

# PREGNANT WOMEN NEVER DRINK ALONE

#### ALCOHOL AND PREGNANCY

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## OUTLINE

- ➤ Epidemiology
- ➤ The Impact
- ➤ Fetal Alcohol Spectrum Disorders: Fetal Alcohol Syndrome
- ➤ The Evaluation and Management

#### TRUE OR FALSE?

➤ There is a safe concentration of alcohol use in pregnancy.

➤ Alcohol can be safely consumed during *particular* times in pregnancy.

➤ Certain types of alcohol can be safely consumed in pregnancy.

➤ The WHO Region of the Americas has one of the lowest levels of Fetal Alcohol Syndrome resulting from drinking in pregnancy.

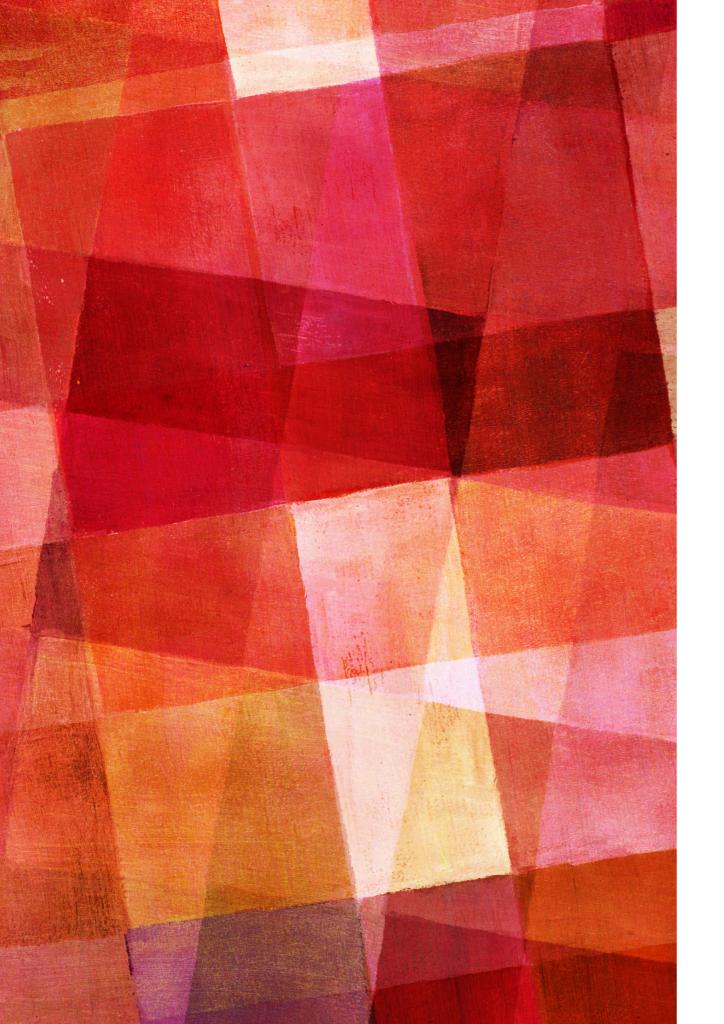


#### **ALCOHOL USE AND PREGNANCY**

- ➤ Impact prenatally
- ➤ Unprotected sex
- ➤ Unintended pregnancy
- ➤ Delayed recognition
- ➤ Increased risk of fetal exposure to alcohol—> Teratogenic

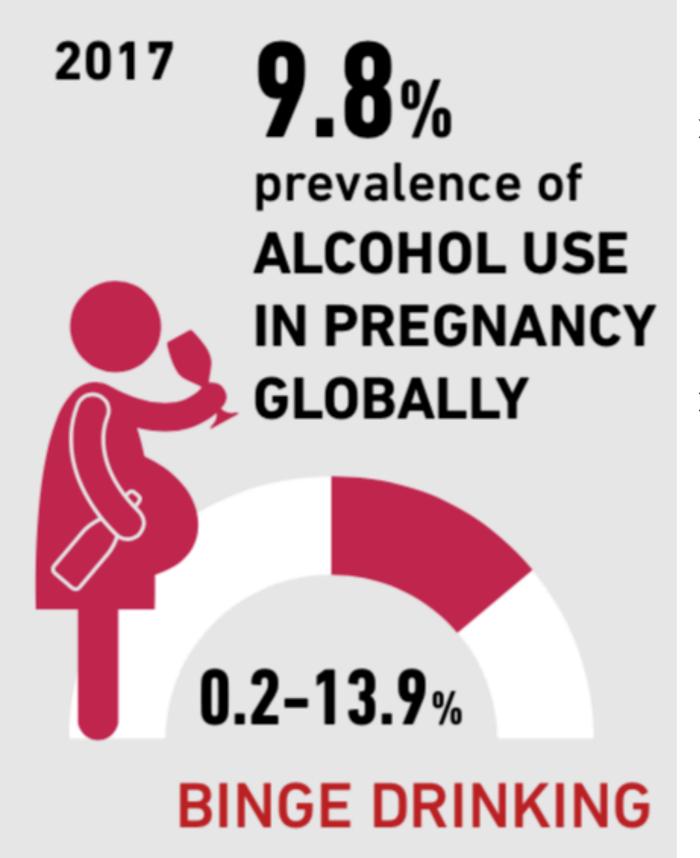
(Scott-Sheldon et al., 2016; Rehm et al., 2012)

(Connery, Albright & Rodolico, 2014; Oulman et al., 2015; Lundsberg et al., 2018).



## EPIDEMIOLOGY?





### ESTIMATES:

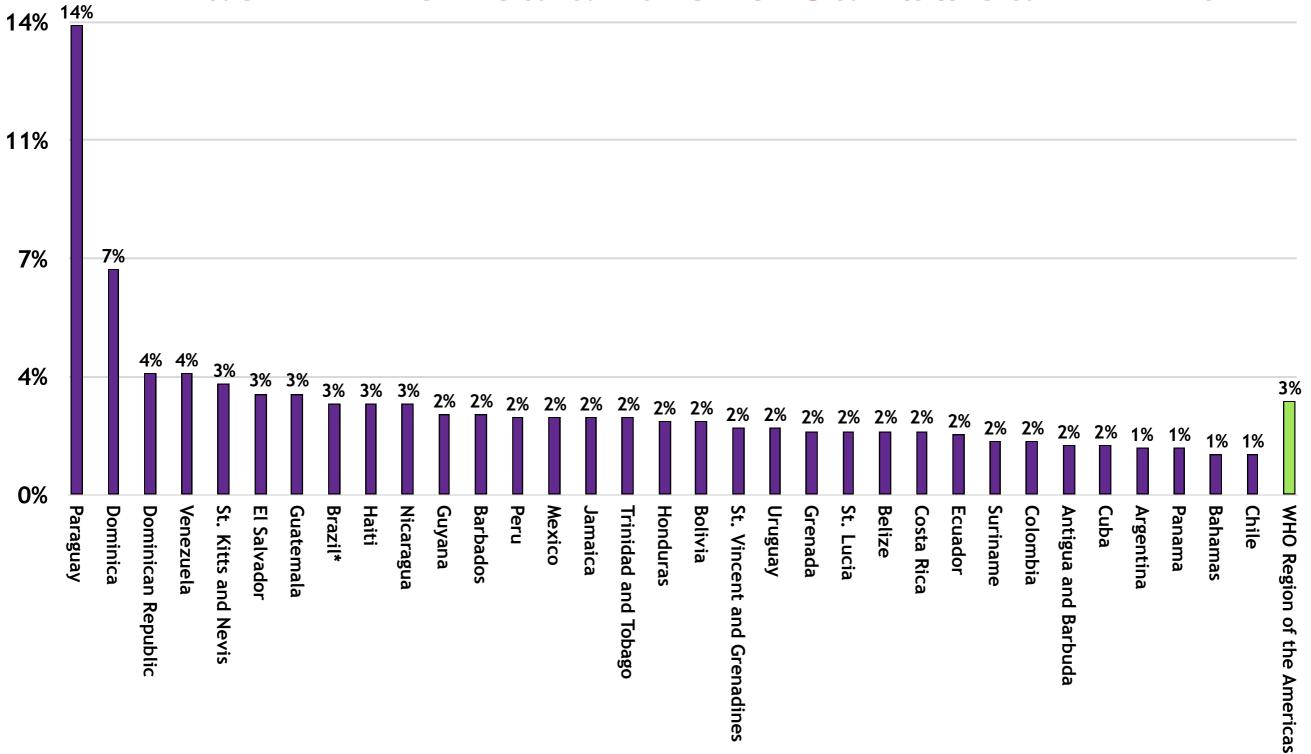
➤ A systematic review & meta-analysis estimated these figures

(Popova et al., 2017)

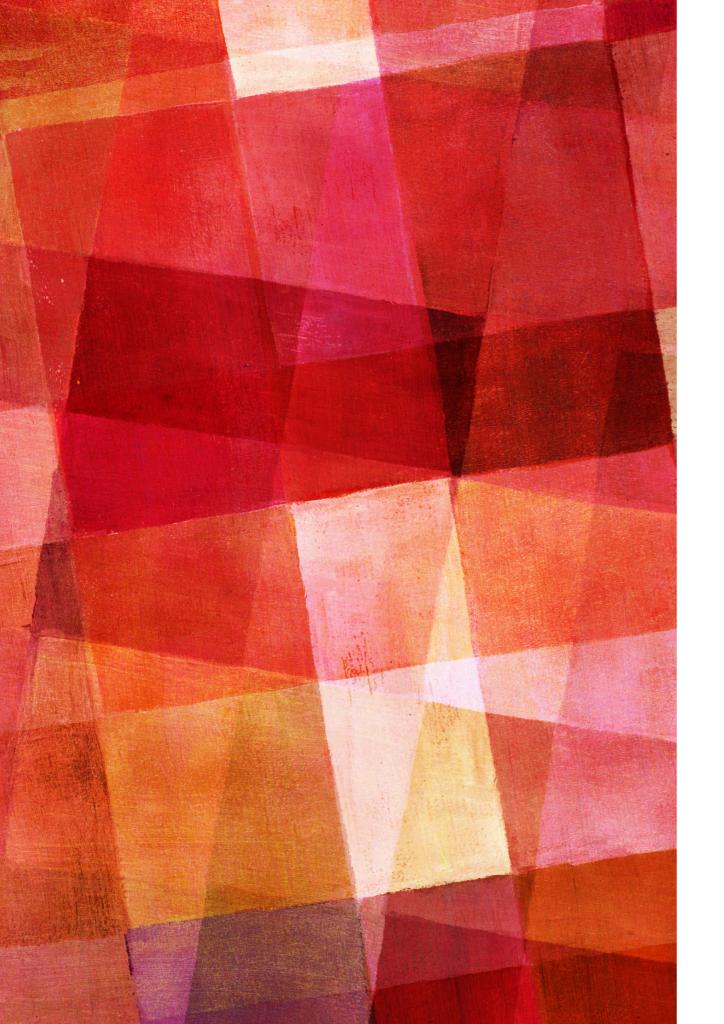
➤ At the country level, binge drinking during pregnancy ranged from 0.2% to 13.9%

(Lange et al., 2017).

# Prevalence of heavy episodic drinking during pregnancy in General Population of Latin America and the Caribbean in 2012



<sup>\*</sup>Estimate of excessive alcohol use during pregnancy based on a meta-analysis of the current literature



# IMPACT?

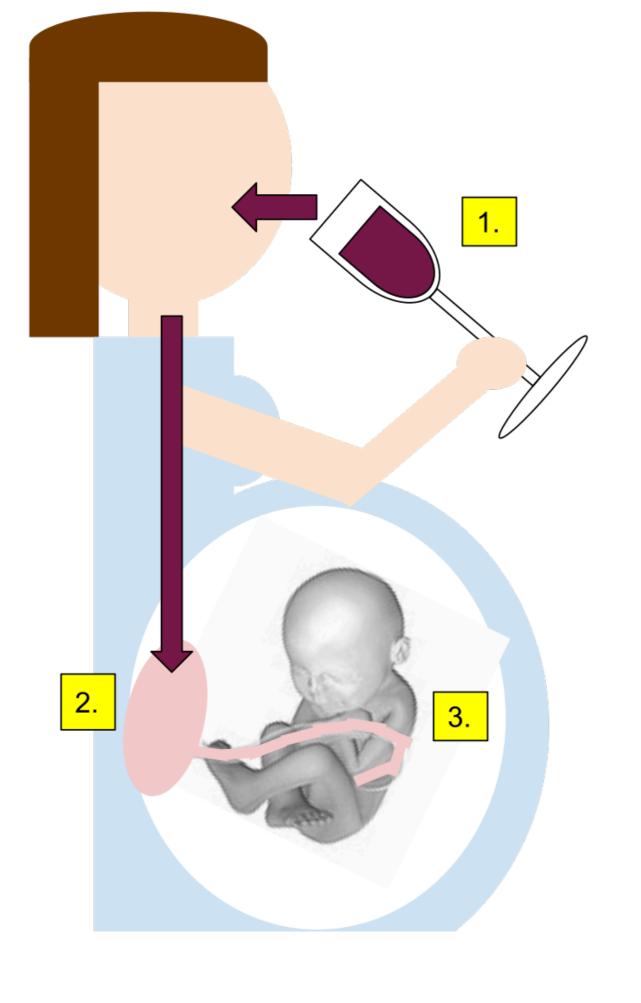


#### ➤ Adverse pregnancy outcomes:

- Stillbirth
- Spontaneous abortion
- Premature birth
- Intrauterine growth retardation
- Low birth weight
- Fetal alcohol spectrum disorders (FASD)



(Henriksen et al., 2004; Kesmodel & Kesmodel, 2002; Patra et al., 2010)



### PATHOPHYSIOLOGY

The fetus is attached to the placenta by its umbilical cord.

The placenta allows for the exchange of nutrients, oxygen, wastes- **Alcohol**!

Alcohol is polar and small in sizeeasily diffused.

Chang G. Alcohol intake and pregnancy. UpToDate. 2017. [Accessed 3 Dec 2019]

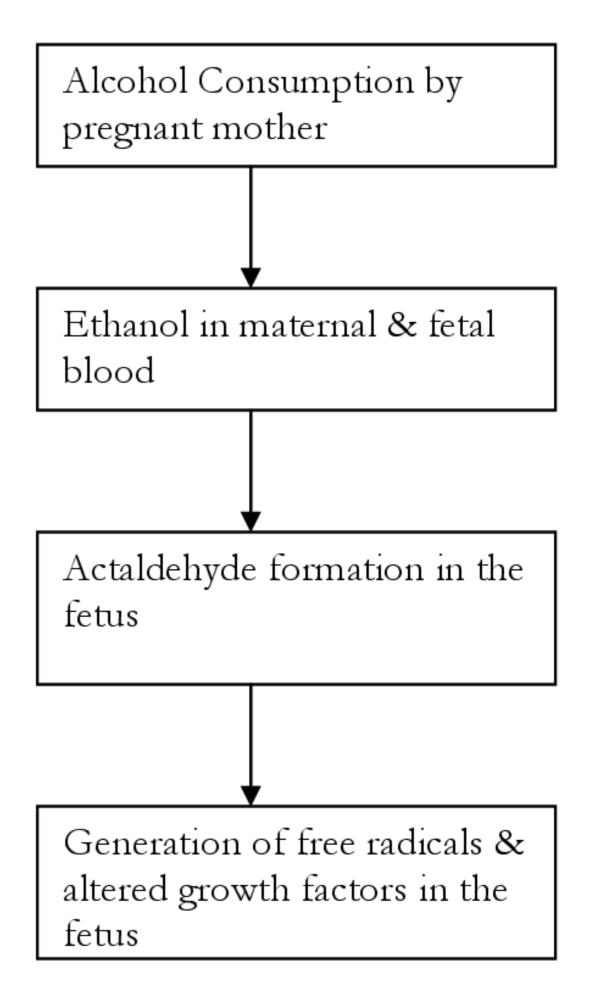
#### Alcohol in Fetal Circulation



Destruction of DNA, Proteins, Lipids
+ Ultimate Cell Death

- Fetal liver lacks important antioxidants and enzymes that help break down harmful end products of alcohol metabolism
- Oxygen species overwhelm cellular repair

Alcohol-induced oxidative damage to fetal neurons



### When a pregnant woman drinks

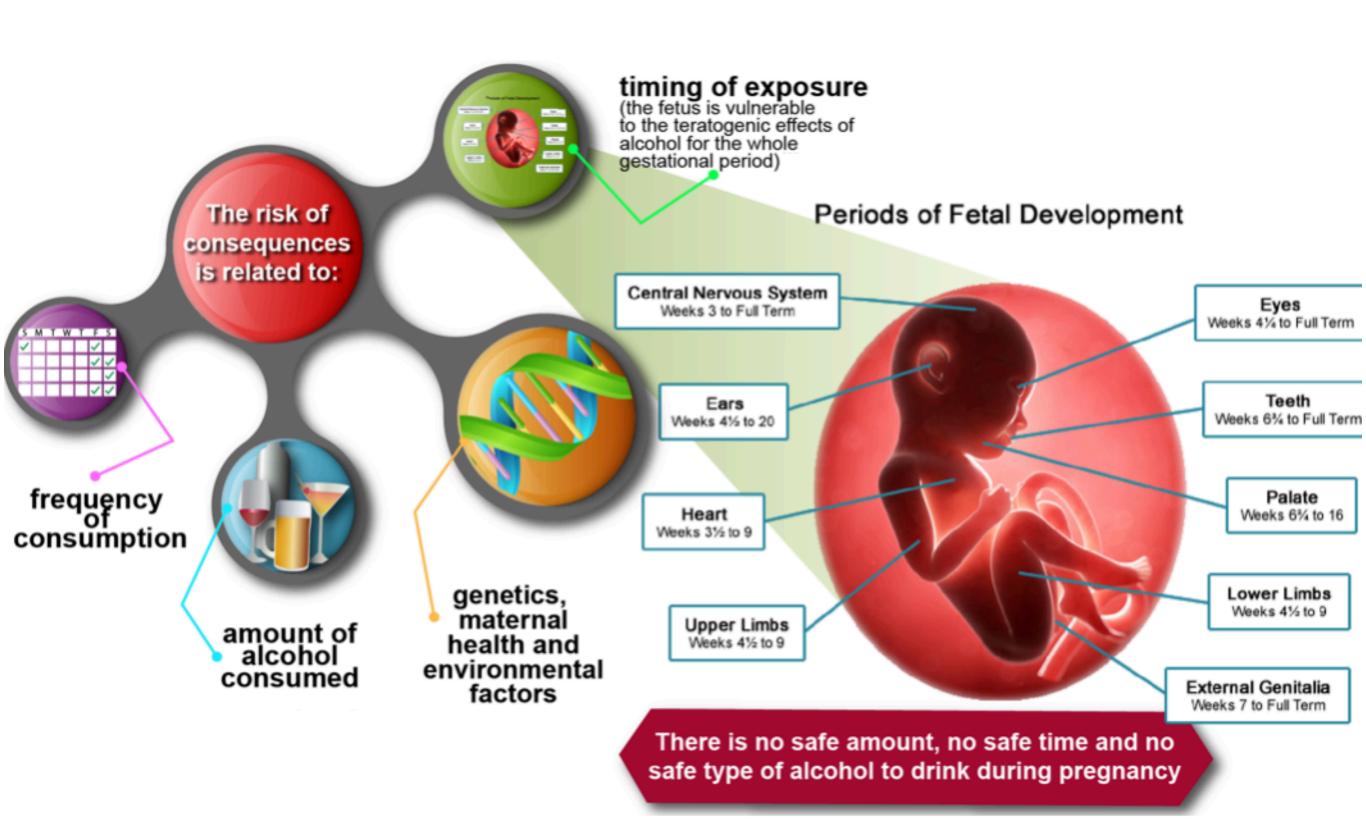
The alcohol passes freely through the placenta and within an hour or two, the fetus has a blood alcohol concentration (BAC) nearly equal to that of the mother

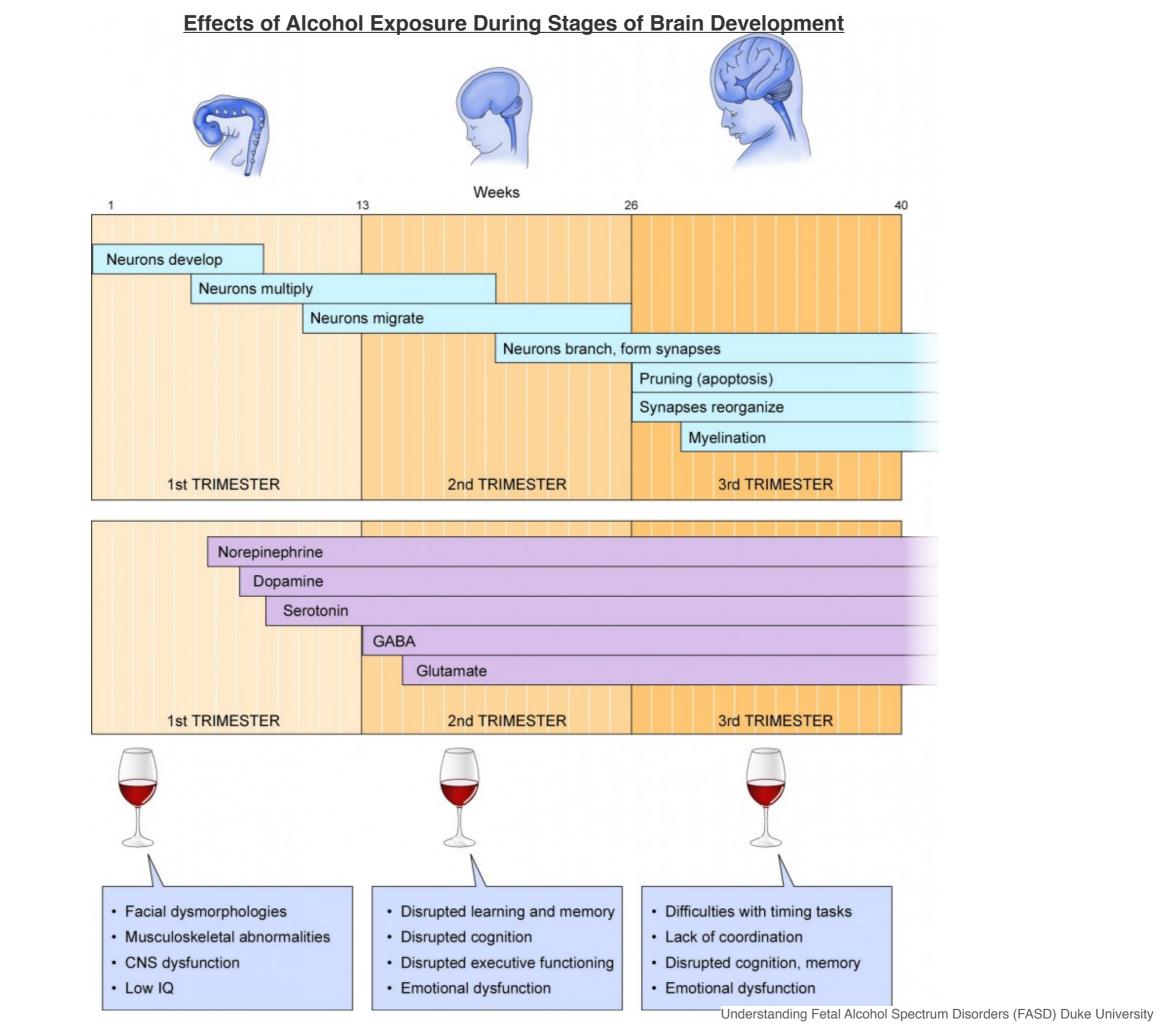


The amniotic fluid retains alcohol, which prolongs the fetal exposure time to the alcohol



**BAC** 





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Fetal Alcohol Syndrome (FAS)

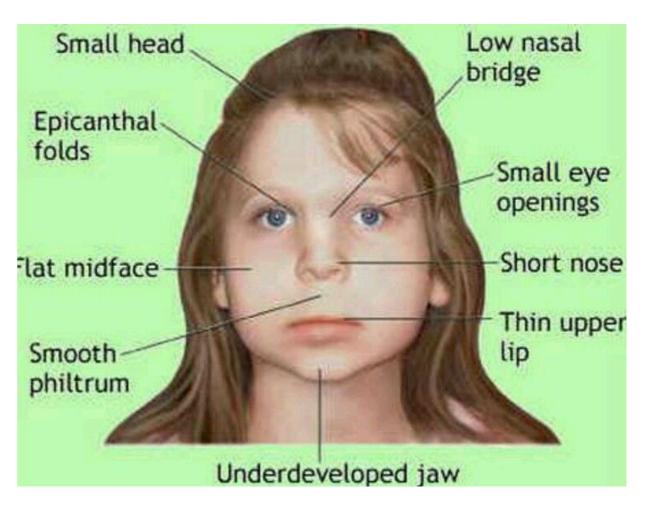
Alcohol-Related Neurodevelopmental Disorder (ARND) Alcohol-Related Birth Defects (ARBD)

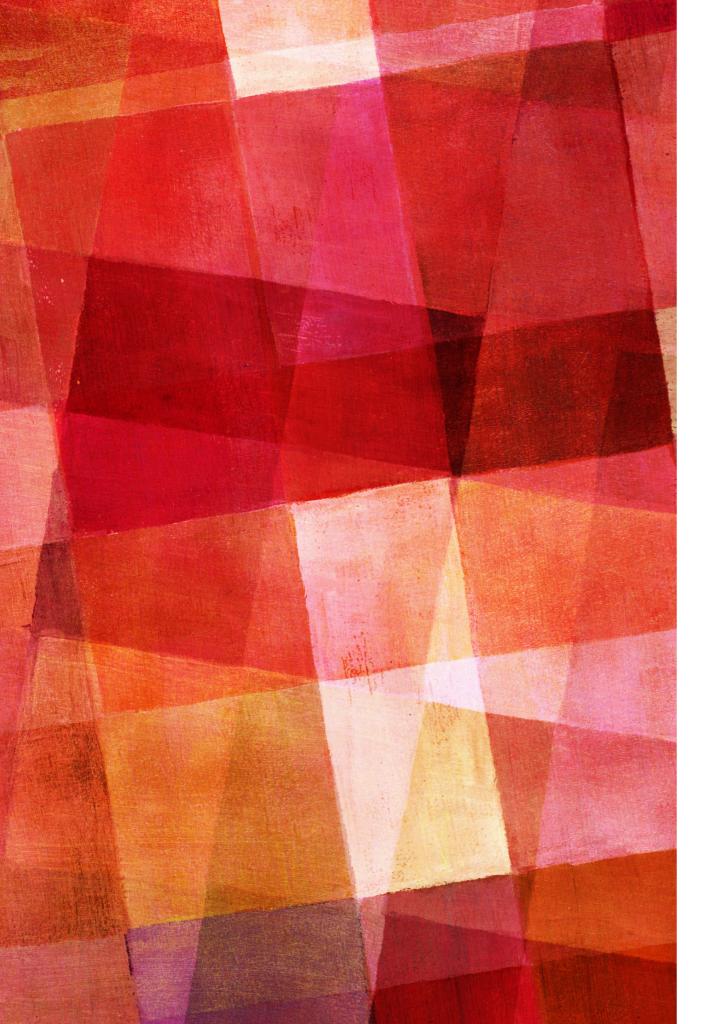
Partial Fetal Alcohol Syndrome (pFAS)

> CNS DAMAGE

#### **CLINICAL FEATURES OF FASD**





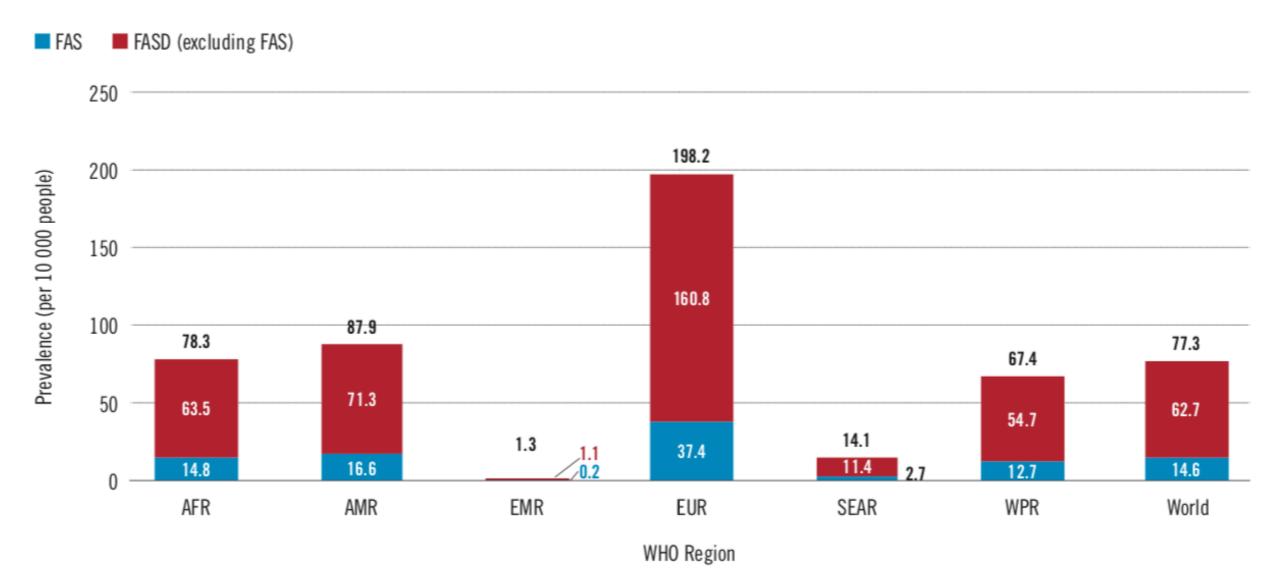


## EPIDEMIOLOGY?



#### GLOBAL STATUS REPORT ON ALCOHOL AND HEALTH: 2018

**Figure 1.1** Prevalence of fetal alcohol syndrome and fetal alcohol spectrum disorders in the general population, by WHO region



Data obtained from Popova et al., 2017.

FAS = fetal alcohol syndrome; FASD = fetal alcohol spectrum disorders.

AFR = African Region; AMR = Region of the Americas; EMR = Eastern Mediterranean Region; EUR = European Region; SEAR = South-East Asia Region; WPR = Western Pacific Region.



# PREVALENCE OF FETAL ALCOHOL SYNDROME (FAS)

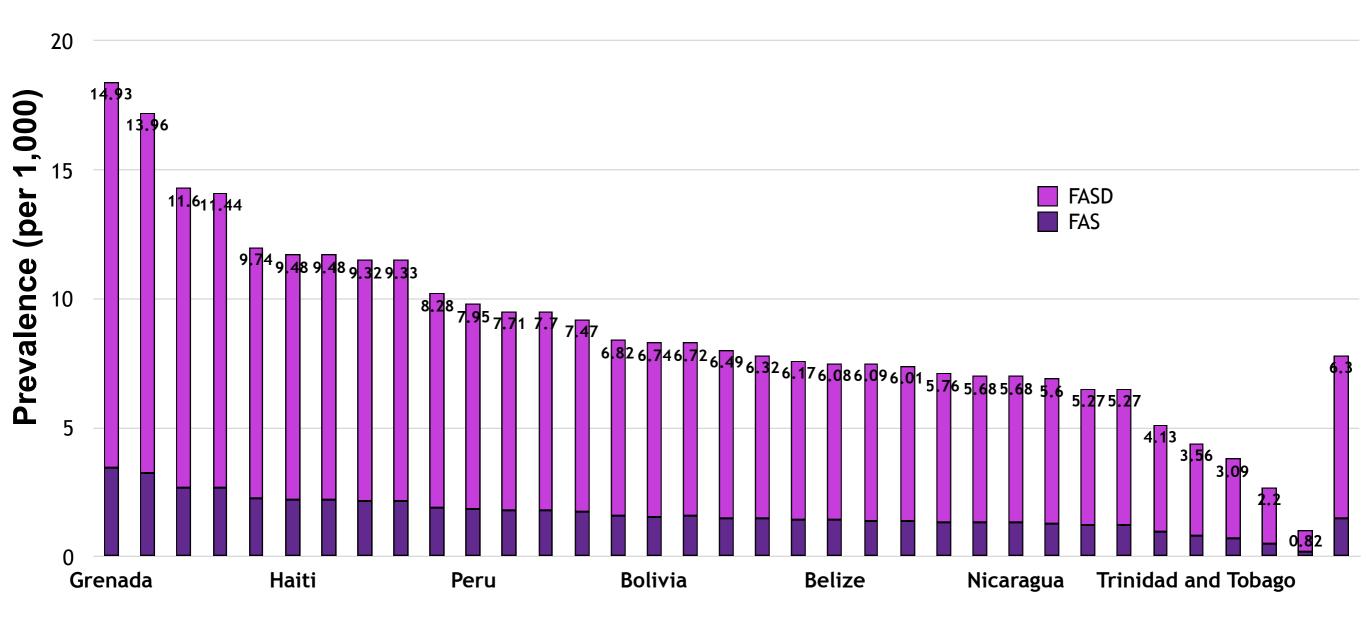
Resulting from drinking during pregnancy

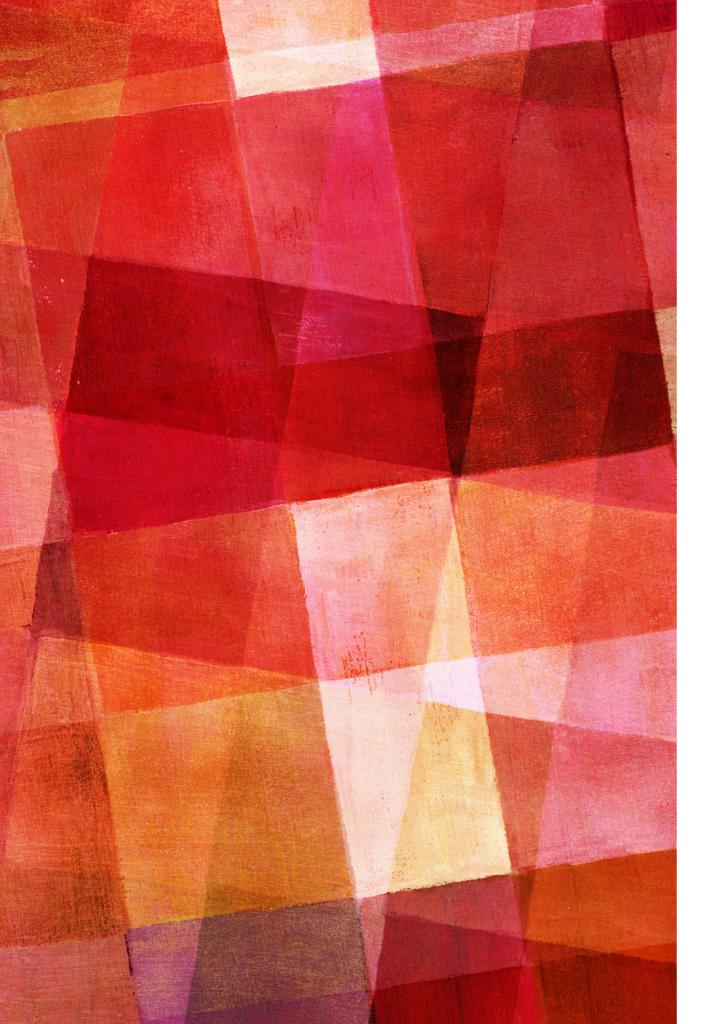
		Percentage per 10,000
GLOBALLY		14.6
AMERICAS		16.6

Prevalence of fetal alcohol syndrome (FAS) and fetal alcohol spectrum disorders (FASD) in AMERICAS\*:

	, Percentage per 10,000		
FASD		87.9	
FAS		16.6	
FASD-FAS		71.3	

# Estimated Prevalence of FAS and FASD in the general population in Latin America and The Caribbean 2012





#### RISK FACTORS FOR FASD

Higher maternal age

Higher gravidity and parity

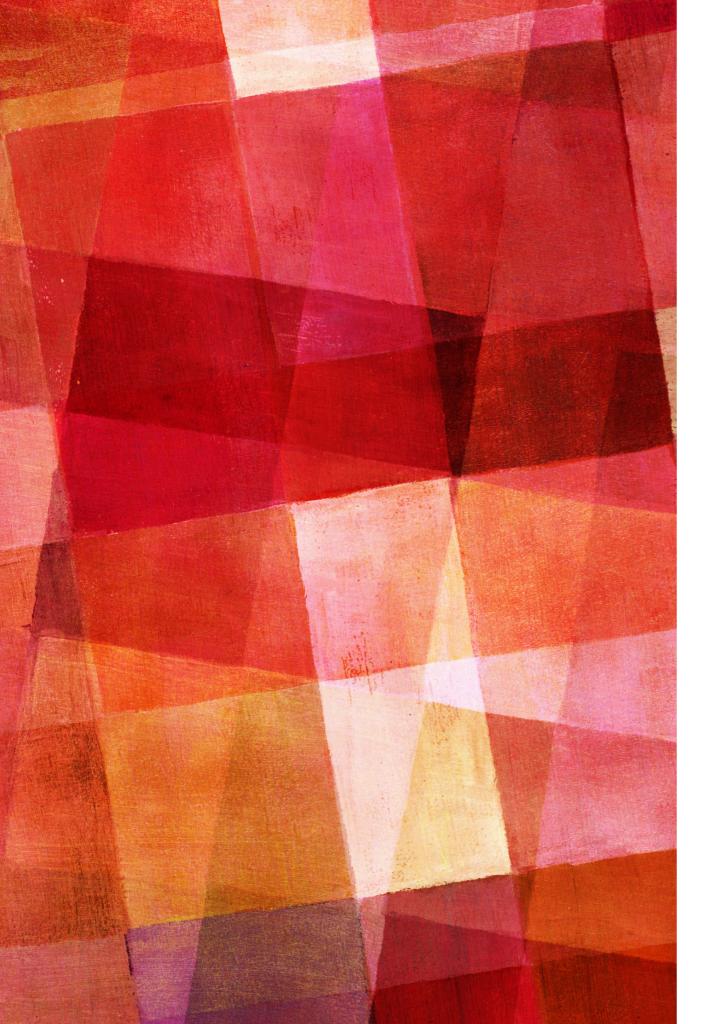
• History of miscarriages and stillbirths

Inadequate prenatal care

 Poor maternal nutrition during pregnancy

#### WHAT ABOUT BREASTFEEDING?





# EVALUATION AND MANAGEMENT



Screening Tool	Questions		
NIDA Quick Screen- ASSIST			
Quick Screen <sup>†</sup>	<ol> <li>In the past year, how often have you used the following?         <ul> <li>a. Five or more alcohol drinks in a day for men or 4 or more alcohol drinks in a day for women</li> <li>b. Tobacco products</li> <li>c. Prescription drugs for nonmedical reasons</li> <li>d. Illegal drugs</li> </ul> </li> </ol>		
ASSIST <sup>‡</sup>	<ol> <li>In your lifetime, which of the following substances have you used? (response options of yes or no)</li> <li>In the past 3 mo, how often have you used the substances you mentioned? (response options of never, once or twice, monthly, weekly, and daily or almost daily for items 2–5)</li> <li>In the past 3 mo, how often have you had a strong desire or urge to use (each substance)?</li> <li>(During the past 3 mo, how often has your use of (each substance) led to health, social, legal or financial problems?</li> </ol>		
	5. During the past 3 mo, how often have you failed to do what was normally expected of you because of your use of (each substance)?		
	<ul><li>6. Has a friend or relative or anyone else ever expressed concern about your use of (each substance)?</li><li>7. Have you ever tried to control, cut down or stop using (each substance)?</li><li>8. Have you ever used any drug by injection?</li></ul>		
SURP-P <sup>§</sup>	<ol> <li>Have you ever used marijuana?</li> <li>How many alcoholic drinks have you consumed in the month before knowing you were pregnant?</li> <li>Do you feel the need to cut down on your alcohol or drug use?</li> </ol>		

<sup>\* 4</sup>P's Plus questionnaire not included because it is covered by copyright; the researchers purchased a license to administer to participants.

† Response options for each substance are: never, once or twice, monthly, weekly, and daily or almost daily. For purposes of validation, both the Quick Screen and ASSIST were given to all participants to complete.

\* Substances assessed are: tobacco products; alcohol; cannabis; cocaine; amphetamine-type stimulants (ATS); sedatives and sleeping pills

(benzodiazepines); hallucinogens; inhalants; opioids; and "other" drugs.

<sup>§</sup> Scoring involves classifying the number of alcoholic drinks consumed in the month before pregnancy as none vs any, and then counting the number of affirmative items. Negative responses for all items yields a low-risk individual, one affirmative response yields a moderate risk individual, and two or three affirmative responses yield a high-risk individual.

#### POLICY. ADVERTISING. WARNING LABELS.

Albania's "drinking can harm your unborn baby"

Kenya's "alcohol consumption when pregnant harms your baby".





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KNOW YOUR LIMITS

**UK Chief Medical Officers recommend** Adults do not regularly exceed:

MEN 3-4 units daily WOMEN 2-3 units daily

Avoid alcohol if pregnant or trying to conceive www.drinkaware.co.uk

(UK)

UK units

BEER

CONTAINS

BARLEY

#### The New York Times

#### **TheUpshot**

THE NEW HEALTH CARE

# Why Warning Pregnant Women Not to Drink Can Backfire

Harsh measures, or even threats of them, can lead to the avoidance of prenatal care entirely.

"It's easy to stigmatize women who drink during pregnancy, with words and with policy. The goal, though, is healthier mothers and infants. To achieve that, policymakers may need to stop stigmatizing and start over."

#### TRUE OR FALSE?

➤ There is a safe concentration of alcohol use in pregnancy.

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Prenatal Alcohol Exposure: No safe amount. No safe time. No safe alcohol. Period.

-National Organization on Fetal Alcohol Syndrome 66

