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RESEARCH TO PRACTICE SUMMARY

Benefits of Prenatal Enrollment in Early Head Start on Successful Smoking Cessation

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Despite known negative health effects, many women continue smoke during pregnancy, and many do not access available cessations supports. In a population of low-income mothers with children enrolled in Early Head Start (EHS) we explored which demographic, smoking behavior, and treatment access characteristics were associated with being referred for smoking cessation services. Findings highlighted equity among referrals, consistent with EHS's anti-racist foundation. We found mothers only reporting smoking history were missed compared to mothers who reported current smoking behaviors, which presents an important opportunity for prevention work, given relapse rates. Finally, we found when EHS knows about a pregnancy, either from early referral to EHS or from other children receiving services, the referral mechanism is most successful. Implications for EHS include an emphasis on recruiting earlier in gestation.

Keywords: smoking cessation, pregnancy, early intervention

SUMMARY OF LITERATURE

Although smoking rates have decreased over the last several decades, smoking during pregnancy remains a challenging health problem at a rate of roughly 9% (Azagba et al., 2020). Pregnant women are more likely to quit smoking during pregnancy than any other time in their life, yet still over half do not quit (2020), and prenatal smoking is associated with adverse maternal, child, and family outcomes (Chen et al., 2019; Wakschlag et al., 2006). Referrals are a critical, understudied component in accessing substance use treatment, which typically occurs through prenatal visits, as well as wrap-around social services, such as Early Head Start (EHS).

Several factors may explain why pregnant women are not referred for smoking cessation, including a mother's access to providers who can supply referrals as well as their comfort disclosing stigmatized behavior. Although primary care often serves as a gatekeepers to cessation referrals, few adequately assess for smoking or properly refer to treatment (Chang et al., 2013). There are also discrepancies in comfort disclosing, with African American and Hispanic women displaying

higher nondisclosure rates when reporting smoking to their obstetricians (Scherman et al., 2018). We also know that social support can enhance comfort disclosure rates by lowering stigma (Birtel et al., 2017). Social support can come in many forms, but specifically during pregnancy, we know that women who are living with or married to their partners are more likely to successfully quit smoking (Riaz et al., 2018). Unfortunately, it is unclear from the literature the racial and ethnic makeup of those who are provided referrals during pregnancy; however, we know women who smoke during pregnancy disproportionally come from economically disadvantaged backgrounds and adverse social circumstances (Maughan et al., 2004). Research also suggests these women are more likely to be younger and have less education (Azagba et al., 2020).

EHS programs routinely come into contact with and build long-term relationships with women who are placed at risk for prenatal smoking due to the age, income-level, and experiences of stress (ECLKC, 2018). EHS's focus on forming strong relationships with family units leads us to expect that it would out-perform the regular medical system in terms of reducing disparities in accessing cessation services. Program-type (home visiting, center-based, or blended models) may also allow EHS enrollees differential access to referrals or differential comfort disclosing. Research into home visitor models indicates mothers with mental health concerns especially benefit from this type of programming, as their needs are addressed in parallel to other child and family needs. (Early Childhood Learning & Knowledge Center, 2021).

Location is another factor that may relate to referral provision, especially given local differences in density of services, indicating that for areas with fewer cessation resources, there are also likely fewer referrals. Smoking is more prevalent in rural communities, but there is also less access to cessation resources in these areas (Horn et al., 2012). There may also be lower provision of referrals to minority populations, especially those which require linguistically appropriate treatment options. One study found Spanish language substance use treatment required patients to travel three times the distance of English language services (Guerrero et al., 2013).

EHS is in a unique position to provide a two-generation intervention for mothers struggling with smoking cessation during pregnancy; however, this intervention is only successful if mothers are provided referrals for services. This begs the question: Who is being missed and why might these programs not be meeting the needs of all the families they serve?

THE CURRENT STUDY

This study sought to understand characteristics of EHS mothers who reported smoking at some point during or before pregnancy and did not receive cessation referrals. Participants in this sample displayed higher smoking rates than the general population (20%), and were largely White, young adults (see Table 1 for participant characteristics). Data was taken from the EHS Family and Child Experiences Study (BabyFACES), and analyzed variables were selected from the literature above representing demographic, smoking behavior, and treatment access characteristics (see Table 1). Hierarchical logistic regressions were run to evaluate which predictors were associated with not receiving smoking cessation referrals.

KEY FINDINGS

Three key findings were evident from these analyses. Firstly, mothers of color are being referred in equivalent ways to white, non-Hispanic women. Secondly, mothers who reported smoking at some point during pregnancy were more likely to receive cessation referrals than those who reported a history of smoking. Finally, we found that two characteristics of a families' relationship with EHS significantly explained their likelihood of being referred for cessation services. If the mother had other children already enrolled in EHS, or if the mother had spent longer amounts of time in EHS, they were more likely to receive a referral. Importantly, these family characteristics were more important than the mother's smoking behavior (see Shenberger & Zinsser, 2022)

IMPLICATIONS FOR EHS PROGRAMMING

Results from this study first highlight who is being provided referrals. We found racial and ethnic equity among referral receipt, which is encouraging and consistent with EHS's foundation in anti-racist programming (ECLKC, 2021a). Compared to other facets of the healthcare system, this is a strength for EHS, especially considering racial differences in comfort disclosing stigmatized behavior to physicians during prenatal visits (Scherman et al., 2018).

Findings also highlight that mothers who report a history of smoking during their EHS intake are not as likely to be referred for services as those who smoked during a pregnancy. This oversight is problematic because nearly 60% of women who quit smoking during a pregnancy relapse within 6 months of delivery (Colman & Joyce, 2003), placing themselves and their young children at risk for significant health complications. Moreover, prior studies have shown that women who are Medicaid recipients (e.g., many EHS families), have postpartum depression, or have increased stress are also at increased risk of relapse (Colman & Joyce, 2003; Notley et al., 2015; Solomon et al., 2007) making continued cessation support and relapse prevention an important family-level service.

Secondhand smoke (SHS) continues to pose risk to the child even after pregnancy, and is similarly associated with adverse health concerns in early childhood (e.g., asthma, ear infections, sudden infant death syndrome (CDC, 2020)). This exposure, however, could come from any member of the household, and unfortunately, having more friends or family members who smoke is also a risk for postpartum relapse in mothers who quit during pregnancy (Solomon et al., 2007). Thus, having a history of smoking should not be overlooked during needs assessments, and automatically including this as grounds for referral would be a simple adjustment to cessation referral programming that could have a multi-generational benefit for EHS families.

Lastly, our results indicate that when a pregnancy is known to EHS, either because the mother was referred at some point early in pregnancy or because she has other children enrolled and is already receiving services, the smoking referral mechanism is most successful. And these referrals are occurring regardless of present or historical smoking behavior. This is likely because programs are best able to provide wrap-around services to families who are already fully integrated into their system and who have established positive, trusting relationships with EHS.

Recruiting EHS families pre-pregnancy is difficult, but essential to early intervention efforts. One method of delivering EHS services earlier in pregnancy could be through referrals from obstetricians. A primary care study found that facilitating an initial connection to HS on behalf of families increased retention and attendance (Silverstein et al., 2004), which helps establish relationships with EHS. Other recommended referral sources may include local high schools, WIC, health departments, or state-run referral programs, such as IRIS (Integrated Referral and Intake System) in Illinois (IRIS, n.d.).

Ultimately, smoking cessation during pregnancy remains a challenging health problem impacting both mother and child. The present study showed that EHS is in a favorable position to refer many women to access critical supports, and it does so without racial or ethnic bias. At the same time, over half of EHS families who reported a history of smoking or smoking during pregnancy did not receive a cessation referral, and most of these are new mothers or more recently enrolled in EHS. Findings from this study shed light on opportunities to expand early intervention and prevent relapse, benefitting both mother and child.

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