The Overall Impact the United States Incarceration System Has on Perinatal Outcomes: A Literature Review

Mehar Anand

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Dr. Christina Proctor

University of Georgia

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**Introduction**

Women of childbearing age represent approximately 10% of the United States incarcerated population (Dumont, Wildeman, Lee, Gjelsvik, Valera, & Clarke, 2014). Approximately 215,000 women are held as prisoners for crimes related to theft, fraud, drug possession, and prostitution (Dumont et al., 2014). Approximately 1,400 incarcerated women were reported to be pregnant while admitted, 6% of these women reported to be pregnant at the time of arrest.

 Despite maintaining the status of becoming the fastest growing division throughout the incarceration system, research dictates that the current structure and facilities fail to meet the specific health needs that these women must be provided to ensure a healthy pregnancy and a proper environment after the baby has been born (Dumont et al., 2014). Using the limited data available, imprisoned women are more likely to experience poorer perinatal outcomes than the general population, particularly psychological distress, poorer birth outcomes, and comorbidities or multiple complications (Siefert & Pimlott, 2011).

Much of the correctional facilities in the United States operate on gender-neutral policies, which ultimately place these women disproportionately and inhibit their access to prenatal and antenatal healthcare (Siefert and Pimlott, 2011). This often leads to negative impacts on the mother’s mental and economic health, and the social and mental development of the child.

*Comorbidities and Multiple Complications*

Research in gynecological services for incarcerated women have repeatedly been deemed inadequate (Turney & Goodsell, 2018). 46% of imprisoned women reported that gynecological exams are not performed when women are admitted to the correctional facility, nor are they routinely or annually provided (Turney & Goodsell, 2018). When evaluating the process for screenings, these women reported that gynecologic history is not considered by health providers. Some correctional facilities have also been reported to not have health providers trained in obstetrics and gynecology, leading to a lack of adequate gynecologic care (Turney & Goodsell, 2018). Due to these conditions, women are likely to be at risk for chronic and comorbid conditions, such as breast cancer, ovarian cancer, endometriosis, chronic pain, issues with periods and menopause, abnormal pap smears, undetected diseases, and improper or poor diagnoses of such conditions (Dumont et al., 2014).

Pregnant incarcerated women also may be subject to sexually transmitted infections (STI) and have limited access for treatment and future preventative care. Demonstrated by a Rhode Island incarceration facility study done, 33% of these women tested positive for an STI when they were admitted into the facility (Turney & Goodsell, 2018). Research reported that 27% of these newly incarcerated women have trichomoniasis, chlamydia, gonorrhea, and HIV (Pentsou, 2019). This may negatively affect the health of both the mother and the child long-term, as the fetal period during pregnancy is associated with high-risk miscarriages, still-births, and neurologic imbalances (Pentsou, 2019).

*Psychological Distress*

It is reported that approximately 57% of women in federal and state correctional facilities have been sexually and physically abused at the time of pregnancy (Bell, Zimmerman, Huebner, Cawthon, Ward, & Schroeder, 2014). These sexual and physical abuse rates are increasing and can indicate numerous correlating conditions that follow. These increasing rates of sexual and physical abuse among the imprisoned women can often lead to lifelong psychological issues for the mothers, such as substance abuse, depressive disorders, anxiety disorders, feelings of loneliness, stress, and social isolation (Pentsou, 2019). The child’s long-term health is also compromised, contributing towards an increased risk of developing learning disabilities (Bell et al., 2014).

*Poorer Birth Outcomes*

Researchers argue that incarcerated women are subject to poorer birth outcomes, prominently low birth weights, and preterm births. Reports indicate that imprisoned women are more likely to have a low birth weight baby (<2500 grams) and preterm births (less that 37 weeks of pregnancy) than women of the general population (O’Sullivan, Hart, & Healy, 2018). Poorer birth outcomes may occur due to short-term access to prenatal care, substance abuse, and the likelihood that these women may experience high levels of stress throughout their pregnancy (O’Sullivan et al., 2018). Research shows that 18% of these imprisoned women reported a period of homelessness and 48% reported sexual abuse (Van den Bergh, Gatherer, & Moller, 2019). Experiences of poverty, addiction to substances, and trafficking have acted as stressors for these women and may have led to preterm births and low birth weight babies (Van den Bergh et al., 2019). These levels of stress may also elevate due to these women undergoing strip-and-cavity searchers, confinement to cells, limited movement and power due to shackles, isolation, and male authority figures among the prison staff (Van den Bergh et al., 2019).

 With the increasing number of pregnant incarcerated women, it is imperative to investigate and provide prenatal and preventative care, along with elongated access to treatment. This will allow for more designed programs to improve the women’s curative health, improve attachment and parental behavior, facilitate rehabilitation for substance abuse, support and promote birth education, and reduce recidivism for these women and their children (Natterman & Rayne, 2017).

The objective of this current research is to investigate the overall effect the United States incarceration system has on perinatal outcomes. This relationship will aid in understanding and alleviating common health problems associated with women’s health care among incarceration facilities and to determine effective models of perinatal healthcare and childcare for imprisoned women.

**Methods**

Searches were conducted to investigate impacts of perinatal outcomes on women present in the United States incarceration system. The UGA Library database, specifically its multi-search tool, was utilized to conduct searches relevant to topics regarding perinatal outcomes associated with incarcerated women in the United States. Each search was conducted with specific inclusion and exclusion criteria to include articles that analyzed perinatal outcomes associated with incarceration facilities, psychological distress, birth outcomes, and comorbidities, all present in the United States. The selection criteria for the articles was that the articles must be peer-reviewed or scholarly, published in the last ten years, 2010-2020, and conducted on incarcerated mothers who are pregnant and are about to give birth, or mothers who have recently given birth and are now subject to the rules and regulations of the incarceration system.

From the initial search, 196 articles reported maternal and child health care outcomes related to new mothers who are incarcerated, including mental and physical health care outcomes, in which four articles were deemed appropriate for this literature review. In order to find more articles to support the objective of this literature review, five additional searches were made that focused on outcomes associated with psychological distress and poor birth outcomes. The second search was made to research maternal hardship experienced in jail throughout the United States, resulting in 179 articles in which five articles were deemed appropriate for this literature review. The third search focuses on the general concerns of perinatal health present throughout the incarceration system, resulting in 168 articles in which four articles were deemed appropriate for this literature review. The fourth and the fifth search were made to optimize results through rearrangement of keywords and find specific perinatal outcomes associated with the objective of this study. It resulted in 27 and 90 articles, respectively, while 3 articles from the third search and 1 article from the fourth search were deemed appropriate for this literature review. The final search was conducted to analyze the specific stress, psychological disorders, and development concerns or disabilities children are subject to while the mother is incarcerated. This resulted in 129 articles in which three articles were deemed appropriate for this literature review. Nineteen sources are non-experimental, cross-sectional, and qualitative and one source is a retrospective cohort study. Once all the searches were completed, the final 20 articles met the inclusion and exclusion to be used in the literature review.

Table 1: Search Terms and Results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of Search | Terms Used | Filter Used | Results | Number of Articles Used |
| 1 | Perinatal outcomes incarceration AND United States | Journals: Scholarly or Peer-Reviewed Published: 2010-2020 | 196 | 6, 9, 11, 15 |
| 2 | Maternal incarceration AND jail | Journals: Scholarly or Peer-Reviewed Published: 2010-2020  | 179 | 1, 3, 4, 12, 17 |
| 3 | Perinatal health AND incarceration  | Journals: Scholarly or Peer-Reviewed Published: 2010-2020 | 168 | 5, 7, 10, 18 |
| 4 | Perinatal outcomes AND prison AND United States  | Journals: Scholarly or Peer-Reviewed Published: 2010-2020 | 27 | 13 |
| 5 | Perinatal outcomes AND prison  | Journals: Scholarly or Peer-Reviewed Published: 2010-2020  | 90 | 8, 16, 19 |
| 6 | Maternal AND stress AND prison AND United States  | Journals: Scholarly or Peer-Reviewed Published: 2010-2020  | 129 | 2, 14, 20 |

**Results**

*Preterm Birth and Low Birth Weight*

For incarcerated mothers, the data demonstrates that the unadjusted mean birth weight of babies is significantly lower than mothers in the general population. However, this coefficient is only significant for the p-value measured less than 0.1 (Bard, Knight, & Plugge, 2016). This coefficient is not determined significant for all populations of incarcerated women, as may studies report a trend of a positive association between jail and birth weight, specifically for women ranging in ages above 35-39 years (Bard et al., 2016). Linear combinations of coefficients significantly reported these women to more likely have a low birth weight baby at ages 30–34 years. None of the women present in these studies were considered for having a low birth weight baby (Kelsey, Medel, Mullins, Dallaire, & Forestell, 2017).

When analyzing preterm births among these incarcerated mothers, women in jail had higher odds of preterm birth, but only for a p-value of less than 0.1 (Testa & Jackson, 2019). Linear combinations of these estimated coefficients did not significantly indicate that women in jail were more likely than the mothers in the general population to have a preterm birth, unless they were ages 29 or less (Testa & Jackson, 2019). None of the incarcerated women aged 40 years or more were reported to have a preterm birth.

 *Psychological Distress*

These incarcerated women reported to more likely experience stress one month after the delivery of their child (Stoliker & Galli, 2019). Approximately 34% of incarcerated women reported a significant prevalence of post-partum depression, anxiety, and isolation (Stoliker & Galli, 2019). 4% of these women also reported to experience a lack of social support, parental rejection, depression, dissociative experiences, and a lack of self-esteem (Stoliker & Galli, 2019). This was reported within the context that these mothers were only given two days to spend with their newborn baby and were not provided a routinely schedule of nursing or visitation for their child (Stoliker & Galli, 2019). The data revealed that depressive and post-traumatic stress disorder symptoms were indicated in over half of the new mothers that were incarcerated (Steefel, 2018).

*Complications and Access to Care*

67% of women indicated that they were not given the chance to engage in prenatal visits during their pregnancy and the trimester in which care began (Clarke & Adashi, 2011). This prenatal care involves payment of care, access to care within the first trimester, payment of prenatal care done by Medicaid, and amelioration of substance abuse before or during time of conception (Clarke & Adashi, 2011). After delivery, 54% women also reported to experience a lack in antenatal care, involving the payment of care, time spent with children, legal rights, and the parental communication between the mother and child (Clarke & Adashi, 2011). These rates were determined significant, with a p-value assessed to be less than 0.05 (Clarke & Adashi, 2011). This indicates that these women represent 95% of the total population of incarcerated women to not be able to properly engage in their personal and their child’s health during and post-pregnancy.

34% of these women also reported having a lack of provision involving pregnancy screenings, pregnancy diets, drug rehabilitation, and the prohibition of shackling (Natterman & Rayne, 2017). 56.7% of facilities use restraints on women hours after having a baby (Natterman & Rayne, 2017).

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**Discussion**

*Preterm Birth and Low Birth Weight*

Prison is unlikely to be perceived as a positive, healthy environment, and despite the many additional benefits of incarceration benefits, prison is not considered home. When comparing rates of low birth weight babies and preterm birth, there was evidence that women in prisons had experienced improved perinatal outcome. These incarcerated women may have received care as a result of intervention and midwife care (Zust, Busiahn, & Janisch, 2013). These findings suggest that older incarcerated pregnant women may be more resilient to stress, understand general health more effectively, and are more successful in less drug rehabilitation programs (Phillips, Gleeson, & Waites-Garrett, 2019). Older women may also experience differences in reproductivity than younger women, although this did not have much data to be supported. Older women may have more reproductive stability, when coupled with stress, and may have an understanding of providing personal prenatal care and restricting their smoking and drug use (Phillips et al., 2019). These women may also have had knowledge regarding prison nurseries, in which these programs are designed to enhance mother-child bonding and improve parenting skills (Zust et al., 2013). Instructors and child development experts stress the importance of the child's first year of life, and intellectual, emotional, and social foundations are necessary for the child’s successful development. Overall, this relationship of poorer birth outcomes and exposure to incarceration is not statistically significant, and the results may indicate a small percentage of incarcerated women (Zust et al, 2013).

*Psychological Distress*

Data reported for these incarcerated women indicate that these women felt a lack of support and experienced a poorer social quality of life post-separation from their child. The prevalence of depression may have been attributed in those women who were not offered a maternal bearing unit (MBU) place prenatally and postnatally (Dolan, Shaw, & Hann, 2019). These are significant in that the MBU may serve as a protective factor against developing or exacerbating postnatal depression (Dolan et al., 2019).

The use of shackles may also have attributed towards stressors experienced by these women, and several prison nurses commented that shackles were a challenge in terms of the patient’s comfort and dignity (Cassidy, Ziv, Stupica, Sherman, Butler, Karfgin, & Powell, 2010). Nurses and these women explained that the shackles posed daily safety risks that increased chances of injury, placental abruption, increased risk of falling, delayed progress of labor due to limited movement, and delayed response towards emergency care (Steefel, 2018). The shackling may increase the time of responding to uterine contractions, response to complications, and screening, since correctional officers must repeatedly remove and reinstall the shackles onto these women (Cassidy et al., 2010). Physicians have also reported to being able to administer the epidurals due to the shackles, even when the epidural was necessary to prevent obstructions present during labor and delivery (Cassidy et al., 2010).

*Expansion of Medicaid*

A lack of exposure to prenatal care, antenatal care, and already occurring diseases may have occurred due to numerous reasons. Primarily, Medicaid has not been expanded to cover for many of these incarcerated pregnant women (Wilper, Woolhandler, Boyd, Lasser, McCormick, Bor, & Himmelstein, 2019). The cost of these programs can be unreasonable for mothers and the cost of properly designed programs may be contributing to the correctional facility not implementing them (Wilper et al., 2019). These add to the barriers that fail to institute efficient policies that require incarcerated pregnant women to receive adequate prenatal and antenatal care. Currently, forty-one states do not mandate prenatal nutrition counseling, the provision of appropriate nutrition, or screening for the continuation of underlying diseases (Wilper et al., 2019). This can negatively affect the health of their mother, while also endangering the health status of the baby, both long and short-term.

**Implications**

Lawmakers must properly design programs with extensive evaluation to address the needs of these pregnant incarcerated women. This enhanced perinatal care can improve both short and long-term outcomes for both the mother and their child. Federal and local governments must adopt policies to support the provision of prenatal and antenatal care among pregnant and post-partum incarcerated women. These facilities must oblige to the rules and regulations supported by guidelines written by the Department of Health, WHO, and The American College of Obstetricians and Gynecologists.

Awareness programs and educational efforts must be implemented to increase the knowledge of health care providers, clinicians, and prison staff to address certain issues regarding the mother and their pregnancy, postpartum concerns and mental distress, and the development and nurturing of the child. Obstetricians and gynecologists must advocate for support programs to improve the health of incarcerated pregnant women and new mothers at the local, state, and federal level, such as for the restriction of shackling throughout pregnancy and postpartum periods.

*Center for Prisoner Health and Human Rights*

The Center for Prisoner Health and Human Rights was established in 2005 in Rhode Island to serve as a hub of correctional health research and programming (Woods, Lanza, Dyson, & Gordon, 2013). The Center is connected to the Miriam Hospital and other research hospitals in Rhode Island and around the country and serves to improve the health and human rights of justice-involved populations through education, advocacy, and research (Woods et al., 2013). The Center strives to improve prisoner health by focusing on three core areas, which are 1) raising awareness at the national and state levels about the healthcare challenges of incarcerated and other justice-involved populations; 2) providing education and training opportunities for college, graduate, and medical students, and encouraging student engagement and leadership in justice issues; and 3) collaborating with local justice system stakeholders to identify and support projects that respond to the intersection of incarceration recidivism and public health in Rhode Island (Woods et al., 2013).

**Limitations**

More research needs to be conducted to support the findings of this study. It must be noted that a large number of limitations were present. Over the program of study, there was much variation in sample size due to the number of participants agreeing to each study, indicating potential selection bias. The research must also consider the usage of self-reporting measures compared to clinical interviews, indication potential information bias. Perinatal outcomes of this study were based on birth outcomes, psychological stressors, and comorbid conditions, not treatment, so conclusive statements cannot be made.

**Conclusions**

With the increasing number of pregnant incarcerated women, it is imperative to investigate and provide prenatal and preventative care, along with prolonged access to treatment. This will allow for more designed programs to improve the women’s curative health, improve attachment and parental behavior, facilitate rehabilitation for substance abuse, support and promote birth education, and reduce recidivism for these women and their children.

The objective of this current research is to investigate the overall effect the United States incarceration system has on perinatal outcomes. This relationship aids in understanding and alleviating common health problems associated with women’s health care among incarceration facilities and to determine effective models of perinatal healthcare and childcare for imprisoned women.

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