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Licit and Illicit Quetiapine Use Among IDRS Participants

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KEY FINDINGS

- Quetiapine use and associated problems have been documented overseas
- Lifetime quetiapine use was reported by 41% of the 2011 IDRS sample, and recent use was reported by 22% of the sample
- Recent mental health issues and recent benzodiazepine use were prevalent among those using both licit and illicit quetiapine
- Ice use was frequently reported by those reporting illicit quetiapine use
- Quetiapine use among PWID warrants further research and monitoring

BACKGROUND

Quetiapine fumarate (trade name Seroquel™) is an atypical antipsychotic drug which has become more commonly prescribed in Australia for certain mental health conditions in the last decade (Heilbronn, Lloyd, McElwee, Eade & Lubman, 2012). The Therapeutic Goods Association of Australia (TGA) originally approved quetiapine for use in the treatment of schizophrenia in 2000 (TGA, 2010). Subsequent reviews of the drug by the TGA in 2007 and 2009 have resulted in it also being approved for treatment of bipolar disorder (TGA, 2010). More recently, in 2010, it was approved for use as a second-line treatment (i.e. where other treatments have proven ineffective or inappropriate) for generalised anxiety disorder and major depressive disorder (TGA, 2010). Potentially serious side effects of quetiapine include QTc interval prolongation (a cardiac effect which can result in sudden death), weight gain and ex-pyramidal symptoms (movement disorders) (Alexander, Gallagher, Mascola, Moloney & Stafford, 2011; Maher, Maglione, Bagley, Suttorp, Hu, Ewing, et al., 2011; TGA, 2010).

While quetiapine is approved for use in particular disorders, it may also be prescribed 'off-label' (unlicensed). In the European Union and the USA, licensing has restricted quetiapine use to a narrower range of disorders than those approved in Australia, however off-label prescription has become increasingly prevalent in those jurisdictions (Kuehn, 2009; New Drugs Online Report, 2011).

One feature of quetiapine is that it can be highly sedating (Kennedy, Wood, Saxon, Malte, Harvey, Jurik, et al., 2008; TGA, 2010). This has made it amenable as an alternative treatment to other sedative-hypnotic therapies such as benzodiazepines (Hussain, Waheed & Hussain, 2005). In particular, it has been utilised in preference to benzodiazepines where there has been concern about drug dependence, both licit and illicit (Hussain et al., 2005; Inciardi, Surratt, Kurtz & Cicero, 2007; Kennedy et al., 2008).

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The increasing use and availability of quetiapine has implications for both practitioners and for the community, particularly given concerns regarding side-effects of the drug. Suggestions of an emerging illicit market for quetiapine have been accompanied by concerns amongst those working in the alcohol and drug field in Australia (Reddel, Hornyiak, McElwee & Dietze, 2011). One particular concern is with regards to cardiac QTc interval prolongation, as this is a particular issue for people who inject drugs (PWID), who may also be on methadone, a drug which is similarly known to prolong the QTc interval (Paparrigopoulos, Karaiskos & Liappas, 2008).

Despite a number of case reports from several countries (e.g., Gugger and Cassagnol, 2008; Pierre, Shnayder, Wirshing & Wirshing, 2004; Pinta and Taylor, 2007; Reccoppa, 2011; Tarasoff and Osti, 2007; Waters and Joshi, 2007) particularly amongst polysubstance users, there has been little examination of quetiapine use amongst broader samples of drug users. In 2010 and 2011, a number of key experts participating in the Illicit Drug Reporting System (IDRS) raised concerns about quetiapine. When speaking more generally about use of anti-psychotic drugs among PWID, quetiapine in particular was raised as an emerging substance of recent use. Discussion of an emerging street market for this drug and its use among those without psychotic disorders occurred during interviews with key experts. Key experts expressed concern with the apparent effects of the medication, mostly in relation to antisocial behaviours, with experiences of users seeming "unreasonable", "agitated" and "oblivious to the world around them". One key expert reported that clients had been referred for help with "withdrawing" from this medication.

As a result of these reports, specific questions about licit and illicit quetiapine use were included in the 2011 IDRS survey. In this Bulletin we present a preliminary examination of quetiapine use amongst a broader sample of PWID through analysis of findings from the 2011 IDRS, with a specific focus on Victoria, which had the highest prevalence of use in Australia.

METHOD

A cross-sectional sample of 868 PWID was recruited and interviewed in the major capital cities of all Australian states and territories as part of the 2011 IDRS. Sample sizes reflected pre-determined quotas across eight Australian state and territory capital cities (numbers below). The methods and measures used in the IDRS have been described in detail elsewhere (Stafford and Burns, 2012). In short, PWID were recruited into the study by a mix of advertising at services (e.g. needle and syringe programmes), word-of-mouth promotion and snowballing. Eligible participants (at least 18 years of age who reported injecting at least monthly in the 6 months prior to interview and residing in their recruitment city for 12 months prior to interview) were administered a structured questionnaire that collected information on participant demographics, patterns of life-time and recent drug use, perceptions of price, purity and availability of various illicit drugs, health indicators and social factors. The 2011 survey included questions about both licit (prescribed) and illicit (non-prescribed) use of quetiapine. Data were analysed using Stata SE Version 11.2.

RESULTS

Table 1: Quetiapine use among 2011 IDRS participants

	Variables	Ever used (%)	Used last 6mths (%)	Med. days used last 6mths
National (N=867)	Licit quetiapine	16	9	180
	Illicit quetiapine	31	15	3
	Any form quetiapine	41	22	-
Victoria (N=150)	Licit quetiapine	24	15	180
	Illicit quetiapine	56	30	5
	Any form quetiapine	64	40	-

Table 1 shows that 41% of the national sample reported lifetime use of quetiapine (16% licit, 31% illicit) and 22% reported that they had recently (in the last six months) used quetiapine (9% licit, 15% illicit). Licit quetiapine use was reported on a median of 180 days in the past six months compared to only three days for illicit quetiapine. The equivalent figures were generally higher in Victoria, with 64% (n=96) of Victorian participants reporting ever having used quetiapine, 56% (n=84) of participants reporting having used illicit quetiapine and 24% (n=36) reporting use of licit quetiapine. Forty percent (n=60) of Victorian participants reported recent use of quetiapine, with 30% reporting recent use of illicit quetiapine and 15% reporting use of licit quetiapine. Median days of recent use were similar to national figures at 180 for licit use and five for illicit use.

Quetiapine was the most commonly prescribed anti-psychotic medication among those receiving such medications in both the national and Victorian samples. Of the national sample, 17% of those reporting a mental health problem in the last six months (n=281) reported being prescribed quetiapine. Similarly, in the Victorian

sample, 15% of those reporting a recent mental health problem (n=79) reported being prescribed quetiapine.

Overall, the data from both the national and Victorian samples suggest that use is becoming prevalent amongst sampled PWID, however this trend is more pronounced in Victoria. Nevertheless, illicit use may be described as opportunistic rather than routine, with the median days of use of illicit quetiapine in the last six months low compared to licit use.

Table 2: Quetiapine use and mental health problems, alprazolam use, benzodiazepine use, speed use and ice use among 2011 IDRS participants[1]

	National		Victoria	
	Licit use (%)	Illicit use (%)	Licit use (%)	Illicit use (%)
Mental health problem last six months				
Yes	65 (83)	70 (58)	17 (77)	25 (56)
No	13 (17)	51 (42)	5 (23)	20 (44)
Any alprazolam use last six months				
Yes	47 (60)	91 (73)	18 (82)	37 (82)
No	31 (40)	33 (27)	4 (18)	8 (18)
Any other benzodiazepine use last six months				
Yes	62 (79)	100 (82)	18 (82)	39 (87)
No	16 (21)	22 (18)	4 (18)	6 (13)
Speed use last six months				
Yes	35 (44)	75 (59)	11 (50)	25 (56)
No	45 (56)	52 (41)	11 (50)	20 (44)
Ice use last six months				
Yes	45 (56)	95 (75)	14 (64)	33 (73)
No	35 (44)	32 (25)	8 (36)	12 (27)

Quetiapine use was examined in relation to reported mental health problems and use of alprazolam, other benzodiazepines, speed and ice. Those in the national sample reporting licit use of quetiapine were likely to report having a mental health problem in the last six months. Among the Victorian sample, most of those using licit quetiapine reported a mental health problem in the last six months. Similarly, around half of those using illicit quetiapine in both the national and Victorian samples also reported a mental health problem in the last six months.

The majority of those who reported licit or illicit quetiapine use were also likely to report using any form of alprazolam (licit or illicit) or other benzodiazepines. The pattern was similar for the national sample and the Victorian sub-sample, however in Victoria the use of alprazolam amongst those who reported licit quetiapine use was even more pronounced than the national sample.

Recent speed and/or ice use was common amongst those using licit quetiapine in both the national and Victorian samples. Ice use was reported by around three-quarters of those using illicit quetiapine. The patterns appeared similar in the national and Victorian samples but reported ice use was slightly more frequent in the Victorians who reported licit quetiapine use.

Overall, both recent mental health issues and recent benzodiazepine use were prevalent among those using both licit and illicit quetiapine. Ice use was also prevalent, particularly among those reporting illicit quetiapine use.

DISCUSSION

This Bulletin shows for the first time the nature and extent of both licit and illicit quetiapine use amongst a large Australian sample of PWID. We have demonstrated that self-reports of illicit quetiapine use are common amongst Australian PWID, although illicit use occurs relatively infrequently. Self-reports of licit use of quetiapine are less common but occur on a median of 180 days, most likely in compliance with medical prescription directions.

As quetiapine has become more widely available, due to expanding licensing in Australia, its presence has been noted within illicit drug markets (TGA, 2010; Reddel et al., 2011). As indicated, this has been accompanied by concerns expressed by those who work with PWID. Our data confirm that quetiapine use is an emerging issue amongst Australian PWID.

The prevalence of benzodiazepine use among PWID and among those reporting illicit quetiapine use may indicate that the sedating properties of quetiapine are one motivation for use among PWID, consistent with findings that 100% of participants in one study reported experiencing sedation as an effect of quetiapine use (Kennedy et al., 2008). The combination of licit quetiapine use with use of benzodizapines such as alprazolam needs further study, especially given the rates of concomitant use found in Victoria. Other studies suggested that quetiapine could be used in combination with stimulant drugs such as methamphetamine to mitigate the negative effects experienced during a 'come down' (e.g. inability to sleep, dysphoria) (Inciardi

1 All percentages reported are among those who responded

et al., 2007). The concomitant use of ice and illicit quetiapine in both the national and Victorian samples indicates that this may be an area for further research.

The side effects of quetiapine, which can be experienced with even low dose or short term use (including serious cardiovascular and metabolic effects) may be of concern given the chronic and complex health conditions which PWID often experience (e.g. hepatitis C, poor general health, cardiovascular risks associated with use of methadone, other injection related injury and disease) (Kennedy et al., 2008; Williams, Alinejad, Williams & Cruess, 2010). Furthermore, poly-drug use (i.e. quetiapine in combination with other benzodiazepines, alcohol and opioid use) may be of concern with regards to overdose risk among PWID, although more research is needed to determine the nature of these risks. These issues are particularly significant given that PWID using illicit quetiapine are unlikely to be informed about potential risks and side effects inherent in the use of this substance.

CONCLUSION

This Bulletin shows for the first time the extent of quetiapine use amongst a sample of PWID. It shows that further work is needed to understand patterns of use, motivations for use and potential health complications which can arise from use of the drug. This work is needed to inform public health approaches to respond to the use of quetiapine by PWID.

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