

Title: Factors that influence mother-child reunification for mothers with a history of substance use: A systematic review of the evidence to inform policy and practice in Australia.

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Background: An estimated 60-70% of Australian children in out of home care have a parent with a substance use disorder (SUD). The assessment of a parent's history and needs and the design of supportive interventions, particularly for mothers who are often the primary carers of children, are important considerations in deciding whether or not family reunification is desirable and possible. It is not clear from the research how the needs of families can be best met. There are no systematic reviews that provide evidence to inform the development of preventative and remedial interventions and related policy options. We undertook a systematic review to examine maternal characteristics and program features that facilitate or pose a barrier to mother-child reunification in contexts where mothers have a SUD.

Methods: A structured search of nine databases was undertaken to identify peer reviewed literature in English between 2004 and 2014 and examine factors that influenced mother-child reunification in mothers with SUD. We employed a narrative synthesis design to analyse the findings sections of all papers as the methods of the various studies did not permit the pooling of data.

Results: A total of 11 studies were included in this review. Findings show that factors such as timeliness of treatment entry, treatment completion and the receipt of matched services, and programs that provided a greater level of integrated care are positively related to reunification. The presence of a mental health disorder, use of opiates and having a greater number of children were barriers to reunification.

Conclusion: Women with SUD who have a child in out of home care appear to have multiple unmet needs. Accessible, stigma free and comprehensive integrated care services, as well as greater access to primary health care that address social and medical issues must be considered to improve the physical and psycho-social outcomes of these women and their children.

INTRODUCTION

Child abuse and neglect are of both international (EMCDDA, 2012) and national concern. Currently in Australia there are increasing numbers of children at risk are being reported to authorities, placing statutory child protection services under pressure (Commonwealth of Australia, 2009). Children and young people up to the age of 18 in the state of New South Wales (NSW) who are unable to live with their birth families are provided with out-of-home care (OOHC) services. In June 2013, 40 539 Australian children were living in OOHC. These numbers have increased in recent years from 7.3 children per 1000 in 2011 to 7.8 per 1000 in 2013. Aboriginal and Torres Strait Islander children are 10.6 times as likely to be living in OOHC than non-Indigenous children (AIHW, 2014). Disparate rates of children in OOHC care similarly seen in other minority groups such as Native American Indian and African American children (Carter, 2010; Knott & Donovan, 2010).

The misuse of substances such as alcohol, illicit and prescription only medicines in Australia, as in many other countries, is commonly cited as a factor associated with a parent having a child in OOHC (Delfabbro, Borgas, Rogers, Jeffreys, & Wilson, 2009; Delfabbro, Fernandez, McCormick, & Kettler, 2013). It is estimated that approximately 60-70% of Australian children in OOHC were removed from households where at least one parent had a substance use disorder (SUD) (Fernandez & Lee, 2013). Recent work by Taplin and Mattick (2013)) found that of 171 women who were all receiving opiate substitution therapy, almost one third (32.7%) had a child living in OOHC. Whilst maternal (or paternal) substance use does not necessarily lead to poor parenting (Street, Harrington, Chiang, Cairns, & Ellis, 2004), it is strongly linked to child maltreatment and neglect (Blakey, 2012). Mothers with a history of a SUD are often highly involved with the child protection system, highlighting the

vulnerabilities of these family units (Schilling, Mares, & El-Bassel, 2004; Taplin & Mattick, 2013). Whilst it is recognised that maternal substance use does not equate to automatic child removal, nor is substance use rarely the only contributing factor for child removal, (Marcenko, Lyons, & Courtney, 2011) substance use is a significant concern in Australia, where it is implicated in serious health and social outcomes that were estimated to cost the nation \$55.2 billion dollars between 2004/2005 (Collins & Lapsley, 2008).

There are differences in patterns of drug and alcohol use among men and women in Australia (AIHW, 2011) that, when considered in the light of household composition, can affect parents and their children in different ways. For example, the majority (84%) of single parent households in Australia as of June 2012 were headed by women and increasing rates of illicit drug use have been found among single parent households (ABS, 2012).

In Australia, reunification of parent/s and child/ren, when and where possible, is the primary goal after a child has been placed in OOHC (AIHW, 2014). This goal is in line with the United Nations Convention on the Right of the Child Article 7, which states that ‘... as far as possible, [the child has] the right to know and be cared for by his or her parent’ (OHCHR, 2014). Reunification is the ‘...the movement of children from the substitute care setting into the biological family home’ (Choi, Huang and Ryan p. 1642 (2012). Within the child welfare context, reunification is a process of services that are provided to families who have a child placed in OOHC, with the intention of returning the child back to their family of origin (Carnochan, Lee, & Austin, 2013). When, this does not occur, the child is placed into alternative care, such as kinship care or adoption (Maluccio, Abramczyk, & Thomlison, 1996). Kinship care is particularly important for Aboriginal and Torres Strait Islander communities where there is a cultural tradition of providing care to other family members’

children if the care cannot be provided by the biological parent. Aboriginal and Torres Strait Islander children experience lower rates of reunification than other populations (AIHW, 2014). Reasons for lower reunification rates may include high levels of poverty, morbidity and mortality rates, parental substance abuse and domestic violence, as well as discrimination within the child protection system (Delfabbro, Barber, & Cooper, 2003; Delfabbro et al., 2009).

Children who come from households where substance use is present have been shown to have lower rates of reunification compared to families where substance use is not an issue (McGlade, Ware, & Crawford, 2009; Sarkola, Gissler, Kahila, Autti-Rämö, & Halmesmäki, 2011; Schaeffer, Swenson, Tuerk, & Henggeler, 2013). It is not known specifically why reunification rates are lower when substance use is involved, and there are no systematic reviews that provide insight into these factors. In addition, research that focuses solely on mothers with SUD and programs to facilitate reunification are limited (Grella, Needell, Shi, & Hser, 2009). It is therefore not clear how mothers needs can be best supported to facilitate mother-child reunification. A focus on mothers is important as women are usually the primary carer for children and are the parent most likely to receive them when they are returned from OOHC (Douglas & Walsh, 2009).

We undertook a systematic review to address these gaps in the empirical literature and to provide evidence to inform the development of preventative and remedial interventions to support mothers whose children may have been or are at risk of being removed to OOHC. The aim of this review is therefore to determine the factors that influence mother-child reunification, including programs and/or strategies that have been found to facilitate reunification in circumstances where mothers have a history of SUD. This paper will provide

a clearer understanding of how, when and if reunification processes can be instigated and how mothers can be best supported.

METHODS

An initial scoping exercise of relevant databases revealed research studies with a range of methodologies that did not allow for the pooling of statistical data. In order to analyse and synthesise findings from qualitative and quantitative studies, a narrative synthesis was selected as the most appropriate method for this review. This enabled the exploration of relationships within and across the research studies by analysing and describing findings (Popay et al., 2006).

Search protocol

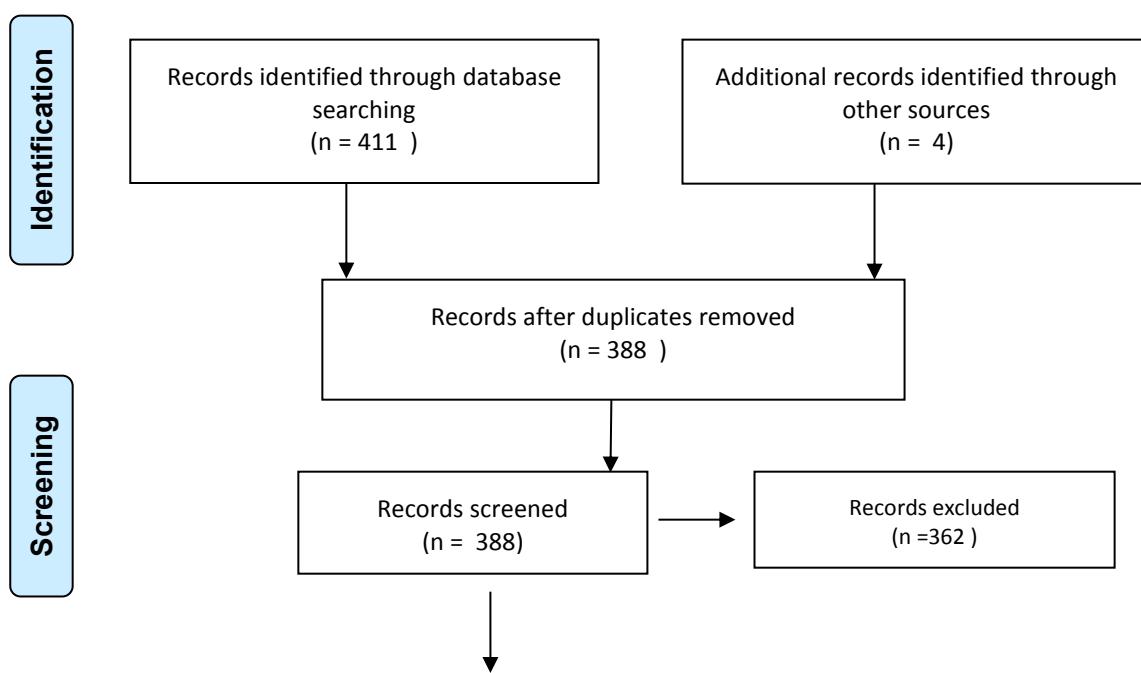
A Population Intervention Comparison Outcome methodology (Glasziou, Del Mar, & Salisbury, 2003) was employed to formulate the question: ‘In mothers with a history of a substance use disorder, what programs and maternal characteristics are found to facilitate or act as a barrier to mother-child reunification?’ The following keywords were identified and applied to search electronic databases for peer reviewed literature: –“*mothers*”, “*substance use*”, “*substance abuse*”, “*substance use disorders*”, “*reunification*”, “*out-of-home-care*”, and “*child welfare*”. A systematic search of the literature in English from 2003-2013 was conducted using several databases. These were: Cumulative Index to Nursing and Allied Health (CINAHL), Medline, Academic Search Complete, Proquest Health and Medicine, Pubmed, Science Direct, SCOPUS and Google Scholar. Hand searching was also conducted. A total of 415 articles were found.

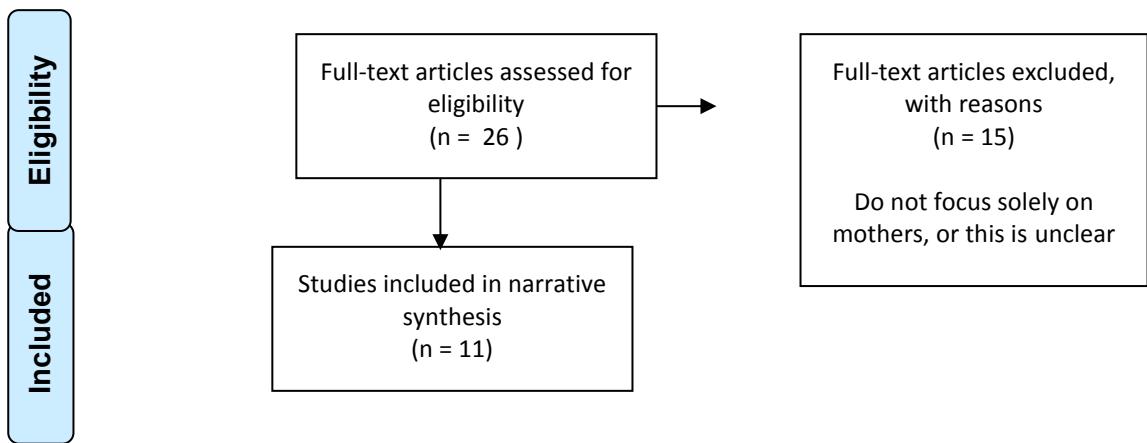
Only papers that focused on mothers with a history of a SUD *and* programs to examine reunification for mothers and their children were included. Papers that did not explicitly identify mothers as the sole focus or if the data were not disaggregated according to gender, were excluded. For examples see Brook, McDonald, and Yan (2012); Cheng (2010)). Twenty-six papers were examined in more detail. Duplicates, papers that did not examine predictors of reunification and discussions of programs or interventions for reunification that were not primary studies were discarded. The PRISMA guidelines were used to demonstrate this process (Moher et al and the PRISMA group 2009) See figure 1 and table 1.

Quality assessment

The quality of potential studies was appraised by two researchers (AD and AJD) using the CASP tool (NHS, 2006) for the two qualitative papers and the Law's Critical Review Form for the nine Quantitative papers (Law et al., 1998). All papers that were appraised were regarded as suitable for inclusion in the narrative review.

Figure 1:





Data abstraction and synthesis

The findings section of each paper was analysed to identify descriptive findings of predictors and barriers to reunification for mothers with a SUD, as well as programs attended to by these mothers. Tables were used to note these characteristics and then similarities and differences were identified across all studies (see table 2). From these patterns, textual themes emerged and were further explored through the manual creation of a concept map. This assisted in the mapping of ideas and relationships across studies as well as the organisation and planning of ideas. Themes comprised demographical data as well as program related characteristics and maternal outcomes.

FINDINGS

A total of 11 studies are included in this review. All studies are from the United States of America (USA). Nine papers are quantitative studies (Choi, Huang, & Ryan, 2012; Choi & Ryan, 2007; Gayle A Dakof, Cohen, & Duarte, 2009; Grant et al., 2011; Green, Rockhill, & Furrer, 2006; Grella et al., 2009; Huang & Ryan, 2011; McCann et al., 2010; Twomey, Caldwell, Soave, Fontaine, & Lester, 2011). One qualitative study (Einbinder, 2010) and one multiple embedded case history (Blakey, 2012) were also included.

Several papers use data from the same intervention studies. Data from the Illinois Title IV-E Alcohol and Other Drug Abuse (AODA) waiver demonstration project are utilised in three papers in this review (Choi et al., 2012; Choi & Ryan, 2007; Huang & Ryan, 2011). However, the study aims outlined in the papers differ. One study examines factors in relation to treatment completion and its impact on reunification (Choi & Ryan, 2007), another determines the level of co-occurring problems in women and whether provision of matched services fosters reunification (Choi et al., 2012) and the third examines relationships between treatment modes, recovery and reunification (Huang & Ryan, 2011). Two other papers examine data from the Vulnerable Infants Program of Rhode Island (VIP-RI) program, although they focus on different time periods of the 8-year study. The first paper concentrates on the first four years (McCann et al., 2010) and the second on the last four years of the project (Twomey et al., 2011).

Overall, all papers examined service provision, treatment and reunification outcomes in mothers with a SUD. More specifically, several papers describe findings in relation to maternal characteristics associated with reunification (Choi et al., 2012; Choi & Ryan, 2007; Grant et al., 2011; Green, Rockhill, & Furrer, 2007; Grella et al., 2009; McCann et al., 2010; Twomey et al., 2011), as well as length of alcohol or drug treatment and treatment factors (Choi et al., 2012; Green et al., 2007; Grella et al., 2009; Huang & Ryan, 2011). Table 3 presents an overview of the aims of all studies included in the review.

Characteristics of mothers

The demographics of the participants demonstrate the hardships faced in life by these women (table 4). Where reported, the women had high unemployment rates, (Choi et al., 2012; Choi & Ryan, 2007; Green et al., 2007; McCann et al., 2010; Twomey et al., 2011) and low high

school completion rates (Choi et al., 2012; Choi & Ryan, 2007; Gayle A Dakof et al., 2009; Grant et al., 2011; Grella et al., 2009; Huang & Ryan, 2011). Women were mostly unmarried. Several studies reported histories of childhood and/or adult sexual and physical abuse (Gayle A Dakof et al., 2009; Einbinder, 2010; Grant et al., 2011; Twomey et al., 2011) and comorbidities such as mental health disorders (Choi et al., 2012; Choi & Ryan, 2007). Other chronic medical conditions were noted in seven studies. Furthermore, interactions with the law were reported in three studies. Where severity of addiction or frequency of drug use were reported, mothers were found to be largely dependent, frequent users and with long histories of drug use. The main drugs used by women across all studies were stimulants (cocaine, crack cocaine and methamphetamines) (see table 4).

This analysis found that being married (Choi et al., 2012), older (Choi et al., 2012; Choi & Ryan, 2007; Twomey et al., 2011), having older children (Choi et al., 2012; Grella et al., 2009), having male children (Choi & Ryan, 2007), being employed (Grella et al., 2009) and completing at least a high school diploma (Twomey et al., 2011) contributed to higher reunification rates. The children of mothers with a high school diploma in the Grella et al. (2009) study stayed in care for shorter time periods . However, Choi and Ryan (2007) found that when matched services were provided, mothers with less than a high school education, mothers who were younger and were unemployed had higher reunification rates.

Primary drug used was demonstrated to impact on reunification, and when heroin was the primary drug used, reunification rates compared to those that reported alcohol as their primary drug were lower (OR=0.39) (Grella et al., 2009). This was similar to the findings by Choi and Ryan (2007) in the matched ‘housing’, ‘family counselling’ and the ‘substance use’ sub groups where the odds of family reunification for cocaine compared to heroin were 2.25,

2.55 and 2.02 times higher respectively. Additionally, mothers in the ‘housing’ sub group who used alcohol were 3.56 times more likely to be reunified with their family than those who used heroin (Choi & Ryan, 2007). Heroin or cocaine use was also associated with children staying in OOHC for longer time periods. These mothers were more likely to be single, had not completed school, had more family stressors and a greater number of children in care (Green et al., 2007). Furthermore, McCann et al. (2010) found that family size was an important factor and mothers with fewer children (1.53 vs. 1.63), or only one child (27% vs. 15%) were more likely to be reunified with their child.

Co-morbidity with a mental health disorder was identified as a barrier to reunification in several studies (Choi et al., 2012; Choi & Ryan, 2007; Grella et al., 2009). Interestingly Grant et al. (2011) demonstrated that mothers with fewer mental health problems received higher levels of mental health treatment and were subsequently more likely to regain custody than mothers with more severe psychiatric instability (Grant et al., 2011). Mothers with greater addiction severity index (ASI) scores in the area of psychiatric severity were less likely to reunify with their children ($OR=0.53$) (Grella et al., 2009). The motivation of mothers was a notable finding in one study. Blakey (2012) found that mothers who achieved reunification were internally motivated to complete treatment and regain custody of their children. These mothers were said to ‘thrive’, whereas mothers who were less motivated, were described as being in ‘survival’ mode, acted out and failed to follow treatment recommendations.

The analysis of the findings of the 11 studies resulted in the identification of additional treatment related factors that were found to influence reunification. These factors were: time to treatment initiation; treatment progress and treatment completion; program type (including

type of support provided); and the provision of services to address co-occurring problems. These are described below (see also Table 2).

Alcohol and Drug Treatment and Reunification

Time to treatment initiation

Timeliness to treatment initiation and length of time in treatment was a significant factor for reunification in one study. The sooner a mother entered treatment, the more likely she was to stay in treatment and achieve reunification (100 days vs. 160 days, $p<0.001$) (Green et al., 2006). Overall, this study found that mothers who were reunified with their children entered treatment in approximately half the time compared to mothers who were not reunified with their children ($p<0.001$).

Treatment progress and treatment completion.

Treatment progress and completion were predicting factors of reunification across several studies. The longer a mother stayed in treatment the more likely she was to achieve reunification (Choi et al., 2012; Grant et al., 2011; Green et al., 2006; Grella et al., 2009; Huang & Ryan, 2011). One study found that substantial treatment progress increased the likelihood of reunification by 15.68 times compared to mothers that did not make substantial treatment progress (Huang & Ryan, 2011).

Another study, similarly found treatment progress a significant predictor for reunification when compared to mothers who did not make treatment progress (46.7 % vs. 19.0%) (Choi et al., 2012)). Treatment progress was also associated with treatment completion and mothers who completed treatment were more likely to achieve reunification (37.9% vs 12.6%) (Choi et al., 2012). Grella et al. (2009) found that reunification rates doubled with treatment

completion or, for mothers who spent at least 90 days in treatment (Grella et al., 2009). Children of mothers who completed treatment had significantly shorter stays in OOHC ($p < 0.001$), and were nine times more likely to be reunified with their mothers (Green et al., 2007).

Program type and models.

The findings of all 11 studies with regard to treatment types and impact on reunification were mixed. One study found that residential treatment that allowed children to stay with the mother during treatment was beneficial for 50% of women (Blakey, 2012). Results from another study noted that the provision of residential treatment when combined with community-based services was predictive of reunification (32% of 53 mothers), compared to those who received treatment other than residential treatment (19% of 84 mothers) and residential treatment only (9% of 23 mothers). Community based services included outpatient care, recovery at home, detox, methadone maintenance, short stays in a half-way house, brief and early interventions (Huang & Ryan, 2011).

One residential program, known as the Exodus program, has been found to have consistently high reunification rates of 85% (Icenhower, 2008). The research included in this review only interviewed women who had successfully graduated from the Exodus program. Of these women, 12 of 21 mothers had had a child removed prior to commencement of the program, and all mothers regained custody of their children by the end of the program (Einbinder, 2010). This program is a comprehensive residential case management program that provides care and support during and beyond the 18-month program. Services include treatment for mental health problems, health issues, parenting advice and support, education assistance, financial management, legal assistance and children's socialization (Einbinder, 2010).

In contrast to the findings of Einbinder et al. (2010) the first four years of the VIP-RI program, which provided SUD treatment in multiple modes, found that reunification rates were lower amongst residential treatment recipients than women participating in other treatment modes. These included outpatient drug treatment, hospital based treatment, in patient or outpatient detoxification and counselling (McCann et al., 2010). The VIP-RI program is a multidisciplinary program that provides women with services according to their needs, accompanies women to court and assists with social service provision. Standardised screening tools were used during the study to inform care. This included a tool to measure parenting attitudes. Reunification was more likely in mothers who had received HIV pre and post-test counseling, pre and postnatal care, primary medical care, family planning, entitlement assistance and donations of food and clothing. In the final four years of VIP-RI study 43% (n=226) of mothers had successfully completed the program and were reunified with their child/ren (Twomey et al., 2011). It is unclear from the paper what type of SUD treatment the mothers were engaged in at this time.

The Dakof et al. study examines two treatment models and reunification outcomes. This program delivers a standard family drug court (FDC) model of care, versus an intensive case management model of care known as the Engaging Moms Program (EMP). The case manager's role is to assist mothers to comply with the program including SUD treatment, social service assistance, developing parenting capacity and attending court sessions. Mothers in the EMP achieved reunification rates of 70%, compared to 40% in the standard FDC model (Gayle A. Dakof et al., 2010).

Another study in the review (Grella et al., 2009) compared reunification outcomes according to the level of services received by the mother and found that mothers treated in programs

that provided medium or high level of services, were almost twice as likely to reunify with their children compared to mothers who received fewer services. There was no statistical difference associated with mothers being treated in programs that provided a greater number of mental health services and reunification outcomes. In this study, which comprised 1115 mothers, 44% of the children were reunified with their mothers. The treatment program included methadone, outpatient or residential treatment and program type did not appear to effect reunification outcomes (Grella et al., 2009).

Provision of 'matched services' to meet co-occurring problems.

The provision of matched services to address mother's multiple preexisting issues was found to be beneficial. In one study (Choi & Ryan, 2007), where 75.9% of mothers had four or more co-occurring issues and 28.9% of mothers identified seven or more co-occurring issues, matched service provision increased reunification rates. While reunification rates were low (12.1%), as was the number of women who actually received matched services across the study, reunification increased when matched services were provided for mental health needs (7.24 times greater), housing (3.29 times greater), family counseling (5.23 times greater) and substance abuse needs (4.66 times greater) (Choi & Ryan, 2007). Higher rates of reunification were found in matched service provision where mothers were older, had less than a high school qualification, whose children were boys, and for those who had not received mental health treatment (Choi & Ryan, 2007).

Grant et al. (2011) examined service provision to address co-occurring problems and reunification outcomes. In this statewide intervention program study of 458 women, the mother herself identified the service need, and if their service needs were met, they were allocated a service ratio of 1. Women who either continually had custody of their children

throughout the study period or regained custody had significantly higher summary service ratios (0.85 and 0.91) than those who did not have their children at the end of the study (0.73). This demonstrated the relative success of providing tailored services based on individual need. More specifically, women who were reunified with their children had their higher service needs met for family health care, public housing, and public health nursing. Overall, this study found that contact with other health professionals whilst engaged in treatment was important. Mothers who received family health care, saw a public health nurse, and were provided with and/or using reliable family planning were more likely to be reunified with their children (Grant et al., 2011).

DISCUSSION

The review demonstrates the ongoing barriers and challenges faced by mothers to address their substance dependence and gain custody of their children where possible. Whilst many of the studies reported on outcomes of comprehensive programs and intensive case management for these women, reunification rates varied. Even when mothers were provided with matched service provision for co-occurring problems, uptake and reunification rates were generally low (Choi & Ryan, 2007). However, tailored and intensive programs show some promise in reunifying women with SUD and their children.

Whist this review found that timeliness of treatment initiation and length of time in treatment were important factors in regards to reunification and that timely access should be facilitated, barriers to treatment uptake exist and some may be gender related. A review of 13 articles that examined characteristics associated with treatment outcomes in women with SUD found that they were less likely than men to enter treatment overall, relative to their overall drug use. Cited reasons are that women (with children) may be fearful of losing custody of

children, feel guilty and are stigmatised by health services (Niccols et al., 2012). Stigma has negative effects for people with SUD related issues, affecting treatment uptake and completion (Brener, Von Hippel, Von Hippel, Resnick, & Treloar, 2010) impacting upon mental and physical health (Ahern, Stuber, & Galea, 2007). Education for health professionals is one way of reducing such stigma and considering drug treatment is cost effective both on an individual and a community level (Digiusto & Treloar, 2007), timely access should be facilitated, barriers minimised and treatment should be flexible and available through various access points (Commonwealth of Australia, 2011; World Health Organization, 2008).

The lack of appropriate treatment is further barrier. An Australian study of illicit drug users (male and female) found that 28% of 685 people interviewed were unable to access the treatment they wanted (Digiusto & Treloar, 2007). Barriers included; no drug treatment in their area, long waiting lists, lack of support from health care workers, inappropriate treatment, travel problems, treatment cost and treatment that did not accommodate children (Digiusto & Treloar, 2007).

Our review found that treatment retention is vital, and substantial treatment progression can lead to higher rates of reunification. Treatment of SUDs has positive effects for women such as reducing harms associated with drug use, reduction of drug use, engagement in health services, improved mental health and development of parental skills when required (Ashley, Marsden, & Brady, 2003). While this review found that women who received more and better-matched services had better reunification rates, intrinsic motivational factors also play an integral role (Blakey, 2012). Programs to facilitate care for mothers with a SUD need to take this into consideration and include programs that deliver comprehensive care with a

holistic approach that address multiple layers including motivational needs for health behavior change (Morse et al., 2014). Additionally, treatment satisfaction and retention may increase if social determinants of health such as social networks and support, education, employment and economic issues are addressed whilst in treatment (Greenfield et al., 2007).

Two sub-groups of women in this review that were found to present challenges to treatment efforts were mothers with psychiatric issues and mothers who used opiates (or heroin). Underlying mental health problems, as well as histories of trauma and abuse, were present for many women in this review, and these issues are common generally amongst women with SUD (Gilbert, Domino, Morrissey, & Gaynes, 2012). Whilst the presence of a mental health conditions alongside SUDs can complicate treatment, the provision of matched services (for mental health) demonstrated relative treatment gains and reunification rates improved (Choi & Ryan, 2007). Other research, albeit limited, has found that integrated treatment of SUD and mental health may be effective for improving mental health for mothers and suggests that integrated mental health and substance abuse programs can improve mental health outcomes in mothers by addressing parenting needs, their children's needs and their roles as a mother (Niccols et al., 2012). This suggests that building a woman's confidence, self-efficacy and their identify as a mother can play an important role in mother-child reunification. (Niccols et al., 2012).

Compared to alcohol and stimulants, lower rates of reunification were found in women who used opioids (or heroin) (Choi & Ryan, 2007; Grella et al., 2009). Prior research within the same cohort utilised in the study by Grella et al (2009), found that women who used heroin were older and had longer treatment histories, suggesting they may have been entrenched in drug use for some years (Grella, Hser, & Huang, 2006). Other studies of women who use

opiates found that they typically have impaired functioning, low levels of education and employment, long duration of drug use, residential instability, low levels of social support (Lundgren, Schilling, Fitzgerald, Davis, & Amodeo, 2003; Taplin & Mattick, 2013), more children and complex mental health problems (Taplin & Mattick, 2013). Interestingly, while opiate treatment is lengthy and requires long term commitment, effective treatment exists (Haber, Demirkol, Lange, & Murnion, 2009) while the research that examines medical treatment for stimulant use is limited. The research findings of this review suggest that the treatment models used are insufficient to address the complex needs of opiate users.

Although this review yielded mixed results in relation to modality of treatment and reunification outcomes, reunification rates were higher in women who received a higher number of multidisciplinary services, matched service provision for multiple needs and co-occurring problems. Other studies have similarly addressed co-occurring problems alongside SUD treatment also leading to higher reunification rates (Cheng, 2010; Marsh, Ryan, Choi, & Testa, 2006) confirming the importance of a tailored program to meet individual needs. Provision of medical care such as family planning, HIV testing primary care and care from a public health nurse were important features, as was the provision of basic needs such as food and clothing. This indicates that meeting basic needs should be an important feature of any treatment program as to provide these is firstly addressing basic human rights, and secondly stress may be alleviated enabling mothers to prioritise their recovery and parenting (McCann et al. 2010). Similarly, the provision of the role of nursing and medically trained health professionals should not be under-estimated, and should be integrated into such programs (McCann et al., 2010).

Only two papers in this review discuss sexual and reproductive health (SRH) issues (Grant et al., 2011; McCann et al., 2010). As mothers with fewer children were more likely to reunify (McCann et al., 2010) family planning and contraception should be an available option for women if they so choose. Overall, there is limited research relating to the SRH needs of women with SUDs. An American study found that of 956 women who used opioids, 86% of these women had a previous unintended pregnancy (compared to 31-74% of the general population) (Heil et al., 2011). Another study of 204 women enrolled in drug treatment programs in Australia, found these women had higher birth rates than the general population, more unplanned pregnancies, and more pregnancies at a younger age (<18), higher rates of miscarriage stillborn and abortion compared to National data (Black, Stephens, Haber, & Lintzeris, 2012). Women with SUD still experience considerable barriers in accessing SRH care services and the placement of such services in SUD treatment program may be beneficial and is an area for exploration (Black, Haber, & Lintzeris, 2012).

Although, ethnicity was not found to be a key factor related to reunification in any studies presented in this review, results from other studies indicate that ethnicity and reunification may be associated. Some studies have found that ethnicity was related to lower rates of reunification among African Americans (Harris & Courtney, 2003), Asian Pacific Islanders and Hispanics but this may be related to family structure, barriers and availability of treatment (Osterling, Lee, & Hines, 2012). Low reunification rates are documented (and high rates of OOH) in Aboriginal and Torres Strait Islander communities in Australia. Although this review was unable to provide insight into programs that may facilitate reunification in culturally and linguistically diverse populations which include Aboriginal and Torres Strait Islander people, consultation with communities has been found to be essential to ensure programs are delivered in culturally appropriate ways, and underpinned by principles of

primary health care (Lee-Hammond, 2013).

Towards an integrated primary health care model of care

An integrated primary health care (PHC) one-stop-shop model that also provides SUD treatment where possible appears to be the most appropriate approach to best support mothers with SUD. This model of care, where multiple needs are accessed under the one roof, removes barriers and increases access to services for people who are vulnerable (Greenfield et al., 2007) and is recommended by the World Health Organization (WHO, 2009). This is a step forward in regards to engaging women in drug treatment and extended comprehensive care, and while the research is limited, targeted PHC for people with SUDs has been found to be an acceptable and accessible model of care (Islam, Topp, Day, Dawson, & Conigrave, 2012). Furthermore, PHC models are recommended to support Australian Aboriginal and Torres Islander communities, including for maternal and child health (OATSIH, 2007).

Mothers with SUD and child protection policy

This review is timely as it coincides with recent changes to the child protection legislation in New South Wales, Australia. The legislation aims to provide more and earlier support for parents and carers, and changes have been made in regards to how permanency is managed. Reunification where possible is still the primary goal, although the time that it may take for a parent or carer to attest their ability to safely care for their child has been decreased. Consequently, if a parent is not deemed able or willing to make progress, their child will be placed in adoptive care. Legislated time frames will now be in place concerning decisions about returning children to their parents (NSW Parliament, 2014) . How the new legislation changes will affect women with a history of a SUD is not known at this stage, though there

have been criticisms from advocacy groups that the bill will affect vulnerable and disadvantaged women disproportionately, especially Aboriginal and Torres Strait Islander women, women in prison and others (Community Legal Centres NSW, 2014), including mothers with a SUD. The new changes to the child protection policy are maligned with other countries such many European nations where the main aim is to keep families together (EMCDDA, 2012)

While it is acknowledged that reunification is not possible for all women and their children, preservation of family ties can be in the child's interests (Mapp, 2002) and therefore reunification should not only encompass the physical reunion, but a range of ways that facilitate a connection of birth families and kin with their children. These approaches can include: periodic visitation and contact via telephone conversations or letters (Mapp & Steinberg, 2007). When reunification is not achievable, efforts in treatment and rehabilitation for the mother should continue which can positively impact on the mother and potential future children. Additionally, gaps in the literature exist with regards to child's preferences to either remain with their biological parent, or be supported through foster care (Haight, Ostler, Black, Sheridan, & Kingery, 2007). This is an area that would benefit from careful research given the ethical considerations of working with children who are vulnerable.

Recommendations

Key recommendations emerge from the findings of this review. The first recommendation concerns the needs for SUD treatment to be readily available, accessible and free of stigma and secondly, that treatment retention should be enhanced through comprehensive programs that address health in a holistic manner that concurrently addresses the social determinants

determinant of health. Programs also need to be comprehensive and matched to individual need and involve the provision of medical care alongside treatment, including sexual and reproductive care are required. Finally a PHC care model is recommended as an appropriate model to facilitate care.

Limitations

This review used only peer reviewed literature and therefore may have missed information published elsewhere such as grey literature, books and non-peer reviewed literature. Data was drawn from a 10 year timeframe due to time constraints and only literature published in English was utilised. This review solely focused on women, therefore information found in literature that focused on men and women, or men alone was not included and may have yielded some important information such as the role of addressing SUD in both parents or carers. There was a limited amount of qualitative data on women's perspectives in this review and this was lacking throughout the literature generally.

All studies were from the USA indicating the need for studies in other countries. Reunification (where possible) is the primary goal in both Australia (AIHW, 2014) and the USA (Blakey, 2012). Whilst there are similarities between Australia and the USA, there are differences in the way reunification is managed, as well as cultural differences which must be considered in the design of interventions to support this process, including parental support and alcohol and other drug treatment (Fernandez, 2013). It is therefore difficult to consider the findings in this review in relation to Aboriginal and Torres Strait Islander communities and this is an area that requires urgent research, care and support.

Conclusion

Women with SUD are a vulnerable group of women with complex and often unmet needs. This is compounded by the effects of having a child removed and taken into OOHC and presents further challenges for these women, their children and health care providers. More comprehensive and integrated care services, as well as greater access to PHC must be considered if we are to improve outcomes and address issues for these women, as well as their children and potential future generations.

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