**Fetal Alcohol Spectrum Disorder (FASD): Knowledge, attitudes, experiences and practices of
the Western Australian youth custodial workforce**

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Word count (excluding title page, abstract, references, figures and tables): 4852

Abstract

Background: Fetal Alcohol Spectrum Disorder (FASD) is a condition caused by prenatal alcohol exposure and characterised by lifelong physical, behavioural and cognitive abnormalities. Primary disabilities, such as impairment in memory, attention, cognition, language, executive function, and adaptive function, can lead to young people with FASD becoming engaged with the justice system. Little is known about the extent of FASD in youth detention in Australia, or of the capacity custodial staff have to manage and support young people with FASD. In tandem with a study assessing the prevalence of FASD among youth in detention in Western Australia (WA), this study aims to establish the current knowledge, attitudes, experiences and practices regarding FASD and other neurodevelopmental impairments among youth custodial officers in order to develop training resources for this workforce.

Methods: We invited youth custodial officers in the only youth detention centre in WA to participate in an online or hardcopy survey. The survey was developed following extensive consultation with the workforce and investigated their knowledge, attitudes, experiences and practices relating to FASD and other neurodevelopmental impairments. This included experience working with young people with FASD and other impairments, and attitudes towards relevant training.

Results: 112 youth custodial officers (51% of the youth custodial workforce) completed the survey. While many respondents had heard of FASD (77%) and understood it is relevant to the justice system (74%), limited in-depth FASD knowledge existed. Many respondents were unsure or unaware that FASD is permanent brain damage (53%) and cannot be outgrown (57%). Respondents were infrequently informed if a young person in detention had a diagnosis of FASD. Almost all custodial officers indicated motivation to complete training to further understand FASD (92%) and other neurodevelopmental impairments (94%), with particular interest in the application of management strategies appropriate for affected young people.

Conclusions: A lack of specific knowledge, inadequate training to recognise and manage young people with neurodevelopmental impairments, and inconsistent information-sharing processes reduce the

ability of the custodial workforce to care for young people with FASD and other neurodevelopmental impairments. These findings have supported the development and evaluation of training resources targeting the specific needs and requests of the WA youth custodial workforce, and this is now underway.

Keywords: fetal alcohol spectrum disorder; FASD; fetal alcohol syndrome; youth justice; juvenile detention; officers.

Abbreviations:

BHDC	Banksia Hill Detention Centre
DoJ	Department of Justice
FASD	Fetal Alcohol Spectrum Disorder
FAS	Fetal Alcohol Syndrome
ND-AE	Neurodevelopmental Disorder – Alcohol Exposed
pFAS	Partial Fetal Alcohol Syndrome
WA	Western Australia

1. Introduction

1.1 FASD and justice

Fetal Alcohol Spectrum Disorder (FASD) is a condition typically characterised by lifelong physical, behavioural and cognitive abnormalities and caused by prenatal alcohol exposure. Primary disabilities such as difficulties with memory, cognition, language, executive function, social skills, and attention are common (Bower & Elliot, 2016; Chudley et al., 2005; Koren, Nulman, Chudley, & Looke, 2003; Stratton, Howe, & Battaglia, 1996). These impairments affect an individual's functional abilities, and can lead to early school failure, poor mental health, substance misuse, and engagement with the justice system. For instance, a young person with FASD is 19 times more likely to be incarcerated compared to a typically developed young person (Popova, Lange, Bekmuradov, Mihic, & Rehm, 2011). Due to this increased risk of involvement with the justice system, a high prevalence of FASD is expected among young people in detention. In Australia, although interest in FASD among incarcerated young people has been increasing for some time within courts (LCM v The State of Western Australia, 2016) and among justice and health professionals (Department of Health Western Australia, 2010; Education and Health Standing Committee, 2012; House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs, 2011; Youth Affairs Council of Western Australia, 2013), there has been a lack of data available on the prevalence of FASD among those engaged with the justice system. There is also limited literature regarding how best to care for young people with FASD in detention settings (Brown, Connor, & Adler, 2012; Fast & Conry, 2004, 2009; Fast, Conry, & Looke, 1999) and previously none from Australia. To address this, we have recently undertaken a prevalence study to determine the extent that FASD exists among detained young people in Western Australia (WA; Passmore et al., 2016), in which we have found the highest rate of FASD among a justice-involved population worldwide, being 36% (Bower et al., 2018). Incorporated within this study is a workforce development component, which explores how best the youth custodial workforce can manage and care for young people in detention with FASD and related neurodevelopmental impairments, and which this paper is situated within.

1.2 Challenges for those with FASD in the justice system

Neurodevelopmental disorders including FASD are common among young people engaged in the justice system internationally (Hughes, Williams, Chitsabesan, Davies, & Mounce, 2012; Popova et al., 2011), yet there continue to be many young people with unidentified or misdiagnosed impairments (Burd, Selfridge, Klug, & Juelson, 2003; Chasnoff, Wells, & King, 2015; Fast et al., 1999). There is the possibility that a substantial proportion of young people who become and remain involved with the justice system do so due to behaviour directly linked to an unidentified neurodevelopmental disorder. The extent of this problem is unclear for FASD because of the limited diagnostic capacity existing within the community (Burd, Selfridge, Klug, & Bakko, 2004; Elliott, Payne, Haan, & Bower, 2006; Payne et al., 2005; Peadon, Fremantle, Bower, & Elliott, 2008), much less within correctional settings. In Fast and colleagues' study involving 287 youth offenders only 3 of the 67 young people diagnosed with FASD during the study had previously received an accurate diagnosis (Fast et al., 1999). Even when FASD has been previously identified, affected individuals may have difficulty accessing appropriate support given the provision of suitable interventions is lacking within correctional environments (Fast & Conry, 2004, 2009; Hughes et al., 2012).

Given the difficulties that individuals with FASD may have in following conversations, understanding social interactions, and adhering to expectations requiring high level thinking processes (Koren et al., 2003; Streissguth, Barr, Kogan, & Bookstein, 1997; Streissguth et al., 2004), they are likely to experience a greater number of challenges when engaged with the justice system at all stages, from initial police interactions to incarceration, in comparison to those who are typically developed (Fast & Conry, 2004, 2009). During police questioning and court proceedings, a young person with FASD may be highly suggestible and try to please their interviewer, without understanding the need for factual information, or having the ability to accurately recall it (Fast & Conry, 2004, 2009). They may lack the language skills required to comprehend the proceedings (Fast & Conry, 2009), and therefore struggle to express themselves verbally or understand what is being said to them (Snow & Powell, 2008).

While in custody, challenges may occur for a young person with FASD when interacting with their peers, elevating their risk of becoming victim to bullying, manipulation or coercion (Fast & Conry, 2009). Additional difficulties are likely to arise when young people with FASD and other neurodevelopmental impairments are subject to routine care in detention settings (Talbot & Riley, 2007). It is suggested that staff training does not adequately address how to recognise specific vulnerabilities among young people, resulting in behaviours related to permanent brain damage being misinterpreted as noncompliant or wilfully deviant (Boland, Burrill, Duwyn, & Karp, 1998; Talbot & Riley, 2007). As McAdam (2012) succinctly states, “we have an under-served population of vulnerable prisoners who may be misunderstood by a significant number of people looking after them” (p. 29). Alternatively, the young people may have developed strategies to hide such vulnerabilities (Fast & Conry, 2009), resulting in limited provision of the care and support required (Hughes et al., 2012).

The management practices stipulated by detention centre operational protocols and prescriptive consequences typically applied by custodial staff may not be appropriate for a young person with FASD and their level of understanding. Instead, they may further escalate negative behaviours and prevent consideration of an individual’s vulnerabilities. As Hughes and Peirse O’Byrne (2016) so eloquently summarise:

“An awareness of the myriad potential influences of neurodevelopmental impairment on behaviour and function among custodial staff is also crucial to the accurate interpretation of that behaviour, and therefore an appropriate response. In particular, this recognition should encourage staff to avoid assumptions that such behaviour demonstrates attitudinal problems, such as a lack of motivation or wilful non-compliance with directives.” (p. 18).

The challenges for young people with FASD involved with the justice system may contribute to the exacerbation of behavioural issues and negative outcomes such as repeat engagement with the justice system and increased episodes of custodial misconduct when in detention (Fast & Conry, 2004, 2009).

1.3 FASD knowledge among custodial professionals

A detailed understanding of FASD and related neurodevelopmental impairment is necessary among youth custodial staff to ensure that young people with impairments are identified, understood and given tailored support while engaged with the justice system, and particularly while in detention (Hughes & Peirse O'Byrne, 2016; McAdam, 2012; Talbot & Riley, 2007). To date, little is known about the extent to which FASD is understood among the custodial workforce, or their current knowledge, attitudes, experiences and practices in relation to FASD or other neurodevelopmental impairments. Furthermore, there is no evidence-based approach for how custodial or correctional staff could best manage individuals with FASD within the correctional environment.

Research investigating the knowledge of criminal justice professionals regarding FASD has more commonly involved judges, lawyers (Cox, Clairmont, & Cox, 2008; Douglas, Hammill, Hall, & Russell, 2012), and police (Stewart & Glowatski, 2014) rather than correctional or custodial personnel. One survey of health, education and service professionals including correctional staff (Johnson et al., 2010) found that general FASD knowledge was significantly lower among the correctional workforce in comparison to professionals in the other sectors. A survey of corrective services professionals, police, judicial officers and lawyers in WA found that a basic understanding of FASD and how it affects the lives of individuals exists across all of the justice sectors (Mutch, Jones, Bower, & Watkins, 2016). It is important to note, however, that this limited knowledge and awareness about FASD does not exist solely in the justice sector in Australia. A lack of FASD knowledge extends across key service providers in education and health, including early education specialists (Frances, 2013), paediatricians (Payne et al., 2011), midwives (Payne et al., 2014), general practitioners, obstetricians, allied health professionals and community nurses (Payne et al., 2011). Encouragingly, the international and local research in this area involving corrections or custodial staff has consistently found further education and ongoing training was requested or supported by the workforce (Johnson et al., 2010; Mutch et al., 2016; Talbot & Riley, 2007).

To ensure young people with FASD are provided with the appropriate support and are held to realistic expectations, adequate training in how to recognise common behaviours of those affected and

what strategies are most appropriate to manage these behaviours is necessary for custodial staff (Fast & Conry, 2009; Talbot & Riley, 2007). The training should target the specific needs of the workforce and consider the particular context of the detention centre environment, as recommended for behaviour change interventions (French et al., 2012). This paper represents the formative stage of our workforce development research and reports the current knowledge, attitudes, experiences and practices of custodial staff in WA regarding FASD and related neurodevelopmental impairments investigated. These findings, along with findings from our prevalence study and qualitative interviews conducted with custodial staff and young people in detention for which analysis is currently underway, will inform the development of training resources designed to build capacity among custodial staff to understand FASD and related impairments, and respond appropriately to behaviours common among those affected.

Methods

2.1 Participants

Participants were staff members employed at Banksia Hill Detention Centre (BHDC), the only juvenile detention centre in WA. All custodial staff employed at the centre were invited to participate, with the only inclusion criterion being that they were actively employed in a custodial position. At the time of data collection there were 220 eligible staff. Officers on long term leave, worker's compensation leave, or suspension for the duration of the data collection period were excluded. On advice from their employer no incentives were provided to participants.

2.2 Instrumentation

2.2.1 Survey development

The participant information sheets, consent forms and survey were developed following a review of the existing literature. Extensive consultations with members of the detention centre workforce including non-Aboriginal and Aboriginal custodial staff, FASD researchers, the multidisciplinary clinical team for our prevalence study, and our prevalence study Steering Committee (Passmore et al., 2016) were undertaken to ensure appropriateness and comprehensibility of the

survey. The FASD diagnostic terms referred to in the survey were those used in Australia at the time of survey administration. These were updated in 2016 with the publication of the Australian Guide to the Diagnosis of FASD (Bower & Elliot, 2016), but not in time for inclusion in the survey. While the survey mainly focused on FASD, other neurodevelopmental impairments and disorders were included due to requests following initial consultations with custodial staff along with preliminary findings from our prevalence study. These included autism spectrum disorder, attention deficit hyperactivity disorder, and intellectual disability. The survey was pilot tested by a former custodial officer and two researchers with expertise in FASD and youth justice. Only minor wording and formatting changes were made following the pilot.

2.2.2 Measures

The survey included:

- demographics;
- knowledge, attitudes, experiences and current practices regarding FASD and other neurodevelopmental impairments; and
- current and future training.

Response options included three and five point Likert scales, dichotomous 'yes/no', multiple choice, checkbox, and open-ended questions. Items in the survey regarding knowledge, attitudes, experiences and practices related to FASD were adapted from surveys previously used in Australian (Mutch et al., 2016; Snoyman, 2010) and international research (Cox et al., 2008; Johnson et al., 2010) evaluating the knowledge, attitudes and practices of justice professionals regarding FASD and other neurodevelopmental impairments. Items regarding the management strategies employed by the custodial staff when engaging with young people in detention were based on strategies recommended specifically for working with children and young people with FASD by Evensen and Lutke (1997), such as repetition, using concrete and specific language, and remaining consistent with yourself and others. The survey is available from the authors on request.

2.3 Procedures

Participants were given the option of completing the survey online or in paper-based form over a three month data collection period. The participant information sheet prefacing the survey informed custodial officers that by completing and submitting the survey they were providing their consent to participate in the study. Custodial staff were invited to complete the survey via email and formal reminders occurred in pre-shift briefings. Prior to the survey administration, researchers were based at the detention centre and spent several months building rapport with the officers. This relationship assisted during the survey administration period as researchers were known and available to the custodial staff if they had questions or concerns.

2.4 Data management and analysis

The Western Australian Aboriginal Health Ethics Committee (#582) and The University of Western Australia Human Research Ethics Committee (#RA/4/1/7116) provided ethical approval for this study. Secure data collection methods were employed to ensure survey responses both in paper and online form were kept anonymous and confidential. This was important given that early consultations with custodial staff accentuated the need for anonymity to foster candid responses. When completed paper surveys were placed in a locked box or handed to the researchers in person, responses were entered into the online system and checked by two researchers for accuracy and interpretation in the case of ambiguous responses. Survey data were converted into SPSS format and descriptive statistics produced using IBM SPSS Statistics (2016). Cross-tabulations of respondent gender, age, length of employment and education level by knowledge, attitude and practice variables were also conducted. Demographic information for the overall youth custodial workforce, such as for gender, Aboriginality and the distribution of positions, were made available to researchers via the Department of Justice (DoJ; formerly the Department of Corrective Services).

Results

3.1 Demographics

A total of 112 custodial officers responded to the survey (response rate 51%), of which the majority (74.1%) chose to respond using the paper-based form. Respondent demographics are shown in Table 1. The majority of respondents did not report previous experience working in the justice system, however of the 20.5% that did, it was most frequently in other juvenile detention facilities either outside of WA or from those which previously operated in WA. The most common sectors of previous employment relevant to their current role included security, defence forces, community services, and education.

Of the overall youth custodial workforce, which at the time of data collection included Youth Custodial Officers (71.7%), Unit Managers (15.0%), Senior Officers (12.0%), Security staff (0.4%) and Trainers (0.9%), 68.7% were male and 4.3% identified as Aboriginal Australian.

Table 1. Demographics of respondents

Characteristic	<i>n</i> (%) (N = 112)
Gender	
Male	73 (65.2)
Female	39 (34.8)
Ethnicity	
Caucasian Australian	77 (68.8)
British	11 (9.8)
Aboriginal Australian	4 (3.6)
Maori, New Zealander or Pacific Islander	7 (6.2)
Other	13 (11.6)
Position	
Youth Custodial Officer	91 (81.2)
Unit Manager	14 (12.5)
Senior Officer	5 (4.5)
Other	2 (1.8)
Length of employment (years)	
≤ 5	64 (57.1)
6 - 10	19 (17.0)
11+	29 (25.9)
Age (years)	
< 30	18 (16.1)
30 - 49	59 (52.7)
50 +	35 (31.3)
Education level	
Secondary School	32 (28.6)
TAFE Certificate and/or Diploma	52 (46.4)
University Degree	27 (24.1)
Other unspecified	1 (0.9)
Previous employment in justice system	
Yes	23 (20.5)
No	89 (79.5)

3.2 Knowledge and attitudes

While the majority of respondents had heard of FASD (77.5%), a higher percentage (96.4%) had heard of Fetal Alcohol Syndrome (FAS). Few had heard of the other diagnostic categories of FASD; partial Fetal Alcohol Syndrome (pFAS) and Neurodevelopmental Disorder – Alcohol Exposed (ND-AE) as shown in Table 2. The most common primary source of information about FASD was our prevalence study at BHDC with which this work is associated (Bower et al., 2018; Passmore et al., 2016), followed by personal experience within work duties (Table 2).

Table 2. Respondent familiarity with FASD and other disorders

	<i>n</i> *	%		Most common primary source of info
		Not heard of it	Heard of it	
FASD	111	22.5	77.5	BHDC prevalence study
FAS [†]	110	3.6	96.4	
pFAS [†]	102	69.6	30.4	
ND-AE [†]	100	78.0	22.0	
Neurodevelopmental Disorder	102	61.8	38.2	-
Autism Spectrum Disorder	112	20.5	79.5	Personal experience
Attention Deficit Hyperactivity Disorder	112	1.8	98.2	Personal experience
Intellectual Disability	112	4.5	95.5	Personal experience

*Variation in *n* due to missing data for individual items

[†]These diagnostic terms were current at time of survey administration but are no longer used in Australia following publication of the Australian Guide to the Diagnosis of FASD (Bower & Elliot, 2016)

Responses to FASD knowledge and attitudes questions are shown in Table 3. When asked to identify what they believed to be the most common difficulties for an individual with FASD, learning was the most common response, respectively followed by memory, decision making and judgement, processing information, mental health issues, speech, language and communication, and social skills.

Table 3. Respondent knowledge and attitudes regarding FASD

	<i>n</i>	% Agreed* Neither agreed nor disagreed Disagreed*		
I am familiar with how alcohol use during pregnancy can affect fetal development	107	98.2	0.9	0.9
I am familiar with common behaviours of those with FASD	100	50.0	29.0	21.0
I am NOT familiar with the cause of FASD	104	16.3	18.3	65.4
I am familiar with how FASD can affect people's lives	100	66.0	23.0	11.0
I am familiar with how FASD might affect young people and adults involved in the criminal justice system	104	74.0	16.4	9.6
FASD can be diagnosed at any age	106	36.8	62.3	0.9
People with FASD have permanent brain damage	106	47.2	49.1	3.7
Alcohol's negative effect on fetal development has been proven	105	81.0	19.0	0
Most birth mothers who drink when pregnant know it can harm the baby	106	50.9	24.6	24.5
All people with FASD have particular facial characteristics	105	22.9	45.7	31.4
People can grow out of FASD	105	1.0	56.1	42.9
FASD occurs primarily in financially disadvantaged families	106	17.0	31.1	51.9
FASD occurs primarily in Aboriginal families	106	19.8	39.6	40.6
Diagnosis of FASD would NOT improve outcomes for those affected by FASD	106	3.8	25.4	70.8
FASD is relevant to the justice system	105	74.3	19.0	6.7
FASD is relevant to my work at BHDC	106	92.5	4.7	2.8
FASD is only relevant to people aged under 18 years	105	2.9	20.0	77.1

* Respondents were provided with a 5-point Likert scale ('Strongly Agree' to 'Strongly Disagree') for these items. Results shown have been aggregated into 3 categories ('Strongly Agree' and 'Agree' have been combined, and 'Strongly Disagree' and 'Disagree' have been combined)

Female respondents were more likely to 'Disagree' or 'Strongly Disagree' (64.1%) that people can grow out of FASD in comparison to male respondents (30.3%). There were no other associations between gender, age, length of employment and education level and knowledge, attitude and practice variables.

3.3 Experiences

Most respondents reported some (28.7%), good (42.6%) or a lot (24.1%) of experience suspecting someone had an intellectual disability. Respondents less commonly reported good (25.3%) or a lot (14.0%) of experience suspecting someone had FASD, and more commonly reported some (38.3%) or a little (16.8%) experience. This was similar for other neurodevelopmental impairments; some experience (38.0%), good experience (32.4%), a lot of experience (15.7%), a little experience (11.1%) and no experience (2.8%). The common reasons staff suspected a young person had FASD were that the young person continually does not follow instructions, obvious low intelligence and their inability to learn from mistakes.

Knowledge of a formal diagnosis of FASD and other disorders and how staff were informed about diagnoses are shown in Table 4. The respondents' level of experience working with young people with a range of difficulties that often stem from neurodevelopmental impairment is shown in Table 5.

Table 4. Number of occasions respondents reported knowing a young person had a diagnosis of FASD or other disorder

	<i>n</i> *	% Never Once More than once			Most common source of diagnostic information
FASD	108	31.5	9.3	59.2	Case file or assessment report
Autism Spectrum Disorder	108	43.5	13.9	42.6	Case file or assessment report
Attention Deficit Hyperactivity Disorder	108	24.1	5.5	70.4	Officer's own judgement
Intellectual Disability	107	11.2	3.7	85.1	Officer's own judgement

* Variation in *n* due to missing data for individual items

Table 5. Respondents' experience with difficulties among young people

Experience with a young person who...	<i>n</i> *	% No experience A little experience Some experience Good experience A lot of experience				
		No experience	A little experience	Some experience	Good experience	A lot of experience
... has memory problems	108	0.9	12.0	46.3	27.8	13.0
... has trouble reading	108	0	1.9	22.2	36.1	39.8
... has difficulty following instructions	107	0	1.9	13.1	40.1	44.9
... has behavioural issues	108	0	0.9	12.0	34.3	52.8
... has difficulty understanding maths	107	0	6.5	20.6	43.9	29.0
... has difficulty understanding time	108	0	7.4	19.4	42.6	30.6
... is impulsive	108	0	1.9	14.8	40.7	42.6
... has mental health issues	108	0	2.8	24.1	34.2	38.9
... has difficulty using words and sentences to communicate (not just because English is their second language)	108	0	4.6	29.6	38.9	26.9
... has poor judgement	107	0	0.9	22.5	35.5	41.1
... has trouble processing information	108	0.9	1.9	21.3	45.3	30.6
... has trouble with their fine motor skills (doing up buttons, writing, chopping up food etc.)	107	4.7	23.3	37.4	21.5	13.1
... has trouble understanding consequences	108	0.9	3.7	20.4	43.5	31.5
... lacks social skills	108	0	5.6	29.6	37.0	27.8
... has trouble understanding social expectations	107	1.9	4.6	19.6	42.1	31.8
... has trouble with substance abuse or addiction	108	0	1.9	13.8	31.5	52.8

* Variation in *n* due to missing data for individual items

3.4 Practices

When asked if they were personally able to modify their practices to suit a young person's individual needs, most respondents (93.6%) indicated they were able to do so. When asked if they would consider modifying their practices in the future if they were informed a young person they were working with had FASD, the majority of participants (97.2%) indicated they would do so. Similarly, most participants (90.6%) indicated they would consider modifying their practices if informed a young person had another neurodevelopmental impairment. The practices most likely to be modified were communication style, method of delivering instructions and use of language. Some respondents made comment that their ability to modify practices was very much dependent on the time and staff resources available, or that they were unable to modify their practices at all due to environmental constraints or their training and/or policies not supporting an individual focused approach.

The vast majority (90.6%) of respondents felt prepared to manage young people with problematic behaviours, however only 50.5% felt prepared to manage a young person with FASD, and 48.6% for other neurodevelopmental impairments. Many respondents reported frequent use of strategies recommended specifically for young people with FASD (Table 6).

Table 6. Frequency respondents' use of recommended strategies (based on Evensen & Lutke, 1997) when engaging with young people

	<i>n</i>	%		
		Never	Sometimes	Always
Literally (you say exactly what you mean)	105	0	33.3	66.7
Consistently (with yourself)	104	1.0	21.1	77.9
Consistently (with other officers)	104	1.9	36.6	61.5
Repetitively	105	0	61.0	39.0
Simply	106	0	44.3	55.7
Specifically	105	0	47.6	52.4
Clearly	108	0	21.3	78.7
Immediately	104	1.0	68.2	30.8

* Variation in *n* due to missing data for individual items

3.5 Training

Of the 88.0% of respondents who had received some form of training about behaviour management, most (64.5%) had only received the behaviour management training in their initial course at the DoJ Training Academy. Other respondents had received behaviour management training every couple of years (18.3%), with few receiving it at a frequency of once a year (7.5%) or more (3.2%). Of the respondents who selected 'other' (6.5%), all made comment that behaviour management training was only made available through outside sources and was very infrequent (e.g. "every decade or two"). Approximately half of the respondents (50.9%) felt that their previous training was influential on how prepared they were to manage problematic behaviours. For FASD and other neurodevelopmental impairments preparedness decreased to 22.8%.

The majority of respondents indicated they would like more information about FASD (91.7%) and other neurodevelopmental impairments (94.4%). In regards to the type of information, respondents most commonly requested (i) guidelines for how to manage affected young people, (ii) indication of impairments on DoJ internal information sharing systems, and (iii) how to recognise behaviours that might mean a diagnostic assessment is necessary. Many respondents (68.2%) thought more knowledge about FASD and other neurodevelopmental impairments would frequently assist in their work. The remaining respondents (31.8%) also thought more knowledge would assist, just less than frequently.

The most preferred method of training was face-to-face workshops (60.2%) and the least preferred method was online modules (60.6%). The most preferred training facilitator was 'experts in the field' (70.4%), and the least preferred facilitator was 'management staff' (81.6%).

2. Discussion

There were substantial gaps in knowledge, attitudes, experiences and practices relating to FASD among the youth custodial workforce at the only youth detention centre in WA, which may hinder their ability to adapt practices to meet the needs of an affected young person. For example,

there may be limited understanding of, or accommodations made for, those with FASD who do not appear atypical, as the majority of the respondents were unaware that particular facial characteristics associated with FASD are not present in all people with FASD. This is in line with a similar study which found limited understanding of the physical and psychological aspects of FASD among Western Australian justice professionals (Mutch et al., 2016). In addition, for many items respondents commonly selected the middle option 'neither agree nor disagree'. This likely means they did not know the answer, as the middle option of a Likert scale is used for unsure responses particularly when the survey content is difficult (Kulas, Stachowski, & Haynes, 2008). For instance, while some respondents agreed that FASD involves permanent brain damage, over half either disagreed or chose 'neither agree nor disagree'. Similarly, over half of respondents either agreed or chose 'neither agree nor disagree' when asked if people can grow out of FASD. This is a gap in the knowledge essential for understanding FASD and accurately interpreting behaviours common among those with FASD (Brown et al., 2015; Fast & Conry, 2004, 2009). If staff do not know or understand that FASD constitutes lifelong, organic brain damage, they will have difficulty reframing an affected individual's behaviours and offering the required support (Fast & Conry, 2004, 2009; Hughes & Peirse O'Byrne, 2016). Further, many respondents were unsure or unaware that FASD can occur in any population where prenatal alcohol use occurs, regardless of ethnicity or socioeconomic status. Considering that a large proportion of participants frequently responded using the middle option, training resources developed in the future will need to cover these particular areas to ensure clarity is provided for those with a lack of knowledge as well as those who are unsure.

This lack of detailed knowledge is perpetuated by the limited training available for custodial staff relating to FASD and other impairments (Cox et al., 2008; Johnson et al., 2010). When asked about the primary source of information about specific disorders, personal experience was the most common response for knowledge about autism, ADHD, and intellectual disability. However, for FASD the primary source of information was most commonly the prevalence study we were conducting at the detention centre (Bower et al., 2018; Passmore et al., 2016). Similar to past research with justice professionals (Cox et al., 2008; Douglas et al., 2012; Mutch et al., 2016), workforce

education and training was not the most common primary source of information for any of the disorders listed.

Another barrier for young people with FASD receiving appropriate support while in detention is a lack of adequate information sharing processes, even when a formal diagnosis exists (Hughes & Peirse O'Byrne, 2016; Hughes et al., 2012; Talbot & Riley, 2007). Many respondents in this study were infrequently informed about neurodevelopmental disorder diagnoses for young people in detention, and the sources of knowledge about the diagnoses were often unreliable or not systematic. For example, intellectual disability and ADHD were the two diagnoses that custodial staff were most frequently informed about, however the source of knowledge about this diagnosis was most commonly reported as the officers' own judgement. This is similar to previous research investigating learning difficulties among adult prisoners, where 'staff observation' was reported as a common means of identifying impairments (Talbot & Riley, 2007). A more systematic approach to sharing important information about young people in detention, with consideration of confidentiality and the necessity of sharing personal health information, is needed to inform the care provided (Talbot & Riley, 2007).

While most respondents felt prepared to manage problematic behaviours effectively, only half of the respondents felt prepared to manage young people with FASD or another neurodevelopmental impairment. This suggests that respondents feel vulnerable when the nature of the underlying brain difficulty is named, which forces focused consideration on the nature and specificity of care required. Additionally, it is possible that the respondents are not linking impairments and problem behaviours, and view a diagnosis as separate to the presenting behavioural challenges. Similar to previous research (Burd et al., 2004; Cox et al., 2008; Hughes et al., 2012; Johnson et al., 2010; Mutch et al., 2016), it is evident in this study that the formal training previously received by the custodial staff had little influence on their preparedness to manage young people with neurodevelopmental impairments. The frequency of training focusing on how to manage different behaviours was reported as low. This indicates that there is not enough formal training available and the training currently received is not

meeting the needs of the workforce. It is the on-the-job training or learning through observation of other officers that is likely to be more influential on their skill development.

Encouragingly, many respondents had extensive experience working with young people with the difficulties that are common among young people with FASD. Most respondents also reported to employ communication strategies recommended for use with individuals with FASD. Many custodial officers currently adapt their approach to respond to a young person's needs on a daily basis, however even senior officers had not received training to interpret or label the nature of their practices. While individual custodial officers may have inherent abilities to engage young people in a positive manner, a core set of evidenced-based responses for common behaviours of those with neurodevelopmental impairments is required to ensure consistency, and for the best outcomes for the youth custodial workforce and young people (Hughes & Peirse O'Byrne, 2016; Talbot & Riley, 2007). Most important is detailed training to illuminate the link between brain impairments and behaviour, amplifying understanding of why certain behaviours occur and how some management practices may escalate rather than ameliorate these behaviours (Fast & Conry, 2004, 2009; Hughes & Peirse O'Byrne, 2016; McAdam, 2012). There were many positive indicators for uptake of future training regarding FASD with this cohort. The vast majority of respondents agreed that FASD was relevant to the justice system and to their work at BHDC, and agreed that more information about FASD and other impairments would assist them in their work. This indicates support and desire for future training in this area that is consistent with past research (Johnson et al., 2010; Mutch et al., 2016; Talbot & Riley, 2007), with training likely to be seen as relevant and worthwhile. The preference for face to face training, such as workshops, and the lack of support for online module training is pertinent given that online modules are a popular choice among government agencies in Australia. There are no differences by gender, age, length of employment and education level found in this study that would necessitate structuring training resources for staff to specifically target any such differences. Importantly though, the resources must be suitable for the wide range of education and experience levels present in this workforce.

4.1 Limitations

This study was conducted in parallel with our prevalence study (Bower et al., 2018; Passmore et al., 2016), which commenced 12 months prior to the administration of the survey. Given that our prevalence study was most commonly the respondents primary source of information about FASD, it is highly likely the knowledge and attitudes of custodial staff regarding FASD were influenced by research activities prior to the survey. The relationship between researchers and respondents could have also been a limitation of this study, given that it provided respondents with a readily available source of knowledge, and possibly increased their tendency to provide social desirable responses. It is unlikely to be representative of other custodial workforces where no exposure to FASD or related research has occurred. However, given the gaps in the knowledge and attitudes of the youth custodial workforce at the time of survey administration and the lack of preparedness among custodial staff in the management of young people with FASD and other impairments, a need for further training remains.

The response rate of 51% could be considered a limitation of this study, particularly as responses from subgroups of respondents determined by demographic variables or experience could not be compared due to the small sample size. However, respondents were similar to the overall youth custodial workforce when compared on gender, Aboriginality and the distribution of current positions. In the context of the operational complexities relating to professional development and engagement within the high risk and secure custodial environment among a time poor workforce, this response was considered sufficient. The response rate exceeds both the minimum response rate deemed acceptable for organisational research surveys by Baruch and Holtom (2008) and a response rate of 25% previously obtained with a similar workforce in the same jurisdiction (Mutch et al., 2016). The self-report nature of the survey is also a limitation of this study, particularly regarding staff practices and the potential for social desirability to influence accurate responses. However, other methods of data collection such as observation were beyond the scope of this study.

The changes to the FASD diagnostic terms used in Australia (Bower & Elliot, 2016) that occurred during the study period may have added to the convolutedness of FASD for the workforce,

especially given that respondents were more familiar with the term FAS than they were with FASD. This does, however, provide a timely opportunity as future training can inform custodial staff of the new diagnostic criteria at the same time as professionals from other sectors, such as health, are putting the criteria to use.

3. Conclusion

This study investigated the current knowledge, attitudes, experiences and practices relating to FASD and other neurodevelopmental impairments among the youth custodial workforce in WA. In general, a lack of specific knowledge, inadequate training, and inconsistent information-sharing processes restrict the abilities of the youth custodial workforce to specifically manage young people with FASD and other neurodevelopmental impairments. Using the information obtained in this study, along with our prevalence study results and qualitative interview data, we will develop and evaluate resources targeting the needs and requests of the WA youth custodial workforce. It is anticipated that these resources will assist in the daily management and support of young people with neurodevelopmental impairments in detention centres Australia wide.

Disclaimer

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Acknowledgements

The authors thank all staff at Banksia Hill Detention Centre involved in this study for their time, expertise, and ongoing support. They also thank the young people at Banksia Hill Detention Centre and their families who were involved in the prevalence study for their participation and support. They thank the Department of Justice and the Department Communities for their ongoing support, and all members of the Consumer and Community Reference Group, the Steering Group and the Reference Group for their invaluable and continuing input to the study.

The authors thank their colleagues from the Telethon Kids Institute Banksia Hill study team for their commitment and passion to this important work. Particular acknowledgement for their assistance in the development and administration of the survey goes to Jacinta Freeman, Natalie Kippin, Bernadette Safe, Noni Walker, Helen Shield, Sharynne Hamilton, and Carmen Condon. The authors acknowledge Professor Rhonda Marriott, a Chief Investigator on the study, and Associate Investigators Professor Stephen Zubrick, Associate Professor Carmela Pestell, and Dr James Fitzpatrick for their ongoing input and support. The authors thank Jesika Sarson and Nikkita Daguio for their assistance with data entry.

Contributors

HMP is a Research Assistant and PhD Candidate at the Telethon Kids Institute, The University of Western Australia, and was responsible for the early consultations with the youth custodial workforce, development of the survey, data collection, entry and analysis, writing of the first draft and compiling

of the final manuscript. RCM, SB, JC, GH and CB all supervise HP in her PhD research. RCM, RW and CB are Chief Investigators and JC is an Associate Investigator on the prevalence study. RCM, SB, GH and CB provided guidance on the development and administration of the survey, and RCM, RW and CB assisted with the analysis. RW was the primary researcher responsible for the concept development, research design and grant application of the prevalence study including the workforce development component. All authors read, edited and approved the final manuscript.

Funding

This research is funded by the National Health and Medical Research Council (NHMRC; grant number APP1072072). CB was funded by a National Health and Medical Research Council Research Fellowship (#634341). HP is funded by an Australian Postgraduate Award Scholarship and The University of Western Australia Safety Net Top-up Scholarship (reference number 21806348), and a 2017 Stan and Jean Perron Award for Excellence. This work was supported by the NHMRC FASD Research Australia Centre of Research Excellence (#1110341).

Competing interests

The authors have no competing interests to declare.

Ethics approval

Ethics approval has been granted by the Western Australian Aboriginal Health Ethics Committee (approval number 582) and University of Western Australia Human Research Ethics Committee (approval number RA/4/1/7116). Research approvals were also gained from the former Western Australian Department of Corrective Services (project ID 335) and the former Western Australian Department for Child Protection and Family Support (approval number 2015/8981).

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AUTHOR'S ACCEPTED MANUSCRIPT