ISSN: 3066-8115
Research Article

Science Set Journal of Medical and Clinical Case Studies

To Assess Maternal Suicidal Ideation After a Neonatal Death at Georgetown Public Hospital Corporation and to Determine the Need for Psychological Support, from January 2022 to December 2022

Ulanda Haynes[1]* & Danielle Laraque-Arena[2]

[1]*Department of Pediatrics, Georgetown Public Hospital Corporation (GPHC)*
[2]*Mailman School of Public Health (in Epidemiology) and Vagelos College of Physicians and Surgeons (in Pediatrics), Columbia University*

***Corresponding author:** Ulanda Haynes, Department of Pediatrics, Georgetown Public Hospital Corporation (GPHC)*

Submitted: 02 July 2025 **Accepted:** 11 July 2025 **Published:** 17 July 2025

https://doi.org/10.63620/MK.SSJMCCS.2025.1070

Citation: *Haynes, U., & Arena, D. L. (2025). To Assess Maternal Suicidal Ideation After a Neonatal Death at Georgetown Public Hospital Corporation and to Determine the Need for Psychological Support, from January 2022 to December 2022. Sci Set J of Med Cli Case Stu, 4(4), 01-05.*

Abstract

Objectives*: To identify the most common maternal factors and postpartum period associated with suicidal ideation during the study period.*

Design & Methods: *A questionnaire-based cohort study was conducted with 9 bereaved mothers. Maternal demographic and Columbia-Suicide Severity Rating Scale (C-SSRS) (assessed maternal suicide ideation and behavior) data were collected during an interview process conducted at the Georgetown Public Hospital Corporation. Data analysis was done using SPSS 21 and the bimodal test with a two-tailed test; a p-value of <0.05 was considered statistically significant.*

Results: *The mean age of the participants was 28(+- 4.5) years; the most common ethnicity was mixed (45%), followed by East Indian and Afro-Guyanese (22%), respectively. The majority of the participants were Christians (78%). All the participants were in a committed union and were employed. Psychosocial support was only offered to 2 bereaved mothers during this study. Analysis of CSSR-S showed 56% (5/9) of participants had suicidal ideation during the first 3 months of their grieving period, compared to 44% (4/9) who had no suicidal ideation. There was no suicidal behavior during this study, mostly because of multiple protective factors such as identifying reasons for living, their responsibility to their families, supportive social network/family, belief that suicide is immoral, fear of dying, and their involvement in work/school. The binomial test with a two-tailed test yielded a p-value of 0.635, hence, the proportion of suicidal ideation was not statistically different from 50% of the study population.*

Conclusion: *This study provides compelling evidence of the high prevalence of suicidal ideation among the participants, highlighting the importance of psychosocial support during the bereavement period to reduce the negative impact of perinatal loss on maternal mental health and well-being.*

Keywords: Maternal Suicidal Ideation, Neonatal Death, Perinatal Loss, Psychosocial Support, Columbia-Suicide Severity Rating Scale (C-SSRS)

Introduction & Literature Review

Globally, suicide is a major public health concern, the World Health Organization (WHO) and the Global Burden of Disease study estimate that almost 800,000 people die from suicide annually, with 77% of all suicide deaths occurring in low and-middle income countries (LMICs) [1-3]. Despite the majority of suicide cases occurring in LMICs, there is limited published suicide research from these countries [1].

Guyana is an upper-middle-income anglophone Caribbean country with a population of approximately 750,000 persons, located on the northeast coast of South America. It is an ethnically diverse country with a complex history of colonization by multiple European nations, which involved slavery from West Africa and indentured labor from India, China, and Portugal [1, 4]. The age-standardized suicide rate in Guyana is currently the highest in nearly two decades and the second-highest rate in the world, with an estimated rate of 40.9 per 100,000 documented in 2019 [5]. Guyana is one of only 25 countries in the world that has a specific law that punishes a suicide attempt [1]. The statute in Guyana states that "Everyone who attempts to commit suicide shall be guilty of a misdemeanor and liable to imprisonment for two years" [1, 6]. In practice, this law is rarely enforced, however, criminalization of suicide is considered by the WHO to be a contributing factor towards underreporting and help-seeking hesitancy nationally [1, 6]. Fortunately, suicide decriminalization is said to have bipartisan political support in Guyana, and the Ministry of Health is working towards overturning this legislation [7].

Understanding the activating events that lead to suicidal ideation, a preoccupation with death by suicide; suicide attempt or completion of suicide is important to provide interventions that will increase surveillance of high-risk groups, which will lead to early recognition of those in distress and provide the necessary treatment [8]. One of these activating events may be an acute traumatic event, such as the loss of an infant or newborn baby. Guyana records approximately 14,000- 15,000 births annually, and about 40 percent (around 6,000 births) of those births occur at the Georgetown Public Hospital Corporation, located in Georgetown. It is the country's largest and the main teaching hospital in Guyana [9].

Perinatal loss is a common health concern with one in four pregnancies ending in loss, which can pose a significant risk to maternal mental health [10]. The emotional distress of perinatal loss can be severe, leading to a diagnosis of psychiatric disorder. Perinatal loss defined as the loss of a fetus or neonate between conception and 28 days after birth, it is a worldwide phenomenon impacting millions of individuals annually [11]. Whether due to neonatal death, miscarriage, stillbirth, or life-limiting fetal diagnoses, up to 60% of bereaved parents exhibit symptoms of depression, anxiety, and posttraumatic stress disorder [11].

A review and meta-analysis by Herbert et al on "The Mental Health Impact of Perinatal Loss" published between January 1995 and March 2020 identified 29 studies from 17 countries, representing a perinatal loss sample (n = 31,072) and a control group of women not experiencing a loss (n = 1,261,517). The random-effects modeling suggested that perinatal loss was associated with an increased risk of depression (RR = 2.14, 95% CI = 1.73– 2.66, $p < 0.001$, k = 22) and anxiety disorders (RR = 1.75, 95% CI = 1.27–2.42, $p < 0.001$, k = 9). Compared to controls, perinatal loss was also associated with increased depression (SMD = 0.34, 95% CI = 0.20–0.48, $p < 0.001$, k = 12) and anxiety scores (SMD = 0.35, 95% CI = 0.12–0.58, $p < 0.003$, k = 10). These findings confirm that anxiety and depression levels following perinatal loss are significantly elevated compared to "no loss" controls (live births, non-pregnant from community, or difficult live births) [12].

Objectives

1. To identify the most common maternal factors and postpartum period associated with suicidal ideation during the study period.
2. To assess the frequency of bereaved mothers with suicidal tendencies seeking mental health services.

Methodology

Study Design: This was a questionnaire-based cohort study. The data was collected prospectively in an organized interview process using the Columbia-Suicide Severity Rating Scale (C-SSRS) questionnaire.

Study Population: Mothers who had a neonatal death during the study period- January 2022 to December 2022 at GPHC. Participatory was voluntary.

Study Variables: Maternal Variables (age, ethnicity, religion, family type, marital status, education background, occupation, Comorbidity, significant family history, History of prior infant/child death, suicidal ideation, suicidal behavior) and Neonatal Variables (birth order, date of birth, age, sex, gestational age, admitting diagnosis, cause of death, expected vs unexpected death).

Study Location: This study was focused on Mothers who had a neonatal death that occurred in the Neonatal Intensive Care Unit (NICU) at GPHC.

Definition of a Neonate: According to WHO's Neonatal Health- "A newborn infant, or neonate, is a child under 28 days of age". (WHO, 2024).

Neonatal Death: death of a newborn within the first 28 days after birth.

- **Exclusion Criteria** - All mothers of stillbirths or intrauterine death.
- All mothers who had abortions or death of a previable birth.
- All mothers who had an infant death > 28 days after birth.
- All mothers with neonatal death that occurred outside of NICU.

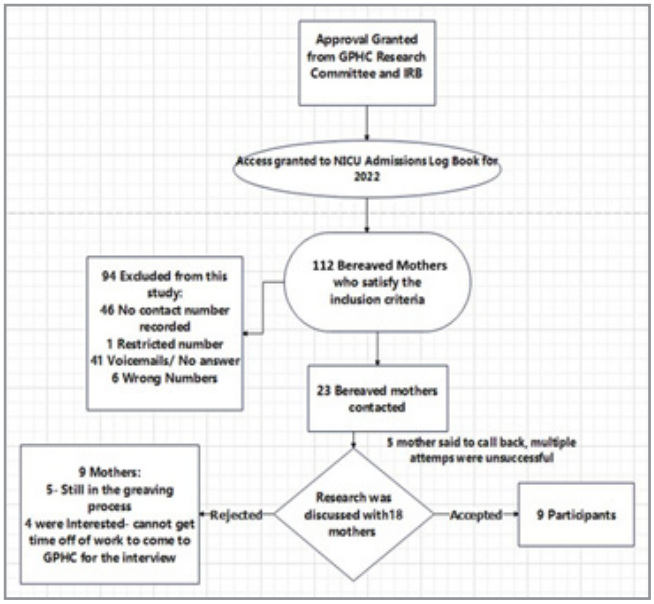

Figure 1: Below outlined the study population recruitment process

After informed consent was obtained, the maternal and neonatal variable were collected. The Columbia-Suicide Severity Rating Scale (C-SSRS) questionnaire was the last component of the interview which assessed maternal suicidal ideation and behavior after the death of their newborn [13]. The interview process took approximately fifteen (15) minutes per participant.

Participants who were unable to come to GPHC, arrangements were made with the doctor at their closest health facility, who facilitated a video interview with the primary researcher and the participant. Verbal consent was obtained from those.

During the entire interview process, the participant's emotional status was intermittently assessed for emotional distress, none occurred during this study.

Ethical Consideration

This study was approved by Georgetown Public Hospital Research Committee and the International Review Board (IRB) of the Ministry of Health. Confidentiality was maintained throughout this study.

Data Management and Data Analysis

The data collected was stored and secured in the primary researcher's office and entered into an Excel datasheet with unique identification codes to protect the participants identity, the data was stored on the primary researcher's laptop computer that is password-protected and only accessible by the researcher and supervisor. This data will be stored for up to 2 years and then destroyed.

Data was analyzed using the Statistical Package for Social Science (SPSS) version 21. Descriptive analysis was used assess the demographic variables (e.g. maternal age, ethnicity, family unit composition, religious background, and educational background) and characteristics of the participants, C-SSRS rating scale overall assessment, and the suicidal ideation scale measures. A bimodal test with two-tailed test was used to assessed statistical significance of suicidal ideation with a p-value of <0.05 considered as statistically significant.

Results

There was a total of nine participants (n = 9) in this study, with an age range of 24-36 years old and a mean age of 28 - +4.5. The majority of the participants were of mixed ethnicity accounting for 45% (4/9), with 22% (2/9) were East Indian and Afro-Guyanese respectively, only 1 participant was Amerindian (11%).

In terms of religious background, the majority of the participants were Christians (78%, 7/9), with one (1) Muslim and one (1) non-religious accounting for 11%, respectively. The bereaved mothers who were unable to participate in this study had similar religious profiles, with the majority being Christians (45%), followed by Muslims (33%), and finally Hindu and non-religious accounting for the final 22% (11%, respectively). All the participants were in a committed union, 56% (5/9) were in a common-law union, and the remaining 44% (4/9) were married. Most of the family units were extended family (56%, 5/9), followed by nuclear family (44%, 4/9).

With respect to their educational background, there was an equal distribution of primary, secondary, and tertiary education. Most of the participants were employed, accounting for 56% (5/9), with the remaining 44% (4/9) unemployed [14].

Maternal comorbidities of the participants include hypertension and gestational hypertension, accounting for 56% (5/9) and high cholesterol (11%, 1/9). Thirty-three percent (33%, 3/9) had no comorbidity. Seventy-eight percent (78%, 7/9) of the participants had a single-gestational pregnancy, with 22% (2/9) having multiple gestations.

Psychosocial support was only offered to two bereaved mothers out of the total of eighteen (18) bereaved mothers contacted during this study, with only one from the study population.

There were ten (10) neonatal death from the nine (9) bereaved mothers, including one set of twins and 1 twin (the 2nd twin

survived). Most of the babies were very preterm births form 28 weeks to 32 weeks, which accounted for 60% (6/10). This was followed by mid- to late-preterm births, accounting for 30% (3/10), and one (1) full-term baby. The mean gestational age of the babies was 32 weeks gestational age. Most of the deaths (90%) were as a result of the complications of prematurity in the Neonatal Intensive Care Unit, which accounted for 9/10 deaths, with one death caused by aspiration of feeds into the baby's lungs, which occurred at home, after which the infant was brought to the hospital in a critical state.

During the interview of the nine (9) bereaved mothers, all the mothers expressed that they would have benefitted from psychosocial support during the critical period of the babies' hospital stay and even after their deaths. One (1) mother was very emotional coming to the Maternity Block of the hospital for the interview, so her interview was conducted at the Psychiatric Clinic. The bereaved mother was also seen by a Psychiatric Doctor and admitted to the Psychiatry Clinic since she demonstrated prolonged grieve symptom and depression symptoms and had a past history of Major Depression with suicidal behavior as a teenager.

The grieving process was very difficult for all the mother since none of them expected a bad outcome for their babies. Eighty-nine percent (89%) of mothers had risk factors for suicide with 56% having four (4) or more risk factors despite this fact, most of the mother also had many protective factors with the majority having four (4) or more protective factors including the ability to identify reason for living, responsibility to family, supportive social network/family, belief that suicide is immoral, engaging in work/school, and fear of dying.

The completed Columbian Suicide Severity Rating Scale (CSSR-S) for all the participants showed that the majority of them had suicidal ideation during their grieving period. All the participants reported that this occurred during the first three (3) months of the loss of their baby, which accounted for 56%. Their thoughts were non- specific, although they had the significant intensity of suicide ideation (4/5 score, 1= least severe and 5=most severe). These thoughts were reported to resolve with time. Noteworthy, despite having suicidal ideation, none of the mothers attempted to commit suicide or had any suicidal behaviour.

A binomial test was performed to assess whether the observed proportion of participants with suicidal ideation (5 out of 9) is statistically significant from what we would expect by chance. The binomial test with a two-tailed alternative hypothesis and a significance level of alpha = 0.05, the p-value obtained was 0.635. Since the p-value (0.635) was greater than the significance level (0.05), the null hypothesis cannot be rejected.

Discussion

In this study it was found that 56% (5 out of the 9 participants) of the study population had suicidal ideation of high intensity during the first three months of their grieving period. The binomial test with a two-tailed alternative hypothesis calculated a p-value of 0.635, implied that maternal suicidal ideation was not present in greater than 50% of the population and was not statistically significant, however, a definitive conclusion cannot be made due to the small sample size even if the effect is moderate or large. Noteworthy, the findings of this study highlighted the significant impact of perinatal loss on maternal mental health and the critical need for improved psychosocial support at Georgetown Public Hospital Corporation and in Guyana. The high prevalence of suicidal ideation among participants, combined with the lack of adequate counselling and support services, underscores the urgent need for interventions to address this pressing issue.

The demographic profile of participants was diverse, reflecting the heterogeneity of the population in Guyana, and the experiences of bereaved mothers in this study are likely reflective of a broader population. The majority of participants were in committed unions and had extended family support, which may have provided some resilience during their grieving process. However, the study also found that a significant proportion of participants had risk factors for suicide, such as a history of depression and suicidal thoughts.

The lack of psychosocial support for bereaved mothers is a major concern. Only two of the 18 mothers contacted received any form of support, highlighting the need for improved access to these services. The mothers who did participate expressed a strong desire for support during their grieving process, emphasizing the importance of providing timely and appropriate interventions.

This study also highlights the challenges faced by bereaved mothers in accessing healthcare and obtaining psychosocial support. Many mothers reported dissatisfaction with their treatment in the hospital, highlighting the need for improvements in the quality of care provided. Additionally, the difficulty experienced by some mothers in obtaining time off from work to participate in the study underscores the economic challenges faced by many women in Guyana.

Additionally, this study provided insights into the neonatal characteristics of the babies who died. The majority were preterm births, which is the major cause of neonatal mortality globally resulting from to complications of prematurity which is also reflective in Guyana.

Major Limitations of this study:

1. Mothers were reluctant to participate in this study due to the following:
a. the perceived criminalization of suicide in this country and the fear of prosecution.
b. difficulty for bereaved mothers to express their emotions to stranger or openly talk about their feeling.
c. Still in the grieving process.
d. Lack of time-off for working mothers to come to GPHC or visit their closest heath facility for the interview process during the week.
2. Inability to contact a large proportion of mothers because of lack of access to telephone services (interior regions), no contact number was provided, change of telephone numbers, unanswered telephone calls which went straight to voicemail.
3. Unavailability of Social Worker on weekends, holidays and after 4pm during week days. The presents of a social worker in

additional to the interview location (in a health facility) were IRB requirement for the approval of this study.

Conclusion

This preliminary study provides compelling evidence of the urgent need for enhanced psychosocial support for bereaved mothers and their families in Guyana. The high prevalence of suicidal ideation during the early grieving period and the lack of adequate psychosocial support system highlights the critical importance of addressing this issue. By implementing comprehensive psychosocial support programs and improving the quality of healthcare provided, GPHC may be able to reduce the negative impact of perinatal loss on maternal mental health and well- being.

Further research is needed to gain a deeper understanding of the experiences of bereaved mothers in Guyana and to identify additional areas for improvement. Additionally, efforts should be made to ensure that all mothers, regardless of their location or socioeconomic status, have access to high-quality care and support services.

Referenc

1. Shaw, A., Stuart, J., Thomas, T., & Kõlves, K. (2022). Suicidal behaviour and ideation in Guyana: A systematic literature review. The Lancet Regional Health – Americas, 11, 100253. https://doi.org/10.1016/j.lana.2022.100253
2. World Health Organization. (2014). Preventing suicide: A global imperative. World Health Organization.
3. Roth, G. A., Abate, D., Abate, K. H., et al. (2018). Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: A systematic analysis for the Global Burden of Disease Study 2017. The Lancet, 392(10159), 1736–1788. https://doi.org/10.1016/S0140-6736(18)32203-7
4. Thompson, A. O. (2006). Symbolic legacies of slavery in Guyana. Nieuwe West-Indische Gids / New West Indian Guide, 80(3–4), 191–220. https://doi.org/10.1163/13822373-90002494
5. World Health Organization. (2021). Suicide worldwide in 2019: Global health estimates. Geneva: World Health Organization.
6. Guyana. (1998). Guyana Criminal Law (Offences) Act, Stat. 97. Available from: https://guyanachronicle.com/2021/01/20/health-ministry-zeroes-in-ondecriminalising-attempted-suicide/. Accessed 21 March 2021.
7. Guyana Chronicle. (2021, January 20). Health Ministry zeroes in on decriminalising attempted suicide. (Original URL no longer active)
8. Bright, A.-M., Doody, O., & Tuohy, T. (2022, September). Women with perinatal suicidal ideation – A scoping review of the biopsychosocial risk factors to inform health service provision and research. Department of Nursing and Midwifery, University of Limerick, Ireland.
9. Guyana News Room. (2021, December 8). Nearly 6,000 babies born at GPHC in 2020. https://newsroom.gy/2021/12/08/nearly-6000-babies-born-at-gphc-in-2020
10. Christiansen, D. M. (2017). Posttraumatic stress disorder in parents following infant death: A systematic review. Clinical Psychology Review, 51, 60–74. https://doi.org/10.1016/j.cpr.2016.10.007
11. Berry, S. N. (2022, July). The trauma of perinatal loss: A scoping review. Department of Nursing, Saint Martin's University, Olympia, WA, USA.
12. Herbert, D., Young, K., Pietrusinska, M., & MacBeth, A. (2022). The mental health impact of perinatal loss: A systematic review and meta-analysis. Journal of Affective Disorders, 297, 118–129. https://doi.org/10.1016/j.jad.2021.10.001
13. National Suicide Prevention Lifeline. (2021). Columbia Suicide Severity Rating Scale (C-SSRS). Research Foundation for Mental Hygiene, Inc. https://pcl.psychiatry.uw.edu/wp-content/uploads/2021/12/C-SSRS.pdf
14. World Health Organization. (2024). Newborn health in the Western Pacific. https://www.who.int/westernpacific/health-topics/newborn-health