ADVANCING HEALTH EDUCATION & RESEARCH

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AVA Research Review

ADVANCING HEALTH EDUCATION & RESEARCH

Review Title:
Evaluating a Coordinated Perinatal Mental Health Care Model: Intersectional-Feminist Insights for Clinical Practice

Reviewer(s):
Parker Killenberg
College of Arts and Sciences, Tufts University

Barbora Hoskova, and
Betty S. Lai
Lynch School of Education and Human Development, Boston College

Article: Stevens, N. R., Heath, N. M., Lillis, T. A., McMinn, K., Tirone, V., & Sha'ini, M. (2018). Examining the effectiveness of a coordinated perinatal mental health care model using an intersectional-feminist perspective. *Journal of Behavioral Medicine, 41(5), 627-640.*

Introductory & Overview:

This study sought to analyze the relationship between community poverty concentrations and child abuse fatality rates on a nationarose from the authors' desire to determine if previously reported local associations between poverty and child abuse fatalities would also be seen on a national level. Study population was limited to those 0-4 years due to their increased risk for fatal abusive injuries and to avoid including victims of peer violence. Mortality data were taken from the Centers for Disease Control and Prevention (CDC) Compressed Mortality Files (CMF), and deaths were identified by external cause of injury codes modified for ICD-10. Data from death certificates were used as this does not rely on CPS reporting practices or data extrapolation from representative counties. Population statistics and poverty data were obtained from the US Census Bureau. County poverty concentration was categorized into subgroups based on prior studies. County racial composition was also included in the

analysis due to known relationships between racial demographics, socioeconomic factors, and health outcomes. Due to previously reported misclassifications on death certificates in the Hispanic population, this ethnicity was not included in analysis.

Aim:
Researchers evaluated child abuse fatality rates as well as changes in rates over time, looking for any effect from recent economic recession. Age, sex, and race were included in demographic variables. Adjusted incidence rate ratios (aIRR) were calculated for each poverty subgroup; the lowest poverty concentration category was used as the reference.

Relevant Findings:
There were 11,149 child abuse fatalities during the study period, consistent with a child abuse fatality rate of 3.5 deaths per 100,000 children ages 0-4 years. Infants <12 months were disproportionately affected with a fatality rate of 7.9 per 100,000 (IRR 3.3). There was a slight increase in fatality incidence in males (IRR 1.2). As poverty concentration level increased, there was also an increase in fatality rate. Counties with >10% poverty concentration had an incidence of fatalities >2.5 times higher than counties with <5% poverty concentration. Higher poverty concentrations were seen in the southwest and southeast United States, and states with higher poverty concentrations generally had higher fatality rates. Similar results were seen when excluding firearm deaths to control for the variable incidence in gun ownership. Notably, infants <12 months in areas with >20% poverty concentration were at the highest risk with a fatality rate of 9.6/100,000.

There were also significant racial differences, with children of African American descent being disproportionately affected with a fatality rate of 8 per 100,000 (IRR 3.0). Even in areas of the lowest poverty concentration, African American children still had a higher child fatality rate than Caucasian children in areas of the highest poverty concentration (5.1 per 100,000 versus 3.2 per 100,000, respectively). A slight yet significant increase in fatality rates was seen for each 1% increase in African American population in the area (aIRR 1.01). No collinearity was demonstrated between variables.

Over time, there has been a small, but significant decrease in overall child fatality rates (aIRR 0.98), but no significant variation in the rate of change was noted relative to the recent recession.

Authors' Conclusions and Recommendations:
The authors concluded that there is a consistent association between community poverty concentration and child abuse fatality rates, even including middle poverty categories, in young children. They recommended this information be used to target high-risk areas when developing preventive services for child abuse deaths. They also concluded ICD-10 cause of death codes could be used to target similar populations previously studied using ICD-9.

Limitations:
The authors acknowledged several potential limitations to the study. There is the possibility for misclassification of cause of death in the CMF database, though authors attempted to mitigate this by focusing solely on physical child abuse fatalities. Use of death certificate data also requires a medical examiner to identify the child as a victim of fatal assault, which likely underestimates the true number of abuse fatalities. Additionally, racial bias and poverty level have been shown to potentially influence medical examiner's determination of cause of death, which could also affect the true number of abuse fatalities. Finally, the individual child victim's economic circumstances are not included in the CMF report. County poverty concentrations were used, which are combinations of the county's communities and may underestimate the association between community poverty and health outcomes.

Reviewer's Comments:
This study provides strong evidence for the association between child abuse fatalities and poverty levels in young children (0-4 years). Identification of these risk factors is important for targeting high-risk areas for preventive services , as concluded by the authors. This study effectively highlights the importance of considering community poverty levels when planning intervention services. Notably, this study is limited to victims of physical child abuse, and therefore, does not capture fatalities due to other forms of abuse or neglect. It would be interesting for further studies to determine if the same pattern is seen when comparing other etiologies of child abuse fatalities.

The calculated incident ratios had narrow confidence intervals overall, and all were significant, providing strong support for the authors' conclusions. The confidence intervals for the aIRRs calculated for the poverty concentration levels were notably broader than those calculated for other demographics. This may be related to the underlying variation in community poverty within the individual county, which could not be accounted for and was a noted limitation of the study. Further analysis to determine the association between community level poverty and child abuse fatalities could allow for even more specific targeting of preventive resources.

There are several limitations in this study related to the way data were collected, which may have affected the calculated fatality rates. These limitations were effectively acknowledged.

The study results are consistent with those found in smaller populations, suggesting that there is likely validity to the conclusion, even with the limitations noted. The main effect of these limitations is most likely determining the true magnitude of the association. Both underreporting and overreporting may be seen so it is difficult to guess how significantly the true rate has been affected. This is a complex problem, and would likely benefit from further study. Nonetheless, in the meantime this study's results provide important information to aid preventive service agencies in knowing where their services are most needed.