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Perceptions of Public Health College Students on the Effectiveness of Infant Mortality Disparity Reduction Programs in Georgia, USA: Challenges and Strategies to Close the Gap.

Henricles Jeudy

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ABSTRACT

PERCEPTIONS OF PUBLIC HEALTH COLLEGE STUDENTS ON THE EFFECTIVENESS OF INFANT MORTALITY DISPARITY REDUCTION PROGRAMS IN GEORGIA, USA: CHALLENGES AND STRATEGIES TO CLOSE THE GAP.

By

HENRICLES JEUDY

APRIL/2023

INTRODUCTION: Although the programs that address infant mortality save lives and improve upon the health outcomes of infants and children, very few eligible women participate in these programs in the state of Georgia. The question is, why is this the case? Perhaps, if public health students have a better understanding of the benefits of these programs, they could advocate for and get more mothers involved in these programs.

AIMS: The purpose of this study was to:
- Examine the perceptions of Georgia State University (GSU) School of Public Health (SPH) students on the effectiveness of infant mortality disparity reduction programs (IMDP) Georgia, USA.
- Examine GSU SPH students' perceptions on potential challenges that serve as a barrier to maternal participation in IMDP in Georgia, USA.
- Obtain GSU SPH students' recommendations on strategies to improve upon maternal participation in IMDP in Georgia, USA.

METHODS: A mixed methods cross-sectional design was used to collect data from 45 Georgia State University School of Public Health students across 4 domains using Qualtrics. Quantitative data was analyzed using the Statistical Analysis System (SAS) version 9.4 and the Statistical Package for the Social Sciences (SPSS) version 28. Qualitative data was analyzed using a thematic approach.

RESULTS: Most participants (71.4%) reported that programs aimed at reducing infant mortality disparities are effective. However, 80% of the participants cited lack of transportation and concerns about the immigration status of mothers as main challenges that prevent participation. Participants recommended investing in community outreach, improving program accessibility, simplifying enrollment, ensuring health literacy, increasing access to care, stigma reduction and building trust as potential strategies to increase programs participation.

CONCLUSION: The study finds that programs aimed at reducing infant mortality disparity in Georgia are effective, and the perspectives of public health students indicate their understanding of potential challenges. Encouraging these students to engage in advocacy activities can equip them with valuable skills to advocate for improvements and enhance program engagement by eligible mothers.

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APPROVAL PAGE

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AUTHOR'S STATEMENT PAGE

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Chapter I

INTRODUCTION

1.1: Background

Infant mortality is the probability of an infant dying before its first birthday (CDC, 2022). Infant mortality is a serious global public health issue among racial minorities in the United States (US). Despite the progress made in science and technology, health inequities pose a significant barrier to achieving positive birth outcomes among minority women in the US (Hill et al., 2022). Consequently, infant mortality in the US is higher among African Americans, Hispanics, and American Indian/ Alaska Natives compared to Whites. According to Hill et al. (2022), infants born to African American women in the US were over twice as likely to die relative to those born to White women (10.4 vs. 4.4 per 1,000 live births), and that the infant mortality rate for American Indian/ Alaska Natives and Hispanic women was almost twice as high (7.7 and 7.2 per 1,000 live births) compared to Whites. Infant mortality rates in Georgia are high. As of December 2022, the infant mortality rate in the state was 8.208 deaths per 1000 live births (Georgia Department of Public Health, 2022).

It was in the bid to address these disparities in infant birth outcomes that various programs, including the Women, Infants, and Children (WIC) and the Healthy Start (HS) programs, were developed, and launched at the federal, state, and local levels in the US including the state of Georgia (Food and Nutrition Service US Department of Agriculture [FNS USDA], 2013; HRSA Maternal and Child Health, 2022). Irrespective of the fact that these programs save lives and improve upon the health outcomes of infants, slightly more than half of eligible women participate in the programs. For example, the FNS USDA (2022) reported that despite blatant evidence of the benefits of the WIC program, only 57.4 % of eligible mothers in the US enrolled

to participate in the program in 2019, and that during that same year, only 49.3 % of eligible mothers in Georgia were enrolled.

The utilization of public health professionals to advocate for and create awareness about community health issues and to encourage government leaders, policymakers, and other stakeholders to promote health equity in the design and implementation of public health interventions is important (Blenner et al., 2017). In fact, advocating for the accessibility, affordability, and sustainability of programs that seek to reduce disparity in infant mortality is critical. In their work on the role of public health professionals as agents of change, Blenner et al. (2017) suggest the need to integrate health advocacy into public health training curricula. They emphasize the role of public health professionals in advocacy and health promotion. Thus, per their suggestion, if public health students are trained in health advocacy during their college education, it is very likely that they will gain a better understanding of the benefits and challenges of health promotion programs including those that seek to reduce infant mortality. This will put them in good standing to use their acquired advocacy skills to create awareness and encourage eligible women, infants, and children to participate in such interventions.

1.2: Purpose

The purpose of this study is to:

- Examine the perceptions of Georgia State University (GSU) School of Public Health (SPH) students on the effectiveness of infant mortality disparity reduction interventions in the State of Georgia, USA
- Examine GSU SPH students' perceptions on potential challenges that serve as a barrier to maternal participation in infant mortality disparity reduction interventions in the State of Georgia, USA

- Obtain recommendations from GSU SPH students on strategies to improve upon maternal participation in infant mortality disparity reduction interventions in the State of Georgia, USA.

1.3: Research Questions

1. How do Georgia State University (GSU) School of Public Health (SPH) students perceive the effectiveness of infant mortality disparity reduction interventions in the State of Georgia, USA?

2. What do GSU SPH students perceive as potential challenges to maternal participation in infant mortality disparity reduction interventions in the State of Georgia, USA?

3. How do GSU SPH students perceive their role in advocating for and improving upon maternal participation in infant mortality disparity reduction programs in Georgia, USA?

Chapter II

LITERATURE REVIEW

2.1: United States Infant Mortality Status

Infant mortality rate (IMR) is a crucial marker of life expectancy and the well-being of an entire society (Centers for Diseases Control and Prevention [CDC], 2022). In their study on the association between IMR and disability-adjusted life expectancy (DALE) for 180 countries, Reidpath & Allotey (2003) found a significant linear correlation (r=0.91) between IMR and DALE - the higher a nation's IMR, the lower its DALE. The World Health Organization (WHO) publishes global infant mortality statistics periodically. In 2018, the WHO reported that an estimated 4 million infants died before their first birthday, translating to about 29 deaths per 1000 live births (WHO, 2022). This statistic represents about 75% of all global IMR. It was in the bid to prevent the deaths of children under the age of five by 2030 that the United Nations came up with Sustainable Development Goal 3, Target 3.1 (United Nations, n.d.).

Like other developed countries, the U.S. has seen a decrease in IMR over the years, however, unlike those countries, the U.S has been slower to improve upon its consistently higher average IMR. In 2020, The United Nations Children's Fund (UNICEF) published the IMR of 150 countries. The U.S ranked 50th, with an IMR of 5.4 deaths per 1000 live births (UNICEF, 2020). In the U.S., the state of Georgia has been documented as having one of the highest IMRs (6.28 deaths for 1000 live births). Indeed, the state's IMR exceeds the national average of 5.4 (CDC, 2022).

2.2: Infant Mortality Disparity in the United States

Health disparities refers to differences in health outcomes among populations due to social, economic, and environmental disadvantages. Owing to racial inequities, some racial

groups in the U.S. experience higher IMR's than others. It is therefore not surprising that although IMR in the U.S. generally decreased from 9.2 to 5.6 per 1000 live births between 1990 and 2020, there were stark disparities among African American and White infants (Jang & Lee, 2022). In 2011, data from the National Center for Health Statistics (NCHS) also revealed disparities. IMR was 10.8 per 1000 live births among African American children, and 9.4 per 1000 live births among native Hawaiian and Pacific Islanders. IMR was lowest among White and Asian populations, 4.6 per 1000 live births and 3.6 per 1000 live births, respectively (Jang & Lee.2022). In 2022, data from the NCHS revealed that African American infants still had a higher risk (nearly four times) of dying before their first birthday compared to White infants (NCHS, 2022).

Many factors contribute to the disparities in IMR among African American and White infants in the U.S. Several studies emphasize the impact of socioeconomic factors such as education, employment, maternal stress and smoking, access to prenatal care, and structural racism on IMR outcomes (Adegoke, 2022; Reno & Hyder, 2018). In their assessment of infant mortality between racial groups with and without college education in the U.S, Fisherman et al. (2021) found that there were 3.1 more fatalities per 1,000 live births among infants born to African American women with a college degree than among infants born to White women without a college academic degree or less. Regarding the employment factor, the risk of IM is nonetheless statistically much lower when a woman finds job after being unemployed (Scharber, 2014). Another factor that can worsen the burden of IM is maternal smoking. Reno & Hyder (2018) highlighted how maternal smoking increases the risk of infant death both during pregnancy and after delivery. They explain that a higher incidence of IM is linked to maternal smoking during pregnancy, particularly when the mother exhibits symptoms of a respiratory

disease. Considering prenatal care access, Cox et al. (2011) found that there is a greater risk of IM among women getting inadequate prenatal care as well as a larger percentage of African American women falling into the categories of inadequate or no prenatal care. Another study conducted by Vilda et al. (2021) measuring the association between structural racism and infant mortality in the U.S. found that absolute and relative racial disparities in IMR was amplified in metropolitan areas than in rural areas. Other researchers found that structural racism creates disparities in IMR in that it leads to discrimination against African American women throughout their life course, exacerbates their level of stress, and culminates in poor birth outcomes (Liu & Glynn,2021).

2.2.1 Infant Mortality Disparity in Georgia

For years, Georgia has consistently been ranked as one of the most dangerous states in the U.S. to be a new mother. Per Thomas (2022), in 2021, Georgia's IMR was 6.1 per 1,000 live births, exceeding the national average of 5.4 deaths per 1,000 live births. Disaggregated by race, in 2021, the IMR for African American infants was 10.8 per 1,000, 5.4 per 1,000 live births for Hispanic babies, 4.9 per 1,000 live births for White babies, and 4.2 per 1,000 live births for Asian and Pacific Islander babies. Also in 2021, the preterm birth (**birth** that occurs before 37 weeks of gestation) rate in the state of Georgia was 11.9% higher than the national average which was of 10.5%. This was the highest in the state since 2007. Pre-term birth among African American women in Georgia was 14.7%, which was 47% higher than that of women of other racial groups in the state (Thomas, 2022).

According to Thomas (2022), while the city of Atlanta was among the top 100 cities in the U.S States when it came to the number of live births in 2021, the city earned an "F" grade for maternal and infant health because of its high IMR of 11.8 preterm births per 1,000 live births.

That during same year, the top six counties in Georgia that fared poorly for pre-term births were Chatham (14.0%), Clayton (13.4%), Cobb (10.5%), DeKalb (11.1%), Fulton (11.9%), and Gwinnett (10.5%). All six results were worse than the previous years. Georgia also did not score well in the category of adequate prenatal care. Data from 2021 showed 15.4% of women received inadequate prenatal care. Specifically, Hispanic mothers received inadequate prenatal care for 22.8% of live births, American Indian and Alaska Native mothers 22.3%, African American mothers 21.2%, Asian and Pacific Islander 14%, and white, 11% of live births (Thomas, 2022).

With regards to geographic location, babies born to mothers in rural Georgia have a significantly higher mortality rate than those born to mothers in urban Georgia, with African American babies having about twice the mortality rate of rural White babies (Warren, 2021). The leading causes of IMR in Georgia include prematurity, birth-related infections, respiratory conditions, cardiovascular disorders, suffocation pregnancy- related complications, sudden infant deaths (SIDS) (Georgia Department of Public Health, n.d.). Research suggests that most of the causes of infant mortality can be prevented (Kaiser Family Foundation, 2022).

2.3: Infant Mortality Disparity Reduction Programs in Georgia

According to the National Healthy Start Association, the state of Georgia is part of 15 states with the highest rate of infant mortality. Due to increased awareness and the need to reduce disparities in IMR, several interventions have been developed in various states in the U.S. including Georgia. These interventions focus on addressing a range of social determinants of health including access to public health insurance (Medicaid), the provision of services to help low-income families receive nutrition, breastfeeding education, and support, as well as connecting mothers to health service resources. Other interventions seek to eliminate national

disparities in infant mortality, perinatal outcomes, and to promote behavioral and mental health and women's health by improving systems of community care. This study focuses on two such interventions in Georgia: The Women, Infants, and Children (WIC) Program and the Healthy Start Program.

2.3.1: Women, Infants, and Children (WIC) Program

The WIC program, also known as the Special Supplemental Nutrition Program for Women, Infants, and Children, began as a pilot project in 1979 and was later expanded to the rest of the U.S. including Georgia over time. The WIC program goal is to protect the health of low resource mothers, children under five years old who are at risk for malnutrition by offering supplemental nourishing meals, advice on healthy eating, and to connect mothers and infants to the right medical services if it is needed (Food and Nutrition Service United States Department of Agriculture [FNS USDA], 2022). The program also seeks to ensure that low-income pregnant women, postpartum women who breastfeed, infants, and children under the age of five achieve excellent health outcomes (United States Department of Agriculture [USDA], 2022). As a federally funded program, WIC is managed at the federal level by the FNS USDA. However, it must be noted that this program is not uniformly operated across the country (Colman et al., 2012). In fact, The program is operated at the state and territory level through 90 agencies, including states, American territories, and Indian tribal organizations; these agencies have the authority to assign food packages and deliver participation instruments, such as vouchers (USDA, 2022).

All WIC applicants are required to meet three eligibility criteria in order to enroll in the program (Conor et al., 2010). First, participants must belong to one of five specific categories: i) childbearing women until six weeks after giving birth, ii) breastfeeding women up to one-year

postpartum, and iii) non-breastfeeding women up to six months postpartum, iv) infants, and any children under five years of age. Second, the potential participant must be at nutritional risk and assessed by a health professional. Third, potential participants should have a household income of 185 percent or less than the federal poverty level. According to USDA (2022), Supplemental Nutrition Assistance Program (SNAP) and Medicaid participants are automatically income eligible for the WIC program.

Per the USDA (2013), the main outcomes of the WIC program are the reduction of infant mortality, low birth weight, prolonged pregnancy, and improvement in pregnant and infant nutrition. Evidence has shown that the WIC program improves these outcomes among participants. In a study conducted in Hamilton County in Ohio on the effects of the WIC program, Khanani et al. (2010) found that IMR had significantly reduced for people who participated in the program (9.6 African American vs. 6.7 for Whites) compared to those who did not (21.0 for African Americans vs. 7.8 for Whites). As maternal malnutrition can worsen low birthweight (LBW), poor fetal development, and infant mortality (Abu-Saad & Fraser, 2010), the nutrition component of the WIC program facilitates the consumption of nutritious food throughout and after pregnancy, and during infancy to improve maternal and child health outcomes. In their study of assessing the impact of a well-balanced protein-energy supplement, Imdad & Bhutta (2012) discovered that balanced protein-energy supplements during pregnancy resulted in a 32% decrease in the incidence of low birthweight in the intervention group compared to the control group. Targeting disadvantaged minority populations and providing adequate access helps improve infant health disparity and indirectly reduces infant mortality.

The Georgia Department of Public Health operates the WIC program for the State of Georgia. Despite the fact that this program is one of the most extensive WIC programs in the

U.S., only a few eligible people join (FNS USDA, 2022). Georgia Budget and Policy Institute (2022) stated that there was a decline of 6.7% in WIC enrollment in Georgia in February 2021 compared to 2020, even though there was an increase in SNAP and Medicaid participants. The Georgia Family Connection Partnership (2020) exposed some of the challenges that explain the low level of participation situation in Georgia as including misunderstanding about the program, time consumption, and confusion about the eligibility criteria, and certification.

2.3.2: Healthy Start Program

The Healthy Start (HS) program in the U.S was started 1991 by the Health Resources and Services Administration (HRSA) in order to reduce infant mortality disparity and improve upon maternal-child health outcomes in communities with high IMR (Health Resources and Services Administration [HRSA], n.d). The HS program aims to improve health outcomes for participants before, during and after pregnancy, and eliminate racial disparities in infant mortality and inadequate perinatal outcomes (Healthy Start Epic Center, n.d). HS program is implemented in communities where infant mortality is at least 1.5 times that of the national average and when low birth weight, preterm birth, and maternal death are prevalent.

This federally funded program is operated by local agencies at the state level, and currently, 96 programs are implemented across the U.S. (American Pregnancy Association [APA], n.d). According to APA, state-by-state variations in services are possible since the program is run by local organizations in each state. The majority of states offer the following services: care coordination, information on breastfeeding and childbirth, parenting advice and support, help quitting smoking, nutritional services and counseling, psychological therapy, home visits, support groups, and other programs tailored to meet individual needs. To be eligible to participate in the HS program, women must live in the intervention's targeted region, be a

childbearing woman, a mother who recently gave birth, or a mother with children under two years of age (HRSA, n.d).

Research highlights the positive effect of HS program in improving perinatal outcomes and infant health. For instance, Caughlin et al. (2013) assessed the effects of the Inter-Tribal Council of Michigan's (ITCM) healthy start intervention on prenatal outcomes through a retrospective cohort study (period of 1998-2008). They found that participating women compared to non-participants in medically underserved area, had a lower risk of having a low birthweight baby and most likely to receive adequate prenatal care. Another study that assessed the frequency of low birth weight among women participating in Arizona's Healthy Start program was compared to a sample of mothers not participating in the program. While both groups shared comparable medical and socioeconomic risk factors, findings showed that the infants of women who participated in the HS program had better birth weight outcomes even after confounding factors had been controlled (Hussaini et al., 2011).

In 2020, six Georgia local agencies received an award grant from HRSA to implement the healthy start program. One of the significant challenges is the retention of the enrollees in the program (Brown et al., 2017).

2.4. Public Health Student Advocacy and the Promotion of IMR Reduction Programs

Health advocacy seeks to ensure access to care, navigate the system, mobilize resources, address health disparities, influence health policy, and influence system change (Hubinette et al., 2017). Blenner et al. (2017) explained that it is an urgent need to increase the ability of the existing and future public health personnel and the communities to participate in public health advocacy. They insist on highlighting how tackling health disparity without advocacy is challenging. The results of public health interventions will also be challenging to maintain while

leaving communities vulnerable after programs and financing are over. Current public health students who will grow the public health workforce can play a crucial role in embedding community-based organizations and others to advocate by addressing lawmakers and public health authorities to expand access to interventions that cope with infant mortality disparity. They can also help raise community awareness about community health issues. A public health professional's inability to advocate has been compared to a doctor's negligence in the medical field (Tillman et al., 2014). Although one of the critical roles of public health professionals in advocacy is to influence change of the paradigm, only some accredited public health schools offer advocacy courses (Carter et al., 2022).

Chapter III

METHODOLOGY

3.1: Setting and Population

Georgia State University (GSU) School of Public Health (SPH) is an urban university with over 900 students enrolled in various programs during the 2022/2023 academic year and a cumulative total of 1700 students since 2006 (GSU SPH, n.d.). GSU SPH students are from different racial, socio-economic, and cultural backgrounds. This school offers a variety of programs at undergraduate and graduate levels including Bachelor of Science in Public Health, Graduate Certificate, Master of Public Health, Doctor of Public Health, and Doctor of Philosophy. Through various methods and coursework, the different programs facilitate students to get an understanding of current public health issues across diverse disciplines (Armstrong-Mensah et al., 2020).

3.2: Sampling, Data Collection, and Ethics

A cross sectional study of students enrolled in GSU SPH programs during the spring semester of 2023 was conducted to obtain data on students' perceptions on the effectiveness and challenges of infant mortality disparity reduction programs in Georgia and what strategies can be used to close the gap.

Students were recruited through social media like WhatsApp, GroupMe and email, and the GSU SPH learning platform (Icollege). A one-time 6-minutes online survey designed in Qualtrics was completed by students who volunteered to take part in the study. The survey contained both quantitative and qualitative questions. Everyone enrolled at GSU SPH was invited to participate in the study. Students gave their consent by completing the survey. No

names or personal identification was collected from study participants. The GSU Institutional
Review Board approved the study.

3.3: Variables and Measurement

A total of 15 multiple choices and closed-ended questions were included in the survey
(*see the appendix*). They were grouped into four domains, i) demographic information, ii)
perceptions of the effectiveness of infant mortality disparity reduction programs, iii) perceived
challenges of maternal participation in infant mortality disparity reduction programs, and iv)
recommendations.

The demographic domain focused on academic status, age, and race of study participants.
The perceptions of the effectiveness of infant mortality disparity reduction programs domain
focused on study participants familiarity with infant mortality disparity reduction programs in
Georgia, and their perceptions on whether infant mortality disparity reduction programs can
effectively address infant mortality disparities in the state of Georgia? The perceived challenges
of maternal participation in infant mortality disparity reduction programs domain focused on
what study participants believed were challenges to mothers participating in infant mortality
disparity reduction programs in Georgia. The recommendations domain focused on what study
participants perceived should be done to improve upon maternal participation in infant mortality
disparity reduction programs in Georgia, and what public health students can also do.

3.4: Analysis

Cleaned data from Qualtrics was transferred to Statistical Analysis System (SAS) version
9.4 and IBM Statistical Package for the Social Sciences (SPSS) statistical software 26 for
analysis. For quantitative data, univariate, and bivariate analyses were performed. Fisher test was
used due to small sample size. Qualitative data was extracted from the SPSS database and

analyzed manually using a thematic approach. Direct quotes from the students' responses to specific questions are presented verbatim.

Chapter IV

RESULTS

4.1: Univariate Analysis

4.1.1: Demographics and academic status

A total of 45 students enrolled in GSU SPH programs participated in the study. Of this total, 14.6 % were undergraduates, and 68.3% were graduate students (Master of Public Health, Doctor of Philosophy, and Doctor of Public Health). 70.7% of the study participants self-identified as female, while 26.8% identified as male. Per racial origin, most students self-identified as African American (53.7 %) and 24.4 % as Asian **(Table 1)**.

4.1.2: Perceptions on the Effectiveness of Infant Mortality Disparity Reduction Programs

Student familiarity with current infant mortality disparity programs implemented in the state of Georgia, USA was assessed. As shown in Table 1, 67.6 % of participants indicated familiarity with infant mortality disparity reduction programs. The majority of the study participants (46.7 %) said they are familiar with the Women, Infant, Children Nutrition Program (WIC) and 37.8 % said they are familiar with Healthy Mothers Healthy Babies. The same percentage of students (26.7 %) said they are familiar with the Healthy Start and Babies Can't Wait programs, and 8.9 % of the student's reported familiarity with other infant mortality disparity reduction programs in the State, such as best babies' zone, Doula Pilot, Mark Chaffin Center for Healthy Development, Pickles and Ice Cream. When it came to perceptions of infant mortality reduction program effectiveness, 71.4 % of the study participants indicated that these programs are effective in reducing infant mortality disparity. Some of the reasons (n=25) study participants provided include education and information (cited 5 times), community resources (cited 5 times), awareness (cited 4 times), and socio economic (cited 4 times), research (cited 2

times), capacity building (cited 1 time), and disparity (cited 1 time) (**See Appendix**). For example, some of them said:

"I think that these programs help address information and medical some women face while pregnant. They help provide prenatal care for mothers and helps them understand the best way to take care of their baby's is to take care of themselves."

"Providing mothers and infants of disadvantaged populations with adequate resources to improve their health outcomes. To address disparities, resources should be matched to the needs of those experiencing disparities. Achieving health equity should be a core strategy of policies and programs aiming at addressing health disparities."

"By building on the strengths of the community and allocating resources where they're most needed."

"By providing the care and support necessary to improve women's health and healthy pregnancy, delivery, and supportive care."

Very few study participants (7 %) stated that they do not think that these programs are effective **(Table 1)**. Some of the reasons (n=3) they provided include the need for policy reform (cited 2 times) and the issue disparities (cited 1 time) (**see Appendix**). For example, they said:

"Although these programs are in place there is a need for radical policy change and healthcare reform to ensure that infant mortality is taken seriously especially within POC communities."

"There are structural issues at play that do not allow for the disparities to be fully remediated."

4.1.3: Perceived Challenges of Maternal Participation in Infant Disparity Reduction Programs

Most of the study participants (80%) identified lack of access to transportation and the fear of mothers' immigration status as the two main challenges that prevent mothers from joining

infant mortality disparity programs in the State of Georgia. A little over three-quarters of study participants (74.3 %) indicated that the lack of information about program's benefits, and 71 % reported unclear eligibility criteria as one of the challenges for joining infant mortality disparity reduction programs in Georgia **(Table 1).** Study participants suggested "other" challenges that contribute to non-participation of potential eligible women to infant mortality disparity reduction programs. Some of the challenges (n=20) they identified include financial (cited 4 times), stigma (cited 3 times), lack of education/information (cited 3 times), lack of interest/no time (cited 3 times), government capacity (cited 2 times), distrust (cited 1 time), racism (cited 1 time), concern (cited 1 time), time constraints (cited 1 time), bias (cited 1 time), and the program process (cited 1 time) (**See Appendix**). Specifically, some of them said:

"Financial status, unexpected pregnancy, lack of trust in government, absence of universal health care and not enough social services"

"Language barriers and stigma"

"They may not have the knowledge to know that they're high risk."

"Perhaps perceived perceptions in the length of time needed to participate in these programs. Many individuals do not hold health at a higher priority, regardless of the subject."

4.1.4: Recommendations

The study participants were asked about strategies to improve maternal participation in infant mortality disparity reduction programs in Georgia, USA. Most of the study participants (68.9 %) selected "invest in community outreach" as the top strategy. About two-thirds (66.7 %) indicated "improve program accessibility as a viable strategy." A little under two-thirds (64.4 % each) said, "simplify program enrollment" and "ensure health literacy and raise awareness,"

about the study to potential participants **(Table 1).** Study participants provided "other"

recommendations that can improve maternal participation in these programs. Some of the

strategies (n=4) they provided include improving access to care (cited 2 times), stigma reduction

(cited 1 time), and building trust (cited 1 time) **(See Appendix)**. For example, some specifically

said:

"Expand Medicaid and normalize primary care; improve sex ed to focus on women's health"

"Design culturally appropriate messages, fighting stigma"

When it came to what public health students can do to increase mothers' participation in infant

mortality disparity reduction programs in the state of Georgia, study participants suggested

advocacy (**See Appendix**). For example, they said:

"Contact elected officials and advocate in the community"

"find ways to make the program not require enrollment and it be part of the birthing process

with medical professionals."

Table 1: Descriptive characteristics of participants by four domains

Variables	Sample Size, n	Percentage, %
1. DEMOGRAPHICS AND ACADEMIC INFORMATION		
Sex		
Male	11	26.8
Female	29	70.7
Other	1	2.4
Total	41	100.0
Race		
African American/Black	22	53.7
Caucasian/White	5	12.2
Asian	10	24.4
Hispanic/Latino	4	9.8
Total	41	100.0
Educational Status		
Freshman	3	7.3
Sophomore	1	2.4
Junior	2	4.9
Senior	7	17.1
MPH	25	61.0
PhD	1	2.4
DrPH	2	4.9
Total	41	100.0
2. PERCEPTIONS ON THE EFFECTIVENESS OF INFANT MORTALITY DISPARITY REDUCTION PROGRAMS		
Are you familiar with any infant mortality disparity reduction programs in Georgia?		
Yes	25	67.6
No	12	32.4
Total	37	100.0
If yes, which of the following infant mortality disparity reduction programs are you familiar with? (Multiple)		
WIC (Women, Infants, and Children)	21	46.7
Babies Can't Wait	12	26.7
Healthy Start	12	26.7
Healthy Mothers Healthy Babies	17	37.8
Other	4	8.9
Do you think infant mortality disparity reduction programs can help to effectively address infant mortality disparities in the state of Georgia?		
Yes	28	73.7
No	3	7.9
I don't know	7	18.4
Total	38	100.0

3. PERCIVED CHALLENGES OF MATERNAL PARTICIPATION IN INFANT DISPARITY REDUCTION PROGRAMS

Would you say that unclear eligibility criteria are a challenge that prevents mothers from participating in infant mortality disparity reduction programs in Georgia, USA?

Yes	25	71.4
No	1	2.9
I don't know	9	25.7
Total	35	100.0

Would you say that the lack of access to transportation is a challenge that prevents mothers from participating in infant mortality disparity reduction programs in Georgia, USA?

Yes	28	80.0
No	3	8.6
I don't know	4	11.4
Total	35	100.0

Would you say that the enrollment process is a challenge that prevents mothers from participating in infant mortality disparity reduction programs in Georgia, USA?

Yes	23	65.7
No	2	5.7
I don't know	10	28.6
Total	35	100.0

Would you say that the lack of information about program benefits is a challenge that prevents mothers from participating in infant mortality disparity reduction programs in Georgia, USA?

Yes	26	74.3
No	5	14.3
I don't know	4	11.4
Total	35	100.0

Would you say that the fear of mother's immigration status being revealed is a challenge that prevents mothers from participating in infant mortality disparity reduction programs in Georgia, USA?

Yes	28	80.0
No	1	2.9
I don't know	6	17.1
Total	35	100.0

Would you say that some eligible mothers who do not have any challenges decide to not participate in any of the infant mortality disparity reduction programs in Georgia?

Yes	25	71.4
No	1	2.9
I don't know	9	25.7
Total	35	100.0

4. RECOMMENDATION

What should be done to improve upon maternal participation in infant mortality disparity reduction programs in Georgia, USA? (Multiple)

Improve program accessibility	30	66.7
Invest in community outreach	31	68.9
Ensure health literacy/raise awareness	29	64.4
Funding support	24	53.3
Simplify programs enrollment	29	64.4
Other	4	8.9

4.2: Bivariate Analysis

Using a confidence level of alpha = 0.05, bivariate analysis was conducted to assess the relationship between demographics - academic status, gender, race-, perceived challenges of maternal participation in infant mortality disparity reduction programs -unclear eligibility, lack of access to transportation, enrollment process, lack of information about program benefits, fear of mothers' immigration status and mother's decision to not participate without any challenges (independent variables), and study participants' perception of the effectiveness of infant mortality disparity reduction programs (dependent variable). Findings are presented in Table 2. The analysis shows that 60.71 % of graduate students (MPH, PhD, DrPH) regard infant mortality disparity reduction programs in the state of Georgia as effective, and 67.86 % of study participants who said infant mortality disparity reduction programs are effective were female. African American study participants represent the highest percentage (53.57%) of study participants who believe that infant mortality disparity reduction programs in Georgia are effective. No statistically significant relationship was found between the effectiveness of infant mortality disparity reduction programs in the state of Georgia and unclear eligibility criteria for program participation (p-value=0.5940), lack of access to transportation (p=1.000), enrollment process (0.6346), lack of information about program benefits (0.5940), fear of mothers' immigration status (p=1.000), and mothers' own decision to not participate (p=05940).

Table 2: Bivariate analysis of infant mortality disparity reduction program effectiveness vs. Academic status, Gender, Race, and challenges.

	Effective		No effective		
Characteristic	*n*	*%*	*n*	*%*	*p*
1. DEMOGRAPHICS					
Academic status					0.5350
Undergraduate	11	39.29	0	0.0	
Graduate	17	60.71	3	100.0	
Total	28	100.0	3	100.0	
Gender					0.1155
Male	9	32.14	0	0.0	
Female	19	67.86	2	66.67	
Other	0	0.00	1	33.33	
Total	28	100.0	3	100.0	
Race					0.4024
African American/ Black	15	53.57	2	66.67	
Caucasian/White	5	17.86	0	0.00	
Asian	6	21.43	0	0.00	
Hispanic/Latino	2	7.14	1	33.33	
Total	28	100.0	3	100.0	
II. Perceived Challenges of Maternal Participation in Infant Mortality Disparity Reduction Programs					
Unclear eligibility criteria					0.5940
Yes	17	68.00	3	100.0	
No	1	4.00	0	0.00	
I don't know	7	28.00	0	0.00	
Total	25	100.0	3	100.0	
Lack of access to transportation					1.00
Yes	21	84.0	3	100.00	
No	2	8.00	0	0.00	
I don't know	2	8.00	0	0.00	
Total	25	100.0	3	100.0	
Enrollment process					0.6346
Yes	16	64.00	3	100.00	
No	2	8.00	0	0.00	
I don't know	7	28.00	0	0.00	
Total	25	100.0	3	100.0	
Lack of information about program benefits					0.5940
Yes	10	76.00	2	66.67	
No	4	16.00	1	33.33	
I don't know	2	8.00	0	0.00	
Total	16	100.0	3	100.0	
Fear of mother's immigration status					1.00
Yes	20	80.00	3	100.00	
No	1	4.00	0	0.00	
I don't know	4	16.00	0	0.00	

Total	25	100.0	3	100.0	

Own decision to not participate without challenges					0.5940
Yes	17	68.00	3	100.00	
No	1	4.00	0	0.00	
I don't know	7	28.00	0	0.00	
Total	25	100.0	3	100.0	

Chapter V

DISCUSSION AND CONCLUSION

5.1: Discussion

The study was conducted to examine the perceptions of Georgia State University (GSU) School of Public Health (SPH) students on the effectiveness and challenges of infant mortality disparity reduction programs (IMDRP) Georgia, USA, and obtain from them, recommendations on strategies to improve upon maternal participation in IMDRPs. Study participants provided information on their perception of effectiveness of these programs, challenges that prevent potential eligible women from participating and strategies to improve upon IMDRP participate in Georgia.

5.1.1: Perceptions on the Effectiveness of Infant Mortality Disparity Reduction Programs

Study results showed a majority of GSU SPH believe infant mortality disparity reduction programs are effective. This finding is consistent with previous studies that suggested the effectiveness of these programs. For example, Khanani et al. (2010) reported that infant mortality has dramatically decreased among disadvantaged participants who participated in the WIC program. Other studies found the Healthy Start Program to be effective in reducing infant mortality disparity (Caughlin et al. 2013; Hussaini et al., 2011).

5.1.2: Perceptions on potential challenges to maternal participation in infant mortality disparity reduction Programs

Most study participants perceived lack of transportation, the fear of mothers' immigration status, and lack of information about program benefits as the main barriers to potential eligible mothers joining IMDRPs. Others indicated that finances, stigma, education or lack of information, lack of interest or no time were also challenges. A study conducted by Woelfel et al.

(2004) reported many barriers, such as inaccessibility of WIC clinics due to transportation issues, lack of awareness of the program and its eligibility criteria among eligible individuals, and feelings of stigmatization as the main for eligible mothers and infants to using WIC services. Although these challenges are consistent with previous studies, this study did not find any statistical significance association between the different challenges and the program's effectiveness.

5.1.3: Strategies to close the Participation Gap in Infant Mortality Disparity Reduction Programs.

Regarding the strategies to facilitate mother's participation in infant mortality reduction programs, study results showed that many study participants opted for i) investing in community outreach, ii) improving program accessibility, iii) simplifying enrollment, and iv) ensuring health literacy or raising awareness. They also suggested providing access to participation with a focus on stigma reduction and building trust. Previous studies highlighted the role of those strategies to increase programs participation. For example, Berkowitz et al. (2016) reported that increasing awareness of WIC through targeted outreach efforts, offering more flexible hours and locations for appointments, and addressing stigma by emphasizing the health benefits of WIC can play a key role in closing the programs participation gap. When asked about the specific role that public health students could play in promoting participation in programs aimed at reducing infant mortality disparities, the students highlighted the importance of advocacy. They emphasized that advocating for policy changes, promoting flexible enrollment procedures, and fostering support from local communities could effectively enhance the involvement of eligible mothers and infants in such programs. Tillman et al. (2014) found that engaging in advocacy activities enabled public health students to acquire crucial abilities such as effective communication,

leadership, and policy analysis. These competencies further facilitated their collaboration with community partners and policymakers, resulting in improved effectiveness of their advocacy efforts. As the Commission on Social Determinants of Health, (2008) suggested, the integration of advocacy into public health education, practice, and research to boost systemic change while talking social health determinants and health disparities, it is crucial for public health students to play a role in the change of infant mortality disparity paradigm.

5.2: Study Limitations

Limitations to this study include the fact that <5% of the GSU SPH student population participated in the study. Limited recruitment and data collection time may be responsible for the low participation rate and lack of association reported in this study. It would have been preferable to have more time for data collection and at least a quarter of the SPH student body participating. The small sample size reduced the power of the study, thus, limiting generalizability of the study findings. The small sample size also made it such that multivariate analysis could not be conducted.

5.3: Conclusion

The study finds that programs aimed at reducing infant mortality disparity in Georgia are effective, and the perspectives of public health students indicate their understanding of potential challenges. Encouraging these students to engage in advocacy activities can equip them with valuable skills to advocate for improvements and enhance program engagement by eligible mothers. public health challenges.

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APPENDIX

Data collection instrument

Perceptions of Public Health College Students on the Effectiveness of Infant Mortality Disparity Reduction Programs in Georgia, USA: Challenges and Strategies to Close the Gap

The purpose of this study is to: i) examine the perceptions of Georgia State University (GSU) School of Public Health (SPH) students on the effectiveness of infant mortality disparity reduction interventions in the State of Georgia, USA; ii) examine GSU SPH students' perceptions on potential challenges that serve as a barrier to maternal participation in infant mortality disparity reduction interventions in the State of Georgia, USA, and iii) obtain recommendations from GSU SPH students on strategies to improve upon maternal participation in infant mortality disparity reduction interventions in the State of Georgia, USA

Please answer the questions to the best of your ability. The duration of the survey is approximately five minutes. This survey is anonymous. No information you provide can be traced back to you. Please choose the answer option that best represents your opinion.

I. **Demographic and Academic Information**

1. Which of the following best represents your current academic status?
   [ ] Freshman   [ ]MPH
   [ ] Sophomore   [ ]PhD
   [ ] Junior   [ ]DrPH
   [ ] Senior

2. How do you self-identify?
   [ ] Male
   [ ] Female
   [ ] Other

3. What is your race?
   [ ] African American/ Black
   [ ] Caucasian/White
   [ ] Asian
   [ ] Native American
   [] Native Hawaiian or Pacific Islander
   [ ] Hispanic/Latino
   [ ] Unknown
   [ ] Other, please specify._____

II. **Perceptions on the Effectiveness of Infant Mortality Disparity Reduction Programs**

4. Are you familiar with any infant mortality disparity reduction programs in Georgia?

[ ] Yes
[ ] No

5. If yes, which of the following infant mortality disparity reduction programs are you
    familiar with? Check all that apply:
    [ ] WIC
    [ ] Babies Can't Wait
    [ ] Healthy Start
    [ ] Healthy Mothers Healthy Babies
    [ ] None

6. Do you think infant mortality disparity reduction programs can help to effectively address
    infant mortality disparities in the state of Georgia?
    [ ] Yes
    [ ] No
    [ ] I don't know

    6a. If yes, how?_____

    6b. If no, why?_____

III. **Perceived Challenges of Maternal Participation In Infant Mortality Disparity Reduction Programs**

7. Would you say that unclear eligibility criteria are a challenge that prevents mothers from
    participating in infant mortality disparity reduction programs in Georgia, USA?
    [ ] Yes
    [ ] No
    [ ] I don't know

8. Would you say that the lack of access to transportation is a challenge that prevents mothers
    from participating in infant mortality disparity reduction programs in Georgia, USA?
    [ ] Yes
    [ ] No
    [ ] I don't know

9. Would you say that the enrollment process is a challenge that prevents mothers from
    participating in infant mortality disparity reduction programs in Georgia, USA?
    [ ] Yes
    [ ] No
    [ ] I don't know

10. Would you say that the lack of information about program benefits is a challenge that prevents mothers from participating in infant mortality disparity reduction programs in Georgia, USA?
    [ ] Yes
    [ ] No
    [ ] I don't know

11. Would you say that the fear of mother's immigration status being revealed is a challenge that prevents mothers from participating in infant mortality disparity reduction programs in Georgia, USA?
    [ ] Yes
    [ ] No
    [ ] I don't know

12. What are some other challenges that prevent mothers from participating in infant mortality disparity reduction programs in Georgia, USA? Please explain._____
    _____

13. Would you say that some eligible mothers who not have any challenges decide to not participate in any of the infant mortality disparity reduction programs in Georgia?
    [ ] Yes
    [ ] No
    [ ] I don't know

IV. **<u>Recommendation</u>**

14. What should be done to improve upon maternal participation in infant mortality disparity reduction programs in Georgia, USA? ***Check all that apply.***
    [ ] Improve program accessibility
    [ ] Invest in community outreach
    [ ] Ensure health literacy/raise awareness
    [ ] Funding support
    [ ] Simplify programs enrollment
    [ ] Other, please explain_____
15. What can public health students do to increase mother participation in infant mortality disparity reduction programs in Georgia, USA?
    [ ] Assist infant mortality disparity reduction programs to create awareness among

mothers of the services they provide

[ ] Reach out to infant mortality disparity reduction programs to have them review their enrollment process

[ ] Work with infant mortality disparity reduction program staff to work with mothers to identify specific challenges that serve as barriers to their participation the programs

[ ] Work with infant mortality disparity reduction program staff to connect with doctors offices to encourage mothers who qualify to participate in the programs

[ ] Advocate to increase the use of information technology to enhance service delivery

[ ] Other, please specify_____

Qualitative data table

Question 6a. If yes, how?

Education and Information (cited 5 times)
1
2
3
4
5
Community Ressources (cited 5 times
1
2
3
4
5
Awareness (cited 4 times)
1
2
3
4
Socio-economic (cited 4 times)
1
2
3
4
Research (cited 2 times)
1
2
Capacity building (cited 1 time)
1
Disparity (cited 1 time)
1

Question 6b. If no, how?

Policy Reform (cited 2 times)
1
2
Disparity
1

Question 13. What are some other challenges that prevent mothers from participating in infant mortality disparity reduction programs in Georgia, USA? Please explain.

Finance (cited 4 times)
1
2
3
4
Stigma (cited 2 times)
1
2
3
Education/Information (cited 3 times)
1
2
3
Lack of interest/no Time (cited 3 times)
1
2
3
Government Capacity (cited 2 times
1
2
Distrust (1 time)
1
Racism (cited 1 time)
1
Concerns (cited 1 time)
1
Time constraints (1 time)
1
Bias (1 time)
1
Process enrollment (1 time)
1

Question 15. What should be done to improve upon maternal participation in infant mortality disparity reduction programs in Georgia, USA? Other, please explain?

Access to Care (cited 2 times)
1
2
Stigma Reduction (cited 1 time)
1
Build Trust (1 time)
1

Question 16. **What can public health students do to increase mother participation in infant mortality disparity reduction programs in Georgia, USA? - Other, please explain – Text**

Advocacy (cited e times)
1
2