

INSERT TABLE 1

Comparisons between the physical health of sex workers (M = 53.1, SE = 0.6) and similarly aged Australian women (M=49.5, SE=0.1) showed that sex workers reported generally better physical health but slightly worse mental health (M=43.9, SE=0.9 and M=49.4, SE=0.1 respectively; ABS, 1995). The mental and physical health of this sample was also compared across current work sectors (table not shown). Illegal, street-based sex workers (M=33.1, 95% CI: 29.1-38.1) reported worse mental health than both private (M=45.1, 95% CI: 42.2-48.0) and brothel-based sex workers (M=47.1, 95% CI: 44.5-50.0,

F=15.64, df=2,231, p <0.01). However, when comparing the physical health of women in different industry sectors there were no differences (F=0.30, df=2,230, p 0.74).

Table 2 presents the results of a multinomial logistic regression that examined work sectors (private, licensed brothel and illegal) by composite SF-36 summary scores grouped according to whether the scores were more than one standard deviation above, or below, the mean. Taking first the SF-36 mental health component summary score, illegal sex workers were substantially more likely to have scores below the mean. Adjustment for the respondent's socio-demographic background did not change this finding. Further adjustment for what is described as "unhealthy worker" effects (i.e. experiences of child maltreatment and history of injecting drug use) reduced the magnitude of the association while additional adjustment for negative experiences at the workplace (i.e. assault and being offered extra money for unprotected sex) further reduced the magnitude of the point estimate of association. There were no significant differences with regard to sex workers being above the SF-36 mean mental health summary score although the small numbers of illegal sex workers makes it difficult to detect a difference even if one existed. Secondly, taking the SF-36 physical health score, we find no difference between the categories of sex workers. Again, the relatively small numbers of illegal sex workers in the study means that differences need to be very large in order to achieve statistical significance.

INSERT TABLE 2

Discussion

This study examined differences in the self-reported mental and physical health of female sex workers current working in three sectors of the sex industry: licensed brothels, privately and illegally (and predominantly street-based). For sex workers in this study, there was little difference in the physical health across industry sectors. In contrast, some notable

differences were found in mental health. Initial analysis suggested that illegal sex workers were over four times as likely to report negative mental health scores. However, adjustment for indicators of poor health prior to entry into the sex industry suggests that illegal sex workers may have poor mental health before starting sex work. Further adjustment suggests they are exposed to greater risk in their work situation (i.e. more assault) which may have an additional impact on their mental health.

The physical health of this sample is in contrast with some previous research. Specifically, previous research has suggested that sex workers exhibit relatively poor physical health whereas our study found that the physical health of the sex workers sampled was comparable across the three industry sectors. Although differences may be explained in relation to sampling there may be several other potential explanations for the generally good physical health of sex workers. Firstly, sexual activity increases heart rate, blood pressure and oxygen consumption (Cheitlin, 2003). These changes in metabolic demand are also seen in other forms of moderate physical activity (Cheitlin, 2003). Sex as work therefore requires women (and men) to engage in regular, moderate levels physical activity (Culic, Eterovic, & Miric, 2005). However, the respondent's relatively young age may also contribute to the generally good physical health of the sample.

Moreover, although there are elements of sex work that may have a positive health impact, the physical health of sex workers may also be related to a 'healthy worker' effect. Indeed, many types of employees are expected to maintain a relative level of physical health in order to meet occupational requirements (Li & Sung, 1999). For instance, Hartvigsen et al. (2002) found that among participants with lower back pain and heavy physical workloads at baseline, many had changed to sedentary jobs at follow-up. Similarly, sex workers with physical health limitations may be unable to sustain the physically demanding nature of sex

work and therefore may leave the sex industry. This could potentially lead to an under-estimation of the extent of physical ailments among sex workers.

With regard to mental health, the multinomial logistic regression enabled us to examine associations between background and work sectors with regard to positive and negative extremes in health. Although illegal, street-based sex workers were disproportionately in the lower extreme of mental health scores, adjustment for unhealthy background and work factors removed the association. It is likely that street-based sex work is often embedded within a context of disadvantage (rates of violence, histories of injecting drug use, childhood maltreatment, leaving home early) (Boyle et al., 1997a; Brannigan & Van Brunschot, 1997; El-bassel et al., 1997; Potter et al., 1999); Surratt, Inciardi, Kurtz, & Kiley, 2004). It is likely that these factors are associated with both the choice of work sector and mental health status.

Several limitations of this study should be considered. First, data were obtained from snowball sampling and therefore it is not possible to determine if the samples are representative of sex workers as a population. While the diverse recruitment strategies were intended to ensure the final sample was heterogeneous, it is likely that some more covert sectors are underrepresented in the final sample. Second, the cross-sectional design was unable to resolve some uncertainty about the direction of temporal relationships. The results suggest that the background of street-based sex workers is associated with poorer mental health, and that some experiences in their work situation also contribute to mental health status. However, only a limited number of factors identified in the literature as contributing to poor mental health were examined in this paper. Finally, it could be suggested that some of the associations are attributable to selection characteristics, i.e., sex workers may be young, single and have a prior history of sexual and/or physical abuse. In appendix A we provide details of the association between SF-36 mental and physical health scores and a variety of

personal characteristics of the respondents. There are some interesting differences (e.g. those with a history of sexual abuse, physical violence and injecting drug use have worse mental health). These differences however, are not likely to confound the associations we have observed. Rather the associations appear to comprise part of the causal pathway explaining the poor health of illegal sex workers.

Despite these limitations, the relatively large and diverse sample allowed for the analysis of mental and physical health correlates among women from three different sectors of the sex industry. This research suggests that illegal, street-based sex workers, from whom many previous results have been derived, may show patterns of disadvantage and health outcomes not seen in sex workers from other industry sectors. Indeed, the differences in health status reported in this sample highlight the dangers of generalisation across industry sectors and illustrate the need for comparative samples when undertaking research into the sex industry.

Our findings suggest that recent legislation may have impacted on the nature and structure of the sex industry. Indeed, the advent of licensed brothels in Queensland may have created a "disciplined" group working in a highly regulated environment where they are expected to arrive for shifts on time and dressed according to brothel guidelines. Possibly the policy issues and legislative arrangements for this cohort are likely to be different from those which need to be applied to more vulnerable groups like street-based sex workers.

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Table 1. Background and work factors by current work sector

	Licensed brothel worker (n=102)	Private sex worker (n=103)	Illegal sex worker (n=42)	Test statistic	p value
	%	%	%		
Age					
20 years or less	4	5	9	21.12	<0.01
21-29 years	18	46	36		
30 years or more	78	49	55		
Country of birth					
Australia or New Zealand	77	76	83	9.21	0.16
Europe	13	9	7		
Asia	4	12	10		
Other place	6	3	0		
Marital status					
Single	49	40	67	10.25	0.04
Married	26	23	14		
Other	25	37	19		
Children					
Yes	53	54	67	2.44	0.29
No	47	46	33		
History of injecting drug use					
Yes	16	17	75	66.35	<0.01
No	84	83	25		
Unwanted sexual activity before the age of 16					
Yes	46	48	83	20.42	<0.01
No	54	52	17		
Raped or bashed by a client in the past 12 months					
Yes	3	15	52	48.08	<0.01
No	97	85	48		
Offered extra money for sex without a condom					
Never	18	32	2	41.72	<0.01
Sometimes	64	60	48		
All or most of the time	18	8	50		

Table 2. The mental and physical health of female sex workers by current work sector

	Number	Percent affected	Crude OR (95% CI)	Model 1 (95% CI)[a]	Model 2 (95% CI)[b]	Model 3 (95% CI)[c]
Mental health						
SF-36 more than 1 SD below mean						
Licensed brothel worker	12	12.2	1	1	1	1
Private sex worker	16	16.5	1.44 (0.63-3.29)	1.57 (0.66-3.72)	1.34 (0.55-3.26)	1.20 (0.47-3.08)
Illegal sex workers	17	44.7	4.75 (1.94-11.58)	4.88 (1.94-12.29)	1.97 (0.65-5.97)	1.23 (0.33-4.52)
SF-36 more than 1 SD above mean						
Licensed brothel worker	18	18.6	1	1	1	1
Private sex worker	20	20.4	1.20 (0.58-2.48)	0.98 (0.46-2.12)	1.08 (0.49-2.51)	1.03 (0.45-2.34)
Illegal sex workers	1	2.6	0.19 (0.02-1.48)	0.20 (0.03-1.62)	0.38 (0.04-3.54)	0.29 (0.03-3.04)
Physical health						
SF-36 more than 1 SD below mean						
Licensed brothel worker	13	13.4	1	1	1	1
Private sex worker	13	13.3	1.06 (0.46-2.43)	1.26 (0.52-3.03)	1.26 (0.51-3.13)	1.11 (0.43-2.87)
Illegal sex workers	5	13.2	1.14 (0.37-3.50)	0.99 (0.31-3.18)	2.04 (0.46-9.03)	1.24 (0.23-6.49)
SF-36 more than one SD above mean						
Licensed brothel worker	7	7.2	1	1	1	1
Private sex worker	12	12.2	1.81 (0.68-4.85)	2.09 (0.74-5.92)	2.19 (0.77-6.26)	2.13 (0.73-6.19)
Illegal sex workers	7	18.4	2.96 (0.95-9.24)	2.32 (0.71-7.57)	2.05 (0.47-8.94)	1.76 (0.36-8.68)

[a] Adjusted for age, marital status, children

[b] Adjusted for age, marital status, children, child maltreatment, history of injecting drug use

[c] Adjusted for age, marital status, children, child maltreatment, history of injecting drug use, sexual or physical assault by a client in the past 12 months, client offered extra money for unprotected sex

Appendix A. Correlates of mental and physical health of female sex workers

	Crude mental health score (95% CI)	p value	Crude physical health score (95% CI)	p value
Age				
20 years or less	38.4 (30.2-46.6)	0.28	52.0 (45.4-58.6)	0.77
21-29 years	43.2 (39.9-46.5)		53.6 (51.8-55.4)	
30 years or more	44.7 (42.5-47.1)		52.9-51.5-54.4)	
Marital status				
Single	42.6 (40.1-45.0)	0.10	53.6 (52.1-55.1)	0.45
Married	47.5 (43.6-51.4)		51.8 (49.5-54.1)	
Other	43.4 (39.6-47.1)		53.3 (51.0-55.6)	
Children				
Yes	43.3 (40.9-45.9)	0.53	52.9 (51.4-54.4)	0.67
No	44.6 (41.8-47.3)		53.4 (51.7-55.1)	
History of injecting drug use				
Yes	37.8 (34.5-41.1)	<0.01	53.7 (51.8-55.6)	0.46
No	46.8 (44.7-48.8)		52.8 (51.5-54.2)	
Unwanted sexual activity before the age of 16				
Yes	39.7 (37.3-42.2)	<0.01	54.1 (52.7-55.5)	0.07
No	48.0 (46.5-51.3)		52.1 (50.3-53.8)	
Raped or bashed by a client in the past 12 months				
Yes	34.8 (29.8-39.7)	<0.01	51.5 (47.9-55.2)	0.22
No	45.6 (43.7-47.5)		53.4 (52.3-54.5)	
Offered extra money for sex without a condom				
Never	47.5 (43.6-51.4)	0.02	52.8 (50.2-55.2)	0.54
Sometimes	44.1 (41.8-46.4)		53.6 (52.1-55.0)	
All or most of the time	39.2 (34.8-23.6)		52.0 (49.2-54.7)	