IDRS

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Key findings

- Participants in the 2010 Tasmanian IDRS experienced higher levels of self-reported mental health problems and psychological distress, and poorer physical wellbeing and quality of life than the Australian general population

- A 'poor health' group was apparent in this sample, experiencing mental health problems and/or poor physical health. This sub-group were more likely to be female and less likely to have been arrested in the preceding 12 months than the other participating injecting drug users (IDU)

- Those in the poorer health group were no more likely to be involved in drug treatment, but were more likely to have recently used diverted methadone syrup and more frequently injected diverted benzodiazepines than participants in the better health group.

- IDU in the poor health group were also more likely to have attended a GP in the preceding 12 months. This group also reported significantly poorer quality of life than both IDU participants in the better health group and the Australian general population

The Health and Wellbeing of a Group of Tasmanian Regular Injecting Drug Users

Introduction

It is well established that a sizeable proportion of people who regularly inject drugs often experience a broad range of health problems. Some are specifically related to the injection of drugs, such as transmission of blood borne viruses (BBVs, e.g. hepatitis C), vascular damage and overdose. In addition, comorbid substance use and mental health disorders are prevalent amongst regular injectors, and associated with poorer treatment outcomes, high levels of service utilisation and more severe disability (Teesson & Burns, 2001). As such, major projects such as the National Comorbidity Initiative have been implemented to enhance coordination across policy and service delivery directions, and to reduce existing barriers impacting on assessment and treatment.

People who regularly inject drugs also experience a range of other health problems, which may be secondary to drug use. These include- but are by no means limited to- conditions such as chronic pain, respiratory illness and cardiovascular disease.

This bulletin aims to provide an overview of the general health and wellbeing of participants in the 2010 IDRS study from Hobart, Tasmania. It will also examine the differences between two sub-samples of this group - one experiencing poor health and wellbeing, and a second experiencing better health and wellbeing.

Methods

Details of the methodology of the study are described elsewhere (de Graaff & Bruno, *in press*); briefly however, interviews were conducted with 100 individuals from Hobart and surrounds selected on the basis of regular injecting (at least monthly in the last six months), having resided in this area for the preceding 12 months, and being aged 18 years of age or older.

Confidential interviews were conducted by trained research staff at needle and syringe outlets, taking approximately 40-60 minutes to complete. The structured interview schedule included questions on participant's recent and lifetime drug use history, demographics, injection-related health and criminal activity. Participants were reimbursed AUD$40 for their time and expenses incurred. Funding was provided by the Australian Government Department of Health and Ageing. The Human Research Ethics Committee (Tasmania) provided approval for this study.

Results

Demographic Characteristics of the Sample

Almost two-thirds of the 2010 Tasmanian IDRS sample were male (61%), and the mean age of participants was 35 years (range 19-60 years, SD=10). On average, participants had completed 10 years of school education (range 4-12 years, SD=2), and four-fifths of the sample (82%) reported being unemployed at the time of the interview. Forty-percent of the sample was engaged in a form of drug treatment at the time of the interview: the majority of this was opioid substitution therapy (OST: 38%). Two-fifths of the sample (43%) reported injecting at least once daily in the month preceding the interview; and half the sample reported injecting more than weekly but less than daily over this period. Full details of the methodology and findings are available in de Graaff & Bruno (in press).

Self-reported mental health problems

Participants were asked if they had experienced a mental health problem in the preceding six months. Responses were self-report, and were not confirmed by formal diagnosis. Half of the Tasmanian sample self-reported such a mental health problem (52%). Of this group, almost three-quarters reported accessing a health professional for treatment and/or support (73%). The most commonly self-reported mental health problems were depression (77%, n=40), anxiety/panic (54%, n=28), and schizophrenia (13%, n=7).

These rates are significantly higher than those seen in the general population, as reported in the 2007/08 National Health Survey (ABS, 2009, n=20,788). In that study, eleven percent reported experience of a long-term mental health or behavioural problem that had been identified by a medical professional, a rate significantly lower than reported by the

IDRS sample (11% v. 52%: $\chi^2(1)=164.2$, p<0.001). Affective disorders such as depression and anxiety-related problems were the most commonly reported in the NHS (7.4% and 3.3% respectively). Similarly, these were reported at significantly lower rates than reported by the IDRS sample (affective disorders: 7.4% v. 40.0%: $\chi^2(1)=149.9$, p<0.001; anxiety disorders 3.2% v. 28.0%: $\chi^2(1)=186.7$, p<0.001).

Psychological distress

The Kessler 10 is a 10 item questionnaire that measures psychological distress in the four weeks prior to interview, with a focus on anxiety and depressive symptoms (Kessler et al, 2002). Scores are summarised into four categories- low, medium, high and very high levels of psychological distress (ABS, 2001). Scores in the high and very high range have high concordance rates with DSM or ICD diagnoses of affective or anxiety disorders (Andrews & Slade, 2001), and indicative of the need for professional treatment and/or support (ABS, 2001).

Amongst the 2010 Tasmanian IDRS participants, similar proportions of participants scored in each of the four categories, with more than one-quarter scoring in the very high category of psychological distress (28%: Figure 1). This is in stark contrast to the results from the 2007/08 National Health Survey, in which two-thirds of respondents (67%) were classified in the 'low' level of psychological distress, and just 4% were classified in the 'very high' level.

Figure 1: Kessler 10 Psychological Distress Scale ratings in Tasmanian IDRS participants compared with a national general population sample
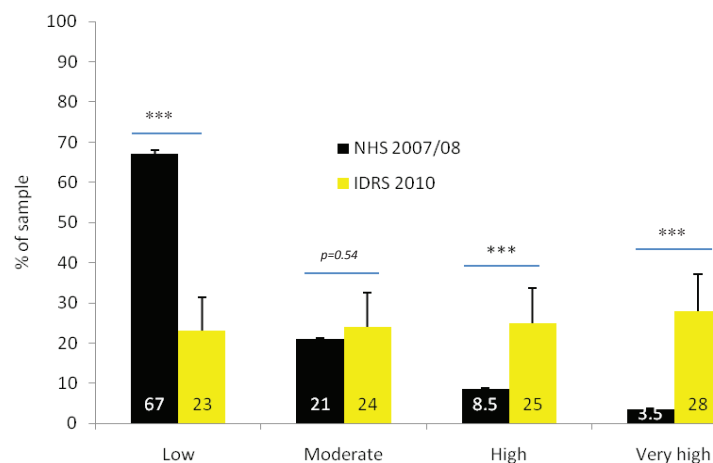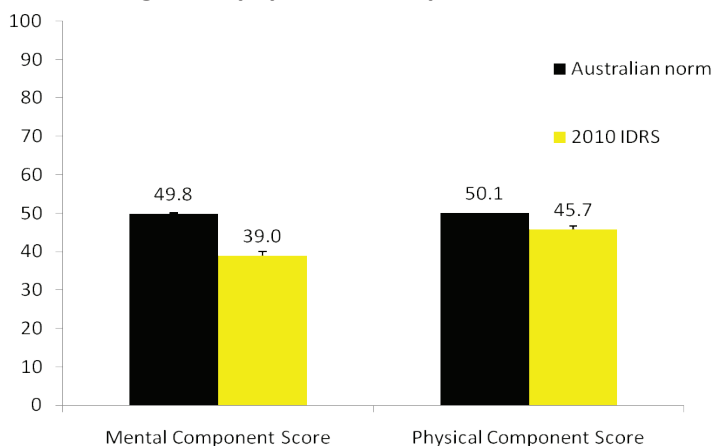

Source: IDRS IDU interviews, ABS (2008)
*** p≤0.001

General health and wellbeing

The Short Form-8 Health Survey (SF-8) is a questionnaire designed to measure health status, by providing a profile of functional health and wellbeing (Ware, et al., 2008). The SF-8 measures eight health concepts: physical functioning; role limitations due to: physical health problems; bodily pain; general health; energy/fatigue; social functioning; role limitations due to emotional problems; and psychological distress and wellbeing. The scores generated by these eight variables are combined to generate two composite scores, the physical component score (PCS) and the mental component score (MCS) (Lefante J. et al, 2005). The SF-8 scoring system was normed to yield a mean of 50 and a standard deviation of 10. Participants in the 2010 Tasmanian IDRS study scored a mean of 39.0 (SD=14.1) for the MCS, one standard deviation lower than the Australian general population mean score of 49.8 (SD=10.0: Figure 2) (ABS, 1995), a difference that was statistically significant ($t_{(93)}$=3.67, p<0.001). Similarly, the mean score for the PCS for the IDRS sample was 45.7 (SD=10.9), significantly lower than the score reported for the general population (50.1, SD=10.2: $t_{(93)}$=7.59, p<0.001). This clearly indicates that IDU had both poorer mental and physical health than the population average.

Figure 2: Short-Form 8 assessment of physical and mental wellbeing in Tasmanian IDRS participants and a comparison Australian general population sample
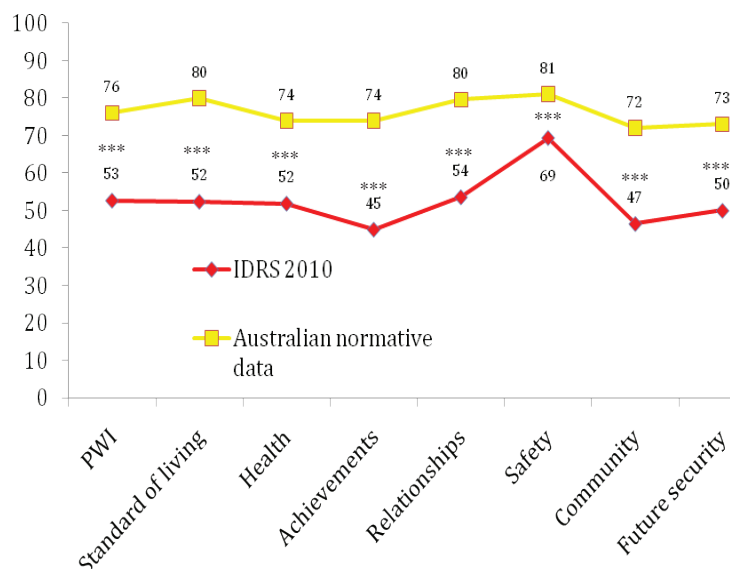

Source: IDRS IDU interviews, ABS (1995)

Quality of Life

The Personal Wellbeing Index (PWI) was developed by Cummins and colleagues to measure subjective wellbeing. It consists of seven domains: standard of living; health; achievements in life; personal relationships; community

connectedness; safety; and future security. The Personal Wellbeing Index is the aggregated score across all these domains (Cummins, et al. 2003). The Tasmanian IDRS participants scored significantly lower on the aggregated score than the Australian normative data (52.8 v. 76.3: $t_{(100)}$=11.47, p<0.001) The mean scores for the Tasmanian IDRS participants (n=94) for all domains were significantly lower than Australian normative scores (Cummins et al., 2009: Figure 3).

Figure 3: Personal Wellbeing Index assessment of quality of life in Tasmanian IDRS participants and a comparison Australian general population sample

Source: IDRS IDU interviews, Cummins, et al. (2009)
*** p≤0.001

What distinguishes IDU with poor health?

Two discrete groups were identified. The first, the 'poor health group' were defined by self-report of experience of a recent mental health problem; a score in the 'very high' category of psychological distress as measured by the Kessler 10; and/or scored lower than 1.5 times a standard deviation from the Australian norm on the SF8 physical component score (i.e. the lowest 7% of the Australian population). The second group, 'better health group', consisted of participants who self-reported no recent experience of a mental health problem, scored in the 'low' to 'high' categories of psychological distress on the K10; and scored within 1.5 standard deviations of the norm of the SF8 PCS. Differences between the groups were examined.

Table 1: Demographics comparisons between IDU by health status

	Poor health group n=57	Better health group n=43	Significance $(\chi^2(1_{n=99}))$
Female	47%	28%	0.047
Age	36 (range 19-60yrs)	33 (range 19-52yrs)	ns
Education	10 yrs	10 yrs	ns
Heterosexual	75%	93%	0.018
Unemployed	86%	93%	ns
Current OST	39%	37%	ns
No fixed address	12%	16%	ns
Arrested last year	35%	63%	0.005

Fifty-seven percent of IDRS participants met the criteria for the 'poor health' group, and 43% met the criteria for the 'better health group'. Participants in the poor health group were significantly more likely to be female (47% v. 28%: $\chi^2(1_{n=100})= 3.53$, p=0.047) and were less likely to report having been arrested in the preceding 12 months (35% v. 63%: $\chi^2(1_{n=100})= 7.55$, p=0.005) and less likely to report being heterosexual (75% v. 93%: $\chi^2(1_{n=100})= 5.37$, p=0.018). No significant differences were observed for other demographic measures (Table 1).

Participants were asked about their use of a range of substances in the preceding six months. Both groups could be considered polydrug users, both reporting a median of five drug classes used in the preceding six months (of a total of six: opioids, stimulants, hallucinogens, cannabis, alcohol and tobacco).

Participants in the poor health group were more likely to report use of diverted methadone syrup (not directly prescribed to them) in the preceding six months (51% v. 30%: $\chi^2(1_{n=100})= 3.62$, p=0.044) (Table 2), and were using it more frequently than people in the healthier group (16 days v. 2 days: Mann-Whitney U = 937.5, p=0.025) (Table 2). In addition, amongst participants in the poor health group who reported recent use of benzodiazepines, the median frequency of this use was almost double that of participants in the healthier group (90 days v. 48 days), however, this difference was not statistically significant (p=0.15). The median frequency of injecting use of diverted benzodiazepines was significantly greater amongst participants with poor health (9 days v. 2 days: Mann-Whitney U = 1046.5, p=0.045). Fourteen percent of participants in the poor health group reported recent concomitant injection of methadone syrup and benzodiazepines, whereas just 2% of the better health group reported this, a difference nearing statistical significance ($\chi^2(1_{n=98})= 3.68$, p=0.054).

Table 2: Substance use comparisons by health status

% used in last 6 months	Poor health group n=57	Healthier group n=43	Significance[#]
Diverted morphine	79%	65%	ns
Diverted Methadone syrup *	51%	30%	0.030
Methamphetamine	72%	67%	ns
Benzodiazepines (any)	79%	67%	ns
diverted benzos	61%	47%	ns
Concomitant injection of methadone and benzodiazepines	14	2	0.054
Alcohol	65%	63%	ns
Cannabis	84%	72%	ns
Tobacco	98%	93%	ns
*Median frequency of use in last 6 months^*			
Diverted morphine	48days	42days	ns
Diverted Methadone syrup	16days	2days	0.025
Methamphetamine	18days	34days	ns
Benzodiazepines			
Any use	90 days	48 days	ns
IV use	9 days	3 days	ns
Diverted benzos			
Any use	24days	29days	ns
IV use	9days	2days	0.045
Alcohol	24days	24days	ns
Cannabis	180days	180days	ns

Note: ^inferential testing conducted using Mann-Whitman U tests; [#]using χ^2 tests with 1 degree of freedom.

Service utilisation between health status groups

Participants were also asked if they had accessed a General Practitioner (GP) in the preceding 12 months for a mental and/or physical health problem. Participants in the poor health groups were more likely to report having done so (90% vs. 74%: $\chi^2(1_{n=100})= 3.94$, p=0.044), and had visited a GP more frequently (6 vs. 2 times: Mann-Whitney U=929, p=0.038) than participants in the better health group (Table 3). Despite this higher level of utilisation of GPs, participants in the poor health group reported a higher rate of use of diverted pharmaceutical opioids to self treat dependence, a pain condition and/or mental health (60% v. 42%: $\chi^2(1_{n=100})= 3.11$, p=0.059), a difference nearing statistical significance.

Table 3: Service utilisation and reasons for use of diverted pharmaceutical opioids between health groups

|	Poor health group n=57	Healthier group n=43	Significance
GP utilisation- last 12 months			
% saw GP for physical or mental health#	90%	74%	0.044
Mean No. of visits^	6	2	0.038
Current pharmacotherapy treatment#	39%	37%	ns
Accessed pharmacotherapy and/or GP last 12 months#	91%	79%	ns
Reasons for using diverted pharmaceutical opioids			
Self-treatment#	63%	47%	0.059
Intoxication#	51%	50%	ns

Note: ^inferential testing conducted using Mann-Whitman U tests; #using χ^2 tests with 1 degree of freedom.

Quality of life in health groups

Quality of life was examined between groups using the Personal Wellbeing Index (Cummins et al, 2003). Not surprisingly, participants in the poor health group scored significantly lower on the aggregated PWI score (47.3 v. 60.2:$t_{(90)}$ =3.4, p=0.001) than the group with better health. Examining each domain, participants in the poor health group scored significantly lower on satisfaction with standard of living (47.7 v. 58.8: $t_{(92)}$=2.12, p=0.037), achievements in life (38.0 v. 54.8: $t_{(93)}$=3.13, p=0.001), personal relationships (47.9 v. 61.5: $t_{(82)}$=2.16, p=0.034), safety (61.4 v. 80.2: $t_{(95)}$=3.43, p<0.001) and security (45.3 v. 56.9: $t_{(87)}$=2.0, p=0.045). Interestingly, there was no significant difference between groups for satisfaction with health (48.4 v. 56.8: $t_{(86)}$=1.67, p=0.09) (Figure 4)

It is also of interest to note that the scores reported for the better health group were well below several measures as scored for the Australian norm (Cummins et al., 2009) (Figure 4) The aggregated PWI score for the better health group was 60.22, significantly lower than the Australian normative data 76.3 ($t_{(40)}$=5.58, p≤0.001) (Cummins et al., 2009).

Figure 4: Personal Wellbeing Index assessment of quality of life in Tasmanian IDRS participants and a comparison Australian general population sample
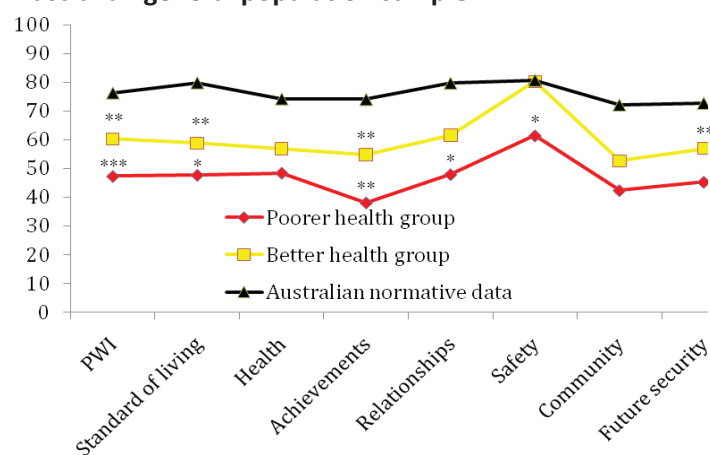
Source: IDRS IDU interviews, Cummins et al., 2009
* p≤0.05; ** p≤0.01; *** p≤0.001

Discussion

Participants in the 2010 Tasmanian IDRS study reported poorer mental and physical health and higher levels of psychological distress in comparison with samples from the general population. Not surprisingly, too, the IDU sample also reported significantly lower scores for quality of life, as measured by the Personal Wellbeing Index, than the general Australian population.

By identifying two discrete groups in the Tasmanian IDRS cohort: one experiencing poorer health and a second experiencing relatively better health, it was evident that IDU participants reporting poorer health were more likely to be female, less likely to be heterosexual or to have been arrested in the preceding 12 months. These are not necessarily the findings one may expect: experience of comorbid substance use and mental health problems are often associated with high rates of offending and imprisonment (Cupitt et al, 1999), and greater proportions of males report use of illicit substances (NDSHS, 2008), and seek treatment than females (NMDS-AODTS, 2008), and hence it is these groups which typically receive particular attention in the foci of treatment and support services.

Participants in the poorer health group were more likely to report recent use (last six months) of diverted methadone

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syrup and reported more frequent intravenous use of diverted benzodiazepines than participants in the better health group. Whilst not statistically significant, the median frequency of use of both prescribed and diverted benzodiazepines reported by the poorer health group was almost double that of the better health group. It has been established that people experiencing substance dependence and mental illness are more likely to be prescribed benzodiazepines (Ross, et al., 1997, Brunette, et al, 2003) therefore it is likely that a sizeable proportion of participants in the current study in the poor health group were using benzodiazepines for medical purposes. However, amongst this cohort, there is clearly a group who report excessive use of benzodiazepines, which are indicated for short-term use only. The disinhibiting and memory impairing affects of these drugs, in combination with poor mental health, can lead to chaotic behaviour, which can be exacerbated and lead toward a downward spiral, reinforcing poorer mental health and further increased use of benzodiazepines and other substances (Dobbin, 2001; Smith et al., 2007).

Participants in the poor health group reported visiting GPs more frequently that participants in the better health group. This finding, in combination with participants in the poor health group being more likely to use pharmaceutical opioids to self treat (for dependence, pain and/or a mental health condition), suggests the potential for a degree of unmet health needs. A systematic review of the literature regarding medical care of people with and without comorbid mental illness and/or substance use disorders and physical illness (Mitchell, et al, 2009) found that people with comorbid disorders often did not receive the same level of care as the groups that presented without mental health and/or substance use disorders. The authors note that despite people with mental illness utilizing medical professionals more frequently than groups without mental illness; in some settings the quality of medical care may be unsatisfactory. This poorer quality of care can contribute to poor health outcomes including mortality (Mitchell, et al, 2009).

Quality of life, as measured by the Personal Wellbeing Index, of participants in the poor health group was significantly lower on most measures than the better health group and to that seen in the general population. The scope of this study does not allow for causal relationships to be explored, however, it is likely that poor physical and mental health have impacted negatively on the quality of life of these participants. Quality of life is not just impacted on

by health, many other factors also contribute, including socioeconomic and cultural factors (Hubley, et al., 2005)

Implications for service provision

Comorbid mental health and substance use disorders and poor physical health are common amongst this IDRS sample, and are consistent with presentations in drug and alcohol service settings. Much work has already been done to better address the needs of people with comorbid substance use and mental health disorders. The National Comorbidity Project provides the guiding framework to service providers and policy makers. Specialist alcohol and drug and mental health services have undergone varying degrees of change to better provide assessment and care to this group, including re-organisation to fall within the administration of mental health services, as is the case in Tasmania. Divisions of General Practice are also working towards enabling GPs to work more effectively with this group. However, there remain considerable areas of unmet need, and these data suggest that this is not necessarily restricted to 'high-visibility' IDU that come into contact with criminal justice sectors.

A report from the National Drug Strategy: *'Barriers and Incentives to Treatment for Illicit Drug Users with Mental Health Comorbidities and Complex Vulnerabilities'* (Holt, et al., 2007) recommends ensuring low-threshold drug treatment and mental health services to people with complex needs. It has been well established that pharmacotherapy treatments - such as methadone maintenance - reduce drug use and criminal behaviour and improve health and enhance social functioning (Mattick et al, 2001). Therefore it is essential that such services are easily accessible to this client group, and are also provided in a manner that does not easily exclude people from treatment. Services need to ensure that Patient/Client guidelines are not overly complicated, as people with complex needs are often those who find it most difficult to adhere to these, placing them at greater risk of exclusion from services.

Given the clear evidence of poorer outcomes for people experiencing combinations of substance use and mental health disorders and poor physical health, the findings of this paper stress the importance of continuing to improve service provision to these groups, whether they are accessing specialist alcohol and drug, mental health, or GP treatment services.

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