

“NEED EVERYONE TO HELP KEEPING OFF BECAUSE EVERYONE HELPS TO
HELP KEEPING ON” – REDUCING HARMS FROM CANNABIS USE IN REMOTE
INDIGENOUS AUSTRALIAN COMMUNITIES INVOLVES MORE THAN JUST USERS

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Abstract

Background

Heavy cannabis use in remote Indigenous Australian communities potentially contributes to existing health disparities. Community members' perceptions cannabis harms will support harm-minimisation in these settings.

Objective

To describe perceived cannabis harms reported by a cohort of Indigenous Australians living in small, isolated communities as an indication of their existing resources for change.

Method

Inductive thematic analysis of 407 semi-structured interviews with participants in a cohort study in three remote communities in Cape York in far north Queensland (Australia) revealed major areas of concern about cannabis. Three attitudinal categories were defined according to reported cannabis impacts and urgency for change: 1- 'LOW CONCERN' said cannabis was a low priority community issue; 2- 'SOME CONCERN' tolerated cannabis use but identified personal or community-level concerns; and 3- 'HIGH CONCERN' expressed strong aversion to cannabis and identified serious personal or community-level harms. The characteristics and the patterns of concerns summarised across the groups.

Results

'Category 1- LOW CONCERN' (n=107), mostly current users emphasised personal 'financial impacts' and 'stress'. 'Category 2 – SOME CONCERN' (n=141) perceived community level impacts warranting systematic action, particularly on 'employment'; and 'Category 3 – HIGH CONCERN' (n=159), most of the never users emphasised concerns for families and youth. Irrespective of use history, the cohort reported financial and abstinence-related stress, overlapping alcohol issues and generally endorsed alleviating impacts on children and youth.

Conclusion / importance

Nearly ubiquitous experience with cannabis harms and impacts in this cohort suggests resources for harm reduction including family and cultural obligation, stress relief, financial management and engagement are available across all community members, not just users.

Keywords: Cannabis, Indigenous Australians, vulnerable populations, social support

DRAFT

INTRODUCTION

This paper examines qualitative data collected during a harm and demand-reduction intervention targeting cannabis use in remote Indigenous communities in Cape York in far north Queensland, Australia. Very high rates of heavy cannabis use and dependence have been documented over two decades in remote Australian Aboriginal and Torres Strait Islander (Indigenous) communities¹⁻⁴. In the general population, heavy and prolonged cannabis use is linked with cannabis use disorder and withdrawal syndrome^{5,6}. Consistent with the wider literature describing the risks of heavy cannabis use⁶⁻⁸, there is evidence that depression⁹, psychosis¹⁰ and low birth weight¹¹ are associated with cannabis use in Indigenous populations living in very remote regions of Australia⁹⁻¹³. Despite concerns voiced by local community residents, particularly for the impacts of cannabis on youth and mental health¹⁴, cannabis use and misuse in these communities have been relatively neglected by policy makers and service providers^{2,15}. Extreme isolation, small populations and unique social and cultural contexts of remote Indigenous Australian communities make it difficult to design and implement suitable responses.

For individuals in the general population seeking treatment, cognitive-behavioural and motivational enhancement therapy⁶ and contingency management⁷, with treatment for concurrent substance misuse^{7,16}, can support cannabis cessation. There is evidence that psychosocial interventions for tobacco smoking that focus on individual behaviour¹⁷ or that are supported in health clinics¹⁸ could be effective for Indigenous Australians when oriented towards groups and families^{19,20}. Few studies have addressed cannabis demand and harm reduction with Indigenous Australian communities^{21,22}. To plan for harm reduction approaches and treatments in such settings, improved understandings of the specific social and attitudinal context of substance misuse are essential^{23,24}. As part of the evaluation of an

intervention study, this paper explored perceptions of the of cannabis that were conveyed by participants in semi-structured interviews in a large sample of Indigenous Australians living in three very remote communities in far north Queensland.

DRAFT

METHOD

Overview, rationale and aims

The data presented here come from semi-structured interviews conducted at the baseline phase of a community-level intervention program in three participating remote Indigenous communities in Cape York, far north Queensland. Consultation with communities throughout the region in 2007-2008 built trust with key stakeholders and established permissions for the intervention and the evaluation study¹⁴. A large cohort of participants aged 15-45 was recruited and interviewed at each site in 2010-2011. Interviews recorded prevalence and patterns of cannabis use and provided an opportunity for researchers to engage with local people to discuss cannabis in their communities. All communities have a low score on an 'Index of Relative Socio-economic Disadvantage' indicating relatively greater disadvantage compared with the rest of Australia²⁵. Anecdotal information compiled during consultation suggested that the overwhelming majority of community residents across the region had some knowledge or direct experience of the local impacts of widespread cannabis use and many had been affected in some way. The level of awareness and the type of concern appeared to vary across individuals, families and the local community as a whole. Understanding variations in awareness and concern across this social spectrum may reveal latent attitudes or active social resources for harm and demand reduction approaches specific to these settings.

This study aimed to inform theory-based evaluation of cannabis harm and demand reduction strategies by answering two key questions: "Was local will for cannabis demand and harm reduction demonstrated?" and "What resources were identified for harm and demand reduction in the local social context of the study communities?" Accordingly, the objectives were to:

- 1- summarise concerns about cannabis use and the perception of harms and impacts for individuals, families or communities communicated during interviews;
- 2- categorise study participants into groups which reflect latent attitudes to cannabis based on themes derived in (1);
- 3- examine concerns across the range of attitudes to cannabis as indicators of active social resources that may be mobilised for harm reduction and to reduce demand.

Setting

The Cape York region in far north Queensland covers ~211,000 km², an area almost the size of the United Kingdom (UK). The Cape York population is just a fraction (0.05%) of the UK's however, with just 23,000 people outside its major regional centre (Cairns; 157,000 people). In Cape York's remote communities, 11,700 Aboriginal and/or Torres Strait Islanders live in 12 small, locally-governed communities with populations ranging from <200 to 2500 people. English is widely spoken, usually as a second language (or a creole). Connections to land and sea country remain very strong²⁶. Vehicle access is via unsealed roads which can be closed for several months in the tropical wet season.

Unique traditional cultural practices are maintained with relationships between individuals tightly circumscribed, regulated by cultural rules and expectations across long-established family and clan groups²⁷. Housing typically accommodates more people than its construction is designed to support²⁸ and there are few opportunities locally for mainstream employment. Cultural and family obligations mean that *all* resources are shared²⁹, particularly desirable ones like drugs and alcohol, as is the money to purchase them¹. Cannabis is shared among users, usually mixed with tobacco³⁰. It is seldom consumed privately, but shared in groups with individuals taking turns to inhale smoke from hand-made 'bongs'³¹.

The possession, consumption and carriage of alcohol was locally prohibited in all three communities as alcohol became tightly restricted between 2002 and 2008 across Cape York^{32,33}. Cannabis use appeared to surge from 2002 onwards, perhaps in response to these alcohol controls¹⁵. At census in 2011, the three communities had a combined Indigenous population of 2190, with 1274 of these aged 15-49 years³⁴. This age group was targeted for recruitment to the study as it includes the more-vulnerable, younger people who would have been exposed to any increased opportunities to take up cannabis use since 2002.

Participant recruitment and data

The three study communities were selected because they broadly represented the contemporary settlement pattern for Indigenous people in Cape York. One is located near a small mining town, another on Cape York's wet tropical east coast and the third on the west coast in drier tropical savannah country.

Teams of 3-5 research staff visiting from Cairns, some 800-1000 km distant by road conducted interviews between May (2010) and September (2012) over three visits of five days duration. Opportunistic recruitment occurred outside the community primary healthcare centre, grocery store or in the street, at work places and homes, usually with the paid assistance of a local cultural broker.

Semi-structured interviews:

Interviewers applied a conversational, plain-English approach developed to work successfully across cultural and language barriers in these settings³⁵. In semi-structured interviews (usually from 10 to 30 minutes duration), participants who had used cannabis at any time were asked whether they currently used cannabis and what they liked and disliked about it; attempts or desire to quit; what makes it hard to quit and the amount of money they typically spend on cannabis³⁶. Open-ended questions elicited information from *all* participants regarding perceived issues or concerns about cannabis use.

Data analysis

Hand-written interviewer records (de-identified) were transcribed to a secure spread-sheet then imported into Nvivo 11[®]. Data analysis followed four steps.

i) Inductive content analysis of qualitative information

Steps in the inductive analytic process, detailed in table S1 in the supplemental file, follow Thomas' inductive technique³⁷. Using a sub-sample of data for 50, randomly selected participants, author VG completed one round of open coding guided by the study questions. The collection of ideas relevant to the study questions were subsequently organised by author VG into over 20 categories, assigned to nodes. This set of nodes was supplied to author AC as a frame to code the same content in the 50 sources and a coding comparison produced interrater reliability scores of greater than 0.7 at all nodes. After discussion and adjustment of the initial coding frame, author VG analysed information for a further 20 participants, yielding no new themes. VG and AC collapsed and reorganised the categories to produce a reduced set of agreed-upon nodes, re-reading the data through two successive rounds of coding. The final themes were summarised and key examples collated from the transcribed text.

ii) Deductive content analysis

VG employed the themes generated in (i) in a deductive content analysis across all of the interviews.

iii) Classification

VG prepared a rubric describing attitudinal categories according to the themes generated in (i) (table S2 in the supplemental file). The participant's individual characteristics were included to contextualise their responses.

Three attitudinal categories were defined from this analysis:

Category 1- LOW CONCERN (n=107) participants primarily described their own experiences of ‘financial impacts’ and ‘stress’ with little attention to community-level impacts.

Category 2 - SOME CONCERN (n=141) participants mainly perceived community level impacts that warranted systematic action, particularly impacts on ‘employment’.

Category 3 - HIGH CONCERN (n=159) participants reported strong aversion to cannabis and emphasised concerns for ‘families’ and ‘youth’.

iv) *Summative content analysis*

Summative content analysis³⁸ was finally used to enumerate participants classified to each attitudinal category. A matrix coding query in NVivo assembled the final themes (as nodes) by attitudinal category (as attributes). Final allocation of all participants to one attitudinal category was agreed by both authors guided by the coding rubric, included as table S1 the supplemental file (with examples of its application) in the supplemental file.

Ethics Approval

The Human Research Ethics Committees of the University and the Cairns and Hinterland Health Services District provided ethical approvals.

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The sample

A total of 407 participants provided the qualitative information that was used in this study. Described in table 1, the 407 participants included 221 (54%) males and 186 (46%) females, equivalent to 35% ($=407/1172$) of the estimated total community populations aged 17-51. Males were older (median age=29 years) than females (median age=26 years) ($|z|=2.41$, $p=0.016$, Wilcoxon rank sum test), reflecting the anticipated difficulties of recruiting the younger, dis-engaged males to this kind of study. Those who had ever used cannabis comprised 97% ($n=104$) of category 1, 94% ($n=132$) of category 2 and 38% ($n=60$) of category 3. Those who reported recently using cannabis comprised more than 80% of those with any history of cannabis use in category 1, around half (55%) in category 2 and just 10% in category 3 (data not shown).

Category 1 - LOW CONCERN participants were predominantly male recent users, though some former and never users were included. Recent users with no intentions to quit were allocated to Category 1 unless they emphatically described harms at the community level. Category 2 - SOME CONCERN comprised roughly equal proportions of recent and former users and a diversity of age and gender groups. Category 3 - HIGH CONCERN included participants who gave emphatic and detailed descriptions of cannabis harms or expressed a very strong aversion to cannabis. This Category mainly comprised females who had never used cannabis.

Qualitative findings

Inductive thematic coding was guided by overarching questions of whether local will and resources for cannabis harm and demand reduction were demonstrated. The analysis yielded three key themes:

- Theme 1 - ‘Cannabis use in the community is associated with harms’;
- Theme 2 - ‘Demand reduction resources’; and
- Theme 3 – ‘Barriers to demand reduction’.

Theme 1. Cannabis is associated with a range of harms

Of 407 interviews that contained coded qualitative material, 324 contained material assigned to the theme ‘Cannabis use in the community is associated with harms’. Participants described harms across four apparent subthemes of: ‘Stress during abstinence’; ‘Financial impacts’; ‘Health and mental health’; and ‘Young users’.

i. Stress during abstinence

Across concern categories and use status, participants reported ‘*stress*’ or ‘*stressing out*’ as a behaviour associated with craving for cannabis. Usually this was described as a bad mood and short temper.

“They stress out – go off or be in a crabby mood all day.” Female, 15 years old, never used. Category 3 – HIGH CONCERN.

“Some people lose it when they don’t have gunja. Most of them get stressed out for gunja and go off their head.” Female, 22 years old, former smoker. Category 3 – HIGH CONCERN.

Current users also described strategies to manage stress requiring them to ‘stay busy’ and ‘get away from the community’. The excerpts below demonstrate this phenomenon.

“[When I run out I] go fishing – spend the day at the beach, get away from town. My sister needs it all the time. When she’s got nothing she does this big cook up. Doesn’t

really get angry just really wants it.” Male, 26 years old, current user. Category 2 – SOME CONCERN.

Those participants categorised as HIGH CONCERN seldom discussed *managing* stress. Rather, category 3 participants described stress as a key harm. Participants described mood effects, aggression and violent or coercive behaviour, two quotes below illustrate this idea:

“A lot of young kids are angry and they can be violent when there’s none around.

Hard to get out here.” Female, 33 years old, never used cannabis. Category 3 – HIGH CONCERN.

“See a lot of violence at the clinic as a result of gunja.” Female, 40 years old, never used cannabis. Category 3 – HIGH CONCERN.

“Partner is not easy to talk to. Stresses out a lot. Pregnant and have to go get [cannabis] for him.” Female, 23 years old, never used cannabis Category 3 – HIGH CONCERN.

ii. Financial impacts

Any mention that cannabis was expensive or a ‘waste of money’ was assigned to this subtheme. LOW CONCERN participants seldom connected financial impacts to other concerns apart from high cost, making cannabis harder to access. This was typified in this young male user’s comment:

“Spend too much money on it, with too much tobacco, don't taste the [cannabis].

Especially when you’ve got no money, the other boys are tight with it”

Male, 17 years old, cannabis user. Category 1- LOW CONCERN.

Participants reporting SOME CONCERN or HIGH CONCERN described financial impacts combined with user stress and spending on cannabis as a source of interpersonal tensions. This current user lamented the high cost:

“Started collecting bags this year. 10 bags - \$500 - spent \$1000 on that silly thing this year.” Male, 33 years old, cannabis user. Category 2- SOME CONCERN.

This younger user described his own pressuring of others to help access cannabis when he had no money:

“[I don’t like that I] waste a lot of money. It’s all about cash, that thing getting expensive. No money for [cannabis], stressed out go ask my cousin brother. [I worry because I get] angry, cranky with my girlfriend for her to go ask her family. [My concerns are] ... been living in [another community], fighting and stressing out when there’s no [cannabis]. Look for credit and if there’s none get wild with the dealer.”

Male, 21 years old, cannabis user. Category 2- SOME CONCERN.

Participants with HIGH CONCERN reported diversion of family financial resources to purchase cannabis. For example:

“Never really liked it. Waste of time and money; [worry] for my brother - he’s a heavy smoker with two [children]. My niece comes over and sees my kids’ bikes. My brother can spend all his money on it and it’s only \$150-200 for a bike but they can’t afford it.” Female, 29 years old. Former user. Category 3- HIGH CONCERN.

In the following two extracts, a woman and a man who have never used cannabis described the connection between money and pressure on families at the community level:

“Money issues - lot of people asking for loans. Small kids 13 and up starting – different [to before]; argue with parents or other siblings over money. Gunja has gotten worse - now nearly everyone - smokers don't have jobs - put pressure on family stressing” Female, 37 years old. Never used cannabis. Category 3- HIGH CONCERN.

“Causes domestic violence when one partner is spending too much and not putting the children first.” Male, 33 years old, never used cannabis. Category 3 – HIGH CONCERN

The following participant’s comments echo themes of money for children and domestic violence as well as cannabis’ involvement in prostitution (mentioned in two interviews):

“Sex for gunja happens. Young girls, older men... threats for domestic violence. Kids money goes to men for drugs.” Female, 26 years old, former user. Category 3 – HIGH CONCERN.

Financial impacts were also mentioned in the context of cannabis use preventing successful engagement with employment. For example,

“Gunja is a big problem. Can’t apply for any jobs. That thing slows [them] down.” Male, 18 years old, never used. Category 3 – HIGH CONCERN.

iii. Health and mental health

Participants in the LOW CONCERN category did not usually associate cannabis with mental health impacts, tending to report that they liked cannabis and they managed stress in various ways. Across participants reporting SOME CONCERN or HIGH CONCERN, issues such as paranoia, anxiety, depression or, less often, suicide attempts and memory loss appeared in the interviews. For example, a young current user describes the perceived association of cannabis with mental ill health:

“Depression, stressing out when can't get it. 6-7 people in the community with mental illness. People get mentally ill either from gunja or black magic. People smoke by themselves - can cause mental health problems.” Male, 19 years old, current user.

Category 2 – SOME CONCERN.

Below, a mature woman and a young man with HIGH CONCERN described cannabis' implication in suicide and psychosis:

“... heard people can hallucinate from it, hate the smell. I tell anyone smoking it to go away. Partner doesn't smoke was given gunja without knowing several years ago and became psychotic.” Female, 40 years old, never used cannabis. Category 3 – HIGH CONCERN.

“Been around a lot of smokers. Bad for your health, most of my cousins smoke. One of my cousins just drifts away when he smokes. An auntie tried to commit suicide, other problems too but gunja must have some effect on the emotions.” Male, 20 years old, never used cannabis. Category 3 – HIGH CONCERN.

Less frequently identified, some participants also made general statements about health, specifically referring to impacts on the lungs. The following quote is a typical

example:

“Health, killing our insides sharing one bottle.” Male, 33 years old, current user.
HIGH CONCERN.

iv. Prevalence among youth

Higher prevalence among youth was viewed as especially problematic because young people were perceived as more likely to be involved in very heavy use and less likely to manage stress and financial impacts. This current user’s statement provides an example:

“See a lot of young people around here get stressed for gunja. If they are then that’s their own problem.” Male, 34 years old, current user. Category 1 – LOW CONCERN.

In the following quotes, participants expressed concern for use among youth with implications for the broader community and culture:

“Bad for young people, stops them going bush to hunt. Instead they just sit in rooms and smoke. Don’t help out with the housework.” Female, 28 years old, current user.
Category 2 – SOME CONCERN.

“It’s out of control. In the eighties only men [smoked cannabis]. Today teenagers are smoking.” Female, 33 years old, never used cannabis. Category 3 – HIGH CONCERN.

Cannabis was viewed as having a damaging effect on youth prospects and engagement, and having wider cultural implications. For example in the quote below, a woman expressed particular concern for youth and placed responsibility on non-using local dealers:

“This needs to be stopped for the young ones. Older ones giving it to the young ones.”

Ones that don't smoke are selling it." Female, 33 years old, former cannabis user.

Category 3 – HIGH CONCERN.

Theme 2. Demand reduction resources are used and recommended

i. Desire to quit or for others to quit

An expressed desire to quit or abstain and the general sentiment that demand reduction was needed formed the subtheme 'Desire to quit or for others to quit'. Many participants also described 'Family and friends' and 'Engagement' as demand reduction resources.

"[Quit] three weeks ago, never going back to smoking. [Used from] 14 – 25 years, very heavy. Feel a bit better now, hard at first." Male, 25 years old, current user.

Category 2 – SOME CONCERN.

A proportion of current users and former users described quit attempts, like the man in the quote above. The HIGH CONCERN category included most participants who had tried cannabis only once or never tried. Two excerpts from young female participants describe complete intolerance for cannabis' smell and effects:

"Seen gunja, seen people use it. Really don't like the smell. Usually walk away when smell it. Don't like to hang with people that smoke gunja." Female, 22 years old, never used cannabis. Category 3 – HIGH CONCERN.

"People smoke too much gunja here – should be stopped - [I'm] six months pregnant and don't want to ruin my life with tobacco or gunja." Female, 16 years old, never used cannabis. Category 3 – HIGH CONCERN.

ii. Family and cultures as demand reduction resources

Social relationships and responsibilities underpinned a desire to quit and supported abstinence for many current and former users. This current user described her feelings about her son's use:

"No smoking in front of kids. Just smoke at home. Youngest is 18, smokes. If he lived with me would've stopped him." Female, 40 years old, current user. Category 1 – LOW CONCERN.

Participants in category 1- LOW CONCERN rarely expressed concerns for family, youth or their cultural obligations, but the idea that children should not be exposed to use appeared to be universal, e.g. *"should give up when you have kids."* (Male, 16 years old, cannabis user); *"... don't like kids getting involved."* Male, 26 years old, cannabis user. Both category 1- LOW CONCERN.

This recent user described a current quit attempt, the impact of his use on his family and its influence on his thinking:

"Didn't like what it was doing to the family, too much money was getting spent on gunja, wanted a good job. My children are very happy about me stopping. Feel good about the decision, I stay away from people that are smoking gunja." Male, 35 years old, cannabis user. Category 2 – SOME CONCERN.

Below, a current user described culture as a resource driving a sense of responsibility

to quit:

“Stops you continuing the culture, need to look up to elders who don't smoke. Do it to fit in, but really want to quit and be a role model.”

Male, 26, cannabis user. Category 2- SOME CONCERN.

Likewise, a former user in category 3 HIGH CONCERN described parenting responsibilities as the main reason for quitting:

“Future of my child; didn't want him to see that I was a druggie; caused problems in personal relationships.” Female, 39 years old, former cannabis user. Category 3 – HIGH CONCERN.

The following excerpts describe different ways in which parents offered resources to de-normalise cannabis use:

“I don't like people smoking around my kids when I'm out, like at my cousin's house; school age kids, old enough to understand.” Female, 30 years old, never used. Category 3– HIGH CONCERN.

The quote above described de-normalising cannabis use in front of *“kids old enough to understand”*. And this young man described the positive influence of his father's strong role modeling:

“Others find it hard [to quit]. I go fishing with dad and he makes us do a lot of hard work.” Male, 19 years old. Cannabis user. Category 2 – SOME CONCERN.

Below, a man described substance misuse as incompatible with culture, placing responsibility on local Indigenous dealers:

“Gunja, even alcohol, not our culture. Dealers, if they could see what they're doing, killing their own people.” Male, 28 years old, never used cannabis. Category 3 – HIGH CONCERN.

iii. Engagement as a resource for demand reduction

Participants described engagement in work, education or other activities as demand-reduction resources. LOW CONCERN participants focused on harms that made their habit difficult to sustain, as this young man’s comments illustrate:

“There needs to be more help in the community to stop gunja use and other problems like anger. Not working at the moment but don’t need it or smoke it when I’m ringing (working with cattle).” Male, 23 years old, current cannabis user. Category 3 – LOW CONCERN.

Current users who wanted to quit or cut down were usually classified to category 2, SOME CONCERN. This group frequently mentioned work as facilitating abstinence for themselves and others. For example:

“Cut down for three years when working at [mine]. Haven’t smoked over the past three months due to random drug testing at work.” Male, 35 years old, current user. Category 2 – SOME CONCERN.

Working and being on outstations or cattle stations was also viewed as strong cessation support. For example:

“Need more support and information. Cousin brother asked me how I ride so well. He was riding stoned. I said you must do it when you're 'clean'. Take my advice. I got first

place in a bull riding competition - I couldn't have done it if I was on gunja. I want to take young kids to work with horses to get away from gunja. I used to ride rodeo - there was no gunja because the focus was sport. Young kids on streets - need to get them off the street. Calf-riding would keep kids away from gunja." Male, 28 years old. Former user. Category 2 – SOME CONCERN.

The HIGH CONCERN category focused on work and engagement of youth. Selected excerpts demonstrate this idea:

"Not much for the kids. Used to be really family oriented. Used to be a movie theatre, blue light discos. If they grow up and see aunties doing it they'll think it's normal." Female, 39 years old, former user. Category 3 – HIGH CONCERN

"Program out at Katherine, stockman training, good of the young fellas, there should be more things in the schools." Male, 35 years old, AGE years old. Never used cannabis. Category 3 – HIGH CONCERN

Theme 3. Barriers to demand reduction

Two main subthemes described the barriers to demand reduction. One sub-theme was simply the 'desire to use' because cannabis use is pleasurable or has perceived benefits. A second was constant 'cue exposure', which included high supply, high prevalence of use, normalisation of use in communal spaces and reported boredom in the community.

i. Desire to use

Many current and some former users described enjoying the effects of cannabis. LOW CONCERN participants, though sometimes bothered by its expense or use in front of children, otherwise reported enjoying cannabis' effects, with little if any discussion of stress or health impacts. For example, this current user:

“Cannabis makes me healthier. Makes me eat more. Feel relaxed and chill.” Male, 28 years old, current user. Category 1 – LOW CONCERN.

ii. Cue exposure

Older participants classified as category 1 – LOW CONCERN who described their own controlled, recreational use, sometimes viewed younger users as being less able to manage limited supply, as described by this man:

“Kids stress out really easily, the older ones can handle it.” Male, 33 years old, current user. LOW CONCERN.

In the excerpt below, a cannabis user described the community environment as a source of stress and pressure, including an obligation to share financial resources:

Smoke when tired, makes working around home more interesting. Don't smoke when going to work. Used to be worried about how much I was using, but have cut down a ... Hard to give up because of the habit, friends all smoking and offer it. Liked rehab because it was a simple life, could budget because family weren't always asking for money like when in the community. People stress out when they can't get it.” Male 41, cannabis user. Category 1- LOW CONCERN.

For this participant, drug rehabilitation in the regional centre (some 800 km away from the community), usually offered for alcohol problems, represented respite from community-related stress including better control of his financial resources. This very young participant who had never used cannabis described community level impacts:

“Friends hassle a bit, but don't feel pressured, all friends in [community] except one smoke, some people go off and stress.” Male, 16 years old, never tried. Category 2- SOME CONCERN.

DISCUSSION

In answer to the first study question: “Was local will for cannabis demand and harm reduction demonstrated?” participants perceived a range of harmful impacts associated with cannabis use and described the resources that could support abstinence, affirming local will for change.

In answer to the second study question: “What resources were identified for harm and demand reduction in the local social context of the study communities?”, three attitudinal categories were found to broadly describe participants’ tolerance towards cannabis suggesting social resources available to address the issues cannabis has created for these communities.

Key harms of cannabis in remote Indigenous communities in this region

Residents clearly described a need for demand and harm reduction in all three communities. Widespread harm from heavy cannabis originated mainly from four key impacts:

- i. Cannabis abstinence causes stress or 'stressing out' – users feel stressed and will invest disproportionate amounts of time and money to source cannabis supplies.*

When it is not available they ask family and friends to supply it (humbugging).

Current users often described the need for approaches to manage stress. The stress related to cannabis cravings was associated with conflict in friendship groups and couples, sometimes with physical violence.

ii. *Financial impacts were frequently discussed* - it was widely believed that cannabis cost too much and / or that people using cannabis spent too much. This was thought to encourage disputes, stealing, use of financial resources meant for other purposes, especially to meet children's needs and for food. The context of prostitution was occasionally mentioned.

iii. *Health and mental health impacts of cannabis* - were discussed, as distinct from stress linked with cannabis, in terms of exacerbating mental illness and impacting on healthy functioning of the brain and body.

iv. *Cannabis use among youth was viewed as a distinct problem* - viewed as: stopping youth from engaging and achieving; youth often perceived as using too heavily; youth not able to manage potential harms in ways that older users may. There was a perception that youth disengagement was a bigger problem in recent years than it had been 10-20 years ago.

Reasoning for cessation or abstinence suggests potent social resources for cessation

Participants described reasoning behind total abstinence, quit attempts and successful cessation and some of the strategies used to overcome cravings.

i. *Desire for demand and supply reduction* - people described wanting to quit or disliking people smoking around them.

ii. *Family and cultural relationships and responsibilities* - people often described cessation motivated by parenting responsibilities, including pregnancy. Social

pressure and / or support from non-using family was described by some as a reason to quit or never use. Good role models and cultural responsibilities were sometimes cited as reasons for quitting or encouraging others to quit.

- iii. *Engagement, activities, services and work* - activities and pathways for youth were repeatedly recommended. Youth boredom and lack of engagement was viewed as feeding high use, in turn viewed as leading to further disengagement. Work was viewed as an important resource for motivating and sustaining cessation.

There are significant barriers to demand reduction

Barriers to demand reduction feature widespread cue exposure which is underpinned and reinforced by community-level, structural factors. Despite this significant barrier there was a generally held belief that the impacts of cannabis can be managed:

- i. *Managing cannabis issues and a desire to continue use* – some participants reported having no desire to change their personal use or use patterns at the community level. Current users frequently described strategies for managing its potential harms such as budgeting, never buying, using cannabis only after work and personal techniques to avoid 'stressing out'.
- ii. *Cue exposure and boredom* - the community environment was viewed as encouraging use due to a combination of cues including the high prevalence and normalisation of use as well as lack of other activities, or lack of engagement in other activities or feeling isolated.

Attitudes across the cohort

LOW CONCERN individuals believed they managed cannabis' impacts or that there was no community level responsibility to manage harm and demand. This category was the

smallest and most were males who were currently using cannabis. Even in this category, users acknowledged that behavioural limits are required such as prioritising spending scarce cash on groceries, not using cannabis at work and keeping cannabis away from children.

SOME CONCERN participants comprised the largest section of the sample, both former and current users of both genders who spoke frankly about serious harm but nevertheless reported tolerance for cannabis use. This group were the mostly likely to describe work and engagement in community life as factors supporting abstinence and were also likely to describe family as a demand-reduction resource.

HIGH CONCERN participants reported a strong aversion to cannabis and little tolerance for the associated issues and problems. This category included mostly women who had never used it or who had given up for some time; they were the most likely to highlight neglect of parenting responsibilities because of cannabis and concerns about youth disengagement. These participants comprise potentially strong demand-reduction resources in themselves by way of their encouragement of partners and children to avoid cannabis and since they highlighted the need for diversion strategies, such as providing cannabis-free spaces.

Significance

Of most interest, we believe, is that participants in this cohort seldom reported having no opinion or experience with cannabis with most people expressing some concerns. It was unsurprising to find more males in category 1 - LOW CONCERN and more mature females or people who had never used cannabis in category 3 - HIGH CONCERN. It is interesting, however, that nearly everyone apparently had some direct experience with cannabis' effects. For example, most people who had never used cannabis were in category 3 - HIGH CONCERN, and nearly all had some direct experience of cannabis harms. Former users in

this category expressed deep personal understandings of the difficulties of cessation. These findings suggest highly relevant social resources among non-users consistent with recommendations in the literature for addressing substance misuse beyond interventions with individual users^{39, 40}.

This broad exposure to cannabis and its effects across the whole community probably differs from situations in the broader Australian population and in other regions with lower rates of use²⁸ and less severe social disadvantage. The information reported here suggests potential strategies and possible social resources available in these communities to inform whole of community and family intervention approaches to cannabis harm reduction, outlined below.

Resources and recommendations

Brief clinical intervention, cognitive behavioural therapies or raising awareness alone are unlikely to reduce cannabis demand and harms in a sustainable way in these populations in the short term. It is widely acknowledged in the face of mounting evidence that individual level interventions are insufficient to address substance misuse in Indigenous communities in Australia^{21, 22, 41}. Few participants suggested that health clinics or schools should play a significant role, suggesting that these are considered as either inappropriate or inadequately resourced for cannabis demand reduction in participants' minds. Participants receiving interventions or treatments tend to be defined by the service that will deliver the strategy e.g., 'workplaces', 'school', 'ante-natal clinic'^{21, 42}. However, the evidence presented indicates that patterns in the use of and attitudes towards cannabis across the community are not drawn along these institutional lines. We recommend that the diversity of experiences with cannabis we have documented be taken into consideration when developing targeted strategies to produce specific social resources in these settings.

Stress was widely reported across attitudinal categories as a direct result of cannabis abstinence, as was its relationship with financial management and cue exposure. High stress is an important determinant of Indigenous health underpinned by structural factors such as inadequate housing, racism and historical trauma⁴³⁻⁴⁵ that are not amenable to discrete intervention strategies. Nevertheless current users are likely to benefit from stress management opportunities specifically directed to relief from cannabis withdrawal. Local rehabilitation support similar to the outpatient models proposed for alcohol⁴⁶ may be effective. Anecdotal evidence suggests that access to reliable transport to support stimulating activities on country could be valuable as providing respite from cue exposure and stress during quit attempts. Non-users often share houses with users, and managing cannabis-free spaces and social activities may influence use patterns, e.g. relief from cue exposure, preventing others' use around children, applying strategies to discourage youth uptake. Cannabis-free spaces in private housing could possibly be supported with community-wide incentives in a similar manner to strategies that are being developed to address tobacco use⁴⁷.

Powerful resources will reside in people's sense of responsibility to children and young people, as observed in relation to other substances such as tobacco⁴⁸. Participants discussed strong cultural and family obligations suggesting enhanced capacity and opportunity to fulfil these roles may reduce demand for cannabis. Such recommendations are consistent with observed links between positive social connections and enculturation on reduced psychosocial stress and resilience to ill-health including suicide and alcohol misuse^{49, 50}. Similar mechanisms may operate for cannabis such that sustaining social connectedness as well as role modeling alternative behaviours possibly important for those most at risk of uptake or continued use²². Strategies and funding arrangements that will enable local people to enact, develop and sustain existing resources are strongly encouraged.

Limitations and strengths

The sample sizes in this qualitative study were large. This permitted the examination of a wide range of experiences even though the study was conducted in just three communities in one Australian region. Results, therefore, should be generalized to other populations with caution. This was a pragmatic study, taking advantage of one of the largest surveys of substance misuse conducted among severely marginalised and disadvantaged populations in Australia. No specific theoretical lens has been applied to this analysis. Importantly, we offered no information about the service level context which is a critical consideration for any harm reduction program design. Direct engagement with the residents and participants in a particular community, a strength of this study, is essential to design or adapt local components to reduce cannabis use along with other harmful substance use. The main strength of the study is that it demonstrated, for the first time, common attitudinal patterns in three culturally diverse and geographically separate communities.

Conclusion

The impacts and concerns about cannabis appear to be region-wide in these communities in north Queensland, not localised pockets of intense harm. In the context of limited access to transport and very limited employment opportunities, harm and demand reduction resources might, with advantage, be concentrated into diversion and engagement activities led by local people. The following quote from a young male participant sums up the importance of such community level thinking and action and also the unique structural barriers to behaviour change in these small isolated communities where all residents share the harms created by substance misuse:

“Need everyone helping to keep off because everyone helping [sic] to keep on.” Male, 29 years old. Cannabis user.

Attitudes to cannabis ranging from general or equivocal consciousness of harms through to strong aversions imply a variety of potentially valuable social resources for harm and demand reduction. In these small and isolated communities where everyone knows each other and people's houses are densely occupied, social resources to support change may be available from across the population. Thinking in terms of how a cross-section of people will respond to the resources that become available during implementation may assist program designers to more precisely target strategies and more comprehensively engage local agency. This straightforward qualitative approach begins to point to the participants in this context who seem more likely to respond to program resources, with some insight into why and how. Our analysis frames the available information to distinguish broad trends in participant reasoning, thus opening up the data for fresh approaches to cannabis demand reduction in these, and similar, Indigenous populations.

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