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Reasons pregnant people use cannabis to self-treat health conditions during pregnancy: Results from a US population-based survey

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Abstract

Introduction: Little is known about reasons pregnant people self-treat health conditions and pregnancy-related symptoms with cannabis.

Methods: We administered a cross-sectional survey to 3571 pregnant and recently pregnant people from US population-based panels. Participants who used cannabis at some point during pregnancy were asked which health conditions or symptoms they used cannabis to treat and reasons they used cannabis for self-treatment. We explored differences in reasons for self-treatment by sociodemographics.

Results: Nine-hundred forty-six participants indicated they used cannabis during pregnancy. Fifty-seven percent ($n = 578$) of those who used cannabis during pregnancy indicated they used cannabis exclusively for health purposes; 39% ($n = 347$) indicated they used cannabis for health and recreation. The most common reasons for self-treatment were believing cannabis was safer and more effective than other medications or treatments. Some participants reported not having health insurance or a health care provider as reasons for self-treatment. Black and Hispanic people, and people with household income under \$25,000, were more likely than White people and people with household income between \$25,000–\$49,999 to report barriers to other medications or treatments as reasons for self-treatment. People with high school education were more likely than people with more education to report viewing cannabis as safe and effective for self-treatment.

Discussion and Conclusions: Most pregnant people self-treating health conditions or symptoms with cannabis are doing so because they consider it safer and more effective than other medications or treatments. Some people, particularly people of colour and low-income people, may also self-treat because they face barriers to other treatments.

KEYWORDS

cannabis, pregnancy, self-treatment

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1 | INTRODUCTION

Cannabis has a long history of use in the human pharmacopoeia, specifically for reproductive health including in pregnancy. For example, archeological evidence from 4th century BCE of a woman who perished in childbirth identified phytocannabinoid residue thought to have been used as an obstetric aid [1]. During the era of the so-called “patent medicines”, most of the cannabinoid-containing products were explicitly marketed to women [2]. In the contemporary era of cannabis policy liberalisation in the US, common indications for medical cannabis include symptoms that are common in pregnancy such as pain, nausea, sleep disturbances, etc. [3].

Research suggests that cannabis use among pregnant people is not uncommon, with prevalence estimates ranging from 2% to more than 15% [4–7]. Previous research indicates that people who use cannabis during pregnancy often report doing so to alleviate pregnancy-related symptoms, such as nausea and vomiting, as well as for other conditions, such as to manage stress and improve mood [8, 9]. However, only a fraction of those using cannabis during their pregnancy are doing so because it was recommended by a health care professional [10] and few report receiving information from healthcare providers on the risks of use during pregnancy [11, 12]. This suggests that many who are using cannabis during their pregnancies may be choosing to self-treat their health conditions with cannabis. Yet, research to date on the topic of reasons people are choosing to use cannabis during pregnancy has been mostly qualitative and finds that people typically weigh the possible risks against the health benefits they experience [13, 14]. The few population-based quantitative studies on cannabis use during pregnancy have focused more broadly on assessing prevalence of use or associations of use with other conditions or characteristics rather than on reasons pregnant people choose to self-treat with cannabis [5, 6, 10]. Additionally, the research has tended to focus on personal reasons for self-treatment (e.g. a perception that use is safe and effective) rather than on barriers to accessing other medications or treatments for their condition, e.g. whether other medications cost too much or health insurance does not cover other medications or treatments.

This paper aims to fill this gap by examining the reasons pregnant people decide to self-treat their health conditions with cannabis. Specifically, it describes which health conditions pregnant people are treating with cannabis and whether they are deciding to self-treat these conditions because of personal beliefs and experiences and/or barriers to accessing other medications or treatments. Further, it explores whether certain demographic groups tend to report use more for personal

reasons or due to barriers accessing other medications and treatments.

2 | METHODS

2.1 | Sample

Ipsos, a global market research firm, administered a cross-sectional survey to their KnowledgePanel, a web-based probability-based panel that is designed to be representative of the US population. To reach a sufficient sample of pregnant and recently pregnant people, Ipsos also administered the survey to additional participants from existing non-probability panels.

To be eligible for the survey, panel participants had to be non-institutionalised English- or Spanish-speaking adults aged 18–49 years who were: (i) assigned female at birth; (ii) currently pregnant or recently pregnant (i.e. within the past 2 years); and (iii) residing in a study state. We selected study states based on legalised recreational cannabis use at the time of the survey (Alaska, Arizona, California, Colorado, Connecticut, District of Columbia, Illinois, Maine, Massachusetts, Michigan, Montana, Nevada, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, Virginia, Washington and Washington DC) and a purposive subset of states that had not yet legalised recreational cannabis (Delaware, Hawaii, Idaho, Indiana, Iowa, Maryland, Minnesota, Missouri, New Hampshire, North Dakota, North Carolina, Ohio, Pennsylvania, South Dakota, Utah, Wisconsin, Wyoming).

Panel participants were invited to complete the survey between 23 May and 28 June 2022. A total of 12,045 members were invited, 6163 (51.2%) of whom completed the eligibility screener, of whom 747 (12.1%) were eligible; 8302 non-probability panel participants completed the eligibility screener, of whom 2824 (34.0%) were eligible. The higher proportion of non-probability participants who were eligible likely reflects that one of the non-probability panels pre-screened people for current or recent pregnancy. The market research firm also excluded fraudulent responses from non-probability sample participants based on the responses to questions designed to identify people unlikely to have a current or recent pregnancy, such as those that answered affirmatively to questions such as: “Are you ... currently living in a 55+ community?”

Panel participants receive cash-equivalent checks approximately every 4–6 months in amounts reflecting their participation level in surveys, which commonly results in distributions of about \$4–\$6 per month. For households provided Internet hardware and services, their ‘panel loyalty’ incentive is the hardware and service. This research protocol was reviewed and approved

by the University of California, San Francisco Institutional Review Board.

2.2 | Survey

The main objective of the survey was to measure beliefs and attitudes related to cannabis use during pregnancy, and relationships between policies and these beliefs and attitudes. As part of the survey, we also asked about frequency of cannabis use during pregnancy. Response options included: never; less than monthly; monthly; weekly; daily or almost daily. Those who responded “never” were asked a follow-up question, “Have you used/Did you use cannabis at all during your pregnancy? Yes/Not/Not sure.”

Based on input from a community advisory board, which includes people with lived experience of cannabis use, the survey included two questions about reasons for cannabis use during pregnancy. These questions were only asked of those who reported using cannabis during pregnancy; the few who reported being “not sure” whether they used cannabis during their pregnancy were not asked these questions. Respondents were first asked: “For which of the following reasons did you use cannabis during pregnancy? For each one mark ‘No’ if it was not a reason for you or ‘Yes’ if it was.” Responses options included items from the PRAMS survey as well as a few additional reasons based on the published qualitative research: to relieve nausea; to relieve vomiting; to relieve stress or anxiety; to relieve symptoms of a chronic condition; to relieve pain; to help me sleep; to cope with my daily life; to get high; for fun or social reasons; Other-please tell us [14, 15]. Those who reported using cannabis only “to get high” and/or “for fun or social reasons” were categorised as using for recreational reasons only.

Respondents who indicated that they used cannabis for at least one health reason were also asked “What are some reasons you used cannabis to relieve your health conditions during pregnancy? For each one mark ‘No’ if it was not a reason for you or ‘Yes’ if it was.” Response options included reasons related to personal health decisions (e.g. cannabis worked better than other medications or treatments; cannabis is safer than other medications or treatments; cannabis worked for me before I was pregnant and so I kept using it; I wanted to try it to see if it helped), reasons related to experiencing barriers to accessing other medications or treatments (e.g. cannabis costs less than other medications or treatments; cannabis was easier to get than other medications or treatments; my health insurance did not cover other medications or treatments; I did not have health insurance to pay for other medications or treatments; I did not have a health care provider to get other medications or treatments; in general, I do not

trust doctors) and whether their doctor recommended cannabis use.

Sociodemographic information is routinely collected for all panel participants. In this analysis, we used panel variables on participant’s age in years, race/ethnicity, highest level of education completed, household income and whether the respondent identified as a sexual or gender minority (defined as identifying as anything other than cisgender female and heterosexual). As part of the survey, we asked participants how many pregnancies they experienced prior to their most recent pregnancy (gravidity). This is included in the analysis as well.

2.3 | Analysis

Ipsos developed survey weights through a multi-step process and final weights were raked to match population benchmarks of females ages 18–49 in study states on geodemographic variables such as age, race/ethnicity, education and income. Weights also calibrated for differences between opt-in and KnowledgePanel members [16]. Weights were calculated based on the full survey sample and not the subset used in this analysis.

We calculated the frequencies of each reason for use and reason for self-treatment and applied survey weights to estimate population-level proportions. Respondents who provided open-text responses for the “other” reason they used cannabis during pregnancies were recategorised to existing responses as appropriate.

We then conducted exploratory analyses to examine whether there were any differences in reasons for self-treatment by sociodemographic characteristics. We focused on people reporting only self-treatment for health reasons for these analyses. To do so, we conducted multivariable logistic regressions examining associations between sociodemographic characteristics and each reason for self-treatment. We then sought to identify any patterns in these associations, i.e. whether certain demographic subgroups tended to report lower or greater odds of particular categories of reasons, i.e. using cannabis for self-treatment because it was a personal health decision or because they experienced barriers accessing other medications or treatments.

3 | RESULTS

A total of 3571 people participated in the survey. Of these, 946 people (weighted 17%) indicated that they used cannabis at any point during pregnancy; 579 (weighted 57%) participants used for health reasons only, 347 (39% weighted) used for health and recreational reasons and 20 (4% weighted) used for recreational reasons only

TABLE 1 Demographic characteristics of the sample, $n = 946$.

	Weighted percent
Age, years	
18–20	6
21–24	15
25–29	26
30–34	28
35–39	15
≥40	10
Race/ethnicity	
White, Non-Hispanic	51
Black, Non-Hispanic	17
Other, Non-Hispanic	5
Hispanic	21
2+ Races, Non-Hispanic	5
Household income	
Under \$10,000	8
\$10,000–\$24,999	10
\$25,000–\$49,999	26
\$50,000–\$74,999	20
\$75,000–\$99,999	9
\$100,000 or more	27
Education (categorical)	
Less than high school	7
High school	33
Some college	37
Bachelor's degree or higher	22
Sexual or gender minority	
Cisgender female, heterosexual	75
Sexual or gender minority	25
Gravidity (excluding current pregnancy)	
0	19
1	23
2	25
3 or more	34
Frequency of cannabis use 12 months before pregnancy	
Never	6
Less than monthly	16
Monthly	10
Weekly	17
Daily almost daily	51
Frequency of cannabis use during pregnancy	
Never ^a	8
Less than monthly	34

(Continues)

TABLE 1 (Continued)

	Weighted percent
Monthly	11
Weekly	21
Daily almost daily	26
Reasons for cannabis use during pregnancy	
Health reasons only	57
Health and recreational reasons	39
Recreational reasons only	4

^aRespondents who responded “never” to cannabis use during pregnancy were subsequently asked if they used cannabis at all during pregnancy. These participants responded “yes” to this follow-up question.

(Table 1). Among those using cannabis for health reasons only, 165 (weighted, 23%) used cannabis daily or almost daily; 117 (weighted, 21%) used weekly; 63 (weighted, 11%) used monthly; and 190 (weighted, 37%) used less than monthly (not reported in Table 1). Among all participants that used cannabis during pregnancy, 94% (weighted) used cannabis in the 12 months before pregnancy.

The most common health reasons participants used cannabis were to relieve stress or anxiety ($n = 814$; weighted, 81%), to relieve nausea ($n = 794$; weighted, 80%), to help them sleep ($n = 780$; weighted, 79%) to relieve vomiting ($n = 721$; weighted, 72%) and to relieve pain ($n = 742$; weighted, 72%) (Figure 1). About one-half reported using cannabis to cope with daily life ($n = 552$; weighted 55%) and/or to relieve a chronic condition ($n = 516$; weighted, 47%). Participants who reported other reasons for using cannabis during pregnancy included for managing mental health conditions, such as bipolar disorder, depression and post-traumatic stress disorder, and for specific pain management, such as “cancer pain,” “endometriosis pain,” “back pain” and “headaches”.

The most common reasons participants reported using cannabis to self-treat their health conditions were related to personal health decisions. Specifically, participants chose to self-treat with cannabis because cannabis worked better ($n = 785$; weighted, 84%) and/or was safer ($n = 741$; weighted, 77%) than other medications or treatments; cannabis worked before they were pregnant, so they kept using it ($n = 721$; weighted 74%); and they wanted to try to see if it helped their health conditions ($n = 626$; weighted, 66%) (Figure 2). Approximately half of the participants who used cannabis for health purposes indicated that they chose to self-treat their condition with cannabis because cannabis cost less ($n = 496$; weighted, 50%) or was easier to get ($n = 476$; weighted, 48%) than other medications or treatments. Fewer than a quarter of participants who used cannabis to self-treat indicated

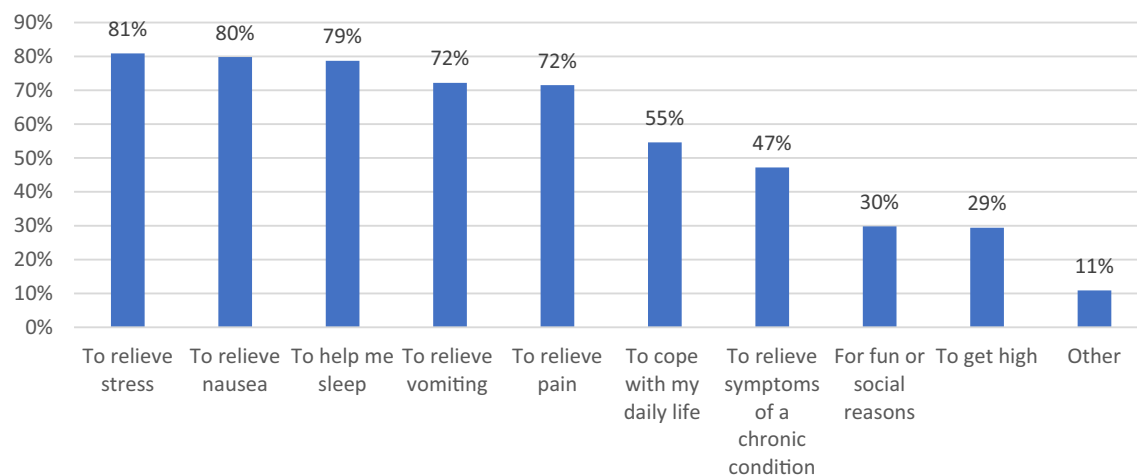


FIGURE 1 Reasons for using cannabis during pregnancy among people reporting using cannabis during pregnancy ($n = 946$, weighted %).

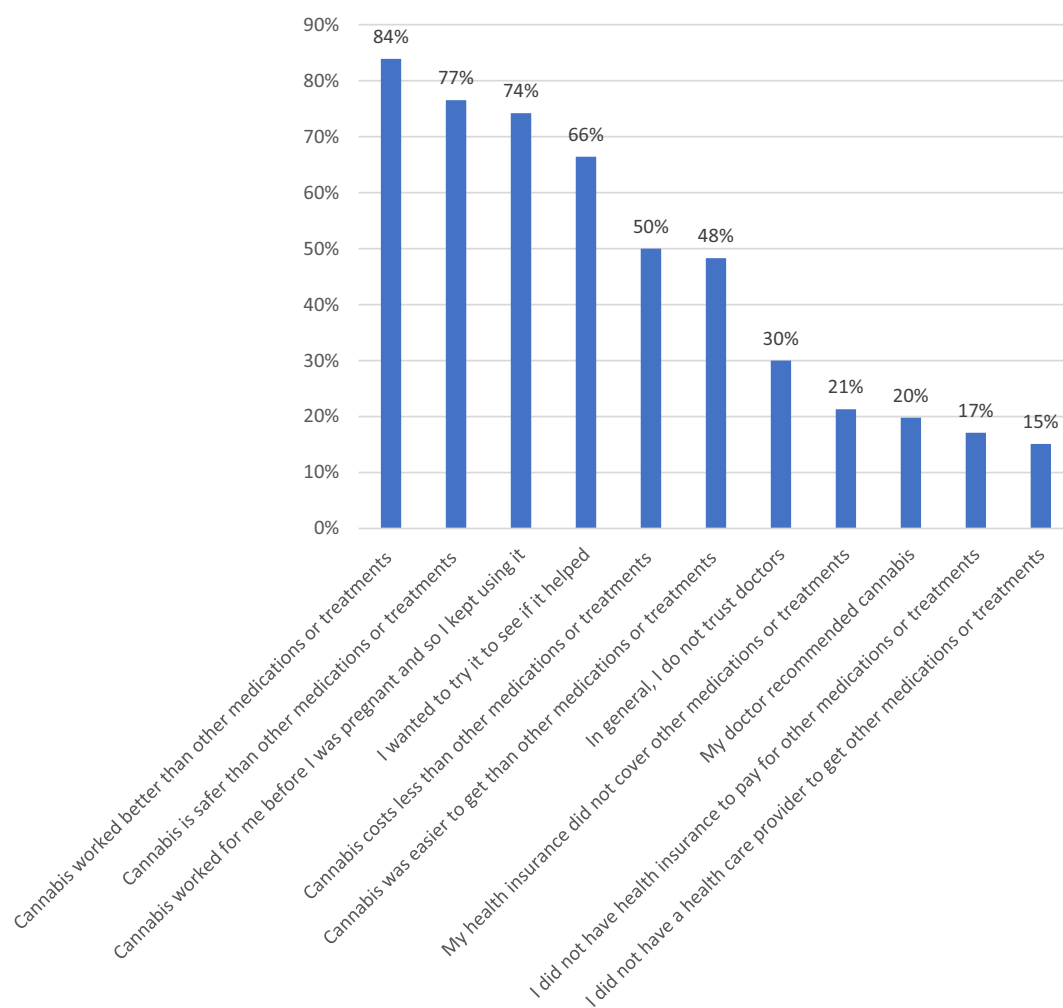


FIGURE 2 Reasons for self-treating medical conditions during pregnancy with cannabis among people who report using cannabis for a medical reason during pregnancy ($n = 926$, weighted %).

health system barriers, such as not having health insurance ($n = 167$; weighted, 17%) or not having a health care provider ($n = 149$; weighted, 15%), as reasons they used cannabis. The frequency of each of these reasons

was similar among people reporting using cannabis only for health reasons.

With the exception of sexual/gender minority status and gravidity, each of the demographic categories we

TABLE 2 Associations between sociodemographic characteristics and reasons for self-treatment related to (a) personal health choices; (b) barriers accessing other medications or treatments ($n = 579$).^a

(a)	Cannabis worked better than other medications or treatments			Cannabis is safer than other medications or treatments			Cannabis worked for me before I was pregnant and so I kept using it			I wanted to try it to see if it helped		
	aOR ^b			aOR ^b			aOR ^b			aOR ^b		
	95% CI			95% CI			95% CI			95% CI		
Age, years												
18–20	0.08	0.02	0.30	0.13	0.03	0.53	0.34	0.09	1.25	0.29	0.08	1.03
21–24	0.62	0.21	1.85	1.29	0.48	3.47	1.67	0.59	4.74	1.10	0.47	2.61
25–29	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
30–34	0.73	0.25	2.17	2.42	0.92	6.34	1.94	0.90	4.18	1.84	0.86	3.92
35–39	1.11	0.30	4.09	2.29	0.79	6.66	0.90	0.36	2.23	0.42	0.19	0.93
≥40	0.80	0.19	3.32	1.56	0.49	5.01	1.98	0.66	5.89	0.73	0.31	1.75
Race/ethnicity												
White	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Black	0.52	0.18	1.56	0.33	0.14	0.76	0.76	0.34	1.70	0.48	0.22	1.03
Other	2.17	0.36	13.10	0.51	0.12	2.21	1.19	0.22	6.52	0.28	0.08	1.04
Hispanic	1.33	0.53	3.35	1.12	0.49	2.57	1.03	0.49	2.20	1.56	0.77	3.14
2+ races	8.29	1.41	48.83	0.88	0.19	4.09	2.19	0.42	11.51	0.27	0.09	0.77
Household income												
Under \$10,000	0.48	0.15	1.56	0.58	0.22	1.54	0.96	0.36	2.55	0.51	0.22	1.18
\$10,000–\$24,999	0.96	0.30	3.15	0.62	0.18	2.13	1.60	0.64	4.03	0.60	0.27	1.31
\$25,000–\$49,999	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
\$50,000–\$74,999	0.30	0.10	0.88	0.37	0.15	0.93	0.98	0.44	2.22	0.61	0.28	1.33
\$75,000–\$99,999	4.35	1.07	17.55	0.82	0.24	2.82	0.86	0.27	2.79	1.97	0.76	5.08
≥\$100,000	0.77	0.26	2.29	0.52	0.19	1.46	1.40	0.56	3.53	0.79	0.30	2.06
Education												
Less than high school	1.72	0.41	7.22	0.39	0.09	1.72	0.36	0.11	1.13	0.24	0.08	0.79
High school	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Some college	0.32	0.13	0.79	0.30	0.13	0.68	0.61	0.31	1.23	0.48	0.26	0.88
Bachelor's or higher	0.13	0.04	0.39	0.15	0.05	0.43	0.38	0.15	0.96	0.51	0.19	1.35
Sexual or gender minority												
Cisgender heterosexual	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Sexual or gender minority	2.11	0.96	4.66	0.75	0.34	1.66	0.97	0.49	1.90	0.93	0.49	1.76

(Continues)

TABLE 2 (Continued)

(a)		Cannabis worked better than other medications or treatments		Cannabis is safer than other medications or treatments		Cannabis worked for me before I was pregnant and so I kept using it		I wanted to try it to see if it helped		
	aOR ^b	95% CI	Ref	aOR ^b	95% CI	Ref	aOR ^b	95% CI	aOR ^b	95% CI
Gravidity										
0	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
1	2.01	0.72	5.62	0.62	0.24	1.55	1.58	0.61	4.11	1.58
2	1.51	0.53	4.30	0.57	0.22	1.50	1.54	0.64	3.72	1.12
3+	1.76	0.73	4.27	1.06	0.39	2.86	1.50	0.64	3.53	2.20
(b)										
	Cannabis costs less than other medications or treatments	Cannabis was easier to get than other medications or treatments	My health insurance did not cover other medications or treatments	I did not have health insurance to pay for other medications or treatments	I did not have a health care provider to get other medications or treatments	In general, I do not trust doctors				
	aOR ^b	95% CI	aOR ^b	95% CI	aOR ^b	95% CI	aOR ^b	95% CI	aOR ^b	95% CI
Age, years										
18–20	0.31	0.09	1.02	0.37	0.09	1.60	1.14	0.27	4.78	0.26
21–24	0.49	0.22	1.07	0.53	0.21	1.30	1.40	0.44	4.44	0.60
25–29	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
30–34	1.85	0.89	3.85	1.91	0.93	3.95	1.77	0.75	4.19	1.00
35–39	1.13	0.50	2.56	0.72	0.32	1.63	0.69	0.24	1.99	0.39
≥40	0.50	0.19	1.33	1.02	0.42	2.51	1.42	0.50	4.47	0.87
Race/ethnicity										
White	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Black	0.71	0.34	1.51	0.61	0.26	1.39	1.00	0.41	2.44	4.60
Other	0.93	0.24	3.50	0.56	0.15	2.14	0.26	0.05	1.23	1.65
Hispanic	2.19	1.13	4.24	1.73	0.89	3.33	2.28	1.03	5.12	2.71
2+ races	1.33	0.50	3.57	0.65	0.24	1.79	1.42	0.35	5.86	2.75
Household income										
Under \$10,000	0.66	0.30	1.47	0.61	0.29	1.30	1.75	0.73	4.21	1.12
\$10,000–\$24,999	1.12	0.52	2.29	0.85	0.39	1.88	1.87	0.74	4.69	4.16

TABLE 2 (Continued)

(b)

	Cannabis costs less than other medications or treatments		Cannabis was easier to get than other medications or treatments		My health insurance did not cover other medications or treatments		I did not have health insurance to pay for other medications or treatments		I did not have a health care provider to get other medications or treatments		In general, I do not trust doctors	
	aOR ^b	95% CI	aOR ^b	95% CI	aOR ^b	95% CI	aOR ^b	95% CI	aOR ^b	95% CI	aOR ^b	95% CI
\$25,000–\$49,999	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
\$50,000–\$74,999	0.58	0.29	1.16	0.54	1.16	0.25	1.16	0.83	1.46	0.51	1.04	0.46
\$75,000–\$99,999	0.50	0.18	1.43	0.65	1.93	0.22	1.93	0.70	0.86	0.18	0.87	0.24
≥\$100,000	1.13	0.46	2.77	1.05	2.54	0.43	2.54	1.23	0.38	0.09	0.44	0.15
Education												
Less than high school	0.63	0.21	1.86	1.14	0.41	3.18	2.87	0.90	1.98	0.46	0.35	0.12
High school	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Some college	0.58	0.32	1.08	0.47	0.25	0.86	1.86	0.91	1.71	0.69	1.07	0.58
Bachelor's or higher	0.47	0.18	1.20	0.58	0.24	1.43	0.61	0.18	2.07	0.65	0.31	0.11
Sexual or gender minority												
Cisgender heterosexual	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Sexual or gender minority	0.82	0.46	1.47	1.29	0.73	2.29	1.65	0.82	2.21	0.83	0.75	0.41
Gravidity												
0	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
1	1.27	0.56	2.86	0.59	0.26	1.36	1.54	0.61	0.75	0.28	0.74	0.32
2	0.92	0.39	2.21	0.78	0.32	1.94	2.38	0.32	0.36	0.11	0.72	0.31
3+	1.21	0.52	2.84	1.35	0.61	2.95	1.43	0.55	1.02	0.37	1.17	0.50

Abbreviations: aOR, adjusted odds ratio; CI, confidence interval.

^aSample restricted to those that indicated using cannabis during pregnancy for only health reasons.^bControlled for all other sociodemographic variables in the table.Note: Bold indicates statistical significance at $p < 0.05$.

examined was associated with one or more of the reasons for self-treatment (Table 2a,b). Compared with participants aged 25–29, participants aged 18–20 had a lower odds of reporting personal health reasons including because they thought cannabis worked better (adjusted odds ratio; aOR 0.08 [95% confidence interval; CI 0.02, 0.30]) or was safer (aOR 0.13 [95% CI 0.03, 0.53]).

Participants who identified as Hispanic had higher odds than White participants of reporting barriers accessing other medications or treatments such as cannabis cost less than other medications or treatments (aOR 2.19 [95% CI 1.13, 4.24]); they did not have health insurance (aOR 2.71 [95% CI 1.10, 6.69]), their health insurance did not cover other medications or treatments (aOR 2.28 [95% CI 1.03, 5.12]) or they did not have a health care provider (aOR 2.84 [95% CI 1.22, 6.60]). Similarly, Black participants had higher odds than White participants of reporting that not having health insurance to pay for other medications or treatments was a reason they self-treated with cannabis (aOR 4.60 [95% CI 1.73, 12.25]).

Compared with participants with household income between \$25,000 and \$49,000, those with a lower income had higher odds of reporting barriers accessing other medications or treatments, such as not having health insurance to pay for other medications or treatments (aOR 4.16 [95% CI 1.72, 10.05]); not having a health care provider (aOR 2.98 [95% CI 1.07, 8.30]); or they do not trust doctors (aOR 2.19 [95% CI 1.05, 4.58]).

Compared with those with only a high school degree, participants with additional education had lower odds of reporting both personal health decisions and barriers to accessing other medications or treatments as reasons for self-treatment.

4 | DISCUSSION

Overall, these findings conform with previous published research which demonstrates that cannabis is frequently used in pregnancy as self-treatment for symptomatic management. Although we found that nearly all people who used cannabis during pregnancy did so to manage at least one health condition, Satti et al. found that two-thirds of participants in their sample who used cannabis in pregnancy did so for self-medication [17]. Similarly, Vanstone et al. found that reasons for cannabis use shifted in pregnancy away from “sensation-seeking” to “symptom management” and back to “sensation-seeking” postpartum – suggesting either changes in use are justified due to pregnancy status or changes in symptoms needing management in pregnancy [14]. Although we did not examine such changes in use in this analysis, the fact that just less than 40% of those reporting using

cannabis during pregnancy indicated that they did so both for health reasons and for recreational reasons is consistent with this finding. Current professional association guidance to cease cannabis use in pregnancy fails to recognise the symptomatic management provided by cannabis and the benefits and risks often weighed by pregnant people [18] as well as the clear barriers to other forms of treatment reported by many participants (particularly people of colour and people with lower incomes) in our study. Clinical strategies that provide optimal support for informed cannabis use decisions, such as those proposed by Greyson et al. [19], are needed, as are strategies to ensure that pregnant people have a range of safe and effective options to treat their pregnancy symptoms and other health conditions during pregnancy.

Our findings suggest that the main reason people are choosing to self-treat their health conditions in pregnancy with cannabis is because they find it more effective and safer than other medications or treatments. Cannabis is an effective antiemetic for patients with chemotherapy-related nausea as well as for more general nausea [20, 21]. It is plausible that cannabis is effective for the management of nausea and vomiting caused by pregnancy [22]. Although prescribed medications exist for nausea and vomiting in pregnancy, research on the effects of these medications on birth outcomes is mixed [23, 24]. Ondansetron, a commonly prescribed antiemetic, has been associated with a small increase in risk of birth defects when prescribed during pregnancy [25–28]. Furthermore, data on the effectiveness of cannabis for treating other conditions, such as depression and sleep, is limited and absent in pregnancy. More research is needed to identify possible medications and treatments for the wide range of pregnancy symptoms.

Some pregnant people may be choosing to self-treat their health conditions because they experience barriers to accessing medicalised healthcare, such as a lack of health insurance or health care provider. This seems to be particularly true for people of colour and low-income people. Although previous research has found that pregnant people may manage some symptoms, particularly mental health symptoms, with cannabis because it is more accessible than conventional health care [29], our findings are the first to our knowledge to suggest that a concerning number of people might be choosing to use cannabis because they do not have health insurance or a health care provider. Additionally, current legislation in many US jurisdictions that mandates reporting of pregnant people who use drugs (including cannabis) to child welfare often leads to distrust of health professions [30]. Programs and policies that seek to address cannabis use in pregnancy need to consider the myriad of reasons that pregnant people may be seeking to treat their conditions, including exclusion from and distrust of the healthcare system.

We note that the binary categorisation of health versus recreational reasons is likely too simplistic, as evidenced by the fact that 40% of our sample reported using cannabis for both a recreational and a health reason. Conceptually, we grouped using cannabis for coping with daily life as a health reason, but others might view this as using as a way to relax, which might be considered more recreational. Future research should aim to further understand both health and recreational reasons for use, including whether the delineations can be made clearer but also whether the difference between medical and recreational is a useful distinction that relates to the realities of people's lives and experiences.

This study has a few limitations. First, it is possible that people in our sample who self-treated because they experienced nausea and vomiting may be experiencing cannabinoid hyperemesis syndrome, a condition indicated by recurrent episodes of nausea, vomiting and abdominal pain in the setting of chronic, often daily, cannabis use [31]. Differentiating between the symptoms of cannabinoid hyperemesis syndrome and pregnancy is not possible in this study. Second, this study included people who were both recently pregnant and currently pregnant at the time of the survey. Participants who were recently pregnant may be more likely to view self-treatment with cannabis as safe and effective if they experienced a positive birth outcome. Third, it is likely that our results may be influenced by respondents' desire to justify cannabis use during pregnancy for health reasons, and that the proportion reporting using cannabis during pregnancy partly or solely for recreational reasons are underestimated. Fourth, the proportion of our sample reporting use during pregnancy is at the upper end of previously published estimates [4–7]. It is important to note that our survey assessed use at any point in pregnancy, whereas many other surveys ask about past 30-day use [6, 32]. It is also possible that non-probability panel participants with more experience with the topic may have been more likely to participate. Therefore, the proportion reporting cannabis use in our study should not be used as a national prevalence estimate. Fifth, the confidence intervals for some of the odds ratios in the regressions are wide due to the small numbers in some groups (e.g. age 18–20, 2+ races) and thus should be interpreted with caution. Lastly, the cross-sectional nature of this analysis does not allow for causal interpretations of the findings; to further understand decision-making among pregnant people, research should include a comparison group of pregnant people who experience similar health conditions but do not self-treat with cannabis.

5 | CONCLUSION

Most people using cannabis during pregnancy report doing so for health reasons. Although some are choosing

to self-treat because they are experiencing barriers to accessing health care, most of those who use cannabis during pregnancy do so because they believe and experience cannabis to be safe and effective at treating and managing health conditions and pregnancy symptoms. Some people, particularly people of colour and low-income people, may be self-treating with cannabis due to barriers accessing other medications and treatments, indicating health systems failures that should be addressed.

AUTHOR CONTRIBUTIONS

Each author certifies that their contribution to this work meets the standards of the International Committee of Medical Journal Editors.

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CONFLICT OF INTEREST STATEMENT

None.

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