STIGMA AND SUD IN PERINATAL PERIOD

Camila Arnaudo, M.D. December 9, 2022

Disclosures

• I have no relevant disclosures

Learning Objectives

- Participants will be able to discuss the barriers to treatment faced by perinatal people with SUD
- Participants will gain an understanding of stigma and how it impacts perinatal people with SUD
- Participants will become conversant in strategies for improving care of people with SUD in the postpartum period

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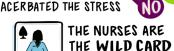
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Barriers for care for persons with SUD



Stigma and Engagement with Care

- A recent study by Peacock-Chambers, et. al conducted interviews with postpartum women in recovery explored engagement
- Identified two main reasons individuals with SUD did not continue treatment
 - "How I see myself."
 - "How I am seen by others."
- These themes are highly related to stigma by self and others
- Disengagement with care is then a risk factor for worse outcomes and maternal mortality in persons with SUD

Levels of Stigma

Systemic/Structural

- Laws regulating access such as requirement for methadone clinics
- Policies that criminalize drug use
- Barriers to insurance coverage of treatment

Interpersonal/Societal

- Stigma by providers and their staff
- Family and community toward individuals with OUD

Self

 Internalization of stigmatizing beliefs held by others

Types of Stigma

Stereotypes

- Harmful and disrespectful beliefs about a group
- Common part of the human experience and not harmful in and of themselves
- Identified stereotypes of people with SUD: dangerous, selfdestructive, and no job potential

Prejudice

 Belief and application of a stereotype leads to an emotional response

Discrimination

 When prejudice leads to behavior that excludes and devalues individuals



 "The public thinks people with SUDs are dangerous"

Agreeing with the stigma

 "Yes; that's right. People with SUDs are dangerous!"

Self-Application "I have an SUD so I must be dangerous."

Impacts selfesteem/self efficacy

Cascade of Self-Stigma

•"I am less of a person because I have an SUD and am dangerous."/("I am less able to accomplish my goals because I have an SUD."

HUMAN CONNECTION the ANTI-ADDICTION

Self-stigma and Isolation

Health care worker stigma



Isolation



Increase Risk of Overdose





Empathy + Positive Regard

Substance Use Disorder and Racism

- Racial discrimination is associated with psychological distress among brown and black individuals
- Psychological distress among brown and black individuals is linked to substance misuse
- Racism and pregnancy for brown and black persons
 - Biogenetic explanations are used to increase discrimination in his population
 - Increase in assumption that addiction is "incurable" in this group
 - Greater preoccupation of danger and unfitness of ability to parent

Biogenetic Explanations Effect on Stigma

- Common strategy in attempts to reduce stigma
- Studies show can lead to reduction of blame of mentally ill
- However, study participants exposed to biogenetic explanations expressed greater belief that those with MI were dangerous and unpredictable
- Biogenetic explanations also increase the notion of MI/SUD as "hardwired" and fixed and those with MI/SUD as different
- This decreases perception that MI/SUD can be treated
- These effects are pronounced for brown and black individuals where being "othered" and abnormal is part of white supremacy

Dangerousness

- Increasing normalization of diagnoses such as anxiety and depression
- Perception of dangerousness in mental illness tend to focus on psychosis
- Those perceived as dangerous tend to experience greater stigma
- In the SUD arena individuals seen as more dangerous include:
 - Persons who inject drugs
 - Pregnant people who use drugs
 - Black and brown individuals
- Being perceived as dangerous increases chances a person will be treated in a punitive instead of therapeutic manner
- It also affects how a person sees themselves

Interventions that decrease stigma

System level

Levels of Intervention

Medical level

Personal level

System Level Interventions

- Antiracist framework must be applied including:
 - Investigating current practices from an antiracist stance
 - How do our current policies perpetuate inequality?
 - What needs to be changed to promote inclusivity?
- Consideration of the viewpoint of those with SUD who have been or are currently pregnant
- Health, safety and desires of both parent and fetus/neonate need to be considered
- Based on current available research of best practices and policies and not on beliefs largely influenced by stigma

System Level

- Government (National, State, Local) Policies that increase access to:
 - Fair and Safe Housing
 - Food
 - Childcare
 - Transportation
 - Insurance Access/Coverage
 - Reproductive Rights and Services

- Criminal Justice Sector
 - Decriminalization of drug use
 - Expunging current felonies related to drug use
- Child Protection Services
- Health Care Entities
- Research Institutions (Academia, CDC, NIH)

Medical System Level

- Solutions must acknowledge and deal with lack of mental health providers
- Must decrease silos of care between medical and MI/SUD providers
- Integrating care is an anti-stigma intervention
 - Increased, knowledge, comfort and empathy for patients with SUD
 - Increases detection of SUD and MI diagnoses
 - Increases access to care in location where patients are seen and already comfortable

Medical System Level Methods

- Methods for increasing capacity
 - Program ECHO
 - Perinatal Access Programs
 - Collaborative Care Programs
- Interventions acknowledge needs and desires of patients
 - Equity and inclusivity must be considered
 - Patient preference for location of care

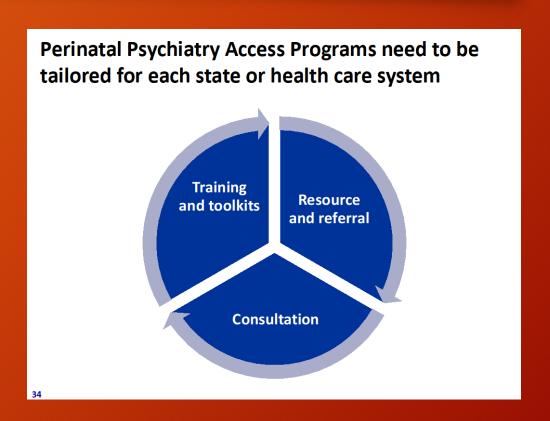




- Extension for Community Healthcare Outcomes (ECHO)
- Developed in the University of New Mexico
- Originally designed to increase capacity of PCPs to treat Hepatitis C
- Case based CME meant to create a learning community
- Guiding Principles
 - Amplification use technology to leverage scarce resources
 - Best practices reduce disparity
 - Case-based learning master complexity
 - Data monitor outcomes to increase impact

Perinatal Access Programs

- State-wide programs currently in more than 25 states in the US
- Goal to expand access of mental health services by increasing frontline provider's ability to treat these
- PAP's have 3 parts
 - Training
 - Consultation
 - Referrals



Perinatal Access Programs



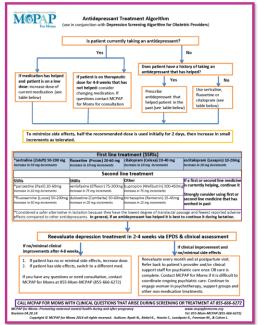
- Indiana CHAMP Program
 - Consultations for Healthcare Providers in Addiction, Mental Health and Perinatal
- Will be launching in the first quarter of 2023
- Will be available to all prescribes who take care of perinatal and also adult patients in Indiana

Perinatal Access Programs

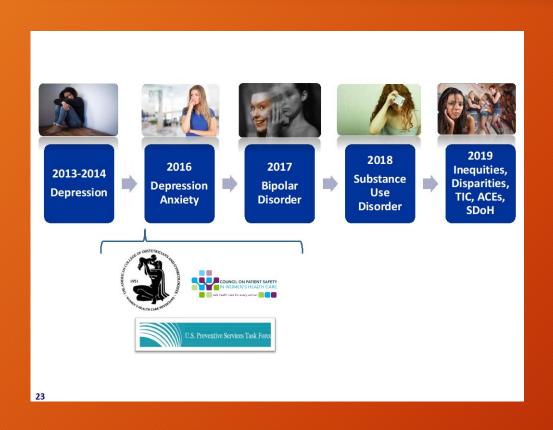


Education occurs through trainings, toolkits, and website resources





MCPAP for MOMS



- Complexity of consult questions increases over time in several programs
- As effective in decreasing PHQ-9 Scores on par as those for intensive Programs
- Providers in Ob-Gyn setting disseminate knowledge among themselves
- Patients at clinics benefit even when treated by provider who did not access the service

Personal/Interpersonal Level

- What should be the focus of the treatments provided in these settings?
- Stigma Reduction
- Promoting of solutions generated by those with lived experience
 - Considering the broad array of needs
 - Considering the heterogeneity of the populations we are serving
- Harm Reduction Considerations
- Right to self-determination
- Services provided at person's preferred setting
- Co-Occurring Considerations

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Conclusions

- Maternal mortality in the US is higher than other similar nations
- Indiana ranks as one of the states with the highest maternal mortality ratios in the US
- Most the pregnancy associated deaths in US and in Indiana are linked to overdose deaths in people with SUD
- Stigma plays a significant role in these deaths as it is leads to disengagement with treatment
- System, medical and personal level interventions are needed to reverse these trends

- Agley, Jon, Cris Henderson, Zachary Adams, and Leslie Hulvershorn. 2021. "Provider Engagement in Indiana's Opioid Use Disorder ECHO Programme: There Is a Will but Not Always a Way." BMJ Open Quality 10(2):e001170. doi: 10.1136/bmjoq-2020-001170.
- Anon. 2018. "ACOG Committee Opinion No. 736: Optimizing Postpartum Care." Obstetrics & Gynecology 131(5):e140-50.
- Arnaudo, Camila L., Barbara Andraka-Christou, and Kacy Allgood. 2017. "Psychiatric Co-Morbidities in Pregnant Women with Opioid Use Disorders: Prevalence, Impact, and Implications for Treatment." Current Addiction Reports 4(1):1-13. doi: 10.1007/s40429-017-0132-4.
- Baillargeon, Jacques, Efstathaia Polychronopoulou, Yong-Fang Kuo, and Mukaila A. Raji. 2021. "The Impact of Substance Use Disorder on COVID-19 Outcomes." Psychiatric Services (Washington, D.C.) 72(5):578-81. doi: 10.1176/appi.ps.202000534.
- Becker, William C., and David A. Fiellin. 2020. "When Epidemics Collide: Coronavirus Disease 2019 (COVID-19) and the Opioid Crisis." Annals of Internal Medicine 173(1):59-60. doi: 10.7326/M20-1210.
- Buchman, Daniel Z., Pamela Leece, and Aaron Orkin. 2017. "The Epidemic as Stigma: The Bioethics of Opioids." Journal of Law, Medicine & Ethics 45(4):607-20. doi: 10.1177/1073110517750600.
- Byatt, Moore-Sims, Kimmel, and Howard. 2019. "Increasing Access to Perinatal Mental Health Care Across the US: Policy, Programs & Peer Networks." Presented at the MONA Biennial Perinatal Mental Health Conference, October 26.
- Campbell, Jacquelyn, Sabrina Matoff-Stepp, Martha L. Velez, Helen Hunter Cox, and Kathryn Laughon. 2021. "Pregnancy-Associated Deaths from Homicide, Suicide, and Drug Overdose: Review of Research and the Intersection with Intimate Partner Violence." Journal of Women's Health 30(2):236-44. doi: 10.1089/jwh.2020.8875.

- Chandler, Amy, Anne Whittaker, Nigel Williams, Kelly McGorm, Sarah Cunningham-Burley, and Gillian Mathews. 2014. "Mother's Little Helper? Contrasting Accounts of Benzodiazepine and Methadone Use among Drug-Dependent Parents in the UK." Drugs: Education, Prevention and Policy 21(6):470-75. doi: 10.3109/09687637.2014.930814.
- Coleman, Katie, Brian T. Austin, Cindy Brach, and Edward H. Wagner. 2009. "Evidence On The Chronic Care Model In The New Millennium." *Health Affairs* 28(1):75-85. doi: 10.1377/hlthaff.28.1.75.
- Collier, Ai-Ris Y., and Rose L. Molina. 2019. "Maternal Mortality in the United States: Updates on Trends, Causes, and Solutions." *NeoReviews* 20(10):e561-74. doi: 10.1542/neo.20-10-e561.
- Corrigan, Patrick W., and Katherine Nieweglowski. 2018. "Stigma and the Public Health Agenda for the Opioid Crisis in America." *International Journal of Drug Policy* 59:44-49. doi: 10.1016/j.drugpo.2018.06.015.
- Corrigan, Patrick W., Annie Schmidt, Andrea B. Bink, Katherine Nieweglowski, Maya A. Al-Khouja, Sang Qin, and Steve Discont. 2017. "Changing Public Stigma with Continuum Beliefs." *Journal of Mental Health* 26(5):411-18. doi: 10.1080/09638237.2016.1207224.
- D'Efilippo, Monica R. McLemore, Valentina. n.d. "To Prevent Women from Dying in Childbirth, First Stop Blaming Them." *Scientific American*. Retrieved July 8, 2022 (https://www.scientificamerican.com/article/to-prevent-women-from-dying-in-childbirth-first-stop-blaming-them/).
- Goodman, Daisy. 2015. "Improving Access to Maternity Care for Women with Opioid Use Disorders: Colocation of Midwifery Services at an Addiction Treatment Program." Journal of Midwifery & Women's Health 60(6):706-12. doi: 10.1111/jmwh.12340.

- Hart, Carl L. 2020. "Exaggerating Harmful Drug Effects on the Brain Is Killing Black People." *Neuron* 107(2):215-18. doi: 10.1016/j.neuron.2020.06.019.
- Hart, Carl L., and Malakai Z. Hart. 2019. "Opioid Crisis: Another Mechanism Used to Perpetuate American Racism." *Cultural Diversity and Ethnic Minority Psychology* 25(1):6-11. doi: 10.1037/cdp0000260.
- Khatri, Utsha G., and Jeanmarie Perrone. 2020. "Opioid Use Disorder and COVID-19: Crashing of the Crises." Journal of Addiction Medicine 14(4):e6-7. doi: 10.1097/ADM.00000000000084.
- Komaromy, Miriam, Judy Bartlett, Kathryn Manis, and Sanjeev Arora. 2017. "Enhanced Primary Care Treatment of Behavioral Disorders With ECHO Case-Based Learning." Psychiatric Services 68(9):873-75. doi: 10.1176/appi.ps.201600471.
- Margerison, Claire E., Meaghan H. Roberts, Alison Gemmill, and Sidra Goldman-Mellor. 2022. "Pregnancy-Associated Deaths Due to Drugs, Suicide, and Homicide in the United States, 2010-2019." Obstetrics & Gynecology 139(2):172-80. doi: 10.1097/AOG.0000000000004649.
- Martin, Caitlin E., and Anna Beth Parlier-Ahmad. 2021. "Addiction Treatment in the Postpartum Period: An Opportunity for Evidence-Based Personalized Medicine." International Review of Psychiatry 33(6):579-90. doi: 10.1080/09540261.2021.1898349.
- Matsuzaka, Sara, and Margaret Knapp. 2020. "Anti-Racism and Substance Use Treatment: Addiction Does Not Discriminate, but Do We?" Journal of Ethnicity in Substance Abuse 19(4):567-93. doi: 10.1080/15332640.2018.1548323.

- McCradden, Melissa D., Denitsa Vasileva, Ani Orchanian-Cheff, and Daniel Z. Buchman. 2019. "Ambiguous Identities of Drugs and People: A Scoping Review of Opioid-Related Stigma." International Journal of Drug Policy 74:205-15. doi: 10.1016/j.drugpo.2019.10.005.
- McQuade, Miriam, Neha Reddy, Kyle Barbour, and Lauren Owens. 2021. "Integrating Reproductive Health Care into Substance Use Disorder Services." International Review of Psychiatry 33(6):572-78. doi: 10.1080/09540261.2021.1904845.
- Miller, Emily S., Rebekah Jensen, M. Camille Hoffman, Lauren M. Osborne, Katherine McEvoy, Nancy Grote, and Eydie L. Moses-Kolko. 2020. "Implementation of Perinatal Collaborative Care: A Health Services Approach to Perinatal Depression Care." Primary Health Care Research & Development 21:e30. doi: 10.1017/S1463423620000110.
- Paladine, Heather L., Carol E. Blenning, and Yorgos Strangas. 2019. "Postpartum Care: An Approach to the Fourth Trimester." 100(8):7.
- Peacock-Chambers, Elizabeth, Mary T. Paterno, Daniel Kiely, Tinamarie Fioroni, Nancy Byatt, and Peter D. Friedmann. 2021. "Engagement in Perinatal Outpatient Services among Women in Recovery from Opioid Use Disorders." *Substance Abuse* 42(4):1022-29. doi: 10.1080/08897077.2021.1904091.
- Pescosolido, Bernice A., Jack K. Martin, J. Scott Long, Tait R. Medina, Jo C. Phelan, and Bruce G. Link. 2010. "A Disease Like Any Other? A Decade of Change in Public Reactions to Schizophrenia, Depression, and Alcohol Dependence." American Journal of Psychiatry 167(11):1321-30. doi: 10.1176/appi.ajp.2010.09121743.
- Phelan, Jo C., Bruce G. Link, Ann Stueve, and Bernice A. Pescosolido. 2000. "Public Conceptions of Mental Illness in 1950 and 1996: What Is Mental Illness and Is It to Be Feared?" Journal of Health and Social Behavior 41(2):188-207. doi: 10.2307/2676305.

- Raffi, Edwin R., Jessica Gray, Nkechi Conteh, Martha Kane, Lee S. Cohen, and Davida M. Schiff. 2021. "Low Barrier Perinatal Psychiatric Care for Patients with Substance Use Disorder: Meeting Patients across the Perinatal Continuum Where They Are." International Review of Psychiatry 33(6):543-52. doi: 10.1080/09540261.2021.1898351.
- Slavova, Svetla, Peter Rock, Heather M. Bush, Dana Quesinberry, and Sharon L. Walsh. 2020. "Signal of Increased Opioid Overdose during COVID-19 from Emergency Medical Services Data." *Drug and Alcohol Dependence* 214:108176. doi: 10.1016/j.drugalcdep.2020.108176.
- Tully, Kristin P., Alison M. Stuebe, and Sarah B. Verbiest. 2017. "The Fourth Trimester: A Critical Transition Period with Unmet Maternal Health Needs." American Journal of Obstetrics and Gynecology 217(1):37-41. doi: 10.1016/j.ajog.2017.03.032.
- Unützer, Jürgen, Harbin, Henry, Schoenbaum, Michael, and Druss, Benjamin. 2013. The Collaborative Care Model: An Approach for Integrating Physical and Mental Health Care in Medicaid Health Homes. Center for Health Care Strategies and Mathematica Policy Research.
- Venniro, Marco, Michelle Zhang, Daniele Caprioli, Jennifer K. Hoots, Sam A. Golden, Conor Heins, Marisela Morales, David H. Epstein, and Yavin Shaham. 2018. "Volitional Social Interaction Prevents Drug Addiction in Rat Models." Nature Neuroscience 21(11):1520-29. doi: 10.1038/s41593-018-0246-6.
- Volkow, Nora D. 2020. "Stigma and the Toll of Addiction." New England Journal of Medicine 382(14):1289-90. doi: 10.1056/NEJMp1917360.
- Wilder, Christine, Daniel Lewis, and Theresa Winhusen. 2015. "Medication Assisted Treatment Discontinuation in Pregnant and Postpartum Women with Opioid Use Disorder." *Drug and Alcohol Dependence* 149:225-31. doi: 10.1016/j.drugalcdep.2015.02.012.
- Wu, Z. Helen, Rong Wu, Elizabeth Brownell, Cheryl Oncken, and James Grady. 2021. "Stress and Drug Use from Prepregnancy, During Pregnancy, to Postpartum." *Journal of Racial and Ethnic Health Disparities* 8(2):454-62. doi: 10.1007/s40615-020-00802-x.