FASD Prevention: An Annotated Bibliography of Articles Published in 2025

Prepared by: Lindsay Wolfson, Nancy Poole & Kirsten Morrison

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CanFASD
CANADA FASD RESEARCH NETWORK

centre of excellence for women's health

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Executive Summary

Introduction

Annually, researchers associated with the Prevention Network Action Team (pNAT) of the CanFASD Research Network search the academic literature for articles related to Fetal Alcohol Spectrum Disorder (FASD) prevention. The findings are organized using a four-level prevention framework developed by the pNAT to describe the wide range of work that comprises FASD prevention. The annual literature search is intended to update those involved in FASD prevention in Canada, so they can inform their practice and policy work with current evidence. The members of the pNAT also have the opportunity in monthly web meetings to discuss the implications of the findings for their work.

Search Methods

Six databases were searched using EBSCO Host for articles published between January and December 2025. All searches were limited to articles published in the English language. Articles were further screened for relevance to the FASD pNAT, and non-relevant articles (e.g., diagnosis of FASD) were removed from the list. Articles were then categorized into one or more theme, as presented below.

Search Results

Ninety-nine (n = 99) articles were included from our searches. Fourteen (n = 14) articles were assigned to more than one category and three (n = 3) were attributed to more than one country. Table 1 provides an overview of the number of articles found in each topic area by country. English-language research on FASD prevention was most often generated in the United States of America (U.S.), Australia, Canada, and the United Kingdom (UK).

Prevalence of, and influences and factors associated with, alcohol use in pregnancy

Forty-two (n = 42) articles explored the prevalence of, and influences and factors associated with, alcohol use during pregnancy. The majority of studies were cross-sectional (n = 21), cohort (n = 6), mixed methods (n = 4), systematic reviews and meta-analyses (n = 3) and case control, randomized control trials, narrative or literature reviews, and qualitative studies (n = 2, respectively).

Six studies reported on global, continental, national or provincial prevalence of alcohol use in pregnancy, representing research from all continents. A meta-analysis conducted by Ethiopian researchers estimated the pooled prevalence of alcohol use among pregnant women in Africa. The pooled prevalence was estimated to be 28.33%, with the highest prevalence estimated in Ghana (34.09%), Ethiopia (29.19%), and Uganda (19.80%) [1]. Conversely, a cross-sectional study from Tanzania found that the prevalence of alcohol use in pregnancy was 3.9% [2]; another from Ethiopia estimated the prevalence to be as high as 31.7% [3]. Another meta-analysis from India estimated the pooled prevalence of prenatal alcohol use to be 20.9% [4]. In Belgium, a study found that preconception prevalence of alcohol use was 84.2% but reduced to 12.9% during the first trimester [5]. In Ontario, Canada, researchers found that between 2012 and 2022, prevalence of alcohol use remained relatively stable at 2.4% [6].

This year, there were several studies that explored the prevalence of, and influences and risk factors associated with alcohol use in pregnancy in specific populations of women and non-binary individuals. For example, a study from Australia explored the prevalence of prenatal alcohol use and associated risk factors

among Aboriginal and non-Aboriginal women. The findings demonstrated higher prevalence of prenatal alcohol use among Aboriginal women (13.1%) compared to non-Aboriginal women (2.3%). Factors associated with alcohol use included age, smoking status, and substance-related hospitalizations; however, for Aboriginal women, exposure to violence was an additional risk factor [7]. A study from the U.S. examined rural-urban disparities in prenatal substance use. The findings suggested that pregnant women living in rural areas were more likely to report tobacco use, but less likely to report alcohol use [8]. One study explored the influence of partners on prenatal alcohol use [9]. The exploration into specific populations provides researchers, service providers, program planners, and policy makers to create more tailored approaches to prevention and support.

One study identified five key, interconnected influences on alcohol use during pregnancy [10]. Drawing on those five categories, the influences of alcohol use in pregnancy were identified as:

Stress-related Factors:

The use of alcohol to cope with stressors and mental health concerns is often identified as a key contributor to continuing use of alcohol in pregnancy. Studies in 2025 described the following stress related factors:

- experience of violence [7, 11, 12]
- stress and anxiety [13, 14]
- child welfare involvement [11, 15]
- adverse childhood experiences [12, 16]
- past year psychiatric distress [17]
- family history of mental health [1]
- criminal involvement [17]

Social Determinant of Health (SDoH)-Related Factors:

SDoH-related influences include income and social status, employment and working conditions, education, food security, physical environments, gender, culture and race/racism, among others. In 2025, SDoH-related factors cited included:

- relationship status [2], including being single [18], divorced [3], married [19], or not married [17, 20]
- education status [2], including no formal education [1, 19] and higher educational attainment [5]
- age [2], including being younger [7] and older than 30 [3, 19]
- poverty [3, 21]
- living in rural [1] or urban [8] areas
- poor social support [1] or isolation [22]
- employment status [17, 21]
- food insecurity [23]
- housing insecurity [21]
- lower level of spirituality [20]

Preconception and perinatal health related factors

Preconception and prenatal health factors refer to health risks that occur when planning a pregnancy and in the preconception period, that may or may not continue in pregnancy. These factors include, but are not limited to:

- preconception substance use [1, 5, 7, 13, 24, 25]
- unplanned pregnancy [1, 3, 5, 24]
- partner's substance use [1, 5, 9, 24]
- late or limited access to prenatal care [7, 18, 20]
- chronic physical [20, 26] and mental [18, 20] health conditions
- "fun seeking" personality trait [27] or trait impulsivity [28]

- physical inactivity [23]
- delayed pregnancy recognition [20]
- substance use treatment seeking [11]
- positive HIV status [29]
- parity [25]
- history of accessing abortion [1]

Informational Factors:

Informational factors involve women and people of childbearing age having accurate, accessible, and non-judgmental information about the risks of alcohol use in pregnancy. In 2025, the informational factors reported included:

- normalization of alcohol use [3]
- misconceptions about the health effects of alcohol use in pregnancy [30]
- lack of knowledge around alcohol use during pregnancy [24]
- how risk perceptions are shaped [31]

Structural Factors:

Structural factors influencing alcohol use in pregnancy include policies and laws related to alcohol availability, substance use treatment availability, as well as the systematic attitudes and stigma toward pregnant and parenting women and gender diverse individuals. In 2024, the structural factors reported included:

- guidance on alcohol use during pregnancy [25]
- legal cannabis retailers [32]

In addition to factors that increase the risk of alcohol use during pregnancy, several studies identified protective factors. The most notable were social connectedness and engagement with cultural values and practices [21, 33].

The range of factors that influence alcohol use – as well as the ways in which these factors impact pregnant women and people differently depending on the region, subpopulation, etc. - demonstrate the need for contextualized prevention efforts. Reducing prenatal alcohol exposure requires sustained, equity-focused interventions that address the range of determinants that affect alcohol use during pregnancy.

Level 1 Prevention

Nine (n = 9) articles described Level 1 FASD prevention efforts. All study designs were different, but included systematic reviews, qualitative studies, and experimental and observational studies.

There were three primary themes identified at this level of prevention. Several studies focused on how Level 1 policy efforts (e.g., mandatory warning labels) were being implemented [34-36]. The findings suggest that in Australia, compliance differed across spirits, beer, and premium drinks [34-36], and that warning labels are frequently placed on the back or bottom of products [34, 35]. In another study exploring the relationship between mandatory alcohol warning signs and birth/infant outcomes found that the state where warning signs were posted had decreased birthweights and infant injuries, compared to the state where no mandatory alcohol warning signs were posted [37].

Two studies explored the use of mobile health (mHealth) interventions. One pilot study examined the usability and acceptability to provide substance use screening, education, and referral to pregnant people with a history of substance use. Participants found disclosing substance use through an app as easier and less stigmatizing than in-person discussions [38]. A systematic review found that text message, web-based

screening, and remote prenatal education resulted in improved breastfeeding outcomes, healthy child behaviours and prenatal education participation, and reduced alcohol use among Indigenous mothers [39].

Lastly, several studies described efforts to raise awareness, including among providers [40] and through a self-administered educational leaflet [41]. One study also explored the availability of dietary guidelines and found that most countries advised about alcohol use during pregnancy [42].

Level 2 Prevention

Twenty (*n* = 20) articles described Level 2 prevention efforts. Study designs included: cross sectional (*n* = 5), qualitative (*n* = 3), case study/series, cohort, mixed methods, reviews, and descriptive (*n* = 2, respectively), and randomized control trial (*n* = 1).

Challenges to engaging in brief intervention and screening continue to be explored. Common challenges include:

- perceptions of alcohol-related issues [43]
- clinical and/or organizational challenges [43]
- access to preconception healthcare [44]
- improved educational resources [45]
- lack of collaboration across substance use and pregnancy care [45]
- geographic disparities in care [46]

The need for health promotion during the preconception period [44], and in general [47], continue to be emphasized. Opportunities for brief intervention include through integration with existing clinical workflows [48] or through educational opportunities that improve provider confidence or service capacity [40, 49].

There were several articles that focused on how providers can improve their alcohol, substance use, and contraceptive brief interventions [50]. Research emphasized the importance of addressing inequities, including through the delivery of culturally safe [51, 52] and neurodiversity-informed [50] care; and how care should be individualized to support pregnant individuals and reduce harm [53]. The benefits of integrated, non-stigmatizing, and multidisciplinary care were also described that support women during pregnancy and improve engagement in substance use treatment [45, 54].

Like Level 1 prevention, the studies published in 2025 related to Level 2 prevention primarily focused on digital interventions to reach women, and provider education. One South African study explored the use of a text message contingency management brief intervention to address alcohol use [55]. Other mHealth approaches used to engage in brief intervention or screening included pregnancy apps [38, 52, 56]. Digital interventions were tailorable to specific populations, by including cultural elements [52, 56], or by offering alternate opportunities for engagement for those who have high caregiver burdens/responsibilities [57].

Level 3 Prevention

Eleven (n = 11) articles described Level 3 prevention efforts. Study designs included: qualitative (*n* = 4), cross-sectional (*n* = 3), and cohort, scoping review, case study, and an environmental scan (*n* = 1, respectively).

Three studies addressed pharmacologic opportunities to support pregnant and postpartum individuals with substance use concerns. One study explored what pharmacotherapies are safe to use during pregnancy, with findings indicating that naltrexone could be considered to help maintain abstinence in pregnant individuals with AUD [58]. Two studies from the U.S. found that very few pregnant people with Alcohol Use Disorder (AUD) receive a prescription as part of their treatment [59, 60].

Several studies reported on specific approaches to Level 3 support including: non-stigmatizing multidisciplinary support [54, 61], integrated treatment models [62], and the benefits of familial, structural, and navigational supports [63]. One study identified five categories needed to support pregnant women who use substances, including socio-cultural support, health/financial support, consultation services, psychological needs, and access to training [64]. However, gaps were identified in access to harm reduction services, including those that were gender-informed or offered wraparound support [65].

Level 4 Prevention

Five (*n* = 5) articles described Level 4 prevention efforts. Most studies which addressed postpartum supports are described above in Level 3 Prevention, as many programs serve both pregnant and postpartum women and gender diverse people and their families. One additional study examined the impact of maternal substance use interventions on children's development. The findings indicated that integrated services show promise for enhancing child outcomes [66]. Another study examined substance use treatment components offered for mothers to young children. Components of maternal substance use treatment included services to support mother and family mental health, basic needs, parenting, employment and education, operant conditioning, crisis management, and medical education [67].

Supportive Alcohol and Child Welfare Policy

Ten (*n* = 10) articles described efforts related to supportive alcohol and child welfare policy. Study designs included: cross sectional (*n* = 5), qualitative (*n* = 2), and observational, experimental and a research brief (*n* = 1, respectively).

General alcohol policies were found to be more effective than pregnancy-tailored alcohol policies in reducing adverse effects of alcohol use during pregnancy [68, 69]. Two studies were published related to retail policy. One found that binge drinking in pregnancy may be higher in areas with legal nonmedical cannabis retailers [32]. Another found that pregnancy-specific policies were only present or general stronger in states where there were government monopolies on spirits [70]. As described in Level 1, several studies identified the need to improve the visibility and consistency in use of pregnancy alcohol warning labels [34, 35, 71].

Two studies also described parental care policies. A study on the content of states' Plans of State Care policies found a need for more transparent and consistent interventions for families where prenatal substance use is present [72]. Another called for the need to prioritize policies that positive affect the parent/infant dyad [73].

Other – stigma, ethical issues, and systemic approaches

Sixteen (*n* = 16) articles described efforts related to stigma, ethical issues and systemic approaches

Study designs included: qualitative (*n* = 5), reviews (*n* = 2), mixed-methods (*n* = 2), cross sectional (*n* = 2), and cohort, randomized control trial, a research brief, an environmental scan, and an editorial (*n* = 1, respectively).

This year, two studies were published related to no- and low-alcohol products. One study from the U.S. found that non-alcoholic beverage use can both increase and decrease the desire for alcohol use, with increasing desire among those with a substantive alcohol use history [74]. Another from the U.K. found that women who drank increasing levels before pregnancy were more likely to consume alcohol free or low-alcohol products; and did so a safer alternative and to feel included in social events [75].

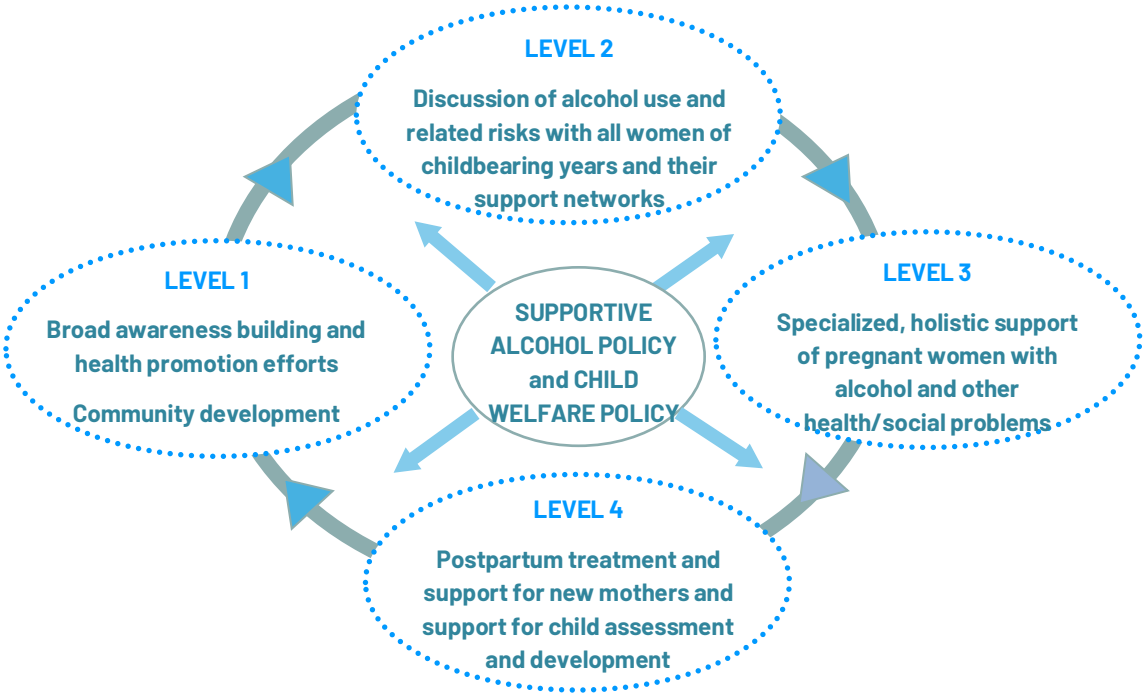
There remains a need for consistent information both to those who are pregnant, and providers, on alcohol and other substance use during pregnancy [76-79]. In doing so, it is possible to help women in the transition

to motherhood – including the guilt, shame, and worry that they may hold – and reduce the stigma that both individuals with FASD and their families experience [80, 81]. However, this remains a challenge with high levels of burnout present among providers [82] and funding cuts that impact the delivery of family-centered, comprehensive, gender-specific services for families [83]. Further, one study drew attention to the differential receipt of care and child welfare involvement experienced by mothers depending on their substance use, race, ethnicity, and insurance coverage. The study found that there was a 24% variance in child welfare system involvement depending on the hospital of delivery, which was attributed to women's race and insurance type differences [84]. Unique interventions, including arts-based interventions, are proposed that support stigma reduction in healthcare settings [85].

FASD Prevention Literature Search 2025

Introduction

Annually, researchers associated with the Prevention Network Action Team (pNAT) of the CanFASD Research Network search the academic literature for articles related to Fetal Alcohol Spectrum Disorder (FASD) prevention. The findings are organized using a four-level prevention framework, that describes the wide range of work that comprises FASD prevention. The annual literature search is intended to update those involved in FASD prevention in Canada, so they can inform their practice and policy work with current evidence. The members of the pNAT also have the opportunity in monthly web meetings to discuss the implications of the findings for their work.



Search Methods

The following databases were searched using EBSCO Host for articles published between January and December 2025:

1. Bibliography of Native North Americans
2. CINAHL Complete (Cumulative Index of Nursing and Allied Health Literature)
3. MEDLINE with Full Text
4. PsycINFO
5. Social Work Abstracts
6. Urban Studies Abstracts

Searches of each database were conducted using the following search terms: 1) [Fetal Alcohol Spectrum Disorder OR FASD OR fetal alcohol OR feotal alcohol OR alcohol exposed pregnancy OR alcohol] + [pregnancy] + [prevalence OR prevention OR preventing OR preventative]; 2) [Alcohol OR drink*] + [pregnan* OR conception OR preconception OR postpartum OR prenatal OR antenatal OR perinatal or maternal] + [prevalance OR prevention]; 3) [Alcohol OR drink*] + prevention + [women OR girls OR youth OR teen* OR mother OR Aboriginal OR Indigenous OR First Nation* OR Inuit OR Métis]; 4) [Alcohol OR drink* OR FASD] + [awareness OR education OR policy] + [women OR girls OR female OR mother]; 5) [Alcohol OR drink*] + intervention*+ [women OR girls OR female OR mother]; 6) [Alcohol OR drink*] + stigma + [women OR girls OR female OR mother]; 7) [Alcohol OR drink*] + [motivational interviewing OR Screening OR brief intervention OR SBIR OR SBIRT] + [women OR girls OR gender OR female OR mother OR pregnan*]; 8) [Alcohol or drink*] + [home visit* OR NICU OR neonatal intensive care unit OR midwives or midwife or midwifery]; 9) [Pregnan* OR conception OR preconception OR post-partum OR mother] + [substance use treatment OR harm reduction]; 10) [Pregnan* OR conception OR preconception OR post-partum OR mother] + [wraparound OR parent child assistant program OR PCAP OR community OR holistic OR integrated OR multidisciplinary]; 11) [Alcohol OR drink*] + [land-based OR cultur*] + [women OR girls OR youth OR teen* OR mother OR Aboriginal OR Indigenous OR First Nation* OR Inuit OR Métis];

All searches were limited to articles published in the English language. Articles were further screened for relevance to the FASD pNAT, and non-relevant articles (e.g., diagnosis of FASD) were removed from the list. Articles were then categorized into one or more theme, as presented below.

Search Results

Ninety-nine (*n* = 99) articles were included from our searches. Fourteen (*n* = 14) articles were assigned to more than one category and three (*n* = 3) were attributed to more than one country. Table 1 provides an overview of the number of articles found in each topic area by country. English-language research on FASD prevention was most often generated in the United States of America (U.S.), Australia, Canada, and the United Kingdom (UK).

Table 1: Studies identified by topic and country

Country	Prevalence	Level 1	Level 2	Level 3	Level 4	Policy	Stigma	Total
Australia	5	5	3	0	0	3	3	**19**
Belgium	1	0	0	0	0	0	0	**1**
Brazil	2	0	0	0	0	0	0	**2**
Canada	3	0	0	2	4	0	0	**9**
Colombia	1	0	0	0	0	0	0	**1**
Czech Republic	1	0	0	0	0	0	0	**1**
Ethiopia	3	0	0	0	0	0	0	**3**
Germany	0	0	1	0	0	0	0	**1**
India	1	0	0	0	0	0	0	**1**
Indonesia	0	1	0	0	0	0	0	**1**
Iran	0	0	0	1	0	0	0	**1**
Israel	1	0	0	0	0	0	0	**1**
Norway	1	0	0	0	0	0	0	**1**
Poland	1	0	0	0	0	0	0	**1**
South Africa	1	0	0	1	0	0	0	**2**
Spain	1	0	0	0	0	0	0	**1**
Switzerland	1	0	0	0	0	0	0	**1**
Tanzania	1	0	0	0	0	0	0	**1**
UK	4	1	1	0	0	0	3	**9**
U.S.	16	3	10	8	1	7	7	**52**
	43	**10**	**15**	**12**	**5**	**10**	**12**	**109**

A. Prevalence of, and influences and factors associated with, alcohol use in pregnancy

1. **Adem, J. B., Alhur, A. A., Wodajo, L. T., Wado, S. J., & Nebi, T. D. (2025). Alcohol consumption and associated factors among pregnant women at public health centers in Asella town, southeastern Ethiopia: a multicenter mixed-method cross-sectional study. *BMC Pregnancy Childbirth*, *25*(1), 745. https://doi.org/10.1186/s12884-025-07875-8**

This mixed-methods study from Ethiopia assessed the level of, and associated risk factors for, alcohol consumption among pregnant women receiving antenatal care at public health centres in Asella Town. Focus groups were held with pregnant women and key informant interview were conducted with health care providers. Quantitative data was collected through structured questionnaires. The prevalence of alcohol use among the *n* = 353 pregnant women participants was 31.7%. Risk factors for alcohol use during pregnancy included being over 30 years of age (aOR = 0.2, 95%CI: 0.07 - 0.4), being divorced (aOR = 8.3; 95% CI 1.2 - 56.2), having income lower than 1000 ETB/month (aOR = 11.6, 95% CI: 1.7 - 81.5), alcohol brewing (aOR = 5.8, 95% CI: 1.9 - 17.8), unplanned pregnancy (aOR = 5.7, 95% CI: 2.4 - 13.4), and having a positive attitude toward alcohol use (aOR = 0.4, 95% CI: 0.02 - 0.9). The findings demonstrate socioeconomic, structural, and behavioural considerations that can be embedded in a multi-level approach to prevention alcohol use during pregnancy. Such approaches can be included in culturally appropriate health education, and through incorporating alcohol screening and counseling services into routine maternal health care.

2. **Andualem, F., Melkam, M., Nakie, G., Tinsae, T., Fentahun, S., Rtbey, G., Takelle, G. M., Kibralew, G., Mengistie, B. A., Gedef, G. M., Yirsaw, A. N., & Tadesse, G. (2025). The prevalence and associated factors of alcohol consumption among pregnant women in Africa: a systematic review and meta-analysis. *BMC Psychiatry*, *25*(1), 824. https://doi.org/10.1186/s12888-025-07260-x**

This systematic review and meta-analysis conducted by Ethiopian researchers estimated the pooled prevalence of alcohol use during pregnancy and associated factors for pregnant women in Africa. A search was conducted in five databases, including PubMed, MEDLINE, EMBASE, Scopus, and the Cochrane Library. Cross-sectional studies reporting alcohol consumption among pregnant women in Africa were included. A total of *k* = 21 studies from various countries in Africa were included, representing *n* = 11,726 pregnant women. The pooled prevalence of alcohol consumption during pregnancy was 28.33% (95% CI: 22.68 - 33.99). Subgroup analysis estimated the prevalence of alcohol use during pregnancy was 34.09% in Ghana, 29.19% in Ethiopia, and 19.80% in Uganda. Factors associated with alcohol use during pregnancy included rural residence, lack of formal education, poor social support, family history of mental illness, history of abortion, lack of awareness, preconception alcohol use, partner alcohol use, and unplanned pregnancy. The findings estimate a high prevalence of alcohol use during pregnancy and what factors should be considered when developing public health initiatives.

3. **Azeem, A., Lobel, M., Heiselman, C., & Preis, H. (2025). Using the PROMOTE screener to identify psychosocial risk factors for prenatal substance use. *Journal of addiction medicine*, *19*(2), 216-222. https://doi.org/10.1097/ADM.0000000000001427**

This U.S. study examined how psychosocial vulnerabilities were associated with alcohol, tobacco, and cannabis use during pregnancy for patients in a New York health system. Researchers conducted a retrospective chart review of *n* = 1,842 pregnant patients who completed the PROMOTE psychosocial screening tool during their first prenatal visit. About 10% of patients used at least one substance during pregnancy, including tobacco (7.2%), cannabis (2.7%), and alcohol (2.4%). Past-year tobacco and illegal drug use were linked to higher risk of using all three substances during pregnancy. Additional factors associated with prenatal substance use included lower education levels for tobacco use, lack of partner support for cannabis use, and major life stressors for alcohol use. The findings suggest that brief psychosocial screening tools used in prenatal care may help identify patients at higher risk for substance use during pregnancy and support earlier referral to appropriate services.

4. **Bello, J. K., Wong, A. R., Piechowski, M., Chen, L., Stratman, H., & Jaegers, L. A. (2025). Men's influence of maternal substance use before, during, and after pregnancy: A qualitative study of men with criminal-legal involvement. *Drug and Alcohol Dependence*, *266*, 112524. https://doi.org/10.1016/j.drugalcdep.2024.112524**

This study from the U.S examined the impact that men with criminal/legal involvement and who use substances have on their partner's substance use before, during, and after pregnancy. Qualitative interviews were conducted with men (*n* = 30) living in a transition centre in the Midwest. The interviews and analysis were informed by the Health Belief Model. Themes identified were mapped onto the Model constructs. The findings highlighted six key themes: 1) Partners did not consider the chance of pregnancy while using together; 2) using together escalated use before/during pregnancy; 3) quitting together could strengthen relationships; 4) quitting is impacted by the lack of preconception health knowledge; 5) having a pregnant partner could promote quitting; and 6) knowledge of adverse effects increased confidence to quit. The findings highlight how men in carceral settings experience multiple barriers to substance use cessation, as well as the differing perspectives of the impact of their use. Clinicians should consider how interpersonal relationships impact pregnant people's personal use of alcohol.

5. **Boďa, M., Chyba, A., Záhumenský, J., & Pšenková, P. (2025). Determination of markers of ethyl alcohol consumption in pregnancy. *Ceska Gynekol*, *90*(5), 360–365. https://doi.org/10.48095/cccg2025360**

The aim of this Czech study was to identify objective diagnostic measures for prenatal alcohol exposure by using biomarkers to identify alcohol use in pregnancy. Ethyl glucuronide (EtG) and ethyl sulfate (EtS) were collected in meconium samples and compared the results of self-reported prenatal alcohol use among *n* = 51 pregnant women. From each newborn, a meconium sample was collected and analyzed using liquid chromatography-mass spectrometry. EtG was detected in 41 samples (80.3%) and EtS was present in all 51 samples (100%). Three of the 51 women did not complete the questionnaire. Of the remaining 48, six (11.7%) reported alcohol consumption during pregnancy. The median levels of both biomarkers were higher among women who reported alcohol use compared to those did not. Notably, EtG concentrations exceeding 30 ng/g - previously suggested in the literature as a potential cut off for PAE - were found in 82.35% of women who reported no alcohol use. The finding confirms that EtG and EtS are reliable biomarkers when detecting ethanol exposure in meconium. However, more research is needed to identify the cutoff values for these biomarkers when diagnosing prenatal alcohol exposure.

6. **Boswell, E. K., Hinds, O. M., Odahowski, C., Crouch, E., Hung, P., & Andrews, C. M. (2025). Rural-urban differences in substance use during pregnancy. *Journal of Rural Health*, *41*(2), e70018. https://doi.org/10.1111/jrh.70018**

This study from the U.S. examined rural and urban disparities perinatal substance use. Using data from the National Survey on Drug Use and Health (2015 – 2019), data from *n* = 3,499 pregnant women was analyzed. Between 2015 and 2019, past month tobacco use varied geographically. Rural pregnant participants were more likely to have used tobacco than those living in small or large urban areas (24.7% vs. 15.2% and 8.2%, respectively, p < 0.0001). After controlling for sociodemographic and health care needs, rural pregnant women were more likely to report tobacco use (aOR: 2.32, 95%CI: 1.66 - 3.25) but were less likely to report alcohol use (aOR: 0.58, 95% CI: 0.34 - 0.98) than their counterparts in large urban areas. There were no differences in the odds of past month binge drinking, illicit substance use, or cannabis use between those in rural and urban areas. The findings highlight that there are geographic variations in perinatal substance use. Future prevention approaches may look to prioritizing tobacco reduction in rural areas and alcohol reduction in urban areas.

7. **Botella-López, M., & Cortés-Tomás, M. T. (2025). Knowledge gaps regarding alcohol consumption during pregnancy and its effect on the fetus: A systematic review focused on women. *Journal of Clinical Medicine*, *14*(19). https://doi.org/10.3390/jcm14197047**

This systematic review from Spanish researchers assessed pregnant women and women of childbearing age's perceived risk prenatal alcohol use and their knowledge of its potential for adverse effects. Three databases were searched for articles published prior to May 2025. Eligible studies included those that examined alcohol use during pregnancy, risk perception, or knowledge of fetal consequences among pregnant women or women of reproductive age. There were *n* = 29 studies included in the systematic review. Prevalence of alcohol use varied across the studies. A substantial proportion of women perceived prenatal alcohol use as acceptable, depending on the quantity, frequency, type of beverage, or stage of gestation. Knowledge of FASD was quite limited, and misconceptions around the safety of alcohol use during pregnancy were more common among women who previously used alcohol. The findings highlight that there continue to be gaps in risk perception and knowledge of FASD. Prevention strategies are needed that are not solely targeted to people who are pregnant, but also those who could become pregnant and who use alcohol.

8. **Bretteville-Jensen, A. L., & Williams, J. (2025). Pregnancy and pregnancy outcomes in a national population cohort of patients treated for substance use disorders. *Journal of Addiction Medicine*, *19*(2), 187–194. https://doi.org/10.1097/adm.0000000000001404**

This study from Australian and Norwegian authors explored the population-level prevalence rates of pregnancy, birth, elective termination, and miscarriage among women being treated for substance use disorders (SUD). Data for women 15 – 45 included in the Norwegian Patient Registry over a two-year period as being treated for substance use disorders (*n* = 6,470) and their population matched controls (*n* = 6,286). Their pregnancy and pregnancy outcomes for the four-year follow-up period were also gathered through the Norwegian Patient Registry. Multivariate logistic regression tested for the association between SUD treatment with pregnancy and elective termination. Annual pregnancy and elective termination rates per 1,000 women were significantly higher for women in the SUD cohort compared to the control cohort (94.2 vs. 71.3 for pregnancy, $p < 0.001$; 54.7 vs. 17.8 for elective termination, $p < 0.001$). Further, the annual birthrate was lower for those in the SUD cohort (25.3 vs. 41.8, $p < 0.001$). However, the miscarriage rate did not differ across cohorts. SUD

treatment was associated with a significant increase in the odds of pregnancy, and the odds of an elective termination. The findings encourage the need for targeted interventions that integrate contraception and family planning guidance in SUD treatment.

9. **Brown, H. K., Gomes, T., Wilton, A. S., Camden, A., Guttmann, A., Dennis, C. L., Ray, J. G., & Vigod, S. N. (2025). Maternal chronic physical conditions and alcohol and substance use disorders in the preconception and perinatal periods. *Journal of Women's Health, 34*(4), 504–512. https://doi.org/10.1089/jwh.2024.0757**

This Canadian study explored the combined effects of chronic physical conditions (CPC) and pre-pregnancy SUD on both outpatient care for SUDs and substance-related adverse events during the perinatal period. The study included *n* = 77,474 women who gave birth with, and *n* = 664,751 without, a CPC in Ontario from 2013 – 2020. The authors calculated the adjusted relative risks (aRR) of 1) substance-related adverse events and 2) outpatient care for SUD between conception and one year postpartum, compared to individuals with pre-pregnancy CPC and SUD, those with one of the two conditions, and those with neither condition. The authors found that aRRs of perinatal SUD-related adverse events were 26.79 for those in the combined group, compared to those with SUD alone (22.09) or CPC alone (2.01). Elevated aRRs were observed for perinatal outpatient care among those with a SUD, but without a positive interaction for those with both conditions. The findings demonstrate how additional support might be needed to support those with both conditions, to reduce the risk of perinatal substance-related adversities.

10. **Brown, R. H., Keating, O., McDougall, S., & O'Rourke, S. (2025). Exploring the Influence of Maternal Behavioural Activation and Inhibition on Predicting Fetal Alcohol Exposure. *Substance Use and Misuse*, 1–11. https://doi.org/10.1080/10826084.2025.2606867**

This UK study examined how behavioural activation and behavioural inhibition underpin both preconception and prenatal alcohol use. Pregnant and recently postpartum mothers (*n* = 1,371) completed an online survey with the Behavioral Inhibition System/Behavioral Activation System scale ("BIS/BAS") and the Alcohol Use Disorders Identification Test - Consumption ("AUDIT-C") twice to reflect both pre- and during-pregnancy alcohol use. In the initial regression model, the authors found the BIS/BAS subfactor "Fun Seeking" remained significant in predicting pre-pregnancy alcohol use ($\beta = 0.119$, $p < 0.001$) after correcting for other risk factors for prenatal alcohol use (including maternal age, pregnancy intention, educational attainment, and mental wellbeing status). In the second regression model, which corrected for pre-pregnancy alcohol use and participant demographics, "Fun Seeking" continued to act as a significant predictor ($\beta = 0.120$, $p < 0.001$) of alcohol use during pregnancy. ($\beta = 0.088$, $p = 0.005$). The findings demonstrate how personality traits can play a small, but significant role in risk of prenatal alcohol exposure. As such, it is important to consider targeting them, alongside other health concerns, when looking to reduce alcohol use during pregnancy.

11. **Bull, C., Kisely, S., Hutchinson, D., Hewlett, N., & Reid, N. (2025). Differences in tobacco smoking and alcohol consumption among 57,757 women from early to late pregnancy: A state-representative study in Queensland, Australia. *Drug and Alcohol Dependence, 275*, 112816. https://doi.org/10.1016/j.drugalcdep.2025.112816**

This Australian study compared smoking and alcohol use in early (<20 weeks) and late (≥20 weeks) pregnancy using administrative perinatal data collected in 2022 - 2023 from a state-representative cohort of women (*n* = 57,757) in Queensland, Australia. From early to late pregnancy, the prevalence

of smoking decreased from 10.7% to 7.9% (absolute risk reduction [ARR] = 2.8 %, 95%CI: 2.5-3.1%). Alcohol use decreased from 5.8% to 0.7% over the same period (ARR = 5.1 %, 95%CI: 4.9-5.3%). Women who were single, received limited or started antenatal care later in pregnancy (≥14 weeks gestation), or experienced comorbid mental health concerns, were at higher risk of smoking and drinking during pregnancy. The findings demonstrate the importance of preconception interventions that continue throughout the duration of pregnancy. Further, they highlight some risk factors for pregnant women and their families in Queensland, who may benefit from improved antenatal care and social support.

12. **Burton, S., Monk, R., Davies, E., Goodier, M., & Rose, A. K. (2025). Impact of alcohol strength on attitudes and decisions concerning special occasion drinking during pregnancy. *BMC Public Health*, *25*(1), 3609.** https://doi.org/10.1186/s12889-025-24234-6

This UK study examined the impact of alcohol strength on attitudes around, and perceived harm of, drinking in pregnancy. Female participants (n = 1,128) were randomized into one of three drink strength conditions (11%, 7.5%, and 0% alcohol beverage volume [ABV]) and asked to imagine themselves or someone else choosing to consume the beverage when pregnant. The outcome measures assessed how harmful participants thought drink choice was, and the extent to which they agreed with the drink choice. Standard and lower-ABV beverages were perceived as more harmful than the alcohol-free drink (p < .001). Participants agreed with the alcohol-free drink choice more than the standard and lower strength beverages (p < .001). The perceived harm was greater when women were rating their own hypothetical alcohol use in comparison to rating observed hypothetical alcohol use (p < .01). Participants who reported drinking in their own pregnancies rated the higher ABV choices as less harmful and more agreeable than participants who had not consumed alcohol in their own pregnancies (p < .001). The findings highlight how perceived harm, and the ability to apply potential harms of drinking onto one's own circumstances, can help reduce the risk of alcohol use – including special occasion alcohol use – during pregnancy. Future public health campaigns can use this information to compassionately explain the risk of harms across a range of drinking behaviours, while explicitly tackling the stigma and shame women may experience.

13. **Denny, C. H., Deputy, N. P., Abouk, R., Dunkley, J. D., Drake, C., Kim, S. Y., Pella, M., Roehler, D. R., & Rose, C. E. (2026). Alcohol consumption during pregnancy and state implementation of legal nonmedical cannabis retail sales in the U.S., 2011-2023. *American Journal of Preventive Medicine*, *70*(2), 108105.** https://doi.org/10.1016/j.amepre.2025.108105

This study from the U.S. explored the association between state implementation of legal nonmedical cannabis retail sales and alcohol consumption during pregnancy. Using data from the Behavioral Risk Factor Surveillance System (2011 – 2023), the authors compared current and binge drinking during pregnancy in states following the implementation of legal nonmedical cannabis retail sales with those in states before, or where there was no implementation. The prevalence of current and binge drinking during pregnancy was 1.43 (95%CI:1.18 - 1.73) and 2.13 (95%CI: 1.47 - 3.09) times higher, respectively, among respondents in states with implementation of legal nonmedical cannabis retail sales compared to those in states before, or without, implementation. Implementation of legal cannabis retail sales was also significantly associated with binge drinking but resulted in a non-significant change in current drinking. The findings indicate that alcohol use during pregnancy, including binge drinking during pregnancy, may be higher where legal nonmedical cannabis retail sales are available.

14. **Derseh, B., Dadi, A., Phan, H., Unger, H. W., Brown, K., Belay, D. M., & Guthridge, S. (2025). Prevalence of prenatal alcohol use among Aboriginal and non-Aboriginal women in the Northern Territory, Australia: Estimate from perinatal, emergency, and admission datasets. *BMC Pregnancy and Childbirth*, *25*(1), 1110. https://doi.org/10.1186/s12884-025-08216-5**

This Australian study estimated the prevalence of prenatal alcohol use (PAU) and associated risk factors among Aboriginal and non-Aboriginal women. The study analysed *n* = 19,588 births (2013–2017) using linked perinatal, hospital admission, and emergency department records. PAU was classified using four categories: no PAU, early PAU, continued PAU, and extreme PAU based on timing and severity of recorded alcohol-related indicators. The results showed substantially higher prevalence among Aboriginal women (13.1%) compared with non-Aboriginal women (2.3%), with differences across all severity categories. Risk of PAU was associated with younger age, smoking, and substance-related hospitalisation in both groups. Exposure to violence was an additional risk factor for Aboriginal women. Having more than five antenatal care visits was associated with reduced PAU. The study also identified substantial missing data (17.9% of births), indicating limitations in routine alcohol-use recording. The findings indicate that reducing prenatal alcohol exposure requires both improved screening and strengthened, culturally safe, trauma-informed antenatal and substance use services.

15. **Dhir, D., Kumari, S., Devi, V., Chaudhary, V., Murti, K., Dhingra, S., ... & Pal, B. (2025). Prevalence of tobacco and alcohol use among pregnant women in India: A systematic review and meta-analysis. *Journal of Substance Use*, *30*(6), 1051-1059. https://doi.org/10.1080/14659891.2024.2448806**

This systematic review and meta-analysis estimated the prevalence of and associated demographic and social risk factors for, tobacco and alcohol use during pregnancy in India. The review synthesized evidence from studies published between 2000 and June 2023, drawing on 7 studies (*n* = 69,552 participants) on prenatal tobacco use and 3 studies (*n* = 755 participants) on prenatal alcohol use. Using a random-effects model, the pooled prevalence was estimated for prenatal tobacco use at 8.4% and 20.9% for prenatal alcohol use. However, estimates varied widely across studies. Risk factors for prenatal tobacco use included being aged 25 years or older, low awareness of health risks, and exposure to close contacts who used tobacco, indicating both individual and social influences on substance use during pregnancy. The study found that reducing alcohol use in pregnancy will require broad, population-level strategies that improve awareness, target high-risk social environments, and integrate alcohol prevention into maternal health services to reduce prenatal exposure and support healthier pregnancy outcomes.

16. **Doherty, E., Dilworth, S., Wiggers, J., Wolfenden, L., Wilson, A., Leane, C., ... & Kingsland, M. (2025). Preventive health risks in pregnancy: Cross-sectional prevalence survey in three regions of New South Wales, South Australia and Tasmania. *Australian and New Zealand Journal of Public Health*, *49*(2), 100226. https://doi.org/10.1016/j.anzjph.2025.100226**

This Australian study examined the proportion of pregnant people meeting preventive health guideline recommendations, including around alcohol and tobacco use, diet, and physical activity. Pregnant participants (*n* = 1,064) attending public maternity services were surveyed between

November 2021 and April 2022. Smoking prevalence varied by region, ranging from 7.8% in South Australia to 18.0% in Tasmania. Reported alcohol consumption during pregnancy was low across all regions (approximately 4–5%). Most participants were not meeting key preventive health recommendations, with 65–70% experiencing gestational weight gain outside recommended ranges and 65–76% not meeting minimum guidelines for diet and physical activity. The findings indicate that while alcohol use during pregnancy was relatively uncommon, other modifiable risk behaviours were highly prevalent. These may contribute substantially to adverse maternal and infant outcomes. The study suggests that although alcohol use in pregnancy may be relatively low in this population, maintaining effective alcohol prevention messaging within broader antenatal preventive health programs remains important.

17. **Dutra, R. P., Marques, G. P., Manfredi, M., Sá, M. E. R. M. C. D., Konrad, A. P., & Dumith, S. D. C. (2025). Alcohol consumption among pregnant women in Brazilian capitals: How many, where, and who are they? *Einstein*, *23*, eAO0754. https://doi.org/10.31744/einstein_journal/2025AO0754**

This study from Brazil examined the prevalence of alcohol consumption during pregnancy and associated sociodemographic risk factors using national surveillance data. The study analyzed data from *n* = 4,734 pregnant women living in Brazilian capitals collected through the Vigitel surveillance system between 2006 and 2021. The prevalence of any alcohol use in pregnancy was 11.5% and 3.0% reported excessive (binge-level) consumption. Higher risk of alcohol use was associated with being aged 35–54 years and having lower educational attainment. Indigenous status was strongly associated with excessive alcohol consumption. Lower risk of alcohol was associated with being married and living in Northern Brazil. These findings indicate that there are persistent and socially patterned inequalities in prenatal alcohol use across the population. The findings suggest that reducing prenatal alcohol exposure will require sustained, equity-focused public health interventions that prioritize high-risk groups and address structural and social determinants of alcohol use during pregnancy.

18. **Fernandes, R. C., & Höfelmann, D. A. (2025). Simultaneity of health-related behaviors and food insecurity among pregnant women. *Health Care for Women International*, *46*(1), 29–44. https://doi.org/10.1080/07399332.2024.2317334**

This study from Brazil examined the relationship between food insecurity and the co-occurrence of health-related behaviours among pregnant women. The study included *n* = 605 pregnant participants and assessed smoking, alcohol consumption, fruit intake, and physical activity. Findings showed that food insecurity was associated with a higher likelihood of engaging in multiple concurrent risk behaviours. Alcohol consumption frequently co-occurred with non-regular fruit consumption, but also appeared alongside combinations of smoking, physical inactivity, and both adequate and inadequate fruit consumption patterns. The results indicate that alcohol use during pregnancy often occurs within broader patterns of multiple adverse health behaviours rather than in isolation, particularly among women experiencing food insecurity. The findings suggest that reducing prenatal alcohol exposure may require integrated prevention strategies that address broader socioeconomic vulnerabilities and co-occurring health behaviours, rather than focusing solely on alcohol use in isolation during pregnancy.

19. **Fleming, K. M., Gomez, K. U., Goodwin, L., & Rose, A. K. (2025). Identifying the motives for and against drinking during pregnancy and motherhood, and factors associated with**

increased maternal alcohol use. *Journal of Public Health, 33*(8), 1637-1647. https://doi.org/10.1007/s10389-023-02141-7

This pilot study from the U.K. explored alcohol use, motivations, and barriers to reducing drinking among pregnant women and mothers. The study used two mixed methods online surveys involving *n* = 836 pregnant women and *n* = 589 non-pregnant mothers, to capture alcohol consumption and hazardous drinking alongside attitudes, motivations, and perceived barriers. Findings showed high levels of abstinence among pregnant women (91%) compared with mothers (28%). Pregnant women who used alcohol during pregnancy consumed a median of 2.3 units/week compared to mothers (6.9 units/week). Among mothers who drank, 25.1% reported hazardous or harmful drinking. Alcohol use was often linked to coping motives, particularly stress management. Motivations for abstaining included concern for child welfare and practical aspects of parenting. Barriers to reducing alcohol use were more frequently reported among mothers than pregnant women and were strongly associated with stress and limited knowledge about behaviour change strategies. The findings demonstrate how reducing prenatal alcohol exposure requires both reinforcing awareness of fetal risks and developing supportive interventions that address stress, mental health, and practical barriers to behaviour change.

20. **Godfrey, V., Eliufoo, E., Kessy, I. M., Bago, M., Mtoro, M. J., & Nyundo. (2025). Maternal alcohol consumption during pregnancy and associated factors among pregnant women in Tanzania: Evidence from the 2022 Tanzania Demographic and Health Survey. *BMC Pregnancy and Childbirth, 25.* https://doi.org/10.1186/s12884-025-07149-3**

This study from Tanzania investigated the prevalence and factors associated with alcohol use during pregnancy using data from the 2022 Tanzania Demographic and Health Survey and Malaria Indicator Survey. A total of *n* = 1,182 pregnant women were included in the analysis. The prevalence of alcohol use during pregnancy was 3.9%. However, prevalence was influenced by age, relationship status, and employment status. After controlling for age, marital status, wealth index, parity, and geographic region, women ages 25 – 34 (aOR 5.17, 95% CI: 1-62 – 16.51) and women over 35 (aOR 20.89, 95% CI: 6.55– 66.62) were more likely to consume alcohol compared to women under the age of 24. Women who were never married and were living in the western zone were also more likely to consume alcohol during pregnancy. The findings suggest there are key demographic and geographic factors that influence alcohol use in pregnancy in Tanzania.

21. **Hanson, J. D., Noonan, C., Clough, M., Rosenman, R., Oziel, K., Wounded, K. L., ... & Buchwald, D. (2025). Examining the role of social determinants of health in alcohol-exposed pregnancy risk among American Indian women. *BMC Women's Health, 25*(1), 610. https://doi.org/10.1186/s12905-025-04173-5**

This U.S. study examined the social determinants of health among American Indian women at risk of an alcohol-exposed pregnancy (AEP). Participating women were involved in Native CHOICES CHOICES intervention, a cultural adaptation of a motivational interviewing intervention with a dual focus on reducing alcohol use and increasing contraceptive use. Eligible participants were American Indian women ages 18–44 who engaged in risky drinking, were able to become pregnant, and were not currently pregnant. Researchers examined social determinants of health, focusing on areas such as economic and housing stability, access to health care, and social and community support Among *n* = 404 women (average age 31.9), most participants were unemployed (77%) and half lived in households earning under $5,000 annually. While 78% reported feeling their housing was stable, recent housing insecurity was common, with 43% experiencing homelessness in the

past six months. Participants reported strong social connectedness and high engagement with Native cultural values and practices. The findings underscore the social determinants of health and the roles of social connectedness and cultural values that can be leveraged to support a reduction alcohol use in pregnancy.

22. **Hayashi, Y., Fisher, N. M., Hantula, D. A., & Washio, Y. (2025). Role of drinking attitudes and trait impulsivity in prenatal alcohol craving and consumption in mothers of reproductive age. *Substance Use & Misuse*, *60*(4), 611–618. https://doi.org/10.1080/10826084.2024.2445854**

This study from the U.S. examined drinking attitudes, trait impulsivity, and impulsive decision-making related to alcohol use during pregnancy. Mothers of reproductive age (*n* = 141) were categorized into three groups: 1) those who did not crave or consume alcohol; 2) those who craved alcohol but did not consume alcohol; and 3) those who craved and consumed alcohol. The authors found that drinking attitudes predicted alcohol craving during pregnancy. Education level and trait impulsivity also differentiated between mothers who craved alcohol but did not consume it during pregnancy and those who both craved and consumed alcohol during pregnancy. The findings suggest that trait impulsivity is a risk factor that predicts alcohol use during pregnancy, offering opportunities to tailor prevention strategies.

23. **Jenkins, M. C., Ehrenthal, D. B., & Bautista, L. E. (2025). Typologies of maternal substance use in pregnancy: Latent classes and sociodemographic correlates in a U.S. sample. *Journal of Studies on Alcohol and Drugs*, *86*(5), 694–702. https://doi.org/10.15288/jsad.24-00210**

This U.S. study described patterns in substance use before and after pregnancy. Using data from the Pregnancy and Risk Assessment Monitoring System (PRAMS) postpartum survey (2016 – 2018), the authors estimated the prevalence and patterns of substance use 1 – 3 months before and after pregnancy. A latent class analysis was used to identify patterns of substance use and test if those patterns differed by age, income, race/ethnicity, and pre-pregnancy alcohol use. A total of *n* = 15,419 participants representing *n* = 384,918 live, singleton births were included. There were seven latent classes created: minimal users (70.7%), pre-pregnancy cigarette users (10.5%), persistent cigarette users (6.8%), pre-pregnancy cannabis users (5.5%), polysubstance users (3.5%), opioid users (1.9%), and persistent cigarette/opioid users (1.0%). There were significant group differences in terms of age, income, race/ethnicity, and preconception alcohol use. The findings can help understand how the impact of preconception and persistent use can influence preconception health.

24. **Jones, J., Coy, D., Gidron, D., Hariharan, S., Jones, M., Patel, N., Racines, A., Toma, S., & Brown, G. (2025). Using umbilical cord tissue to identify prenatal ethanol exposure and co-exposure to other commonly misused substances. *Journal of Perinatology*, *45*(4), 454–457. https://doi.org/10.1038/s41372-024-02075-2**

This study from the U.S. identified the prevalence of ethyl glucuronide (EtG) and co-exposure to ethanol and other substances in a sample of umbilical cord tissue. Umbilical cord tissue (*n* = 12,995) were tested for a range of substances including, but not limited to, EtG, amphetamines, cocaine, opioids, gabapentin. Two-hundred and thirty-eight (1.8%) tissue samples were positive for EtG. Of those, nearly 58% (*n* = 138) were positive for an additional substance or metabolite. Among the positive samples, cannabis use was the most common co-exposure, followed by amphetamines.

The findings suggest that polysubstance use detected through umbilical cord tissue may be higher than when self-reported.

25. **Lenie, S., Sillis, L., Allegaert, K., Bogaerts, A., Smits, A., Kristel, V. C., . . . Ceulemans, M. (2025). Alcohol, tobacco and illicit drug use during pregnancy in the longitudinal BELpREG cohort in Belgium between 2022 and 2024. *Journal of Clinical Medicine, 14*(2), 613. https://doi.org/10.3390/jcm14020613**

This study from Belgium described the prevalence and determinants of alcohol, tobacco, and other substance use in the prenatal period. The study included women 18+ who completed at least one questionnaire on substance use during pregnancy on the BELpREG registry between the years 2022 and 2024. A total of *n* = 1,441 women were included. Preconception prevalence of alcohol was highest (84.2%) followed by tobacco (10.0) and illicit substance use (4.2%). However, the self-reported prevalence reduced during the first trimester to 12.9%, 4.1%, and 0.6%, respectively. Women who used tobacco in the first trimester (aOR 5.37, 95% CI: 2.70 – 10.66), had a spontaneous (aOR 2.94, 95% CI: 1.51 – 5.75) or unplanned pregnancy (aOR 2.88, 95% CI: 1.77 – 4.67), with a higher education (aOR 2.12, 95% CI: 1.14– 3.96), or who live with daily alcohol users (aOR 2.01, 95% CI: 1.09–3.70) were more likely to report alcohol use. In comparison, women with a lower education, unplanned pregnancy, used alcohol or illicit substance use in the first trimester, or lived with someone who used tobacco were more likely to report tobacco use. The findings suggest that in addition to preconception substance use, education and substance use trends among live-in supports influence substance use trends during pregnancy.

26. **London, S. M., Howley, C. T., Sarche, M., & Kaufman, C. E. (2025). Alcohol-exposed pregnancy risk, mental health, self-understanding, and relational connections among urban Native American young women during the COVID-19 pandemic. *International Journal of Environmental Research and Public Health, 22*(3), 358. https://doi.org/10.3390/ijerph22030358**

This study explores young, urban Indigenous women's experiences during the COVID-19 pandemic and how this impacted prenatal alcohol use. A qualitative study was conducted in 2022 with Indigenous women (*n* = 15) ages 16 – 20 who were participating in Native WYSE CHOICES, a national randomized controlled trial of a mobile culturally-tailored alcohol-exposed pregnancy prevention intervention. Women described diverse experiences during the pandemic, with some reporting greater risks for an alcohol-exposed pregnancy due to increased alcohol use and reduced access to birth control and others reporting the opposite. Some participants also experienced isolation and relational strains, whereas for others the pandemic offered time for self-reflection, self-development, and a strengthening of relationships. The findings reinforced that while the pandemic did influence participants' alcohol and contraception use and sexual activity, it was not in uniform or predictable ways. The interviews reflected stories of resilience, creativity, healing, and strength.

27. **Martínez, S., M., Sánchez, J. E., G., García, N. B., Ladino, M. M., Giraldo, M. C. C., Chacón, D. K. R., Franco, E. D. H., … Medina, V. G. (2025). Barriers to access to mental health services in pregnant women with mental pathology residing in Colombia. *Revista Colombiana de Psiquiatría, 54*(3), 398 – 404. https://doi.org/10.1016/j.rcpeng.2025.11.004**

This observational study from Colombia examined the prevalence of mental health and substance use concerns among pregnant women. One hundred sixty-six (*n* = 166) pregnant women

participated in the study. The most frequent concern was gestation depression (57.22%) and gestational anxiety (46.95%). Tobacco was the most common substance, followed by alcohol, and cannabis. The sample had low psychological or psychiatric support at follow up (*n* = 28). This was largely attributed to no appointments being booked by specialist service or being provided at a distant date. The findings suggest that there are several access barriers for women with mental health and substance use concerns.

28. **May, P. A., Hasken, J. M., Stegall, J. M., Mastro, H. A., Baete, A., Russo, J., Bozeman, R., … Hoyme, E. (2025). Maternal and paternal risk factors associated with diagnoses within the continuum of fetal alcohol spectrum disorders in the USA: Proximal and distal influences. *Alcohol, Clinical, and Experimental Research, 49*(1), 185 – 204: doi: 10.1111/acer.15501**

This study identified the risk factors for FASD in the U.S. Interviews were conducted with mothers of first-grade children participating in the Collaboration on FASD Prevalence study. Maternal and paternal data was collected from mothers of children with an FASD diagnosis (*n* = 114) and controls (*n* = 753). Pre-pregnancy, 57% of control mothers drank 2.7 drinks per drinking day once a month whereas 79% of mothers of children with FASD reported drinking 4.2 drinks 1 – 2 times per week. Mothers of children with alcohol-related neurodevelopmental disorder (ARND) reported the highest overall alcohol consumption. Distal maternal risk factors for alcohol use during pregnancy included liver problems, depression, delayed pregnancy recognition, later prenatal visit, lower level of spirituality, and unwed marital status. First trimester and third trimester alcohol use was associated with an FASD diagnosis. The findings demonstrate that there are multiple significant risk factors associated with FASD diagnosis.

29. **Mohammed, K., Shawel Getahun, M., Abera Belachwe, Y., Mohammed Fati, N., & Mekuria Negussie, Y. (2025). Maternal substance use during pregnancy and associated factors in Adama, central Ethiopia. *Frontiers in Global Women's Health*, *6*, 1540814. https://doi.org/10.3389/fgwh.2025.1540814**

This study assessed the prevalence of prenatal substance use and associated risk factors in Adama, Ethiopia. Pregnant women (*n* = 472) were recruited from a health facility in Adama. The prevalence of substance use was 22%, with alcohol (97.1%), khat (51.0%), and tobacco (33.7%) as the most used substances. Preconception substance use (aOR 24.16, 95% CI: 11.49 – 40.82), unplanned pregnancy (aOR 3.49, 95% CI: 1.23 – 9.89), partner's substance use (aOR 4.51, 95% CI: 1.44 – 14.20), and hearing about the side effects of substance use (aOR 14.60, 95% CI: 5.31 – 17.65) were risk factors for substance use during pregnancy. The findings indicate a high prevalence of substance use during pregnancy. Future perinatal interventions should highlight the risk substance use on maternal health and fetal development among women, their partners, and the broader community.

30. **Morrison, P.K., Pallatino-Trevelline, C., Fusco, R., Fitzpatrick, E., Chang, J. C., Kotha, A., Folb, B., … & Krans, E. (2025). Co-occurring substance use and intimate partner violence in pregnant and postpartum women: A systematic literature review. *Journal of Family Violence*, 40, 353–367. https://doi.org/10.1007/s10896-023-00609-4**

This systematic literature review from U.S. authors explored the research on co-occurring substance use and intimate partner violence (IPV) in pregnant and postpartum women. Five databases, including PubMed, Scopus, PsycINFO, Web of Science, and the Cochrane Library, were

explored to identify research on women who were pregnant and up to one-year postpartum, experienced IPV, and/or diagnosed with a substance use disorder. Ten articles were included for review. Among studies that reported the primary substance, five were focused on treatment for opioids, two for cocaine or alcohol, and one for polysubstance use. Two studies found an association between substance use and IPV, whereas one study did not. Findings further explored factors associated with substance use treatment seeking, associations between IPV and mental health challenges, and outcomes related to child custody. The findings indicate that there is a continued need for research on the interconnections and the long-term outcomes of IPV and substance use disorders among pregnant and postpartum women.

31. **Okulicz-Kozaryn, K., Marchei, E., Helwich, E., Rutkowska, M., Maciejewski, T. M., Gumuła, P., Januszaniec-Piotrowska, A., Bójko, M., Radiukiewicz, K., Dzielska, A., & Pichini, S. (2024). The prevalence and changes in alcohol consumption across three trimesters of pregnancy assessed by ethyl glucuronide concentration in maternal hair and self-reports: A cross-sectional study. *European Addiction Research*, *30*(6), 378–389. https://doi.org/10.1159/000542474**

This study from Poland examines the prevalence of alcohol use during pregnancy based on ethyl glucuronide (EtG) in maternal hair and self-reported measures. The study included dyads of postpartum women and their babies (n = 150). There were segmental analyses (separately across the three trimesters) conducted among 135 participants and 15 hair samples were analyzed for the entire nine-month duration of pregnancy. While self-report through medical interview indicated that there was no alcohol during pregnancy, the EtG analysis suggested that 50.3% of women had alcohol at any point during pregnancy. Most participants maintained the same level of alcohol use during pregnancy, but 8.7% decreased and 20.7% increased the alcohol use between trimesters. Prenatal substance use was not related to sociodemographic characteristics or self-reported health behaviours. The findings suggest that maternal hair analysis can be useful in detecting for alcohol use during pregnancy and can provide a more comprehensive view of use patterns throughout pregnancy.

32. **Peltier, M. R., Verplaetse, T. L., Bici, V., Mokwuah, A. A., Chavez, C. L. J., Zakiniaeiz, Y., Kohler, R., Garcia-Rivas, V., Banini, B. A., Zhou, H., Raval, N. R., Pittman, B., & McKee, S. A. (2025). Alcohol use during pregnancy: the impact of social determinants of health on alcohol consumption among pregnant women. *Biology of Sex Differences*, *16*(1), 49. https://doi.org/10.1186/s13293-025-00731-6**

This U.S. study explored the impact of social determinants of health (SDoH) on alcohol use during pregnancy. Data from the National Survey of Drug Use and Health (2009 – 2019) was used, reflecting data from n = 8.638 pregnant women. Over 9% of pregnant women reported past month alcohol use and 3.65% reported binge drinking in the past month. Past month alcohol use and binge drinking decreased in the second and third trimesters. However, a subset of women continued to use alcohol or binge drink during pregnancy. SDoH associated with increased past month alcohol use included not being married, criminal justice involvement, and past year psychiatric distress. Identifying as Asian or Hispanic, unemployment, and other employment was associated with a lower likelihood of alcohol use. Older age and a high school education were associated with a lower likelihood of past month binge drinking. The findings indicate that healthcare providers should continue to screen all individuals for alcohol use during pregnancy, especially those who may be more vulnerable to continuing use.

33. **Poole, N., Wolfson, L., & Huber, E. (2025). Health promotion and support grounded in interconnected influences on alcohol use in pregnancy. *International Journal of Environmental Research and Public Health*, *22*(8), 1309. https://doi.org/10.3390/ijerph22081309**

This narrative review from Canadian authors identified and categorized influences on alcohol use during pregnancy. Six databases were searched using EBSCOhost, for articles published in 2023 on alcohol use in pregnancy and FASD prevention. There were thirty-two (*n* = 32) articles included in the review. Five categories were identified that influence maternal alcohol use, including 1) informational factors; 2) stress-related factors; 3) social determinant of health-related influences; 4) preconception and prenatal health related factors; and 5) structural factors. The findings from this narrative review highlight the need to expand prevention efforts to address all five categories of influence, to thus deliver non-judgemental, health promotion, and trauma-informed education, programming, and policy.

34. **Pratt Tremblay, G., Dimanlig-Cruz, S., Dion, A., & Corsi, D. J. (2025). Trends in prenatal substance use Across Ontario, Canada. *JAMA Network Open*, *8*(1), e2455310. https://doi.org/10.1001/jamanetworkopen.2024.55310**

This Canadian study analyzed substance use trends among pregnant individuals in Ontario from 2012 – 2022. Using data from the Better Outcomes Registry and Network (BORN), data from *n* = 975,242 individuals was collected. Prenatal alcohol, cannabis, and tobacco use were collected from antenatal care records. 12.3% of individuals consumed at least one substance during pregnancy, including tobacco (9.2%), cannabis (2.4%), and alcohol (2.4%). Between 2012 and 2022, there was a 45.7% decrease in prenatal tobacco use across all age groups. Unlike tobacco use, cannabis use increased from 1.2% in 2012 to 4.3% in 2022. Alcohol use consumption remained relatively stable, with year to year fluctuations. Prenatal alcohol use was highest among women aged 12 – 19 years of age. The findings suggest that more research is needed to prioritize factors that influence prenatal substance use.

35. **Qian, S., & Seddon, S. (2025). Examining alcohol screening rates during pregnancy and documentation of prenatal alcohol exposure in a public health district in Australia. *Journal of Advanced Nursing*, *81*(12), 8647-8654. https://doi.org/10.1111/jan.16832**

This Australian study examined alcohol screening rates during pregnancy and the documentation of prenatal alcohol exposure (PAE). Data from four public antenatal clinics was collected from 2010 – 2021, representing *n* = 45,048 pregnancies. Additional data extraction was completed for *n* = 53 pregnancies of women who attended substance use in pregnancy and parenting services. Over the 11-year period, 99.3% of pregnancies were screened for alcohol use at antenatal booking. The screening results found that 1.3% of pregnancies were high risk, 1.9% were medium risk, and 4.2% were identified as low risk for prenatal alcohol exposure. Of the 53 pregnancies receiving further examination, antenatal booking screening was completed 90.6% of the time, but only 50.0% of eligible pregnancies were screened at 27–29 weeks and 43.3% at 35–37 weeks after repeat screening was introduced in 2017. Further, documentation of prenatal alcohol exposure in clinical records was inconsistent, appearing in only 35.8% of postnatal care plans and 20.8% of neonatal discharge summaries. The results highlight strong early screening coverage but weaker follow-through in repeat screening and clinical documentation of exposure. These findings demonstrate

how the system's ability to track ongoing risk is limited across trimesters, reducing continuity of care for affected infants and families.

36. **Sebothoma, R. I., & Onwukwe, S. C. (2025). Substance and alcohol use in pregnant women attending antenatal care at a tertiary hospital in Johannesburg, South Africa. *The South African journal of Psychiatry, 31*, 2444. https://doi.org/10.4102/sajpsychiatry.v31i0.2444**

This study from South Africa assessed the prevalence and risk factors associated with substance use during pregnancy among women attending antenatal care at a tertiary hospital. A retrospective cohort of *n* = 399 pregnant women was reviewed for sociodemographic, clinical, and substance use data. Substance use was documented in 45% of the records. Tobacco use was documented in 27% of records, alcohol in 35% and cannabis in 1%. There was no illicit substance use documented. Of the 178 records in which substance use was documented, 63% of pregnant women consumed alcohol and tobacco concurrently. There were no sociodemographic characteristics significantly associated with substance use during pregnancy. However, low-birth weight and a positive HIV status were risks associated with substance use during pregnancy. The findings indicate a high prevalence of substance use during pregnancy. Interventions that focus on multiple health considerations may be appropriate in supporting the population.

37. **Senecky, Y., Zrubavel Yaaron, N., Chodick, G., Berger, A., Hen-Herbst, L., Fund, I. B., Massalha, M., Matot, R., & Ganelin-Cohen, E. (2025). Steps toward decreasing maternal alcohol consumption in Israel: Nationwide trends during a decade. *Public Health Reports*, *140*(2-3), 221–229. https://doi.org/10.1177/00333549241289035**

This study from Israel compared prenatal alcohol use from 2021 – 2023 and 2009 – 2010 to assess changes over time. Surveys at three public hospitals in central and northern Israel were conducted to determine alcohol consumption three months before pregnancy and before pregnancy. Of the *n* = 1915 women in the 2021 – 2023 survey, 62.9% reported not consuming alcohol during pregnancy and 89.2% reported no alcohol use during pregnancy. During pregnancy, 8.2% drank alcohol less than weekly, 0.6% reported more frequent alcohol use, and 2.7% reported binge drinking. This was a significant decrease compared to rates in 2009 – 2010. Predictors of alcohol use included preconception alcohol use, smoking, and parity. Significantly more women in the 2021 – 2023 sample received guidance on alcohol use during pregnancy. Findings indicate that continued education is important to increase awareness of the risks of prenatal alcohol use during pregnancy.

38. **Stavish, C., Tuitt, N., Sarche, M., Asdigian, N. L., Reed, N. D., & Kaufman, C. E. (2025). Culture and COVID-19 related impacts on alcohol-exposed pregnancy risk among Urban American Indian and Alaska Native Young Adults: A path analysis. *The Journal of Adolescent Health, 77*(3), 507–513. https://doi.org/10.1016/j.jadohealth.2025.01.018**

This study explored the influence of the COVID-19 pandemic and culture on alcohol-exposed pregnancy (AEP) risk among urban Indigenous youth ages 16 – 20. Data from Native WYSE CHOICES, a study conducted to reduce AEP risk among Indigenous youth was collected. Identifying with Indigenous culture and heritage was positively associated with abstaining from alcohol and indirectly negatively associated with the risk of AEP. However, distress about the consequences from COVID-19 on Indigenous communities and experiencing economic impacts exacerbated by COVID-19 was negatively associated with the ability to abstain from alcohol and indirectly but positively associated with the risk of AEP. The findings highlight how connection to culture can reduce the risk of AEP. Future interventions for Indigenous young adults should consider how

culture, historical trauma, and economic influences can be embedded in program design and implementation.

39. **Tappin, D., Mackay, D., Reynolds, L., & Fitzgerald, N. (2025). A prospective cohort study to assess if alcohol intake measured by routine pregnancy self-report predicts developmental concerns uncovered by routine health visitor screening of children at 30 months of age. *Archives of Public Health, 83*(1), 283. https://doi.org/10.1186/s13690-025-01766-2**

This study from the U.K. explored if alcohol use in pregnancy was underreported among pregnant women presenting for maternity care from June 2017 – 2018. Maternity records were linked with child development screening data at 30-months for a sample of *n* = 10,876 linked records. The records were analyzed to determine associations between self-reported alcohol use during antenatal care with child development concerns at 30-months of age. Self-reported alcohol use was associated with child welfare involvement. Developmental outcomes were inversely associated with self-reported alcohol use. The authors conclude that the inverse relationship may be attributed to underreporting of alcohol use during pregnancy.

40. **Thomas, S. A., Deputy, N. P., Board, A., Denny, C. K., Guinn, A. S., Miele, K., Dunkley, J., Kim, S. Y. (2025). Adverse childhood experiences and adult alcohol use during pregnancy – 41 U.S. jurisdictions. *Preventive Medicine, 191,* 108219, https://doi.org/10.1016/j.ypmed.2025.108219**

This study from the U.S., examined the relationship between alcohol use in pregnancy and adverse childhood experiences (ACEs). Using data from the Behavioral Risk Factor Surveillance System (2019 – 2023) in 41 jurisdictions, the estimated ACEs and selected characteristics of pregnant people aged 18 – 49 years old (*n* = 2,371). The prevalence of alcohol use was 16.2 (95%CI: 11.5 – 20.9) among pregnant people who experienced four or more ACEs compared to 8.6% (95% CI: 5.7 – 11.5) among those who did not experience any ACEs. After adjusting for sociodemographic characteristics, pregnant people who reported four or more ACEs were also more likely to report current alcohol use. Pregnant people who experienced emotional abuse or who had witnessed intimate partner violence as a child were more likely to use alcohol during pregnancy compared to those who did not. The findings demonstrate that higher ACE exposure was associated with alcohol use during pregnancy. Future interventions to reduce prenatal alcohol exposure should address ACEs among pregnant people.

41. **Vendetti, J., Bangham, C., Riba, M., Whitmore, C., Steinberg Gallucci, K., Hanson, B. L., & Greece, J. A. (2025). Cross-site evaluation of alcohol screening and brief intervention implementation programs in healthcare systems serving individuals of reproductive age. *Substance Use & Addiction Journal, 46*(2), 461–475. https://doi.org/10.1177/29767342241267074**

This U.S. study examined how four large healthcare systems (53 health centers across seven states) implemented alcohol screening and brief intervention (SBI) programs. The study analyzed implementation processes and outcomes through both quantitative performance data and qualitative system-level insights from 2018–2022. Across systems, *n* = 1,259 staff were trained in alcohol SBI, with pre–post training improvements in self-efficacy for brief intervention delivery, prenatal alcohol exposure counseling skills, and screening confidence. In total, 106,826 patients were screened, and 10,087 screened positive for excessive alcohol use; most of these individuals

received a brief intervention. Effective implementation strategies included integration of electronic health records, tailored training and technical assistance, and continuous quality assurance feedback loops. The findings highlight how widespread, well-supported implementation of alcohol SBI within healthcare systems can substantially increase identification and brief intervention for alcohol use in pregnancy.

42. **Young-Wolff, K. C., Wood, M. S., Adams, S. R., Does, M. B., Ansley, D., Castellanos, C., Koshy, M. T., Watson, C. R. (2025). Adverse childhood experiences, resilience, and substance use during early pregnancy. *Preventive Medicine, 199,* 108388. https://doi.org/10.1016/j.ypmed.2025.108388**

This study from the U.S. examined the relationship between adverse childhood experiences (ACEs) and prenatal substance use. Data from a large healthcare system in Northern California, *n* = 44,284 patients with pregnancies between January 2022 and June 2024 was analyzed for ACEs, resilience, and substance use during pregnancy. Pregnant people with a higher number of ACEs were found to have lower resilience, be younger, and were more likely to be Black, Non-Hispanic White, or Hispanic, and live in a neighbourhood with greater neighbourhood deprivation. Those with ACEs had a higher prevalence of alcohol, cannabis, nicotine, prescribed opioid, stimulant, and multi-substance use. Low resilience was associated with an increased prevalence of prenatal substance use. The findings suggest that screening for ACEs might help identify pregnant individuals at risk for perinatal substance use, allowing for further connection to resources and potentially improved maternal and child health outcomes.

B. Level 1 Prevention

1. **Davies, T., O'Brien, P., Bowden, J., Sträuli, B., Yusoff, A., Jongenelis, M., ... & Pettigrew, S. (2025). Suboptimal uptake and placement of a mandatory alcohol pregnancy warning label in Australia. *International Journal of Drug Policy*, *135*, 104661. https://doi.org/10.1016/j.drugpo.2024.104661**

This Australian study assessed the uptake and placement of mandatory pregnancy warning labels on alcoholic beverages after labelling requirements came into effect in 2023. Researchers reviewed *n* = 4,026 alcohol products sold across major retailers in Sydney and found that 63% displayed the warning label, with the lowest uptake among spirits (50%). Labels were placed almost exclusively on the back of products (88%), with very few displayed prominently on the front. The findings suggest that stronger implementation requirements may be needed to improve the visibility and consistency of pregnancy warning labels as part of FASD prevention efforts.

2. **Fitzgerald, H., Frank, M., Kasula, K., Krans, E. E., & Krishnamurti, T. (2025). Usability and acceptability of a pregnancy app for substance use screening and education: a mixed methods exploratory pilot study. *JMIR Pediatrics and Parenting*, *8*(1), e60038. https://doi.org/10.2196/60038**

This U.S. based pilot study examined the usability and acceptability of a pregnancy app designed to provide substance use screening, education, and referral information for pregnant people with a history of substance use. Participants included *n* = 28 pregnant people recruited from outpatient and inpatient settings at a tertiary care obstetric clinic. Participants were asked to use an existing pregnancy support app over a 4-week period. Most participants reported regular use of prenatal

apps before the study, and 11% cited pregnancy apps as their most frequently used source of pregnancy information. After four weeks of using the app, the authors found that 71% of participants logged in at least weekly, 89% were satisfied with the app, and 96% found it helpful as a source of support. Participants reported that disclosing substance use through an app could feel easier and less stigmatizing than in-person disclosure, although concerns about privacy and access to personal information remained important barriers. The findings suggest that embedding substance use screening, education, and referral supports into widely used pregnancy apps may improve early identification of substance use during pregnancy and help connect pregnant people to treatment, recovery, and harm reduction services.

3. **Green, F. O., Harlowe, A. K., Edwards, A., Alford, D. P., Choxi, H., German, J. S., ... & Velasquez, M. M. (2025). Multi-level approaches to Fetal Alcohol Spectrum Disorders prevention education and training for health professionals. *Substance Use & Addiction Journal*, *46*(2), 430-438. https://doi.org/10.1177/29767342241273397**

This U.S. study compared education and training strategies used to prevent alcohol-exposed pregnancies and how they have been adapted to 1) meet the different needs of providers and/or clinical settings, 2) the challenges posed by the COVID-19 pandemic. The authors conducted an in-depth comparative review of six programs funded by the Centers for Disease Control, representing national organizations, educational institutions, and clinical settings. The programs used a range of approaches, from targeted staff training in clinical alcohol screening and brief intervention to broader professional education and awareness initiatives. Across programs, adaptations were made in response to challenges such as COVID-19 disruptions, staffing shortages, and provider or patient discomfort, including shifts to virtual learning formats and use of online and social media platforms. The study suggests that strengthening and adapting provider education—particularly through scalable and accessible training models—can improve implementation of alcohol screening and brief intervention and support more consistent prevention of alcohol-exposed pregnancies.

4. **Ishaque, S., Ela, O., Dowling, A., Rissel, C., Canuto, K., Hall, K., Bidargaddi, N., Briley, A., Roberts, C. T., & Bonevski, B. (2025). Mobile health interventions for modifying indigenous maternal and child-health related behaviors: Systematic Review. *Journal of Medical Internet Research*, *27*, e57019. https://doi.org/10.2196/57019**

This systematic review from Australian authors examined mHealth interventions for Indigenous mothers and children during pregnancy and early childhood. Three studies evaluating text messaging, web-based screening, and remote prenatal education interventions reported improvements breastfeeding outcomes, healthy child behaviours, prenatal education participation, and reduced alcohol use. However, the small number of studies and lack of sample size calculations limited confidence in the findings. The review highlights the need for stronger, culturally appropriate evidence on mHealth approaches that could support maternal wellness and FASD prevention in Indigenous communities.

5. **Keating, O., Brown, R. H., McDougall, S., Kuenssberg, R., & O'Rourke, S. (2025). Knowledge as prevention: A cost-effective intervention to reduce prenatal alcohol exposure. *Alcohol: Clinical and Experimental Research*, *49*(8), 1792-1802. https://doi.org/10.1111/acer.70089**

This study from the UK evaluated the impact of a low-cost, self-administered educational leaflet ("Alcohol and Pregnancy") on pregnant and recently postpartum women's knowledge about prenatal alcohol exposure (PAE). Women (*n* = 1,536) ages 19 – 50 years old were recruited to participate in an online evaluative survey. The post-intervention survey found a clearer recognition of alcohol-related pregnancy risks and a measurable shift toward more negative attitudes about alcohol use during pregnancy. The largest improvements were seen among participants with alcohol-exposed pregnancies and those who initially had lower knowledge or more permissive attitudes, suggesting the intervention may be particularly effective for higher-risk or less-informed groups. The findings indicate that low-cost, self-administered, educational materials can produce meaningful improvements without requiring intensive clinical resources and are recommended to reduce prenatal alcohol consumption.

6. **Pettigrew, S., Davies, T., Yusoff, A., Sträuli, B., O'Brien, P., Jongenelis, M. I., . . . Bowden, J. (2025). Policy implementation learnings from the introduction of a mandatory alcohol pregnancy warning label. *Health Promotion International, 40*(6), 6. https://doi.org/10.1093/heapro/daaf219**

This Australian study assessed the uptake of a mandatory warning label four years following the introduction of mandatory warning labels, identified the placement of warning labels on products, and compared the uptake and placement between 2023 and 2024 to provide insights into how willing industry is to engage with policy. Product images were captured through in-store visits to alcohol retailors and web-scraping product images from alcohol outlet's websites. Pregnancy warning label prevalence was 63% in 2023 and 78% in 2024. In both 2023 and 2024, the prevalence of alcohol warning label uptake was lowest on spirits (50% and 66%, respectively), single use products (61% and 72%, respectively), and imported products (60% and 71%, respectively). Alcohol warning labels were primarily located on the back of the products. However, on multi-packs, warning labels were also placed on the panel underneath the packaging. Only 1% of products displayed the alcohol warning label on the front of the pack.

7. **Rahmannia, S., Murray, K., Arena, G., & Hickling, S. (2025). Dietary guidelines for pregnant and lactating women, adherence levels and associated factors: a scoping review. *Nutrition research reviews*, *38*(2), 428–439. https://doi.org/10.1017/S0954422424000283**

This international scoping review examined dietary guidelines for pregnant and lactating women, levels of adherence, and factors influencing adherence and health outcomes. Half of the countries lacked food-based dietary guidelines, and only 15% included specific guidance for pregnant and lactating women. Most countries advised about alcohol use during pregnancy. Guidelines from Albania, New Zealand, Norway, Sweden, and the U.S. allowed lactating women a moderate amount of alcohol. Adherence to dietary recommendations was generally low, particularly for fruit, vegetables, whole grains, and fish, with limited evidence from low- and middle-income countries and during lactation. Higher adherence was associated with factors such as older age, education, and employment, while smoking, alcohol use, and higher BMI were linked to lower adherence. The findings support the need for clearer and more consistent nutrition guidance and targeted supports to improve maternal health and FASD prevention globally.

8. **Roberts, S. C. M., Schulte, A., Raifman, S., Liu, G., Zaugg, C., & Subbaraman, M. S. (2025). Mandatory warning signs for alcohol use during pregnancy and birth and infant outcomes**

in southern United States: a quasi-experimental study. *Alcohol and Alcoholism*, *61*(1). https://doi.org/10.1093/alcalc/agaf076

This study from the U.S. explored the relationship between mandatory alcohol in pregnancy warning signs with birth and infant outcomes. Using birth certificate data, commercial insurance claims, and policy data from Texas and Florida, a difference-in-difference model compared changes in birth outcomes and infant injuries from pre-to-post policy change. The study found that in the treatment state (Texas), having mandatory alcohol in pregnancy warning signs go into effect was associated with decreased birthweight and increased infant injuries. There were no significant changes in other outcomes. These findings are inconsistent with the assumption that mandatory alcohol warning signs will reduce adverse outcomes and rather demonstrates how these policies can possibly be harmful.

9. **Yusoff, A., Sträuli, B., Jones, A., O'Brien, P., Bowden, J., Jongenelis, M., ... & Pettigrew, S. (2025). Suboptimal industry adherence to the design specifications of the mandatory pregnancy warning label. *Australian and New Zealand Journal of Public Health*, *49*(3), 100236. https://doi.org/10.1016/j.anzjph.2025.100236**

This Australian study examined whether alcoholic beverages sold in Sydney retailers complied with mandatory pregnancy warning label requirements introduced under the national Food Standards Code. Researchers photographed *n* = 5,964 alcohol products in 2023 and assessed a random sample of labelled products for adherence to the required design specifications. Overall, 11% of products displaying the pregnancy warning label did not meet the required standards. Compliance was lowest among spirits (73%), compared with beer (94%) and premixed drinks (97%). Larger beverage containers (>800ml) also showed lower adherence rates. The findings suggest that inconsistent application of pregnancy warning labels may reduce the effectiveness of public health messaging about alcohol use during pregnancy.

C. Level 2 Prevention

1. **Bastian, L. R. K., Green, F. A. O., Whitmore, C. B., Greci, K. S., & Edwards, A. E. (2025). Facilitating culturally safe conversations around substance use disorder and contraception to provide inclusive care for neurodiverse and neurotypical populations. *Nursing for Women's Health*, *29*(6), 393-404. https://doi.org/10.1016/j.nwh.2025.07.006**

This U.S. study outlined a framework for culturally safe, patient-centered communication in reproductive health care, with a focus on improving discussions about alcohol use, substance use, and contraception among neurodiverse populations, including people with FASD. The aim was to provide nurses with practical strategies to address barriers such as time constraints, stigma, and implicit bias that can limit effective patient communication. The framework combines the Model of the Five Principles of Cultural Safety, the Respectful Maternity Care Framework, and evidence-based clinical guidance to improve trust, reduce stigma, and support more inclusive care. The article highlights how training in culturally safe communication can increase nurses' confidence in sensitive conversations and improve patient experiences and engagement in care.

2. **Erasmus-Claassen, L.-A., Mpisane, N., Petersen Williams, P., Browne, F. A., Myers, B., Wechsberg, W. M., Parry, C. D. H., Taylor, S. N., & Washio, Y. (2025). Participant**

experiences with a text message and contingency management intervention for alcohol use during pregnancy and lactation in Cape Town, South Africa. *Addiction Science & Clinical Practice*, *20*(1), 59. https://doi.org/10.1186/s13722-025-00594-7

This South African study explored pregnant and lactating participants' perceptions and experiences of a text message and contingency management (CM) intervention to address alcohol use. Post-intervention interviews were conducted with 10 pregnant and 10 post-partum lactating participants and then coded using NVivo software. Participants described logistical barriers to engagement. However, supportive social networks and flexible program components encouraged participation. Further, increased self-efficacy and external accountability facilitated behavior change. Participants suggested improvements for accessibility, including alternative rewards, further family planning and counselling opportunities, and tailored support. The findings highlight the potential benefits of using contingency management in mobile brief interventions, as well the need to address logistical barriers and expand support services in resource-limited settings.

3. **Fitzgerald, H., Frank, M., Kasula, K., Krans, E. E., & Krishnamurti, T. (2025). Usability and acceptability of a pregnancy app for substance use screening and education: a mixed methods exploratory pilot study. *JMIR Pediatrics and Parenting*, *8*(1), e60038. https://doi.org/10.2196/60038**

See above (Level 1 prevention).

4. **Green, F. O., Harlowe, A. K., Edwards, A., Alford, D. P., Choxi, H., German, J. S., ... & Velasquez, M. M. (2025). Multi-level approaches to Fetal Alcohol Spectrum Disorders prevention education and training for health professionals. *Substance Use & Addiction Journal*, *46*(2), 430-438. https://doi.org/10.1177/29767342241273397**

See above (Level 1 prevention).

5. **Hammer, R., Elise, R. A. P. P., Bruno, A., & Serex, M. (2025). Healthcare professionals' prevention practices and perceptions of risk regarding alcohol consumption during pregnancy: a qualitative systematic review. *Midwifery*, 104566. https://doi.org/10.1016/j.midw.2025.104566**

This systematic review from authors in Switzerland examined how perinatal health professionals perceive and engage in screening and advising pregnant people about alcohol consumption. A systematic review was conducted using seven databases, capturing qualitative literature published prior to December 2022. Twenty-four (n = 24) studies were included. The review identified three themes, including health professionals' screening and advising practices and their approaches to the risk and challenges affecting care delivery. The systematic review found that healthcare professionals faced clinical, relational and organizational challenges influencing their commitment to addressing alcohol consumption in patients. Perceptions of alcohol-related issues and patients also influenced approach to screening and advising. The findings suggest that strengthening continuing education, improving communication tools for sensitive discussions, and addressing provider bias and perception are key strategies to improve consistent alcohol screening and counseling in prenatal care.

6. **Hogan, C. S., Vyas, C. M., Woods, G. T., Massey, S. H., & Stern, T. A. (2025). Talking to your patients about alcohol, marijuana, and substance use during pregnancy. *The Primary***

***Care Companion for CNS Disorders*, *27*(6), 25f04012.**
https://doi.org/10.4088/PCC.25f04012

This U.S. clinical case-based review demonstrated how clinicians in a hospital setting can identify and manage alcohol and other substance use during pregnancy. The article presents the case of a 33-year-old pregnant woman who initially screened negative for substance use but was later found at 28 weeks' gestation to be drinking heavily and experiencing alcohol dependence with withdrawal symptoms. Despite significant shame and fear of child welfare involvement, she disclosed her alcohol use with her provider and was admitted for medically supervised withdrawal. Her care included inpatient detoxification using a benzodiazepine protocol, initiation of pharmacotherapy for alcohol use disorder (naltrexone and gabapentin), treatment of co-occurring anxiety and depression, and coordinated support from obstetric, addiction, psychiatry, neonatology, and social work teams, along with peer recovery support. The case highlighted that standard prenatal screening tools may miss substance use, particularly when stigma and fear of punishment are present. It also demonstrates that integrated, non-stigmatizing, multidisciplinary care can support women during pregnancy, improve engagement in treatment, and allow ongoing maternal and fetal monitoring.

7. **Hollins Martin, C. J., & Norris, G. (2025). The midwife's role in supporting pregnant women who are alcohol dependent. *British Journal of Midwifery*, *33*(9), 508-516.**
https://doi.org/10.12968/bjom.2025.0017

This article from Scotland described how midwives can support care, management and treatment to women who use alcohol during pregnancy. The article offered information to midwives on identifying and supporting pregnant women with alcohol dependence through use of sensitive communication, screening tools, and biomarkers. The authors articulated how care should be individualized to assess risk, reduce harm, and support abstinence from alcohol. The findings highlight how strengthening midwifery training, improving screening and communication skills, and providing accessible, compassionate, and structured treatment pathways can reduce alcohol-exposed pregnancies and improve maternal and neonatal outcomes.

8. **Kaufman, C. E., Asdigian, N. L., Reed, N. D., Shrestha, U., Bull, S., Tuitt, N. R., ... & Sarche, M. (2025). One-month outcomes of a culturally tailored alcohol-exposed pregnancy prevention mobile app among urban Native young women: A randomized controlled trial of Native WYSE CHOICES. *Alcohol: Clinical and Experimental Research*, *49*(3), 641-653.**
https://doi.org/10.1111/acer.70002

This U.S. study evaluated one-month outcomes from a culturally tailored mobile health intervention (Native WYSE CHOICES) developed to reduce alcohol-exposed pregnancy (AEP) risk among urban Indigenous adolescent and young adult women. A randomized controlled trial was conducted with $n = 439$ urban Native young women aged 16–20 recruited nationally. Participants were randomly assigned to either the Native WYSE CHOICES mobile app or a comparison app. At one-month follow-up, participants who used the culturally tailored intervention showed improvements in AEP-related knowledge, a reduced likelihood of alcohol use during sexual activity, and lower overall AEP risk scores compared with those in the comparison group. Although some outcomes were not statistically significant, the findings suggested improved behavioural and knowledge outcomes relevant to pregnancy prevention. The findings suggest that brief, scalable digital interventions can engage young Indigenous women and influence early indicators of alcohol-exposed pregnancy risk, particularly in areas of knowledge and sexual health-related

alcohol use behaviors. The results further highlight the feasibility of delivering culturally grounded prevention content through mobile platforms to reach geographically dispersed urban populations.

9. **King, D. K., Ondersma, S. J., McRee, B. G., German, J. S., Loree, A. M., Harlowe, A., ... & Weber, M. K. (2025). Using planned and unplanned adaptation to implement universal alcohol screening and brief intervention to prevent alcohol-exposed pregnancies in four primary care health systems. *Substance Use & Addiction Journal*, *46*(2), 439-451. https://doi.org/10.1177/29767342241271404**

This U.S. study examined how four academic health system teams funded by the Centers for Disease Control and Prevention implemented alcohol screening and brief behavioural intervention (alcohol SBI) with pregnant and general adult populations. Across participating systems, implementation required both planned and unplanned adaptations to make routine alcohol SBI feasible in primary care. Planned changes included expanding screening and brief intervention targets to include individuals at low levels of alcohol use who could become pregnant, redesigning clinical workflows and electronic health record processes to support routine screening, and tailoring staff training approaches. Unplanned adaptations were largely driven by local context, such as adjusting recruitment and engagement strategies in decentralized systems and shifting from in-person to virtual training during the COVID-19 pandemic. Systems with more centralized management and stronger early staff engagement experienced fewer disruptive unplanned changes, suggesting that coordination structures and early planning reduced implementation instability. The findings demonstrate that successful alcohol SBI implementation depends heavily on adaptable infrastructure, particularly flexible workflows, responsive training systems, and strong integration of electronic health records, as well as meaningful engagement of clinical teams in planning.

10. **Li, Y., Kurinczuk, J. J., Alderdice, F., Quigley, M. A., Rivero-Arias, O., Sanders, J., Kenyon, S., Siassakos, D., Parekh, N., De Almeida, S., & Carson, C. (2025). Pre-pregnancy care in general practice in England: Cross-sectional observational study using administrative routine health data. *BMC public health*, *25*(1), 1101. https://doi.org/10.1186/s12889-025-21728-1**

This study from the UK examined whether women, particularly those with risk factors for poor pregnancy outcomes, received pre-pregnancy care (PPC) through general practice in the year before pregnancy. Among $n = 14{,}326$ women with a confirmed pregnancy, only 7.6% had records of specific PPC, although 41% received general health promotion advice such as nutrition, smoking, weight, alcohol, or contraception counselling. Women with pre-existing medical conditions were more likely to receive health promotion, but rates of recorded PPC remained low across risk groups. The findings suggest missed opportunities within primary care to support pregnancy planning and targeted FASD prevention before conception.

11. **McRee, B. G., Hanson, B. L., Vendetti, J., King, D. K., Pawlukiewicz, I., Berry, E., ... & Whitmore, C. (2025). Identifying patients at risk for alcohol-exposed pregnancies: the importance of addressing multiple risk factors. *Substance Use & Addiction Journal*, *46*(2), 452-460. https://doi.org/10.1177/29767342241267086**

This U.S. study examined gaps in alcohol screening and brief intervention (SBI) processes by examining the prevalence of individuals who met the risk conditions of reporting any alcohol use

on the USAUDIT and had a pregnancy prevention method that was less than 88% effective. Using electronic health records for individuals in two reproductive healthcare systems, *n* = 11,567 charts were identified where screening was conducted. 66% of charts (*n* = 7,638) indicated some alcohol use but screened at a lower-level of alcohol use and thus were not flagged for an alcohol-focused brief intervention. Of those, *n* = 1,477 were using a contraceptive method that was less than 88% effective. Of the *n* = 1,676 individuals who screened positive on the USAUDIT, *n* = 118 individuals were using less effective contraception and did not receive a brief intervention. 13.8% of individuals at risk of an alcohol-exposed pregnancy did not receive a brief intervention. The findings emphasize the need for systems improvements to prompt providers when there is an increased risk of an alcohol-exposed pregnancy. Tailored alcohol BIs, that include contraceptive and alcohol counselling are recommended.

12. **Murnion, B., Chase, V., Carniato, G., Masters, K., & McNamara, K. (2025). Integrating routine screening for pregnancy intention and contraceptive use into care of women who use alcohol or other drugs. *Drug and Alcohol Review*, 44(3), 754-758. https://doi.org/10.1111/dar.14023**

This study from Australia evaluated the feasibility and early outcomes of the pregnancy intention screening (PIS) tool, which includes questions about pregnancy and contraception. The PIS tool was developed and integrated into the electronic medical record and annual routine screening. One hundred (*n* = 100) women accessing addiction treatment services were offered and completed the screening tool, indicating strong acceptability and feasibility within routine clinical workflows. Among the participants, there was a low use of effective or highly effective contraception (24.5%) and a high level of unmet informational needs, with 74% of participants requesting further contraception information. The screening tool successfully identified reproductive health needs that are often under-detected in addiction treatment settings. The findings demonstrate that brief, integrated questions can be embedded into existing annual health screening processes without disrupting care delivery.

13. **Norris, C. A., Johnson, T., Bartram, A., Muminovic, A., McEntee, A., Fischer, J., ... & Bowden, J. A. (2025). Recommendations for reporting alcohol, tobacco, and other drug screening tool use with pregnant Aboriginal and Torres Strait Islander Peoples. *Health Promotion Journal of Australia*, *36*(4), e70103. https://doi.org/10.1002/hpja.70103**

This Australian narrative review examined the availability, cultural responsiveness, and reporting quality of alcohol, tobacco, and other drug (ATOD) screening tools used in antenatal care for Aboriginal and Torres Strait Islander peoples. The review found that while several screening tools are commonly used with Aboriginal and Torres Strait Islander populations, there is limited evidence on how well these tools have been culturally validated, or how consistently the tools are used. This lack of detailed reporting makes it difficult to assess if they reliably identify substance use risks in ways that are meaningful and acceptable to communities and whether current tools are appropriately adapted for antenatal contexts. The review highlights variability in implementation practices and a broader lack of transparency around cultural adaptation processes in screening research. The findings point to a need for clearer standards in the development, validation, and reporting of ATOD screening tools, particularly those used in antenatal care settings, with stronger emphasis on cultural safety and community acceptability.

14. **Qian, S., & Seddon, S. (2025). Examining alcohol screening rates during pregnancy and documentation of prenatal alcohol exposure in a public health district in**

Australia. *Journal of Advanced Nursing*, *81*(12), 8647-8654. https://doi.org/10.1111/jan.16832

See above (Prevalence of, and influences and factors associated with, alcohol use in pregnancy).

15. **Reguera-Pozuelo, P., Fernández-Cuervo, I., Garrido-Torres, N., Partida-Márquez, A. L., García-Rumi, V., Anillo, S., ... & Crespo-Facorro, B. (2025). Differences in reporting alcohol consumption during pregnancy by method of asking; and the association of drinking while pregnant with caregiving responsibilities. *Drug and Alcohol Review*, *44*(6), 1816-1819. https://doi.org/10.1111/dar.70012**

In this letter to the editor, authors from Spain described the effectiveness of face-to-face interviews compared to self-administered paper-based or digital versions of the ASSIST to detect alcohol use during pregnancy. A secondary aim was to examine the impact of caregiving responsibilities as a key factor influencing alcohol use during pregnancy. Pregnant women (n = 574) were interviewed by their primary care physician or midwife, and then six months after delivery, received the ASSIST interview online. The results were incongruent, showing low agreement between the face-to-face interviews and online reports). Whereas n = 11 cases of alcohol use during pregnancy were identified in person, n = 102 cases were identified through ASSIST. There was a significant association between caregiving responsibilities and alcohol use during pregnancy (p = 0.034). The findings demonstrate the need to address alcohol use during pregnancy, particularly among those with high caregiver burdens. Digital tools should also be considered for more accurate assessment.

16. **Sania, A., Pini, N., Nelson, M. E., Myers, M. M., Shuffrey, L. C., Lucchini, M., ... & Fifer, W. P. (2025). K-nearest neighbor algorithm for imputing missing longitudinal prenatal alcohol data. *Advances in Drug and Alcohol Research*, *4*, 13449. https://doi.org/10.3389/adar.2024.13449**

This study from the U.S. and South Africa described a method for calculating the drinking values otherwise not captured using the Timeline Followback (TLFB) method. Data for this study was gathered from the Safe Passage Study, which evaluated the role of prenatal alcohol exposure on adverse pregnancy and fetal outcomes. Pregnant women (n = 11,803) were enrolled from antenatal clinics and followed throughout the pregnancy and one year postpartum. Of the days of observation, 11.4% of data was missing. Using K Nearest Neighbour (k-NN), a machine learning algorithm, imputed values were weighted for distance and matched to the day of the week. Data from five nearest neighbours (k = 5) and 55-day time segments produced the most accurate imputations. In validation, 64% of imputed segments exactly matched actual values, and 31% were within one drink per day of reported consumption, although accuracy varied by study site and drinking patterns. The findings suggest that improving data completeness and accuracy in alcohol exposure measurement during pregnancy can be done through machine learning to better estimate risk and evaluate efficacy of prevention interventions,

17. **Schmidt, V., Hubert, J., Wittmann, E., Schlueter, J. A., Arnold, J., Lomidze, A., ... & Landgraf, M. N. (2025). The missed opportunity? The important role of gynaecologists, midwives, and addiction specialists in the prevention of prenatal alcohol exposure. *Alcohol and Alcoholism*, *60*(5), agaf050. https://doi.org/10.1093/alcalc/agaf050**

This German study examined gynaecologists', midwives', and addiction specialists' knowledge, screening practices, and prevention approaches used to reduce alcohol in pregnancy. Of *n* = 96 obstetric professionals and 123 addiction specialists, approximately half reported having pregnant patients that used alcohol. However, routine alcohol screening was inconsistent. 28% of midwives, 15% of addiction specialists did not regularly ask pregnant patients about alcohol use. Addiction specialists reported more proactive prevention practices, including providing education for pregnant patients and those planning a pregnancy (80% and 59%, respectively) and more detailed information on general alcohol risks (85% vs. 53%) and FASD specifically (67% vs. 49%) compared with obstetric professionals. Across professions, participants expressed a need for better educational resources and stronger collaboration with specialist FASD services, indicating gaps in training and system coordination. The findings suggest that reducing missed opportunities for early identification and education requires broader population-level prevention strategies, improved provider training, and stronger collaboration between obstetric and addiction services to ensure consistent messaging and screening.

18. **Shrestha, U., Boland, S. E., Howley, C., Reed, N. D., Tuitt, N. R., Asdigian, N. L., ... & Kaufman, C. E. (2025). Centering culture in an mHealth adaptation of an alcohol-exposed pregnancy prevention program for American Indian youth. *Journal of Ethnicity in Substance Abuse*, *24*(2), 310-326. https://doi.org/10.1080/15332640.2023.2223160**

This qualitative study from the U.S. examined how an adapted mobile health version of the Native WYSE CHOICES alcohol-exposed pregnancy (AEP) prevention curriculum was perceived by urban American Indian and Alaska Native (AIAN) young women. Twenty-nine (*n* = 29) interviews were iteratively conducted with urban AIAN youth participating in the adaptation process. Participants expressed strong interest in receiving culturally informed health interventions and emphasized that cultural identity plays an important role in their lives. They were open to the adaptation incorporating cultural elements from multiple AIAN tribes, suggesting flexibility and inclusivity in how cultural content could be integrated into mobile health delivery. The interviews demonstrated that culturally grounded approaches were seen as acceptable and important for engagement, and that community input was essential for shaping meaningful intervention design. The findings highlight the importance of involving target communities directly in the design of digital health interventions to ensure cultural relevance, acceptability, and improved engagement, particularly in prevention programs aimed at reducing alcohol-exposed pregnancies.

19. **Vendetti, J., Bangham, C., Riba, M., Whitmore, C., Steinberg Gallucci, K., Hanson, B. L., & Greece, J. A. (2025). Cross-site evaluation of alcohol screening and brief intervention implementation programs in healthcare systems serving individuals of reproductive age. *Substance Use & Addiction Journal*, *46*(2), 461–475. https://doi.org/10.1177/29767342241267074**

See above (Prevalence of, and influences and factors associated with, alcohol use in pregnancy).

20. **Waddell, M., Vendetti, J., Whitmore, C. B., Green, F. O., McRee, B. G., Gallucci, K. S., & King, D. K. (2025). Did universal alcohol screening and brief interventions delivered in the context of reproductive health care universally reach demographically diverse patients? *Nursing for Women's Health*, *29*(2), 99–108. https://doi.org/10.1016/j.nwh.2024.09.003**

This U.S. study examined demographic differences in alcohol screening and brief intervention delivery across Planned Parenthood health centers. Data was collected from 15 health centers between 2020 – 2022. Patients (*n* = 29,659) aged 18–49 were largely screened for alcohol use (>85%). However, brief intervention delivery among patients at risk of an alcohol-exposed pregnancy (AEP) was inconsistently implemented, with most eligible patients not receiving a documented intervention (70.5% missed at Planned Parenthood of Southern New England and 78.2% missed at Planned Parenthood of the Great Northwest, Hawaii, Alaska, Indiana, Kentucky). Disparities were also observed by race/ethnicity: at one affiliate, Hispanic patients at risk for AEP were least likely to receive a brief intervention (75.9% missed) compared to Black (67.7%) or white (67.5%) patients ($p < .001$). These patterns suggest that although screening is broadly implemented, follow-through to intervention is uneven and may contribute to inequities in preventive care delivery. The findings underscore how universal screening can normalize discussions about alcohol use, reduce provider bias and ensure all patients receive appropriate education and intervention.

D. Level 3 Prevention

1. **Cohen, D. J., Hall, J. D., Danna, M., Baron, A., Cioffi, C. C., Bellanca, H., & Cahen, V. (2025). Functions of Interdisciplinary Primary Care Teams That Support Pregnant People with Substance Use Disorders. *The Annals of Family Medicine*, *23*(5), 434–440. https://doi.org/10.1370/afm.250017**

This U.S. study identified the roles and functions of interdisciplinary teams delivering medical, behavioural, and supportive care for pregnant people with substance use disorder (SUD). Seven organizations that implemented team-based perinatal SUD care were analyzed. The authors identified 14 care team functions, representing five categories: medical care, behavioural health care, coordination and resources, support and engagement, and quality improvement leadership. All functions were carried out by family physicians, certified nurse midwives, registered nurses, medical assistants, licensed clinical social workers, certified alcohol and drug counselors, peer support professionals, and doulas. The interdisciplinary teams provided care coordination, outreach and engagement, referral to specialists, transitional care, community resource connection, social and emotional support and advocacy functions. The findings highlight the 14 functions that are embedded in interdisciplinary care teams. Further investment in programming that trains full-scope family medicine clinicians can strengthen care for people with SUD during pregnancy.

2. **Dunbar Winsor, K., Burman, A., Denberg, H., & Morton-Ninomiya, M. (2025). Gender-informed and place-based harm reduction: exploring service offerings in Atlantic Canada. *Journal of Prevention & Intervention in the Community*, *53*(2), 304–323. https://doi.org/10.1080/10852352.2025.2496126**

This environmental scan investigated the approaches, implementation, challenges, and regional disparities of gender-informed harm reduction services in Atlantic Canada. Data analysis was conducted using open and focused coding, to reveal gaps in service provision as well as improvements to the availability and quality of harm reduction services in Atlantic Canada. There were 49 harm reduction services identified, three of which offered programming specifically for women. The authors emphasize how the lack of programming for women and individuals assigned female at birth both fail to recognize the gender-based impacts of substance use and perpetuate the stigma experienced by pregnant and/or parenting individuals seeking care. Time-limited

support and limited supports across the continuum of care further act as barriers to care for pregnant and/or parenting individuals and their children. The findings emphasize how a focus on enhancing rural harm reduction approaches, improving gender-informed service development, and ensuring longer-term and wraparound access to services can result in a more equitable and effective harm reduction landscape in Atlantic Canada.

3. **Heidarifard, S., & Khoshnamrad, M. (2025). Assessing supportive needs in pregnant women with substance use, a qualitative study. *American Journal of Obstetrics and Gynecology Global Reports*, 5(3), 100548. https://doi.org/10.1016/j.xagr.2025.100548**

This Iranian study assessed the supportive needs of pregnant women who use substances. A qualitative methodology was used, including a content analysis to identify supportive needs, a 3-round Delphi process involving *n* = 20 purposively sampled experts and a group session with 10 to prioritize critical needs. Five categories of needs emerged including: socio-cultural support, health/financial support, consultation services, psychological needs, and access to training. Among these, education on sexual health, sexually transmitted diseases, and harm reduction principles during pregnancy scored highest. Expert consensus in the group session encouraged the development of an educational protocol to address behavioral changes aligned with maternal needs. The findings highlight the need for pregnant women with substance use concerns to receive structured sexual health and harm reduction education. Tailored, theory-based interventions can provide holistic support to improve maternal and fetal health outcomes.

4. **Henry, M. C., Christian, K. L., Cairo, G. F., Leeman, L. M., & Sanjuan, P. M. (2025). "I wouldn't for myself; I'm quitting for her": Pregnant Hispanic mothers' SUD and trauma experiences. *Journal of Addictions & Offender Counseling*. https://doi.org/https://doi.org/10.1002/jaoc.70008**

This study from the U.S. explored the experiences of eight (*n* = 8) Hispanic women enrolled in an integrated obstetric and SUD treatment program. All participants reported a recent prenatal alcohol or other drug use event (defined as any instance of substance use during pregnancy). Using interpretative phenomenological analysis (IPA), the authors identified key themes that facilitated recovery, including social support, self-efficacy, and motivation. Framed within Yosso's community cultural wealth (CCW) framework, the results highlighted how familial, social, and navigational capital supported women in using harm reduction strategies and sustaining abstinence following a use event. The findings emphasize the need for strengths and resiliency-based programs and policies that promote long-term recovery support for pregnant women with substance use and other co-occurring health concerns.

5. **Hogan, C. S., Vyas, C. M., Woods, G. T., Massey, S. H., & Stern, T. A. (2025). Talking to your patients about alcohol, marijuana, and substance use during pregnancy. *The Primary Care Companion for CNS Disorders*, *27*(6), 25f04012. https://doi.org/10.4088/PCC.25f04012**

See above (Level 2 prevention).

6. **Martin, C. E., Bello, J. K., Galati, B. M., Buss, J. L., Terplan, M., Jones, H. E., Mitchell, K. T., … & Xu, K. Y. (2025). Discontinuation of treatment for alcohol use disorder during pregnancy and postpartum in the United States. *Alcohol, Clinical and Experimental Research*, *49*(9), 1972–1982. https://doi.org/10.1111/acer.70117**

This study from the U.S. reported the preconception receipt of medications for alcohol use disorder (MAUD) and psychosocial interventions, their discontinuation during pregnancy, and resumption post-partum in a multi-state sample. Using private insurance and Medicaid claims (2016 – 2019), pregnant women (*n* = 2,080) with an alcohol use disorder and had a live birth were compared to non-pregnant peers (*n* = 7,564) matched by age, insurance type, and time period. During pregnancy MAUD receipt declined from 12.1% during the preconception period to 0.3% during the third trimester. Among non-pregnant peers, MAUD receipt declined from 13.5% to 8.1% during the equivalent time ($p < 0.001$). Postpartum resumption of MAUD was uncommon in the pregnant cohort (pregnant = 1.9%; nonpregnant = 7.8%, $p < 0.001$). Psychosocial interventions declined for both the pregnant and non-pregnant cohorts but was modestly higher in the non-pregnant cohort (postpartum 10.3% vs. 13.8%, $p < 0.001$). Findings from the adjusted analysis found that pregnant people were more likely to discontinue MAUD compared to their non-pregnant peers but were not more likely to discontinue psychosocial interventions. These results highlight that MAUD utilization remains low and discontinuation is widespread, continuing in the postpartum period.

7. **Quintrell, E., Russell, D. J., Rahmannia, S., Wyrwoll, C. S., Larcombe, A., & Kelty, E. (2025). The safety of alcohol pharmacotherapies in pregnancy: A scoping review of human and animal research. *CNS Drugs*, *39*(1), 23–37. https://doi.org/10.1007/s40263-024-01126-8**

This scoping review by authors from the U.S. investigated the availability of safety information on alcohol pharmacotherapies during pregnancy. Four databases were searched for studies published between January 1990 and July 2023. A total of *n* = 105 studies were identified, inclusive of naltrexone, acamprosate, disulfiram, nalmefene, baclofen, gabapentin and topiramate. The scoping review found that studies exploring naltrexone's safety in pregnancy primarily reported on its use for opioid, rather than alcohol use disorders. Regarding safety, despite concerns about higher rates of some pregnancy complications with naltrexone, studies generally indicate it is a safer option compared with opioid agonists or alcohol during pregnancy. Acamprosate was not clearly associated with adverse effects of pregnancy and two pre-clinical studies suggested potential neuroprotective properties. There were mixed results on the safety of prenatal gabapentin and limited research investigating the safety of baclofen or nalmefene during pregnancy. The findings on disulfiram and topiramate use during pregnancy increased risk of congenital anomalies. There remains insufficient research on the safety of alcohol pharmacotherapies in pregnancy. However, the findings for this review indicate that naltrexone could be considered to help maintain abstinence in pregnant individuals with an alcohol use disorder, particularly when psychosocial treatments have failed.

8. **Roberts, S. C. M., Liu, G., & Terplan, M. (2025). Medications for Alcohol Use Disorder among birthing people with an alcohol-related diagnosis. *Journal of Addiction Medine*, *19*(1), 41–46. https://doi.org/10.1097/adm.0000000000001372**

This study from the U.S. estimated the proportion of birthing people who received a prescription for medication as part of Alcohol Use Disorder treatment. Data from national private insurance claims (2006 – 2019) for birthing people aged 25 – 50 and their infant dyads (*n* = 1,432,979) were used. Among the dyads, *n* = 2,517 (0.18%) had an alcohol-related diagnosis and of those with an alcohol-related diagnosis, 8.70% (n = 219) received any medication. The most common medication was gabapentin (4.69%, *n* = 118), with benzodiazepines for withdrawal as the second most common medication prescribed (2.19%, *n* = 55). Approximately 2% of dyads received naltrexone (1.91%, *n* = 48) and/or disulfiram (1.39%, *n* = 35) and 0.56% (n = 14) received acamprosate. Almost all medications were received postpartum. The findings demonstrate how very few pregnant and

postpartum people with an alcohol-related diagnosis receive a prescription for medication for Alcohol Use Disorder. Further research is needed to examine whether benefits of these medications during pregnancy outweigh harms.

9. **Thompson, M., Tak, C., Ellis, J. A., & Saftner, M. (2025). Perinatal substance use disorder educational content in us midwifery training programs: A survey. *Journal of Midwifery & Women's Health*, *70*(4), 624–628. https://doi.org/https://doi.org/10.1111/jmwh.13755**

This study from the U.S. assessed the integration of perinatal substance use disorder training in midwifery education programs, as well as actionable recommendations for enhancing midwifery care. A survey was distributed to nurse-midwifery and midwifery education program directors to assess the didactic and clinical education that their students received. Findings from 35 programs indicated that most midwifery programs provide didactic content on perinatal substance use disorder, but less than half of midwifery programs provide clinical experiences for their students. Didactic content primarily covers nicotine and tobacco cessation, perinatal alcohol use, epidemiology of substance use disorders, and screening for substance use disorders. Barriers to enhanced perinatal substance use disorder education included lack of dedicated perinatal substance use clinicians, faculty expertise, dedicated time in the curriculum and faculty, among others. The findings demonstrate that most midwifery programs provide some content on perinatal substance use disorders, however opportunities exist for readily accessible information.

10. **Urbanoski, K., Iwajomo, T., Gomes, T., de Oliveira, C., & Milligan, K. (2025). Integrated treatment programs for pregnant and parenting people support longer retention compared to standard treatment programs: A population-based cohort study. *J Subst Use Addict Treat*, *174*, 209701. https://doi.org/10.1016/j.josat.2025.209701**

This Canadian study investigated retention in outpatient treatment among pregnant people and mothers, comparing integrated treatment programs with standard treatment programs in Ontario. The authors conducted a population-based retrospective cohort study of females (*n* = 4,440) admitted to 11 integrated treatment programs and 10 standard treatment programs between 2008 and 2015. Data included linked administrative health data merged with primary data on program characteristics. Relative to standard treatment, integrated treatment programs that provide wraparound supports and services in partnership or in a singular location, were able to deliver prenatal and/or primary care and childminding. After controlling for individual- and program-level covariates, individuals in integrated treatment programs spent more days in treatment (adjusted incidence rate ratio [aIRR]=5.41, 95%CI: 4.10-7.13) and had more visits (aIRR=5.18, 95% CI: 4.305-6.23) than controls in standard treatment programs. The findings demonstrate that integrated treatment models designed for pregnant and parenting people who use substance use can offer unique services and advantages.

11. **Yang, Y., Paris, R., Hansen, H., & Mejia, A. S. (2025). Juggling competing responsibilities: Experiences with parenting, child welfare, and substance use treatment during the COVID-19 Pandemic. *Child and Adolescent Social Work Journal*, *42*(4), 451–465. https://doi.org/10.1007/s10560-024-00976-x**

This qualitative study from the U.S. examined the intersections between parenting, child welfare, and substance use treatment for pregnant and postpartum women raising young children during the COVID-19 pandemic. Participants were women (*n* = 35) enrolled in a therapeutic parenting intervention at a prenatal clinic supporting people who use substances. The findings revealed that during the pandemic, participants encountered similar – but distinct – challenges compared to the general population of families with young children. Like other families, women expressed the

difficulty of managing typical life tasks and concerns of their children's health and development. However, they also described negative interactions with the child welfare system, conflicting feelings about changes to substance use treatment, and positivity amidst uncertainty. The findings highlighted the difficulties that families with substance use, and child welfare involvement experienced during the COVID-19 pandemic. Additional supports are needed that support collaboration across services.

E. Level 4 Prevention

1. **Barriault, S., Motz, M., Firasta, L., McDowell, H., Labelle, P. R., Poole, N., & Racine, N. (2025). Effects of integrated programs for substance-involved mothers on infant and child development outcomes: A systematic review and meta-analysis. *Infant Mental Health Journal*, *46*(6), 653–674. https://doi.org/10.1002/imhj.70029**

This systematic review and meta-analysis from Canadian authors evaluated the impact of integrated substance use interventions for substance-involved mothers on their children's developmental outcome. A comprehensive search was conducted in seven databases, including APA PsycINFO, CINAHL, Cochrane CENTRAL, Embase, MEDLINE, Sociological Abstracts, Web of Science, for articles published between January 2011 and May 2023. Studies were included if they reported on an intervention with at least one substance use and one parenting or child treatment service for substance-involved mothers of children under 6 years of age. There was a total of $n = 21$ studies that met the inclusion criteria. Findings from $n = 14$ nonoverlapping studies that reported effect sizes demonstrated that integrated treatment had a pooled standard mean difference of 0.470 (95%CI:0.35 - 0.59). There was a trend toward substance involved mothers' treatment duration being a significant moderator ($p = .08$) on child developmental outcomes. The findings from this study demonstrate that that integrated interventions that jointly address maternal substance use and child development have shown promise for enhancing child outcomes. However additional high-quality studies are needed to determine the long-term impact of integrated substance use and parenting programs for maternal health, the parent-infant relationship, and child development.

2. **Dunbar Winsor, K., Burman, A., Denberg, H., & Morton-Ninomiya, M. (2025). Gender-informed and place-based harm reduction: exploring service offerings in Atlantic Canada. *Journal of Prevention & Intervention in the Community*, *53*(2), 304–323. https://doi.org/10.1080/10852352.2025.2496126**

See above (Level 3 prevention).

3. **Joyce, K. M., Delaquis, C. P., Alsaidi, T., Sulymka, J., Conway, A., Garcia, J., Paton, A., Kelly, L. E., & Roos, L. E. (2025). Treatment for substance use disorder in mothers of young children: A systematic review of maternal substance use and child mental health outcomes. *Addictive Behaviors*, *163*, 108241. https://doi.org/https://doi.org/10.1016/j.addbeh.2024.108241**

This systematic review from Canadian authors identified substance use treatments and treatment components for mothers of young children (from birth to 5 years old) and synthesized findings on maternal substance use and child/maternal mental health outcomes. Four databases were searched for articles published between 2000 and 2024. A total of $n = 14,916$ articles were screened

for eligibility and eight (*n* = 8) met inclusion criteria. All studies found that maternal substance use treatments were at least as, or more, effective in improving maternal substance use, maternal mental health and child mental health outcomes compared to controls. Components of maternal substance use treatment included services to support mother and family mental health, basic needs, parenting, employment and education, operant conditioning, crisis management, and medical education. Operant conditioning, which is a learning process, was the only treatment component that to positively impacted maternal substance use outcomes; no other treatment components were associated with outcomes of interest. This findings from this review highlight the benefits of substance use treatments on mothers of young children's substance use and mental health outcomes.

4. **Urbanoski, K., Iwajomo, T., Gomes, T., de Oliveira, C., & Milligan, K. (2025). Integrated treatment programs for pregnant and parenting people support longer retention compared to standard treatment programs: A population-based cohort study. *J Subst Use Addict Treat*, *174*, 209701. https://doi.org/10.1016/j.josat.2025.209701**

See above (Level 3 prevention).

5. **Yang, Y., Paris, R., Hansen, H., & Mejia, A. S. (2025). Juggling competing responsibilities: Experiences with parenting, child welfare, and substance use treatment during the COVID-19 Pandemic. *Child and Adolescent Social Work Journal*, *42*(4), 451–465. https://doi.org/10.1007/s10560-024-00976-x**

See above (Level 3 prevention).

F. Supportive Alcohol and Child Welfare Policy

1. **Berglas, N. F., Thomas, S., Treffers, R., Trangenstein, P. J., Subbaraman, M. S., & Roberts, S. C. M. (2025). Understanding the effects of alcohol policies on treatment admissions and birth outcomes among young pregnant people. *Alcohol, Clinical & Experimental Research*, *49*(2), 460–475. https://doi.org/10.1111/acer.15512**

This study from the U.S. examined if there was a relationship between substance use disorder treatment admissions or birth outcomes and state-level alcohol policy types for pregnant and birthing people ages 15 – 24. Sixteen policies, organized by three policy types: minimum legal drinking age (MLDA)-exception policies, general population policies, and pregnancy-specific policies, were assessed. Data from the Treatment Episode Data Set: Admissions and the Vital Statistics birth data from 1992 – 2019 was used to examine the impact of the policy types on treatment admission and birth outcomes, respective. The findings suggested that youth-specific MLDA policies were not associated with treatment admissions or preterm birth. However, MLDA policies with family exceptions did impact birthweight. General policies that prohibited spirits and heavy beer sales in gas stations or where spirit monopolies were in place were associated with lower odds of low-birthweight births for people aged 15 – 20 and 21 – 24. Blood alcohol content policies were associated with greater treatment admission rates for pregnant people aged 15 – 20 when alcohol was reported as the primary substance of use at admission. No pregnancy-specific policies were significantly associated with birth outcomes and were not significantly associated with treatment admissions. The findings suggest that general policies are effective for reducing adverse effects of alcohol use in pregnancy for young adults, including those that are under the

legal drinking age in the U.S. Policies that are tailored to youth or based on pregnancy status are less effective at reducing adverse birth outcomes or increasing substance use treatment admissions.

2. **Davies, T., O'Brien, P., Bowden, J., Sträuli, B., Yusoff, A., Jongenelis, M., ... & Pettigrew, S. (2025). Suboptimal uptake and placement of a mandatory alcohol pregnancy warning label in Australia. *International Journal of Drug Policy*, *135*, 104661. https://doi.org/10.1016/j.drugpo.2024.104661**

See above (Level 1 prevention).

3. **Denny, C. H., Deputy, N. P., Abouk, R., Dunkley, J. D., Drake, C., Kim, S. Y., Pella, M., Roehler, D. R., & Rose, C. E. (2026). Alcohol consumption during pregnancy and state implementation of legal nonmedical cannabis retail sales in the U.S., 2011-2023. *American Journal of Preventive Medicine*, *70*(2), 108105. https://doi.org/10.1016/j.amepre.2025.108105**

See above (Prevalence of, and influences and factors associated with, alcohol use in pregnancy).

4. **Lloyd Sieger, M., Andraka-Christou, B., Loch, S. F., Stein, B. D., Bouskill, K., & Patrick, S. W. (2025). A policy scan on plans of safe care for infants with prenatal substance exposure. *Hospital Pediatrics*, *15*(12), 1039–1047. https://doi.org/10.1542/hpeds.2025-008536**

This U.S. study reviewed the status and content of states' Plans of Safe Care (POSC) policies. POSC are intended to be responsive to the health and substance use treatment needs of the infant and affected family or caregiver. In 2016, federal law required that state child welfare agencies had to maintain policies to address the needs of prenatal substance exposure and their caregivers through POSC. Every state but Illinois has some type of POSC policy. However, only 18 states had enacted POSC statutes or regulations. A content analysis was conducted to identify trends in 18 states' statutes and regulations describing POSCs. More policies address POSC eligibility and development than monitoring, meaning that some states did not have clarity about which agency coordinates POSC services or how compliance is monitored. The findings highlight the need for more transparent and consistent interventions and policy supports for families with prenatal substance use.

5. **Pettigrew, S., Davies, T., Yusoff, A., Sträuli, B., O'Brien, P., Jongenelis, M. I., . . . Bowden, J. (2025). Policy implementation learnings from the introduction of a mandatory alcohol pregnancy warning label. *Health Promotion International, 40*(6), 6. https://doi.org/10.1093/heapro/daaf219**

See above (Level 1 prevention).

6. **Roberts, S. C. M., Schulte, A., Raifman, S., Liu, G., Zaugg, C., & Subbaraman, M. S. (2025). Mandatory warning signs for alcohol use during pregnancy and birth and infant outcomes in southern United States: a quasi-experimental study. *Alcohol and Alcoholism*, *61*(1). https://doi.org/10.1093/alcalc/agaf076**

See above (Level 1 prevention).

7. **Schulte, A., Subbaraman, M. S., Liu, G., Kerr, W. C., Trangenstein, P. J., & Roberts, S. C. M. (2025). Interactive effects between pregnancy-related alcohol policies and state spirits availability on infant and maternal outcomes. *The American Journal of Drug and Alcohol Abuse*, *51*(4), 471–483. https://doi.org/10.1080/00952990.2025.2503459**

This study from the U.S. analyzed what effects a) pregnancy specific alcohol policies, and b) government monopolies on retail spirit sales had on maternal and infant outcomes. Using data from a commercial insurance database for singleton births between 2006 and 2019 and policy data, the authors examined the interactions between six pregnancy-specific policies and government monopolies. Within the sample of *n* = 1,432,979 infant-birthing person pairs, 26% lived in a state with government spirits monopoly, 52% where there were mandatory warning signs, 42 – 59% where there was at least one reporting requirement, and 11 – 25% where there was a priority treatment policy for people who were pregnant. Pregnancy-specific policies were only present or generally stronger in states with government monopolies. Government monopolies on spirit sales were related to reduced infant maltreatment, with a greater effect when there were also policies in place for priority substance use treatment for pregnant people. There were harmful associations between reporting requirements where no monopolies were present. The protective association between monopolies and both infant maltreatment and maternal morbidities were present regardless of if pregnancy-specific policies in place. The findings suggest that government monopolies are related to reduced infant maltreatment and morbidities, but these effects can be weakened by some pregnancy-specific policies, including reporting requirements. Repealing pregnancy-specific policies that are not effective may improve infant outcomes.

8. **Thomas, S., Zaugg, C., & Roberts, S. C. M. (2025). Trends in U.S. State alcohol and other drug use during pregnancy policies from 2016 to 2020: Policymaking in the Comprehensive Addiction and Recovery Act Era. *Substance Use & Misuse*, *60*(6), 937–942. https://doi.org/10.1080/10826084.2024.2447925**

This research brief from the U.S explored patterns in state policy activity related to alcohol and other substance use during pregnancy with the introduction of the Comprehensive Addiction and Recovery Act (CARA, 2016). Since CARA was introduced, there have been few changes in alcohol-only policies. Rather, policymaking has focused more on drug policy than alcohol policy, with a few changes in both alcohol and drug policy. Policy changes related to priority treatment for pregnant women and reporting requirement policies for health and social service providers were most prominent. This era of policy making also appears to emphasize and require states to have Plans of Safe Care for infants prenatally exposed to substances. The findings suggest that policy efforts may not be prioritizing policies that positively affect the parent/infant dyad. Future policy efforts should be guided by evidence to improve both maternal and infant health.

9. **Trangenstein, P. J., Berglas, N. F., Subbaraman, M. S., Kerr, W. C., & Roberts, S. (2025). The relationship between alcohol availability and drink-driving policies and admissions to substance use disorder treatment during pregnancy. *Journal of Studies on Alcohol and Drugs*, *86*(3), 349–357. https://doi.org/10.15288/jsad.23-00414**

This U.S. study examined if there were associations between alcohol policies for the general population and alcohol treatment admission rates for pregnant people. Data from the Treatment Episodes Data Set: Admissions and state level policy date from 1992 – 2019 was collected. Where alcohol was the primary substance use or substance indicated at treatment admission, policies

that prohibited spirit sales in grocery stores had lower treatment admissions. States with Blood Alcohol Content at .10% had higher treatment admission rates among pregnant people. However, when alcohol was any substance used at treatment admission, there was no association with Blood Alcohol Content laws. The findings suggest that there is a relationship between general alcohol policies and treatment admissions among pregnant people who use substances.

10. **Yusoff, A., Sträuli, B., Jones, A., O'Brien, P., Bowden, J., Jongenelis, M., ... & Pettigrew, S. (2025). Suboptimal industry adherence to the design specifications of the mandatory pregnancy warning label. *Australian and New Zealand Journal of Public Health*, *49*(3), 100236. https://doi.org/10.1016/j.anzjph.2025.100236**

See above (Level 1 prevention).

G. Other – Stigma, Ethical Issues, and Systemic Approaches

1. **Bowdring, M. A., Sperling, M. M., D. Plummer, X. D., & Prochaska, J. J. (2025). Perinatal use of nonalcoholic beverages that mirror alcohol. *American Journal of Obstetrics and Gynecology, 233*(2), e46 – e49. https://doi.org/10.1016/j.ajog.2025.04.016**

This research brief from the U.S. summarized what is known about non-alcoholic beverage use during the perinatal period. Limited research has been conducted that captures the safety of non-alcoholic products, which can legally contain up to 0.5% alcohol by volume. What is available suggests that moderate non-alcoholic beverage consumption (<2 drinks per day) may reduce oxidative stress in a breastfeeding individual. Other research has suggested that non-alcoholic beverage use can both increase and decrease the desire for alcohol use, with increasing desire among those with a substantive alcohol use history. The findings suggest that moderate non-alcoholic beverage use is likely safe, but more research is needed on fetal, infant, and maternal health effects.

2. **Burton, S., Monk, R., Davies, E., Goodier, M., & Rose, A. K. (2025). Impact of alcohol strength on attitudes and decisions concerning special occasion drinking during pregnancy. *BMC Public Health*, *25*(1), 3609. https://doi.org/10.1186/s12889-025-24234-6**

See above (Prevalence of, and influences and factors associated with, alcohol use in pregnancy).

3. **Evans, S. (2025). Advancing social work curriculum to challenge FASD-related stigma and promote strengths-based family engagement. *Social Work Education*, 44(3), 452-465. https://doi.org/10.1080/02615479.2024.2320713**

This mixed methods study from Australia described how social work curriculum can challenge FASD-related stigma. Child, youth, and family health workers from an Australian metropolitan health district completed a survey about FASD attitudes, knowledge, and training needs and participated in interviews on worker experiences supporting individuals and families in FASD assessment and care planning. Three themes were identified: preparation; perseverance; prejudice and systems neglect. Preparation involved gaining parents' trust, relationship-building, and engaging in awareness about prenatal alcohol exposure. Perseverance recognized the stigma associated with prenatal alcohol use, and the need to reduce stigma in the process of prenatal alcohol inquiry. The final theme, prejudice and systems neglect, referred to poor FASD knowledge

and recognition. The findings highlight the need for social workers to recognize the interplay of factors that contribute to alcohol use in pregnancy. A social model of FASD is suggested that protects and promotes the rights of individuals with FASD and their families.

4. **Frennesson, N. F., Merouani, Y., Barnett, J., Attwood, A., Zuccolo, L., & McQuire, C. (2025). Prenatal alcohol exposure before pregnancy awareness: a thematic analysis of online forum comments and misinformation. *Frontiers in Public Health*, *13*, 1525004. doi: 10.3389/fpubh.2025.1525004**

This UK study analyzed discussions on the online parenting forum, Mumsnet, to understand how women seek and receive reassurance about alcohol use before pregnancy awareness. Researchers analyzed *n* = 71 discussion threads and *n* = 1,281 comments. Two overarching themes were found: 1) type of reassurance offered and 2) reactions to reassurance. Users would often provide reassurance to alleviate worries when reactions to these assurances were mixed. The analysis highlighted how most information shared was inaccurate and minimized the risks of prenatal alcohol exposure. The findings highlight the need for accessibly, evidence-based information and supportive communication from health professionals to counter misinformation and strengthen FASD prevention efforts.

5. **Habersham, L. L., Townsel, C., Terplan, M., & Hurd, Y. L. (2025). Substance use and use disorders during pregnancy and the postpartum period. *American Journal of Obstetrics and Gynecology*, *232*(4), 337-353. https://doi.org/10.1016/j.ajog.2025.01.007**

This review from U.S. authors provided a comprehensive overview of substance use during pregnancy and the postpartum period to 1) strengthen gynecologist and obstetrician knowledge and 2) improve care for pregnant and postpartum individuals with substance use disorders. The review synthesized current evidence on the epidemiology and maternal–fetal impacts of major substances, including nicotine, alcohol, cannabis, benzodiazepines, stimulants, and opioids, and outlines evidence-based approaches to treatment. It also discussed ethical and legal considerations in caring for patients who use substances during pregnancy, with emphasis on reducing stigma and promoting equitable, nonjudgmental care. The findings highlight how improving clinician education and integrating evidence-based, non-stigmatizing approaches to substance use care in obstetrics and gynecology can strengthen early identification and treatment of substance use during pregnancy and support maternal and fetal health outcomes.

6. **Knopf, A. (2025). SUD services for pregnant and postpartum women: SAMHSA program to be cut. *Alcoholism & Drug Abuse Weekly*, *37*: 1-4. https://doi.org/10.1002/adaw.34510**

This editorial from the U.S. drew attention to how a key program serving pregnant and parenting women who use substances was not included in the federal budget priorities for fiscal year 2026. The editorial provides background on the prevalence of substance use during pregnancy using 2023 data from the National Survey on Drug Use and Health, the history of the national pregnant and parenting women program and state pilot grant program, and role of state alcohol and drug agencies. The loss of funding is expected to be $38.9 million per year, 25% of which supports the state pilot grant program, which supports the development and delivery of family-centered, comprehensive, gender-specific services for families.

7. **Maslin, K., Hopper, H., & Shawe, J. (2025). The use of alcohol-free and low-alcohol drinks in pregnancy in the UK. *European Journal of Public Health, 35*(6), 1248. https://doi.org/10.1093/eurpub/ckaf188**

This article from the U.K. explored pregnant women's perceptions and use of alcohol free (<0.05% alcohol by volume) and low-alcohol (between 0.05% - 1.2% alcohol by volume) drinks. Women were recruited through targeted ads on social media. Of the *n* = 2,092 women who responded, 47.7% were currently pregnant and 6.1% were drinking alcohol at increasing risk (>14 standard drinks per week) before pregnancy. During pregnancy, 13.5% consumed alcohol and 71.3% consumed alcohol free or low-alcohol products. Women who drank alcohol at increasing levels before pregnancy were more likely to consume alcohol free or low-alcohol products (91.4% vs. 69.9%). The most common reasons for drinking alcohol-free products were to drink a safer alternative and to feel included in social events. However, more than half of the respondents felt as though there was insufficient evidence on consuming alcohol-free and low-alcohol drinks during pregnancy. The findings highlight ongoing safety concerns and desire for more information. The role of low-alcohol and alcohol free products requires further investigation.

8. **Nantume, A., Leong-Bob, K., Hanson, O. R., Baayd, J., Wilson, C., Gero, A., Tao, K. W., Simmons, R. G., Smid, M. C., Johnson, E. P., Metz, T. D., Watt, M. H., & Cohen, S. R. (2025). Experiences of healthcare providers caring for pregnant individuals with substance use disorder. *Drug and alcohol dependence, 277*, 112942. https://doi.org/10.1016/j.drugalcdep.2025.112942**

This qualitative study from the U.S. explored the experiences of healthcare providers who care for pregnant individuals with a substance use disorder. Seven focus groups and 15 in-depth interviews were conducted with health providers from across Utah. Data analysis revealed four themes. First, providers had a range of perceptions of pregnant people with a substance use disorder, reflecting both empathetic and stigmatizing responses. Second, providers emphasized the importance of building trust with patients. Third, there were high levels of burnout among providers, due to resource and systemic barriers. Lastly, providers highlighted knowledge gaps and confusion around regulatory requirements, including mandatory reporting. Despite the challenges described, many providers expressed their dedication to offering person-centered, compassionate care. The findings emphasize the need for targeted education and institutional policies that alleviate barriers to care.

9. **Reddy, J., Halpern, C. T., Schiff, D. M., Jones, H., Austin, A., Faherty, L., Rebbe, R., Vines, A., & Putnam-Hornstein, E. (2025). Prenatal substance exposure and multilevel predictors of child protection system reporting. *The Journal of pediatrics, 282*, 114546. https://doi.org/10.1016/j.jpeds.2025.114546**

This study from the U.S. analyzed the associations between individual and hospital-level predictors of child protection system (CPS) reporting in a cohort of individuals with prenatal substance exposure. Using state-level data from *n* = 260,525 births during 2018 in California, it was documented that 2.6% had substance use exposure. There were observed differences in substance use and type across mothers of different races and ethnicities. Approximately 4% of births to Black mothers had documented cannabis use compared to 1% among white and Hispanic mothers. There was a 24% variance in CPS reporting depending on the hospital of delivery. This was attributed to race and insurance-type differences. The findings show the role of both

individual and hospital-based characteristics on the likelihood of CPS reporting. Improved decision-making tools and provider training are required.

10. **Rivera, I., Lee, E. H., Solomon, Z., & Koehlmoos, T. P. (2025). Mapping the Fetal Alcohol Spectrum Disorder continuum of care across the Military Health System. *Miliary Medicine, 190* (3/4): 751.**

This U.S. study explored clinical guidelines, services, programs, resources, and policies related to alcohol use, prenatal alcohol exposure, and FASD in the military health system. An environmental scan was conducted and multiple resources related to alcohol use and alcohol use disorder before and during pregnancy were identified. This included clinical guidelines, resources, and service-specific policies directly related to pregnancy. However, there were no resources around diagnosis or management around FASD. The findings highlight further opportunities to raise awareness and improve policies, practice, and education around prenatal alcohol use and FASD in the military health system.

11. **Robards, F. J., Medlow, S., & Elliott, E. J. (2025). Media portrayals of alcohol use in pregnancy and fetal alcohol spectrum disorder: A scoping review. *Alcohol, clinical & experimental research*, *49*(11), 2396–2411. https://doi.org/10.1111/acer.70168**

This scoping review from Australian authors explored how alcohol use in pregnancy and FASD have been portrayed in international media from 2004 – 2024. Five data bases were searched for peer-reviewed, English-language articles on the perception of, or content on, alcohol use in pregnancy and FASD. Eighteen articles were identified, $n = 11$ of which focused on alcohol use in pregnancy, $n = 2$ on FASD, and $n = 5$ on both. Five themes were identified, including contradictions in messaging across media sources on the harms of alcohol; concerns about safety; expectations around motherhood; stigma and shame around alcohol use in pregnancy and FASD; and advocacy for FASD prevention and support. The findings highlight how media communications need to go beyond providing recommendations from alcohol use guidelines, to instead be culturally appropriate, strengths-based, and responsive of the drivers of alcohol use in pregnancy.

12. **Ross, S., Brown, R. H., McDougall, S., & O'Rourke, S. (2025). Parallel journeys: Exploring the lived experience of pregnant women with alcohol/substance use problems in Scotland. *Women and Birth, 39*(1), 102148. https://doi.org/10.1016/j.wombi.2025.102148**

This qualitative study from Scotland examined the experiences of pregnant women when accessing services, their perceptions of risk around alcohol/substance use, and how they made sense of the transition to motherhood. Semi-structured interviews were conducted with $n = 6$ women connected to a substance use midwifery service. Women reported that cultural norms surrounding alcohol and substance use complicated recovery, and at times, exacerbated substance use. Pregnancy was seen as a turning point that facilitated sustained engagement with services and provided motivation for recovery. Women who continued to use substances during pregnancy reported feelings of guilt, worry, and disappointment. Stigma and judgement created distrust and acted as a barrier to service access and recovery. The findings emphasize the importance of non-judgemental care and addressing stigma.

13. **Rubyan, M., Gouseinov, Y., Morgan, M., Rubyan, D., Jahagirdar, D., Choberka, D., ... & Shuman, C. (2025). Evaluating the usability, acceptability, user experience, and design of an interactive responsive platform to improve perinatal nurses' stigmatizing attitudes**

toward substance use in pregnancy: Mixed methods study. *JMIR Human Factors*, *12*, e67685. https://doi.org/10.2196/67685

This U.S. study evaluated a digital version of "ArtSpective for PSU," an arts-based intervention designed to reduce stigma and implicit bias among perinatal nurses caring for patients with perinatal substance use (PSU). The intervention used creative, arts-based methods to increase empathy, reflection, and understanding. Researchers adapted the original in-person program into an interactive online platform that nurses could complete asynchronously. Using a mixed-methods approach, the study assessed the platform's usability, acceptability, and feasibility through interviews and surveys with 21 nurses and 4 experts in stigma, bias, and instructional design. The results indicated very high levels of satisfaction and acceptability. Participants found the platform visually appealing, easy to navigate, engaging, clear, and practical for flexible online learning. Four major themes emerged from the qualitative analysis: appearance, navigation, characterization, and overall platform experience, demonstrating that the digital adaptation was successful and well received. The findings offer important design considerations for future digital arts-based interventions aimed at reducing stigma in health care settings.

14. **Schölin, L., & Arkell, R. (2025). Representations of 'risky' drinking during pregnancy on Mumsnet: A discourse analysis. *Drug and alcohol review*, *44*(1), 26–36. https://doi.org/10.1111/dar.13948**

This UK study analyzed discussions on the online parenting forum, Mumsnet, to examine how users discussed alcohol use during pregnancy, including perceptions of risk and "appropriate" behaviour. Researchers reviewed $n = 73$ discussion threads ($n = 1{,}554$ replies) posted between 2016 and 2021. Forum users commonly shared and valued personal experiences over scientific evidence, although guidelines and research were also discussed. Participants generally condemned drinking behaviours they viewed as excessive or irresponsible, while many considered small amounts of alcohol during pregnancy to be acceptable if justified as low risk. Discussions reflected strong social expectations around "good motherhood," with users framing their behaviour carefully to align with perceived norms. The study also identified confusion and limited knowledge about alcohol use while trying to conceive and during early pregnancy. The findings suggest there needs to be clearer, accessible guidance about alcohol use before and during pregnancy, while recognizing that pregnant people may weigh social norms, personal experiences, and perceptions of "responsible" motherhood alongside public health messaging.

15. **Williams, R., Farmer, M., Kelly, K., Badry, D., & Dantas, J. (2025). Exploring Fetal Alcohol Spectrum Disorder (FASD) from an Aboriginal lens in Western Australia: Survey results to inform cultural security, policy, and service delivery. *Health Promotion Journal of Australia, 36*(4), e70081. doi: 10.1002/hpja.70081**

This study explored awareness and knowledge of FASD among the Noongar people in Western Australia. Using Indigenous methodologies and a culturally appropriate survey, data from $n = 180$ Aboriginal people in Western Australia was collected. The majority (92%) of respondents felt it was important to know about FASD. However, only 20% had received information on FASD. Two thirds of respondents reported that they knew someone who drank alcohol during pregnancy, including their family members and friends. Participants wanted to receive more information on FASD, supporting family members with FASD, and FASD prevention. Culturally preferred approaches for learning included small groups, community forums, or on-on-one learning. Questions were also asked about colonization, and over half of participants identified that they were a member of the Stolen

generations – with most respondents identifying that they had experienced a removal of an immediate family member or themselves. The findings highlight that there a continued need to attend to knowledge, awareness, and education on FASD and FASD prevention.

16. **Xu, K. Y., Jones, H. E., Martin, C. E., Smid, M. C., Tiako, M. J. N., Terplan, M., & Krans, E. E. (2025). Perinatal substance use-related content at major addiction scientific conferences: An analysis of oral presentation sessions. *Journal of Addiction Medicine*, *19*(4), 470–474. https://doi.org/10.1097/ADM.0000000000001438**

This content analysis from U.S. authors explored how national addiction science conferences integrate and reflect research and education being done on perinatal substance use. Oral abstract sessions from five major scientific addiction conferences were reviewed. Across >3,000 speakers, fewer than 10% of sessions contained content on perinatal substance use. Of the sessions dedicated to the perinatal period, a primary focus was on long-term infant outcomes following perinatal substance exposure. The findings demonstrate how sessions dedicated to the perinatal period may not reflect the diverse needs of birthing people with substance use concerns.

Summary of Included Studies by Method and Country of Study

Table 2: Included studies by method, country and page number

#	Author	Title	Method	Country	Page
Prevalence of, and influences and factors associated with, drinking in pregnancy					
n = 42	Adem et al.	Alcohol consumption and associated factors among pregnant women at public health centers in Asella town, southeastern Ethiopia: a multicenter mixed-method cross-sectional study	Mixed methods	Ethiopia	3
	Andualem et al.	The prevalence and associated factors of alcohol consumption among pregnant women in Africa: A systematic review and meta-analysis	Systematic review and meta-analysis	Ethiopia	3
	Azeem et al.	Using the PROMOTE screener to identify psychosocial risk factors for prenatal substance use	Cohort	U.S.	3
	Bello et al.	Men's influence of maternal substance use before, during, and after pregnancy: A qualitative study of men with criminal-legal involvement	Qualitative	U.S.	4
	Bod'a et al.	Determination of markers of ethyl alcohol consumption in pregnancy	Cross sectional	Czech Republic	4
	Boswell et al.	Rural–urban differences in substance use during pregnancy	Cross sectional	U.S.	5
	Botella-López et al.	Knowledge gaps regarding alcohol consumption during pregnancy and its effect on the fetus: A systematic review focused on women	Systematic Review	Spain	5
	Bretteville-Jensen & Williams	Pregnancy and pregnancy outcomes in a national population cohort of patients treated for substance use disorders	Case control	Norway, Australia	5

	Brown et al.	Maternal chronic physical conditions and alcohol and substance use disorders in the preconception and perinatal periods	Case control	Canada	6
	Brown et al.	Exploring the influence of maternal behavioural activation and inhibition on predicting fetal alcohol exposure	Cross sectional	UK	6
	Bull et al.	Differences in tobacco smoking and alcohol consumption among 57,757 women from early to late pregnancy: A state-representative study in Queensland, Australia	Cross sectional	Australia	6
	Burton et al.	Impact of alcohol strength on attitudes and decisions concerning special occasion drinking during pregnancy	Randomized control trial	UK	7
	Denny et al.	Alcohol consumption during pregnancy and state implementation of legal nonmedical cannabis retail sales in the U.S., 2011-2023	Cross sectional	U.S.	7
	Derseh et al.	Prevalence of prenatal alcohol use among Aboriginal and non-Aboriginal women in the Northern Territory, Australia: estimate from perinatal, emergency, and admission datasets	Cross sectional	Australia	8
	Dhir et al.	Prevalence of tobacco and alcohol use among pregnant women in India: A systematic review and meta-analysis	Systematic review and meta-analysis	India	8
	Doherty et al.	Preventive health risks in pregnancy: Cross-sectional prevalence survey in three regions of New South Wales, South Australia and Tasmania	Cross sectional	Australia	8
	Dutra et al.	Alcohol consumption among pregnant women in Brazilian capitals: How many, where, and who are they?	Cross sectional	Brazil	9
	Fernandes et al.	Simultaneity of health-related behaviors and food insecurity among pregnant women	Cross sectional	Brazil	9
	Fleming et al.	Identifying the motives for and against drinking during pregnancy and motherhood, and factors associated with increased maternal alcohol use	Mixed methods	UK	9
	Godfrey et al.	Maternal alcohol consumption during pregnancy and associated factors among pregnant women in Tanzania: evidence from the 2022 Tanzania Demographic and Health Survey	Cross sectional	Tanzania	10
	Hanson et al.	Examining the role of social determinants of health in alcohol-exposed pregnancy risk among American Indian women	Randomized control trial	U.S.	10
	Hayashi et al.	Role of drinking attitudes and trait impulsivity in prenatal alcohol craving and consumption in mothers of reproductive age	Cross sectional	U.S.	11
	Jenkins et al.	Typologies of maternal substance use in pregnancy: Latent classes and sociodemographic correlates in a U.S. sample	Cross sectional	U.S.	11
	Jones et al.	Using umbilical cord tissue to identify prenatal ethanol exposure and co-exposure to other commonly misused substances	Cross sectional	U.S.	11

	Lenie et al.	Alcohol, tobacco and illicit drug use during pregnancy in the longitudinal BELpREG cohort in Belgium between 2022 and 2024	Cross sectional	Belgium	12
	London et al.	Alcohol-exposed pregnancy risk, mental health, self-understanding, and relational connections among urban Native American young women during the COVID-19 pandemic	Qualitative	U.S.	12
	Martínez et al.	Barriers to access to mental health services in pregnant women with mental pathology residing in Colombia	Cohort	Colombia	12
	May et al.	Maternal and paternal risk factors associated with diagnoses within the continuum of fetal alcohol spectrum disorders in the USA: Proximal and distal influences	Mixed methods	U.S.	13
	Mohammed et al.	Maternal substance use during pregnancy and associated factors in Adama, central Ethiopia	Cross sectional	Ethiopia	13
	Morrison et al.	Co-occurring substance use and intimate partner violence in pregnant and postpartum women: A systematic literature review	Literature review	U.S.	13
	Okulicz-Kozaryn et al.	The prevalence and changes in alcohol consumption across three trimesters of pregnancy assessed by ethyl glucuronide concentration in maternal hair and self-reports: A cross-sectional study	Cross sectional	Poland	14
	Peltier et al.	Alcohol use during pregnancy: the impact of social determinants of health on alcohol consumption among pregnant women	Cross sectional	U.S.	14
	Poole et al.	Health promotion and support grounded in interconnected influences on alcohol use in pregnancy	Narrative review	Canada	15
	Pratt Tremblay et al.	Trends in prenatal substance use across Ontario, Canada	Cross sectional	Canada	15
	Qian & Seddon	Examining alcohol screening rates during pregnancy and documentation of prenatal alcohol exposure in a public health district in Australia	Cohort	Australia	15
	Sebothoma & Onwukwe	Substance and alcohol use in pregnant women attending antenatal care at a tertiary hospital in Johannesburg, South Africa	Cohort	South Africa	16
	Senecky et al.	Steps toward decreasing maternal alcohol consumption in Israel: Nationwide trends during a decade	Cross sectional	Israel	16
	Stavish et al.	Culture and COVID-19 related impacts on alcohol-exposed pregnancy risk among urban American Indian and Alaska Native young adults: A path analysis	Cohort	U.S.	16
	Tappin et al.	A prospective cohort study to assess if alcohol intake measured by routine pregnancy self-report predicts developmental concerns uncovered by routine health visitor screening of children at 30 months of age	Cross sectional	UK	17
	Thomas et al.	Adverse childhood experiences and adult alcohol use during pregnancy - 41 U.S. jurisdictions, 2019-2023	Cross sectional	U.S.	17

	Vendetti et al.	Cross-site evaluation of alcohol screening and brief intervention implementation programs in healthcare systems serving individuals of reproductive age	Mixed methods	U.S.	17
	Young-Wolff et al.	Adverse childhood experiences, resilience, and substance use during early pregnancy	Cohort	U.S.	18
Level 1 Prevention					
n = 9	Davies et al.	Suboptimal uptake and placement of a mandatory alcohol pregnancy warning label in Australia	Qualitative	Australia	18
	Fitzgerald et al.	Usability and acceptability of a pregnancy app for substance use screening and education: A mixed methods exploratory pilot study	Mixed methods	U.S.	18
	Green et al.	Multi-level approaches to fetal alcohol spectrum disorders prevention education and training for health professionals	Content analysis	U.S.	19
	Ishaque et al.	Mobile health interventions for modifying Indigenous maternal and child-health related behaviors: Systematic review	Systematic review	Australia	19
	Keating et al.	Knowledge as prevention: A cost-effective intervention to reduce prenatal alcohol exposure	Pre/post study	UK	19
	Pettigrew et al.	Policy implementation learnings from the introduction of a mandatory alcohol pregnancy warning label	Cross sectional	Australia	20
	Rahmannia et al.	Dietary guidelines for pregnant and lactating women, adherence levels and associated factors: a scoping review	Scoping review	Australia, Indonesia	20
	Roberts et al.	Mandatory warning signs for alcohol use during pregnancy and birth and infant outcomes in southern United States: a quasi-experimental study	Quasi-experimental study	U.S.	20
	Yusoff et al.	Suboptimal industry adherence to the design specifications of the mandatory pregnancy warning label	Observational study	U.S.	22
Level 2 Prevention					
n = 20	Bastian et al.	Facilitating culturally safe conversations around substance use disorder and contraception to provide inclusive care for neurodiverse and neurotypical populations	Descriptive study	U.S.	21
	Erasmus-Claasen et al.	Participant experiences with a text message and contingency management intervention for alcohol use during pregnancy and lactation in Cape Town, South Africa	Qualitative	South Africa	21
	Fitzgerald et al.	Usability and acceptability of a pregnancy app for substance use screening and education: A mixed methods exploratory pilot study	Mixed methods	U.S.	18
	Green et al.	Multi-level approaches to fetal alcohol spectrum disorders prevention education and training for health professionals	Content analysis	U.S.	19
	Hammer et al.	Healthcare professionals' prevention practices and perceptions of risk regarding alcohol consumption during pregnancy: A qualitative systematic review	Systematic review	Switzerland	22

	Hogan et al.	Talking to your patients about alcohol, marijuana, and substance use during pregnancy	Case study	U.S.	22
	Hollins Martin et al.	The midwife's role in supporting pregnant women who are alcohol dependent	Descriptive study	UK	23
	Kaufman et al.	One-month outcomes of a culturally tailored alcohol-exposed pregnancy prevention mobile app among urban Native young women: A randomized controlled trial of Native WYSE CHOICES	Randomized control trial	U.S.	23
	King et al.	Using planned and unplanned adaptation to implement universal alcohol screening and brief intervention to prevent alcohol-exposed pregnancies in four primary care health systems	Case series	U.S.	24
	Li et al.	Pre-pregnancy care in general practice in England: cross-sectional observational study using administrative routine health data	Cross sectional	UK	24
	McRee et al.	Identifying patients at risk for alcohol-exposed pregnancies: The importance of addressing multiple risk factors	Cross sectional	U.S.	24
	Murnion et al.	Integrating routine screening for pregnancy intention and contraceptive use into care of women who use alcohol or other drugs	Cross sectional	Australia	25
	Norris et al.	Recommendations for reporting alcohol, tobacco, and other drug screening tool use with pregnant Aboriginal and Torres Strait Islander Peoples	Narrative review	Australia	25
	Qian & Seddon	Examining alcohol screening rates during pregnancy and documentation of prenatal alcohol exposure in a public health district in Australia	Cohort	Australia	15
	Reguera-Pozuelo et al.	Differences in reporting alcohol consumption during pregnancy by method of asking; and the association of drinking while pregnant with caregiving responsibilities	Cross sectional	Spain	26
	Sania et al.	K-nearest neighbor algorithm for imputing missing longitudinal prenatal alcohol data	Cohort	South Africa, U.S.	26
	Schmidt et al.	The missed opportunity? The important role of gynaecologists, midwives, and addiction specialists in the prevention of prenatal alcohol exposure	Cross sectional	Germany	26
	Shrestha et al.	Centering culture in an mHealth adaptation of an alcohol-exposed pregnancy prevention program for American Indian Youth	Qualitative	U.S.	27
	Vendetti et al.	Cross-site evaluation of alcohol screening and brief intervention implementation programs in healthcare systems serving individuals of reproductive age	Mixed methods	U.S.	17
	Waddell et al.	Did universal alcohol screening and brief interventions delivered in the context of reproductive health care universally reach demographically diverse patients?	Cohort	U.S.	27
Level 3 Prevention					

n = 11	Cohen et al.	Functions of interdisciplinary primary care teams that support pregnant people with substance use disorders	Qualitative	U.S.	28
	Dunbar Winsor et al.	Gender-informed and place-based harm reduction: Exploring service offerings in Atlantic Canada	Environmental scan	Canada	28
	Heidarifard & Khoshnamrad	Assessing supportive needs in pregnant women with substance use, a qualitative study	Qualitative	Iran	29
	Henry et al.	"I wouldn't for myself; I'm quitting for her": Pregnant hispanic mothers' SUD and trauma experiences	Qualitative	U.S.	29
	Hogan et al.	Talking to your patients about alcohol, marijuana, and substance use during pregnancy	Case study	U.S.	22
	Martin et al.	Discontinuation of treatment for alcohol use disorder during pregnancy and postpartum in the United States	Cross sectional	U.S.	29
	Quintrell et al.	The safety of alcohol pharmacotherapies in pregnancy: A scoping review of human and animal research	Scoping review	U.S.	30
	Roberts et al.	Medications for alcohol use disorder among birthing people with an alcohol-related diagnosis	Cross sectional	U.S.	30
	Thompson et al.	Perinatal substance use disorder educational content in us midwifery training programs: A survey	Cross sectional	U.S.	31
	Urbanoski et al.	Integrated treatment programs for pregnant and parenting people support longer retention compared to standard treatment programs: A population-based cohort study	Cohort	Canada	31
	Yang et al.	Juggling competing responsibilities: Experiences with parenting, child welfare, and substance use treatment during the COVID-19 pandemic	Qualitative	U.S.	31
Level 4 Prevention					
n = 5	Barriault et al.	Effects of integrated programs for substance-involved mothers on infant and child development outcomes: A systematic review and meta-analysis	Systematic review and meta-analysis	Canada	32
	Dunbar Winsor et al.	Gender-informed and place-based harm reduction: Exploring service offerings in Atlantic Canada	Environmental scan	Canada	28
	Joyce et al.	Treatment for substance use disorder in mothers of young children: A systematic review of maternal substance use and child mental health outcomes	Systematic review	Canada	32
	Urbanoski et al.	Integrated treatment programs for pregnant and parenting people support longer retention compared to standard treatment programs: A population-based cohort study	Cohort	Canada	31
	Yang et al.	Juggling competing responsibilities: Experiences with parenting, child welfare, and substance use treatment during the COVID-19 pandemic	Qualitative	U.S.	31
Supportive Alcohol and Child Welfare Policy					
n = 10	Berglas et al.	Understanding the effects of alcohol policies on treatment admissions and birth outcomes among young pregnant people	Cros sectional	U.S.	33

	Davies et al.	Suboptimal uptake and placement of a mandatory alcohol pregnancy warning label in Australia	Qualitative	Australia	18
	Denny et al.	Alcohol consumption during pregnancy and state implementation of legal nonmedical cannabis retail sales in the U.S., 2011-2023	Cross sectional	U.S.	7
	Lloyd Sieger et al.	A policy scan on plans of safe care for infants with prenatal substance exposure	Content analysis	U.S.	34
	Pettigrew et al.	Policy implementation learnings from the introduction of a mandatory alcohol pregnancy warning label	Cross sectional	Australia	20
	Roberts et al.	Mandatory warning signs for alcohol use during pregnancy and birth and infant outcomes in southern United States: a quasi-experimental study	Quasi-experimental study	U.S.	20
	Schulte et al.	Interactive effects between pregnancy-related alcohol policies and state spirits availability on infant and maternal outcomes	Cross sectional	U.S.	35
	Thomas et al.	Trends in U.S. state alcohol and other drug use during pregnancy policies from 2016 to 2020: Policymaking in the Comprehensive Addiction and Recovery Act Era	Research brief	U.S.	35
	Trangenstein et al.	The relationship between alcohol availability and drink-driving policies and admissions to substance use disorder treatment during pregnancy	Cross sectional	U.S.	35
	Yusoff et al.	Suboptimal industry adherence to the design specifications of the mandatory pregnancy warning label	Observational study	U.S.	22
Other – stigma, ethical issues, and systemic approaches					
n = 16	Bowdring et al.	Perinatal use of nonalcoholic beverages that mirror alcohol	Research brief	U.S.	36
	Burton et al.	Impact of alcohol strength on attitudes and decisions concerning special occasion drinking during pregnancy	Randomized control trial	UK	7
	Evans	Advancing social work curriculum to challenge FASD-related stigma and promote strengths-based family engagement	Mixed methods	Australia	36
	Frennesson et al.	Prenatal alcohol exposure before pregnancy awareness: a thematic analysis of online forum comments and misinformation	Content analysis	UK	37
	Habersham et al.	Substance use and use disorders during pregnancy and the postpartum period	Review	U.S.	37
	Knopf	SUD services for pregnant and postpartum women: SAMHSA program to be cut	Editorial	U.S.	37
	Maslin et al.	The use of alcohol-free and low-alcohol drinks in pregnancy in the UK	Cross sectional	UK	38
	Nantume et al.	Experiences of healthcare providers caring for pregnant individuals with substance use disorder	Qualitative	U.S.	38
	Reddy et al.	Prenatal substance exposure and multilevel predictors of child protection system reporting	Cohort	U.S.	38

	Rivera et al.	Mapping the Fetal Alcohol Spectrum Disorder continuum of care across the military health system	Environmental scan	U.S.	39
	Robards et al.	Media portrayals of alcohol use in pregnancy and Fetal Alcohol Spectrum Disorder: A scoping review	Scoping review	Australia	39
	Ross et al.	Parallel journeys: Exploring the lived experience of pregnant women with alcohol/substance use problems in Scotland	Qualitative	UK	39
	Rubyan et al.	Evaluating the usability, acceptability, user experience, and design of an interactive responsive platform to improve perinatal nurses' stigmatizing attitudes toward substance use in pregnancy: Mixed methods study	Mixed methods	U.S.	39
	Schölin et al.	Representations of 'risky' drinking during pregnancy on Mumsnet: A discourse analysis	Discourse analysis	UK	40
	Williams et al.	Exploring Fetal Alcohol Spectrum Disorder (FASD) from an Aboriginal lens in Western Australia: Survey Results to inform cultural security, policy, and service delivery	Cross sectional	Australia	40
	Xu et al.	Perinatal substance use-related content at major addiction scientific conferences: an analysis of oral presentation sessions	Content analysis	U.S.	41