

# Evidence for FASD prevention

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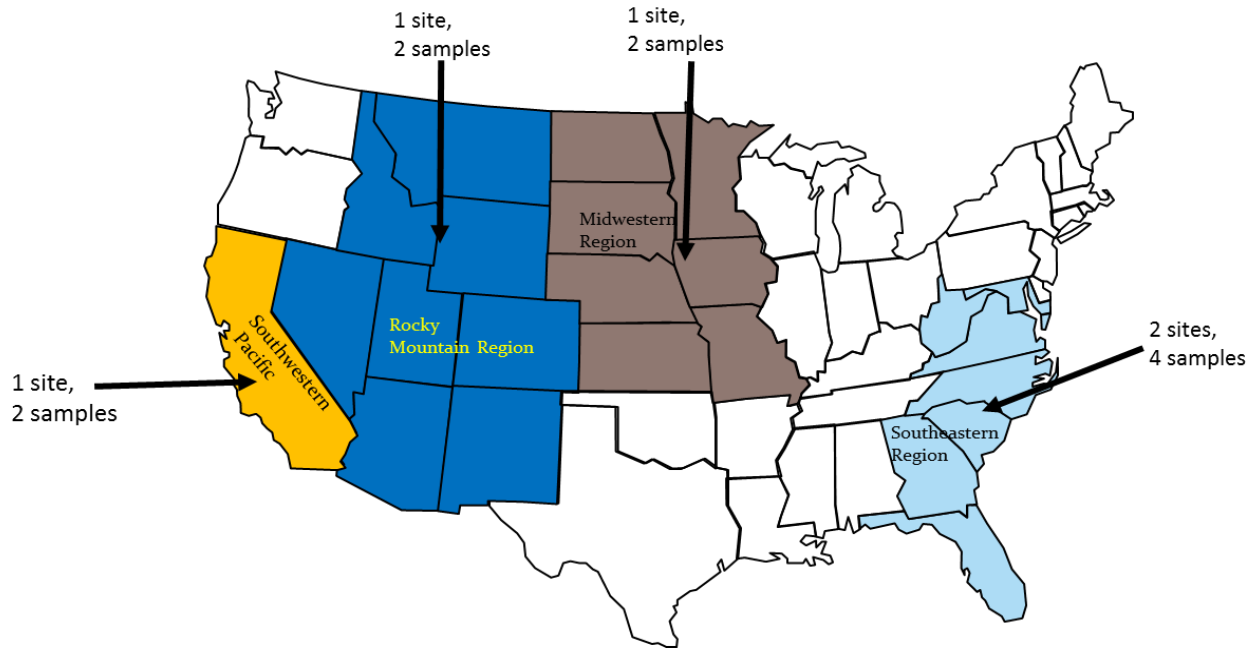
Division of Epidemiology and Prevention Research (DEPR)

National Institute on Alcohol Abuse and Alcoholism, National Institutes of Health

Webinar “COVID-19 and the Prevention of FASD”

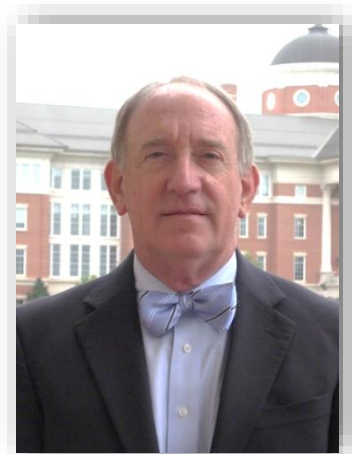
Moscow, July 20, 2020

# The FASD prevalence is higher than we have thought



FASD prevalence in the U.S.: estimated 1 to 5 % in community samples

May et al., 2018



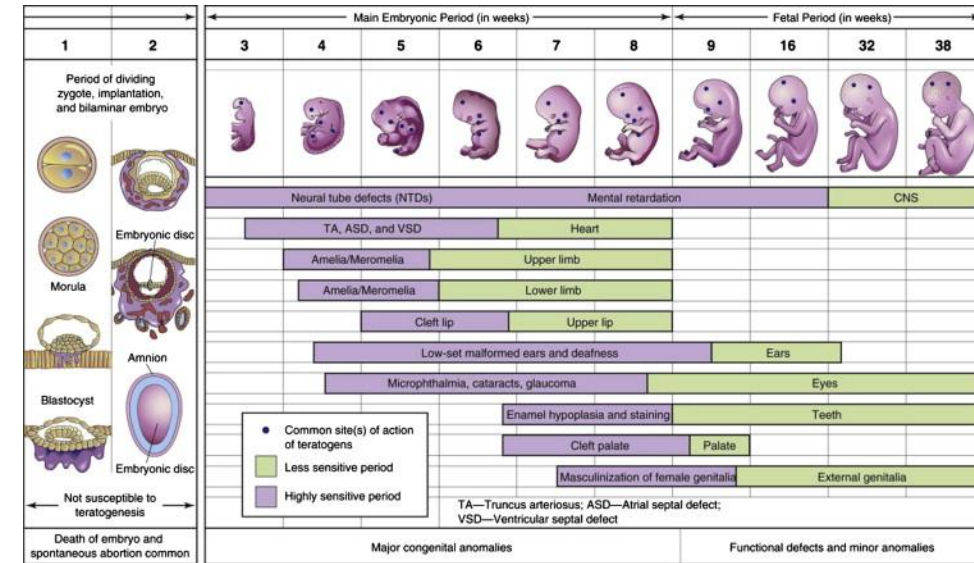
Philip A. May, PhD,  
Gillings School of Global Public Health  
The University of North Carolina at Chapel Hill

# Timing and the amount of exposure determine the type and extent of the impact on development of the embryo.

- ✓ Approximately 50% of pregnancies are unplanned.
- ✓ A woman may not know if she is pregnant until the sixth week of gestation.

Alcohol- induced facial alterations occur when exposure is on 17-20 day of gestation.

(Astley et al., 1999; Muggli et al., 2017)



There is no known safe time or amount of alcohol use during pregnancy.

# The prevalence of alcohol use during pregnancy

Prior 30 days drinking was reported by 11.5% and binge drinking by 3.9% in 2015-2017.

(Denny et al., 2019)



(Denny et al., 2019)

In the 1st trimester, drinking in the prior 30 days was reported by 21.0% of women; binge drinking by 12.3%.

(SAMHSA NSDUH, 2018)

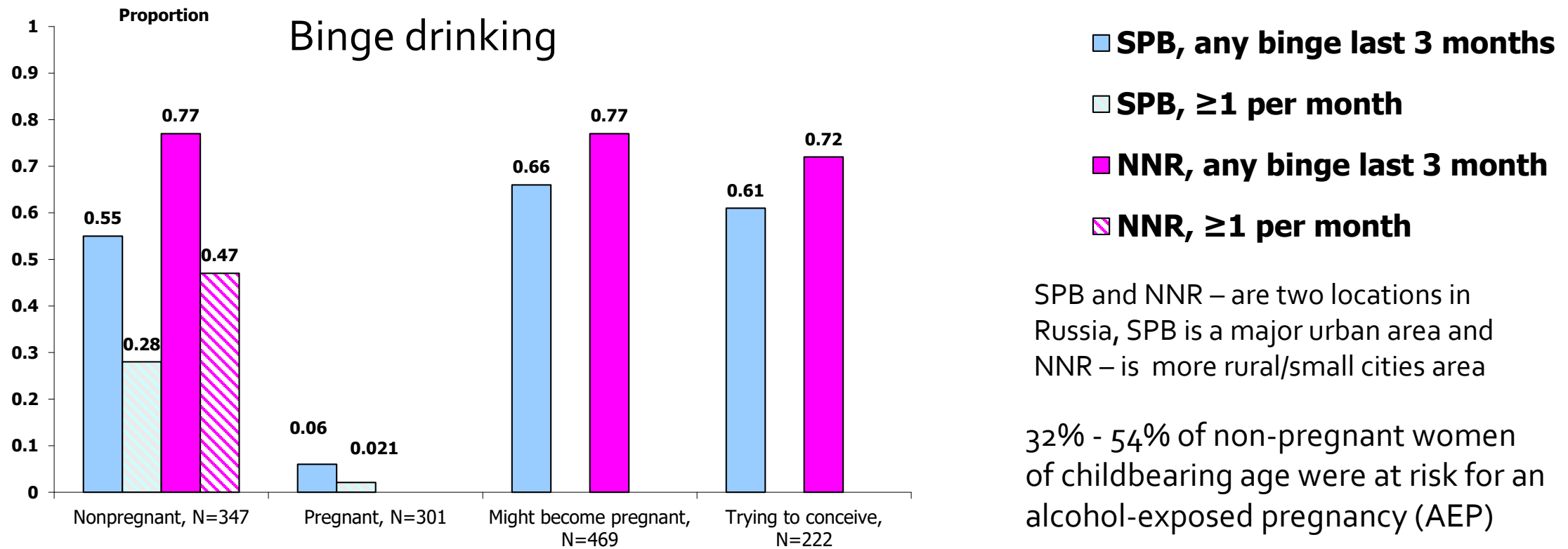
**3 in 4**

women who want to get pregnant as soon as possible report drinking alcohol

The National Survey of Family Growth  
(Green et al., 2016)

# Preventing FASD in Russian Children International Collaboration

## Phase I: Formative assessment



(Balachova, Bonner, Chaffin, Bard, Isurina, Tsvetkova, Volkova, 2012; Балашова, Исурина, Скитневская, Бард, Цветкова, Волкова, Боннер, 2018)

Prevent FAS Research Group: Research collaboration between the University of Oklahoma Health Sciences Center, St. Petersburg State University, and Nizhny Novgorod State Pedagogical University (R21 TW006745 and R01AA016234 from NIAAA/FIC and RTO1 2005-999-01 and RTO1 2007-999-02 from AUCD/CDC to Bonner and Balachova at OUHSC)

# What about prenatal exposure to other substances?

## Tobacco

7.2% women who gave birth in the U.S. in 2016 reported smoking during pregnancy.

(Drake, Driscoll, Mathews . Cigarette smoking during pregnancy: United States, 2016.  
NCHS Data Brief, National Center for Health Statistics. 2018)

11.6% of pregnant women reported alcohol use in the past month The National Survey on Drug Use and Health: 2018

### Outcomes in exposed children

#### *Recent research*

Prenatal Alcohol in SIDS and Stillbirth (PASS) Network  
12,000 pregnancies in the U.S. & South Africa

The Sudden Infant Death Syndrome (SIDS) risk is increased:

- **five-fold** in infants whose mothers reported they continued **smoking** beyond the first trimester of pregnancy
- **four-fold** in infants whose mothers reported they continued **drinking** beyond the first trimester
- **12-fold** in infants whose mothers reported they continued **both drinking and smoking** beyond the first trimester

(Elliott et al., 2020)

Concurrent drinking and tobacco smoking have a synergistic effect on SIDS risk in one-year follow-up of newborns.

# Gender and emerging health issues

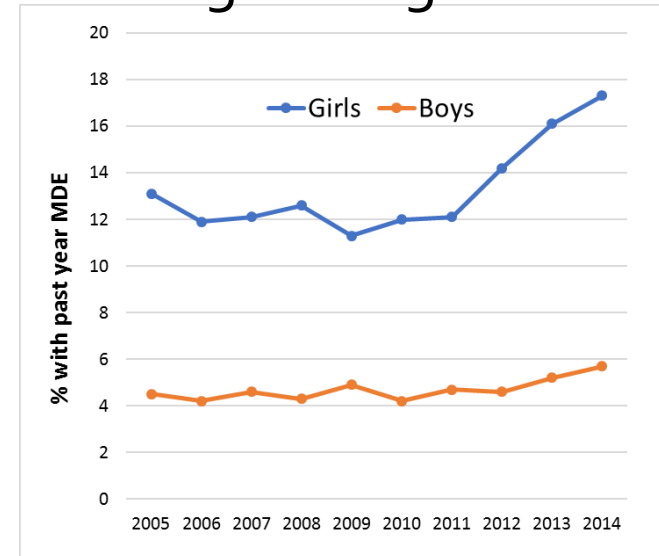
## Recent research

- Gender-specific prevention should take differences in the motivational pathways toward (heavy) drinking into account: positive reinforcement seems to be more important for boys and negative reinforcement for girls (Kuntsche et al., 2015)

*“The reasons women misuse alcohol and other substances, even when pregnant, is often to escape (even for just a few hours) horrible life conditions.”*



Symptoms of depression and anxiety are increasing among adolescents.



Mojtabai, Olfson, Han (2016)

- ▶ The best predictor of alcohol and other substance use during pregnancy is alcohol and other substance use before pregnancy

# Binge and gender interactions

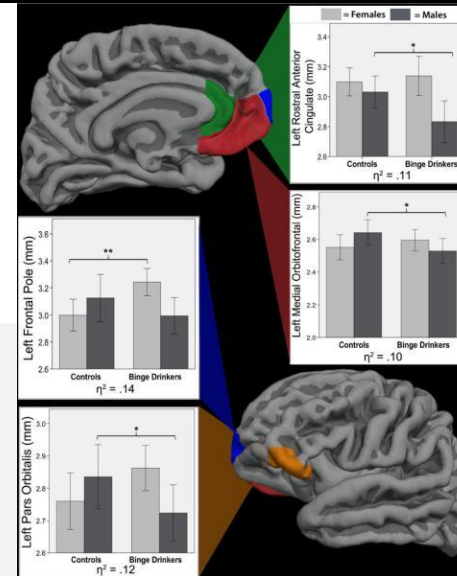
Johannessen et al. *BMC Public Health* (2017) 17:494  
DOI 10.1186/s12889-017-4389-2

## Anxiety and depression symptoms and alcohol use among adolescents - a cross sectional study of Norwegian secondary school students

Espen Lund Johannessen<sup>2</sup>, Helle Wessel Andersson<sup>4</sup>, Johan Håkon Bjørngaard<sup>1,3</sup> and Kristine Pape<sup>1\*</sup>

### Findings

- Sample of 6238 Norwegian adolescents aged 16–18 years
- **Increasing severity of anxiety symptoms primarily associated with the alcohol consumption measures among girls**
- Anxiety and depression more closely related to early onset of alcohol use in girls than for boys



- 16-to-19-year-old males ( $n=30$ ) and females ( $n=29$ )
- Females demonstrated greater cognitive deficits and damage in the hippocampus, frontal lobes, and other areas following repeated alcohol exposure/binge drinking than did males

Source: Squeglia, L. M., et al. (2012). Binge drinking differentially affects adolescent male and female brain morphometry. *Psychopharmacology*, 220(3), 529–539

### ■ We still know very little

- ABCD Study - the Adolescent Brain Cognitive Development 21 research sites across the country (see map), which have invited 11,878 children ages 9-10 to join the study. Researchers will track their biological and behavioral development through adolescence into young adulthood

### ■ Healthy Brain and Child Development Study (HBCD)

- Establish a large cohort (e.g., 7,500) of pregnant women from regions of the US affected by the opioid crisis and follow children for 10 years



Adolescent Brain Cognitive Development®  
Teen Brains. Today's Science. Brighter Future.





# Prevention: universal

## Pregnancy-specific alcohol and drug policies

It is known that in general alcohol policies are effective in reducing alcohol misuse

### Recent research

What about state policies targeting alcohol use during pregnancy?

The number increased from 1 in 1974 to 43 in 2013.

(Roberts et al., 2017)



### Outcomes

- Do pregnancy-specific alcohol policies lead to decreases in substance use and increases in health care utilization?
- Do pregnancy-specific alcohol policies improve birth outcomes, particularly low birth weight & preterm birth?



Drabble et al., 2014; Roberts et al., 2019; 2018; 2017; Subbaraman & Roberts, 2019; Subbaraman et al., 2018; Thomas et al., 2018

How can we pass on the right messages without stigmatizing and frightening women, and implement more effective policies?

# Prevention: evidence-based



NIH National Institute on Alcohol Abuse and Alcoholism

## To reduce disparities and stigmatization -

### ➤ UNIVERSAL (not targeting in a negative or punitive way pregnancy or women)

- Evidence-based community-level policies and interventions (regulating alcohol outlet density, business licensing, regulate advertising, and other alcohol- and drugs-related policies) (The Community Preventive Services Task Force)
- Health promotion and education
  - Reframe messages- positive messaging
  - Integrate with other preventive health care, e.g., OBGYN care
- Education and training for health professionals
  - Consistent messaging

### Educate, reduce stigma, and increase support

### ➤ SELECTIVE AND INDICATED

- Screening and brief intervention (SBI and referral to treatment) in primary care settings for all adults, including pregnant women
- Interventions for at-risk women, e.g., motivational dual-focused CHOICES including in primary care
  - Combined SBI and CHOICES
  - Support, interventions, and wrap-up services for with high-risk substance abusing mothers, e.g., Parent-Child Assistance Program (PCAP)



# Alcohol Screening and Brief Interventions: Dual-Focused Brief Physician Intervention (DFBPI)

## Dual-Focused Brief Physician Intervention (DFBPI) focused on alcohol use and unplanned pregnancies

Intervention delivered by OBGYN physicians

Adaptation of two evidence-based approaches:

- Brief physician intervention- *Healthy Moms* (Fleming & Mundt, 2006; NIAAA,1999)
- A motivational dual-focused intervention- *CHOICES* (Floyd et al., 2007)

Baby's Health is Your Choice  
Выбор – здоровье ребенка



Употребляешь алкоголь – предохраняйся  
Use alcohol – use contraception

Можешь забеременеть – откажись от алкоголя!  
May get pregnant – abstain from alcohol!

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## CHOICES approach Risk of an Alcohol-Exposed Pregnancy

		Risk Drinking	
		Yes	No
Unsafe Sex	Yes	At Risk	Not at Risk
	No	Not at Risk	Not at Risk

≥ 4 drinks in a day or >7 drinks per week, last 3 months

≥1 intercourse without effective birth control, last 3 months

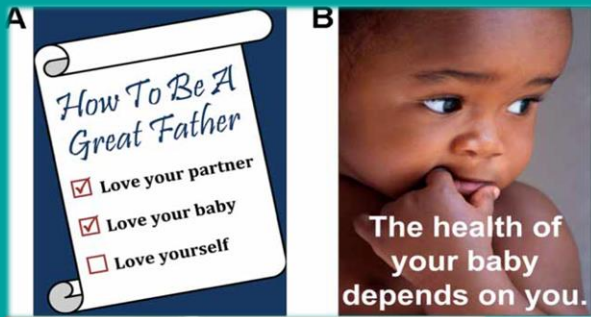
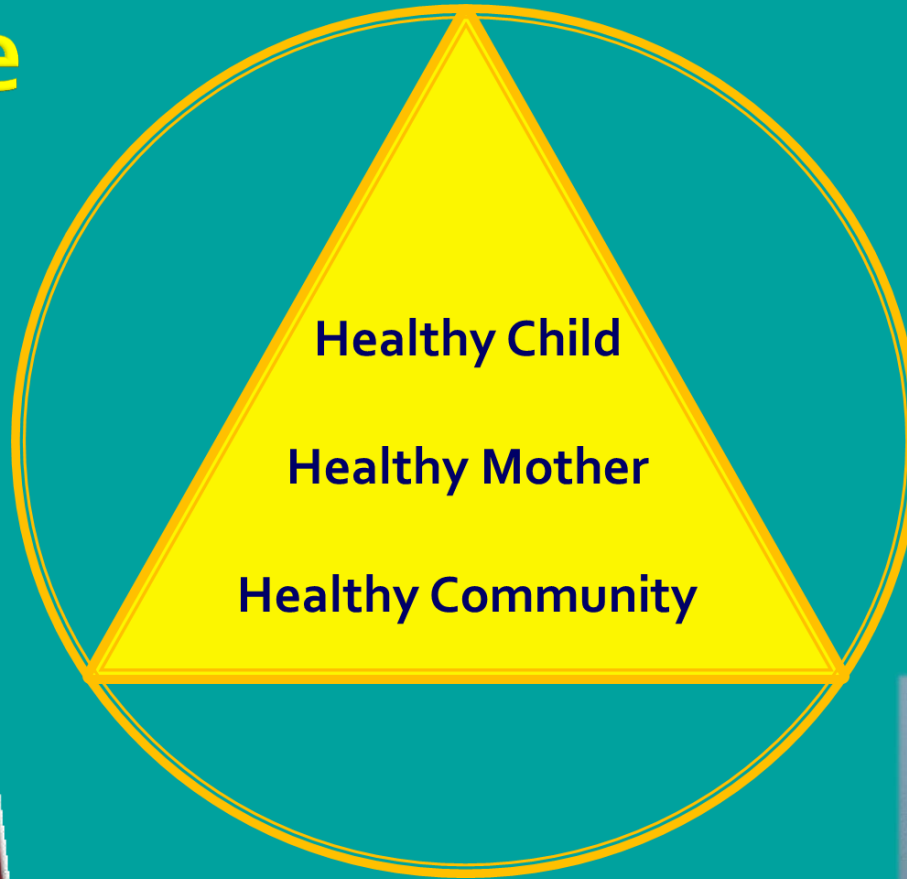


## Two face-to-face structured sessions

- Approximately 5 minutes each, one month apart
- Incorporated into routine OB/GYN clinic visits
- Could include taking a medical history, conducting a physical exam, and/or providing/prescribing contraception
- Motivational Interviewing (MI) based - MI "spirit"

(Балашова, Исурина, Цветкова, Волкова, Боннер, 2012;  
Balachova, Bonner, Chaffin, Isurina, Shapkaitz, Tsvetkova, Volkova, Grandilevskaya, Skitnevskaya, Knowlton, 2013)

# Prevention takes a village



# THANK YOU!



## Contact

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