



Where Are the Children?: Addiction Workers' Knowledge of Clients' Offspring and Related Risks

Lynda Russell¹ · Ruchika Gajwani¹ · Fiona Turner¹ · Helen Minnis¹

Accepted: 21 February 2023
© The Author(s) 2023

Abstract

Parental substance use can harm and increase risk to children. Accurate reporting and monitoring by addiction staff is essential to support and protect families and children. The caseloads of 8 nurses and 12 social care workers (736 service users) were reviewed for offspring related information. 62.8% of service users were parents, 38.3% of those being parents of children aged 16 years and under. Data were available on 913 offspring, 475 (52%) aged 16 or under. 32% of the total offspring sample, and of the 16 and under sample, lived with a family member who was not the parent receiving treatment and had no social work involvement. Seven offspring (0.8%) were deceased—a two-fold increase in mortality rate compared to the general population, highlighting the increased risk of harm experienced by the offspring of this group of parents. In the records of 53 parents (11.5%; 68 children), there was a discrepancy between the electronic records and staff knowledge about children aged 16 and under. Of these 68 children, 56 (11.8%) were recorded on the electronic system but not reported by the care manager, and 12 (2.5%) were only reported by the care manager but were not recorded on the electronic system. Worryingly, there might also be children who are neither on electronic systems nor known to staff. Due to these discrepancies in recording and the increased risks to these children, we recommend that addiction staff routinely asks service users if they are parents and who provides care for their children.

Keywords Addiction · Offspring · Children · Risk · Mortality · Recording

✉ Lynda Russell
Lynda.Russell@glasgow.ac.uk

¹ School of Health and Wellbeing, Mental Health and Wellbeing, University of Glasgow, Glasgow, Scotland

Introduction

Parental addiction¹ is associated with the potential for serious harm to children throughout the lifespan. Alcohol and drug use during pregnancy has been associated with premature birth, fetal alcohol syndrome, neonatal abstinence syndrome, sudden infant death syndrome (SIDS), and congenital abnormalities (Howe, 2005; Tsantefski et al., 2015). Yet, there are methodological issues when making causal claims about the impact or severity of prenatal exposure as several factors can have an impact including the timing of the exposure, substance used, impact of polysubstance use, and level or frequency of use (Konijnenberg, 2015). In addition to prenatal exposure, parents who used substances prenatally are likely to continue to use substances postnatally and some parents may start using substances after becoming parents. Duko and colleagues (2022) found a link between prenatal alcohol exposure and subsequent alcohol use in children but also found that the mechanisms for this link may include postnatal factors such as modeling of alcohol use, parental mental health and child behavioral, and mental health issues.

In childhood, parental addiction has been associated with children's lower educational attainment, relationship difficulties with peers, emotional and behavioral problems, and poorer child well-being (Alati et al., 2013; Forrester & Harwin, 2007; Guille & Aujla, 2019; Kuppens et al., 2020; Lander et al., 2013; Tsantefski et al., 2015). Children with a parent with addiction issues are estimated to be at a four to tenfold risk of developing an addiction (Howe, 2005). Substance use does not need to be significant to lead to harm; children from fathers with sub-clinical levels of alcohol use were at increased risk of developing substance-related disorders (Thor et al., 2022).

Parental addiction has also been linked with child maltreatment with estimates that between 50 and 80% of parents involved with child welfare systems have addiction issues (Tsantefski et al., 2015). Drug use during pregnancy, higher levels of use, stimulant use, injecting drug use, earlier onset of heroin use, recent use (use in last 12 months), and substance related overdose or hospitalization have all been associated with child removal, abuse, or neglect (Canfield et al., 2017; Dube et al., 2001; Ghertner et al., 2018; Kepple, 2017; Prindle et al., 2018; Wall-Wieler et al., 2018). The use of alcohol and/or substances can impact parenting abilities in several ways. Depending on the substance used, information processing speed, problem solving-abilities, coordination, and reflective capacities can all be affected (Howe, 2005). The ability to regulate emotions can also be impaired (Tsantefski et al., 2015). This then affects parents' ability to assess and manage risk, be able to sensitively attune and respond to their child, and can make parents more likely to be irritable, angry, or distressed around their children and, in turn, unable to model or help their children to regulate their emotions. Children of parents with an addiction are also at risk of accidental overdose (Finkelstein et al., 2017). In addition, parental substance use can be a criteria for risk and removal

¹ Parental addiction includes the terms parental substance use and misuse and covers both alcohol and drugs.

in child welfare systems. For example, the most common concern raised at child protection case conferences in Scotland in 2020/21 was domestic abuse closely followed by parental addiction, neglect, parental mental health problems, and emotional abuse; multiple concerns can be raised at each conference (The Scottish Government, 2022). As such, harm may not be a direct result of substance use and can be related to multiple risk factors also associated with parental substance use including parental mental health issues (Canfield et al., 2017; Taplin & Mattick, 2013; Wall-Wieler et al., 2018), domestic violence (Manning et al., 2009; Velleman & Templeton, 2007), and poverty and inadequate housing (Canfield et al., 2017; Fang et al., 2018; Griffiths et al., 2020; Ijadi-Maghsoodi et al., 2019). However, these factors often overlap resulting in cumulative risk to children (Larrieu et al., 2008; Patwardhan et al., 2017).

Despite the serious implications of parental addiction, underreporting is common making it challenging to obtain prevalence rates (Manning et al., 2009). When rates of prevalence of parental addiction or the number of children affected by parental addiction have been reported nationally, at a locality level or within certain populations, each rate is reported as an estimate and usually provides a warning for potential underreporting. This can be due to multiple causes including the lack of official reporting procedures for parental addiction, using data only from parents in treatment, the difficulties of defining parental addiction and with defining when that has an effect on children, parents' underreporting due to stigma and fears of highlighting their addiction, and cultural differences in acceptability of alcohol and substance use (Galligan & Comiskey, 2019; Johnson, 2014; Manning et al., 2009; POST, 2018). Despite these issues, there is widespread agreement that parental addiction is overrepresented in certain populations including parents involved with child protection services and parents of children and young people who themselves have addiction issues (Arria et al., 2012; Harwin et al., 2018; Howe, 2005).

We recently found that mothers accessing an Alcohol and Drug Recovery Service in Scotland were six times more likely to have had children removed by the Local Authority than fathers (Russell et al., 2022). However, questions about their children were left unanswered despite the levels of risk known to exist for children with a parent with addiction issues.

Purpose of the Study

This study is aimed at examining child related information stored in their parents' routinely collected electronic addictions service data and case notes. We aimed to identify the prevalence of parenthood, the number of offspring, whether children lived at home or were in local authority care, and relationships with other children residing in the family home. We then aimed to establish mortality rates in the offspring of this population. Finally, we wished to establish whether addiction service care managers were aware of the existence of their client's children aged 16 years and younger.

Materials and Methods

Procedure

This study focused on the information available in parent's Alcohol and Drug Recovery Service electronic records and on the knowledge held by care managers. It took place in one locality team within the Service in Glasgow, Scotland. Service users had moderate to severe alcohol and/or substance misuse issues and additional complexity or risk (such as criminal justice involvement or mental or physical health issues). There were roughly 3000 active service users at the time of this study, with some variation due to client disengagement and new referrals.

We aimed to gather information on ~25% of service users attending the service. As the focus was on staff knowledge, staff rather than service users were randomly selected, and the target population was defined through the caseloads of the selected members of staff. The service consisted of 25 nurses and 40 social care workers. An initial randomization generated a sample of 6 nurses and 10 social care workers but failed to generate a sample of ~25% of service users so the randomization process was repeated with the remaining staff and a further 2 nurses and 2 social care workers were included. 100% of staff who were invited to take part participated and provided details on their full caseloads. As this study used routinely collected data and all service users had consented to the anonymous use of their data for audit and research purposes, the Research and Innovation Department advised that ethical committee approval was not needed, and the study was reviewed and approved by the Alcohol and Drug Recovery Service Clinical Effectiveness Group. Permission was granted solely to access parent's records, and children's records were not accessed.

Random selection of staff took place in June 2015 with data collected between June 2015 and June 2017 (for full details of the randomization process see Russell et al., 2022). Routine electronic data accessed included clinical case notes and the Scottish Morbidity Record 25 (SMR25). SMR 25 were compulsory data returns completed by Scottish Alcohol and Drug Recovery Services until 2021. Version A was completed at first assessment and version B annually thereafter. Both versions were used for data collection. Data from clinical case notes comprised of free-text notes detailing the content of all appointments and communication with other professionals and services. SMR 25 data consisted of fixed response options/coded data such as ethnicity, gender, yes/no, type, and frequency of substance use. Free-text can also be added to SMR 25 to provide additional information for certain questions or when answering "other." Electronic case notes also have a section to record personal and professional relationships, which included a section for children.

Data were primarily extracted from SMR25 forms as this is the only administrative form routinely collected in Scottish Alcohol and Drug Recovery Services, and all service users should at the minimum have a SMR 25A in their electronic records, even if they started treatment in a different health board in Scotland. In addition, SMR 25 records demographic information, information

on drug and/or alcohol use, and information on children, including number of children, ages, and where they resided (home or local authority care). Data were then extracted from electronic records (clinical case notes and relationships section) for the full caseloads of each selected member of staff, and, finally, interviews were arranged with staff members. During the interviews, staff were able to access the electronic records if needed. For each service user, staff were asked for total number of offspring, number of children aged 16 and under, ages of each offspring, the residential location of each offspring during childhood, and whether there were any other children currently residing in the home with the service user. Information provided from the interviews on children aged 16 years and younger was compared with data extracted from electronic records to assess staff knowledge. Proformas were created for data extraction from each data source.

As the data were primarily collected from SMR25 forms with a standardized template, there is no reason to suspect that data would differ between nurses and social care workers. All staff members were provided with training and guidelines about completing the SMR25 forms and provided with additional training about sensitively asking about offspring and working with parents with addiction issues.

Data Extraction

Data were extracted under the following headings: (1) service user characteristics and (2) child characteristics.

For service user characteristics, we extracted data on gender, age, ethnicity, substance use profile (treatment provided for drugs only, alcohol only, and alcohol and drugs); number of children, and other children in the household.

For child characteristics, we extracted data on age, where children resided during childhood, social work involvement, and child mortality.

SPSS (version 28.0.0.0) was used to explore any differences between staff knowledge and parent's electronic data using mean and descriptive results.

Results

8 nurses and 12 social care workers (30.8% of staff in the service) provided their full caseload information and attended interviews. Data were collected for 736 service users, giving a sample of ~24.5%. Table 1 illustrates their demographic information.

66% of service users were male and 97% were White Scottish. Over half of the sample (56.8%) were receiving treatment for substance use issues only, over a fifth (23.2%) were receiving treatment for alcohol use only, and the remaining service users (20%) were receiving treatment for both.

158 (21.5%) of total sample of service users (and 34.2% of those 462 service users who were parents) had had children removed from their care by the local authority. 111 mothers had had children removed (15.1% of the total sample, 24% of the parents only group, and 56.6% of all the mothers in this sample). 47 fathers had children removed (6.4% of the total sample, 10.2% of parents, and 17.7% of fathers).

Table 1 Parent demographic information

| Demographic factors | <i>N</i> (%) |
|---------------------------------|--------------|
| Client age | |
| Mean (years) | 42.8 |
| Range (years) | 15–78 |
| Parent | |
| Number (%) in total sample | 462 (62.8) |
| Mothers (% in female group) | 196 (78.4) |
| Fathers (% in male group) | 266 (54.7) |
| With children aged 16 and under | 282 |
| % in total sample | 38.3 |
| % in parent sample | 61 |
| Number of children | |
| Mean | 1.2 |
| Range | 1–8 |

Prevalence of Parenthood and Children Aged 16 and Under

From the 736 service users, data from electronic records and staff knowledge were available for 913 offsprings; 7 of whom were deceased. 462 (62.8%) service users were parents to children; including adult children. This differed between genders as 196 (78.4%) of female services users were mothers compared with 266 (54.7%) of male service users who were fathers. Almost 40% of active service users were a parent to a child or children aged 16 years or under. These parents had a total of 475 children, 52% of the total offspring sample. Mean age for the offspring was 14.7 years (range 0–43 years). Data was missing about exact age for 115 offspring (12.6%); 3 who were 16 years or under; 105 who were aged 17 or older, and the 7 offspring who were deceased.

Residential Status of Offspring and Local Authority Involvement

For the total offspring sample, the majority of 294 (32.2%) lived with another family member (such as their other parent or the wider family) with no social work involvement either currently or during their childhood. This was closely followed by 293 (32.1%) who were in local authority care and 287 (31.4%) who lived at home with their parent (the service user). Data about residential status was unknown for 32 (3.5%) offspring. The majority of children who were in local authority care were in kinship care (116; 17.6% of total offspring sample and 54.9% of the offspring in local authority care). Kinship care occurs when the local authority deems that children cannot remain with their birth parent/s and are living with other family members or friends. For full details on residential status, see Supplementary Material Table 1.

For children aged 16 and under, 389 (81.9%) were living with their family, either at home with the parent who was a service user (123; 25.9%), with other family

members with no social work involvement (152; 32%), or in kinship care (114; 24%). For those children living with family members other than the parents, it is possible that these children have continuing contact with the parent who is receiving treatment.

Staff members knew and recorded the locations of almost all children aged 16 years and under (data was unavailable or not known for only 1 child; 0.2%). However, they were unaware of residential status during childhood of 31 (7.2%) offspring aged 17 years or older.

Other Children in the Home

Records or staff interviews indicated that 12 (1.6%) service users currently had a child living in their home that was not their biological child. This group comprised of 18 children, including 11 step-children, 4 siblings, 2 grandchildren, and a cousin.

Offspring Mortality Rate

Seven children (0.8%) had died, compared to a mortality rate for individuals aged under 75 years in Scotland of 0.4% (National Records of Scotland, 2021). Information was not available about their location or exact ages prior to death. Data on cause of death was missing for four individuals and available for three individuals; one was due to cot death and two died as adults from drug overdoses.

Service Awareness of Client's Children

For 53 (11.5%) parents, there was a discrepancy between the information reported about children by care managers in face-to-face interviews and the information recorded about children in the electronic system. For 42 (9.1%) parents, the electronic system had records of children that the care manager did not report, and for 11 (2.4%) parents, the care manager reported that there were children in the family that were not recorded in the electronic system. Since a parent may have more than one child, records were further analyzed to check for the number of children for each discrepancy. 56 children (11.8% of children aged 16 and under) were recorded on the electronic system but not reported by the care manager, and 12 children (2.5% of children aged 16 and under) were reported by the care manager but not recorded on the electronic system.

Discussion

Our findings indicate that the majority of service users in the Alcohol and Drug Recovery Service were parents (62.8%), and over three quarters of female service users were mothers (78.4%). A significant proportion of parents who are receiving treatment have children that are 16 years of younger (61%). These findings indicate that significant numbers of children in this sector of Glasgow may be impacted by

parental addiction. This supports the estimates by The Scottish Government, (2013) that 40–60,000 children may be affected by parental problematic drug use and 36–51,000 children were living with parents with problematic alcohol use highlighting the scale of this issue in Scotland.

The mortality rate of offspring in this study was 0.8%, a twofold increased mortality rate in the offspring of current service users compared to the mortality rate in Scotland as a whole—although this is likely an underestimate as all of these offspring are well under 75 years of age, which is the upper age limit for the Scottish mortality rate figures. It was out with the scope of this paper to investigate whether these offspring were living with their parent with addiction issues at the time of death and the ages and causes of death. Future research could explore this area further but may also want to look at rates of miscarriage and stillbirth in this population due to the known risks to offspring in this population.

Given the risks to offspring, it was positive to note that when staff were aware of children aged 16 and under, they are asking and recording information about children and their residential status. Staff were able to report details on the residential status of every child aged 16 and under except one (99.8%). Once children were aged 17 or over, staff reported information about children and residential status for 400 offspring (92.8%). This is still a high rate of recording, but staff mentioned in their interviews that they were less concerned about collecting and recording data regarding offspring once they were adults. There are potential risks associated with this view as our results about mortality rates indicate there are continued risks to the offspring of these parents in adulthood. Additionally, children that do not live with their parent with addiction issues or are in local authority care may continue to have contact or establish contact with their birth parents once they become adults.

Roughly, a third of children who were placed into local authority care in Scotland were returned to their parents (Biehal et al., 2019), and a cycle of reunification and returning to the local authority care is common for looked after children (Carlson et al., 2020), so it is important that staff regularly ask service users about their children. While staff may be less concerned about adult children, it is also important that contact is reviewed regularly as service users may provide care for grandchildren or other family members. Our data also show that service users may also live with other children—such as stepchildren and siblings. This also highlights the importance of staff being aware and up to date about where service users live and with whom.

Our results also highlight a worrying issue that children were not always accurately recorded on the electronic system when staff were aware of their existence and that staff were unaware of the existence of children despite this information being recorded and accessible to staff. There was a discrepancy in the records of over 10% of parents in the service, resulting in inaccurate information about 68 children. In the majority of cases, the electronic system had more children recorded than staff reported. There may be several reasons for this discrepancy—some staff decided to report from memory and did not check the electronic system during their interviews so they may have recorded this information on the system but were unable to recall in their interview given the size of their caseloads; the

relationship section of the electronic records can be updated and linked to their children's records by other professionals such as social workers so they may not be aware of updates or other information being added if not checking the system regularly; and parents in addictions, especially mothers, regularly report concerns about disclosing information about being a parent due to fear about social work involvement and potentially having their children removed from their care (Agterberg et al., 2020; Frazer et al., 2019) so may avoid disclosing this information to care managers. As underreporting of the prevalence of parental addiction and the number of children affected is commonly reported (Manning et al., 2009), these results highlight the importance of communication between social work, health, and education as this is essential in identifying and recording the number of children who are at risk from parental addiction (Galligan & Comiskey, 2019).

In addition to the impact on children, contact with social work and the removal of children has an impact on birth parents. Birth parents describe removal as traumatic and report a deterioration in their mental health and relapse or increase in their alcohol and/or substance use following removal (Broadhurst & Mason, 2020; Kenny et al., 2015; Memarnia et al., 2015). Early identification of high-risk families could be beneficial for children and their parents with the potential to reduce further risk and harm. This highlights the importance of good relationships between addiction staff and service users and the value of regularly asking about and accurately recording information about service users and their children.

A strength of this study is the 100% participation rate of addiction staff and the large sample size, indicating these results are representative of the locality team sampled and the service generally. However, these results may not be representative of other areas with greater ethnic diversity. Another limitation is the lack of approval to access children's records in addition to their parents, which may have provided further information to support or challenge these results.

Conclusion

This study highlights that a significant number of service users in the Alcohol and Drug Recovery Service are parents, with high prevalence rates for mothers and parents with children aged 16 and under. Even when children were not living with a service user parent, they potentially continued to have access as the majority of children either lived with family with no social work involvement or were in kinship care.

We also identified a two-fold increase in mortality rate for the offspring of these parents and missing information about children. There was a discrepancy in recording of presence of children in over 10% of parent's records and missing data on 68 children. Extrapolating to the whole city, this could be over 800 children in Glasgow with inaccurate information and potentially at increased risk of harm. What is even more worrying is the fact that there might be children that were not recorded on the system or known to staff, leading us to wonder: where are the children?

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s42448-023-00158-9>.

Acknowledgements Many thanks to the staff and management of NHS Greater Glasgow and Clyde Alcohol and Drug Recovery Service for their support with this paper.

Data Availability The data that support the findings of this study are available from the corresponding author upon request.

Declarations

Conflict of Interest The authors declare no competing interests.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Agterberg, S., Schubert, N., Overington, L., & Corace, K. (2020). Treatment barriers among individuals with co-occurring substance use and mental health problems: Examining gender differences. *Journal of Substance Abuse Treatment*, *112*, 29–35. <https://doi.org/10.1016/j.jsat.2020.01.005>
- Alati, R., Davey Smith, G., Lewis, S. J., Sayal, K., Draper, E. S., Golding, J., . . . Gray, R. (2013). Effect of prenatal alcohol exposure on childhood academic outcomes: contrasting maternal and paternal associations in the ALSPAC study. *PLoS one*, *8*(10), e74844–e74844. <https://doi.org/10.1371/journal.pone.0074844>
- Arria, A. M. P. D., Mericle, A. A. P. D. M. S. W., Meyers, K. P. D., & Winters, K. C. P. D. (2012). Parental substance use impairment, parenting and substance use disorder risk. *Journal of Substance Abuse Treatment*, *43*(1), 114–122. <https://doi.org/10.1016/j.jsat.2011.10.001>
- Biehal, N., Cusworth, L., Hooper, J., Whincup, H., & Shapira, M. (2019). *Permanently progressing? Building secure futures for children in Scotland. Pathways to permanence for children who become looked after in Scotland*. Stirling: University of Stirling
- Broadhurst, K., & Mason, C. (2020). Child removal as the gateway to further adversity: Birth mother accounts of the immediate and enduring collateral consequences of child removal. *Qualitative Social Work*, *19*(1), 15–37. <https://doi.org/10.1177/1473325019893412>. Article 1473325019893412.
- Canfield, M., Radcliffe, P., Marlow, S., Boreham, M., & Gilchrist, G. (2017). Maternal substance use and child protection: A rapid evidence assessment of factors associated with loss of child care. *Child Abuse & Neglect*, *70*, 11–27. <https://doi.org/10.1016/j.chiabu.2017.05.005>
- Carlson, L., Hutton, S., Priest, H., & Melia, Y. (2020). Reunification of looked-after children with their birth parents in the United Kingdom: A literature review and thematic synthesis. *Child & Family Social Work*, *25*(1), 192–205. <https://doi.org/10.1111/cfs.12663>
- Dube, S. R., Anda, R. F., Felitti, V. J., Croft, J. B., Edwards, V. J., & Giles, W. H. (2001). Growing up with parental alcohol abuse: Exposure to childhood abuse, neglect, and household dysfunction. *Child Abuse & Neglect*, *25*(12), 1627–1640. [https://doi.org/10.1016/S0145-2134\(01\)00293-9](https://doi.org/10.1016/S0145-2134(01)00293-9)
- Duko, B., Pereira, G., Tait, R. J., Bedaso, A., Newnham, J., Betts, K., & Alati, R. (2022). Prenatal alcohol exposure and offspring subsequent alcohol use: A systematic review. *Drug and Alcohol Dependence*, *232*, 109324–109324. <https://doi.org/10.1016/j.drugalcdep.2022.109324>

- Fang, S.-Y., Huang, N., Tsay, J.-H., Chang, S.-H., & Chen, C.-Y. (2018). Excess mortality in children born to opioid-addicted parents: A national register study in Taiwan. *Drug and Alcohol Dependence*, 183, 118–126. <https://doi.org/10.1016/j.drugalcdep.2017.10.015>
- Finkelstein, Y., Macdonald, E. M., Gonzalez, A., et al. (2017). Overdose risk in young children of women prescribed opioids. *Pediatrics*, 139(3), e20162887.
- Forrester, D., & Harwin, J. (2007). Social work and parental substance misuse. In R. Phillips (Ed.), *Children exposed to parental substance misuse: Implications for family placements* (2nd ed., pp. 115–131). BAAF Adoption and Fostering.
- Frazer, Z., McConnell, K., & Jansson, L. M. (2019). Treatment for substance use disorders in pregnant women: Motivators and barriers. *Drug and Alcohol Dependence*, 205, 107652–107652. <https://doi.org/10.1016/j.drugalcdep.2019.107652>
- Galligan, K., & Comiskey, C. M. (2019). Hidden harms and the number of children whose parents misuse substances: A stepwise methodological framework for estimating prevalence. *Substance Use & Misuse*, 54(9), 1429–1437. <https://doi.org/10.1080/10826084.2019.1584224>
- Ghertner, R., Waters, A., Radel, L., & Crouse, G. (2018). The role of substance use in child welfare case-loads. *Children and Youth Services Review*, 90, 83–93. <https://doi.org/10.1016/j.childyouth.2018.05.015>
- Griffiths, L. J., Johnson, R. D., Broadhurst, K., Bedston, S., Cusworth, L., Alrouh, B., . . . John, A. (2020). Maternal health, pregnancy and birth outcomes for women involved in care proceedings in Wales: A linked data study. *BMC pregnancy and childbirth*, 20(1), 697–697. <https://doi.org/10.1186/s12884-020-03370-4>
- Guille, C., & Aujla, R. (2019). Developmental consequences of prenatal substance use in children and adolescents. *Journal of Child and Adolescent Psychopharmacology*, 29(7), 479–486. <https://doi.org/10.1089/cap.2018.0177>
- Harwin, J., Alrouh, B., Broadhurst, K., McQuarrie, T., Golding, L., & Ryan, M. (2018). Child and parent outcomes in the London family drug and alcohol court five years on: Building on international evidence. *International Journal of Law, Policy, and the Family*, 32(2), 140–169. <https://doi.org/10.1093/lawfam/ebz006>
- Howe, D. (2005). *Child abuse and neglect: Attachment, development, and intervention*. Palgrave Macmillan.
- Ijadi-Maghsoodi, R., Quan, M., Horton, J., Ryan, G. W., Kataoka, S., Lester, P., . . . Gelberg, L. (2019). Youth growing up in families experiencing parental substance use disorders and homelessness: A high-risk population. *Journal of child and adolescent psychopharmacology*, 29(10), 773–782. <https://doi.org/10.1089/cap.2019.0011>
- Johnson, T. P. (2014). Sources of error in substance use prevalence surveys. *International Scholarly Research Notices*, 2014, 923290–923221. <https://doi.org/10.1155/2014/923290>
- Kenny, K. S., Barrington, C., & Green, S. L. (2015). “ I felt for a long time like everything beautiful in me had been taken out ”: Women’s suffering, remembering, and survival following the loss of child custody. *The International Journal of Drug Policy*, 26(11), 1158–1166. <https://doi.org/10.1016/j.drugpo.2015.05.024>
- Kepple, N. J. (2017). The complex nature of parental substance use: Examining past year and prior use behaviors as correlates of child maltreatment frequency. *Substance Use & Misuse*, 52(6), 811–821. <https://doi.org/10.1080/10826084.2016.1253747>
- Konijnenberg, C. (2015). Methodological issues in assessing the impact of prenatal drug exposure. *Substance Abuse: Research and Treatment*, 2015(S2), 39–44. <https://doi.org/10.4137/SART.S23544>
- Kuppens, S., Moore, S. C., Gross, V., Lowthian, E., & Siddaway, A. P. (2020). The enduring effects of parental alcohol, tobacco, and drug use on child well-being: A multilevel meta-analysis. *Development and Psychopathology*, 32(2), 765–778. <https://doi.org/10.1017/S0954579419000749>
- Lander, L., Howsare, J., & Byrne, M. (2013). The impact of substance use disorders on families and children: From theory to practice. *Social Work in Public Health*, 28(3–4), 194–205. <https://doi.org/10.1080/19371918.2013.759005>
- Larrieu, J. A., Heller, S. S., Smyke, A. T., & Zeanah, C. H. (2008). Predictors of permanent loss of custody for mothers of infants and toddlers in foster care. *Infant Mental Health Journal*, 29(1), 48–60. <https://doi.org/10.1002/imhj.20165>
- Manning, V., Best, D. W., Faulkner, N., & Titherington, E. (2009). New estimates of the number of children living with substance misusing parents: Results from UK national household surveys. *BMC Public Health*, 9(1), 377–377. <https://doi.org/10.1186/1471-2458-9-377>

- Memarnia, N., Nolte, L., Norris, C., & Harborne, A. (2015). 'It felt like it was night all the time': Listening to the experiences of birth mothers whose children have been taken into care or adopted. *Adoption & Fostering*, 39(4), 303–317. <https://doi.org/10.1177/0308575915611516>
- National Records of Scotland. (2021). *Age-standardised death rates calculated using the European standard population*. The Scottish Government. Retrieved from <https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/age-standardised-death-rates-calculated-using-the-esp>
- Patwardhan, I., Hurley, K. D., Thompson, R. W., Mason, W. A., & Ringle, J. L. (2017). Child maltreatment as a function of cumulative family risk: Findings from the intensive family preservation program. *Child Abuse & Neglect*, 70, 92–99. <https://doi.org/10.1016/j.chiabu.2017.06.010>
- POST. (2018). *Parental alcohol misuse and children*. POSTNOTE.
- Prindle, J. J., Hammond, I., & Putnam-Hornstein, E. (2018). Prenatal substance exposure diagnosed at birth and infant involvement with child protective services. *Child Abuse & Neglect*, 76, 75–83. <https://doi.org/10.1016/j.chiabu.2017.10.002>
- Russell, L., Gajwani, R., Turner, F., & Minnis, H. (2022). Gender, Addiction, and Removal of Children Into Care. *Front Psychiatry*, 13, 887660. <https://doi.org/10.3389/fpsy.2022.887660>
- Taplin, S., & Mattick, R. P. (2013). Mothers in methadone treatment and their involvement with the child protection system: A replication and extension study. *Child Abuse & Neglect*, 37(8), 500–510. <https://doi.org/10.1016/j.chiabu.2013.01.003>
- The Scottish Government. (2013). *Getting our priorities right*. Scottish Government.
- The Scottish Government. (2022). *Children's social work statistics, Scotland 2020–21*. The Scottish Government.
- Thor, S., Hemmingsson, T., Danielsson, A.-K., & Landberg, J. (2022). Fathers' alcohol consumption and risk of substance-related disorders in offspring. *Drug and Alcohol Dependence*, 233, 109354–109354. <https://doi.org/10.1016/j.drugalcdep.2022.109354>
- Tsantefski, M., Gruenert, S., & Campbell, L. (2015). *Working with substance-affected parents and their children*. Allen & Unwin.
- Velleman, R., & Templeton, L. (2007). Understanding and modifying the impact of parents' substance misuse on children. *Advances in Psychiatric Treatment: The Royal College of Psychiatrists' Journal of Continuing Professional Development*, 13(2), 79–89. <https://doi.org/10.1192/apt.bp.106.002386>
- Wall-Wieler, E., Roos, L. L., Brownell, M., Nickel, N. C., & Chateau, D. (2018). Predictors of having a first child taken into care at birth: A population-based retrospective cohort study. *Child Abuse & Neglect*, 76, 1–9. <https://doi.org/10.1016/j.chiabu.2017.09.033>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.