

2019

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Recommended Citation

Mayfield-Johnson, Susan PhD, MCHES; Fastring, Danielle PhD; and McLeod, Stephanie T. MPH (2019) "Assessment of knowledge and attitudes toward determinants of infant mortality in Head Start teachers, teacher aides, caregivers, and family support workers," *Journal of Public Health in the Deep South*: Vol. 1: No. 2, Article 2.

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Assessment of Knowledge and Attitudes of Determinants of Infant Mortality in Head Start Teachers, Teacher Aides, Caregivers, and Family Support Workers

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Background: Mississippi has the highest infant mortality rate (IMR) in the nation, with an African American IMR (11.9 infant deaths per 1,000 live births) almost twice the rate observed among Caucasians (6.2 infant deaths per 1,000 live births). *Purpose:* The purpose of this project was to assess Head Start teachers', teacher aides', caregivers', and family support workers' perceptions, knowledge, attitudes, values, and beliefs on topics (nutrition, exercise, breastfeeding, safe sleep, smoking, stress, postpartum depression, and mental health) related to infant mortality prevention in a Mississippi Gulf Coast Head Start consortium. *Methods:* A 47-item questionnaire was developed that focused on areas associated with primary prevention of infant mortality. *Results:* The majority of participants (n=82) were 25–44 years of age and African American (80.8%). Most were teachers (43%) and had associate's degrees (48.8%). Participant knowledge and comfort level with providing information to families varied widely across the content areas. *Conclusion:* Head Start workers provide direct support for families at risk for experiencing the loss of an infant within the first year of life. Evaluating perceptions, knowledge, attitudes, values, and beliefs related to infant mortality prevention can inform the development of strategies, prevention programs, and continuing education opportunities for Head Start workers.

Keywords: infant mortality, Head Start, health disparity

Introduction

According to the Centers for Disease Control and Prevention (CDC, 2013), a nation's infant mortality rate (IMR) gives very important clues about that nation's health as a whole. Healthy People 2020 has a target IMR of 6.0 infant deaths per 1,000 live births (Office of Disease Prevention and Health Promotion, 2014). Mississippi continues to experience the highest infant mortality rate in the nation (8.72 infant deaths per 1,000 live births), a rate that reflects a 12.2% increase from the previous reporting period, during a time when the nation's rates are trending downward (ASPHN, 2013; Lu & Johnson, 2014).

African Americans are almost twice as likely to die in infancy as are Caucasians, and the risk is even higher for those living in southern states (Richardson & Josberger, 2017). In Mississippi, IMR among African Americans (11.9 infant deaths per 1,000 live births) is almost twice the rate found among Caucasians (6.2 infant deaths per 1,000 live births) (Mississippi State Department of Health, 2019). The leading causes of infant mortality in the United States are lack of access to healthcare, preterm deliveries, maternal illness, infant illness or injury, birth defects, low birthweight, and sudden unexpected infant death (SUID) (Hakeem et al., 2015; Mississippi State Department of Health, 2019).

The Department of Health and Human Services Secretary's Advisory Committee on Infant Mortality has identified five areas with highly effective evidence-based strategies for reducing infant mortality through primary prevention (HRSA, 2013). The areas are smoking cessation (Dietz et al., 2010; Salihu et al., 2003), breastfeeding (Murimi et al., 2010; Vaaler et al., 2010), family planning, immunization, and safe sleep (Moon et al., 2010; Salm Ward & Ngui, 2015). Recommendations for exploring new strategies, platforms, and technologies to deliver health messages on prevention and promotion of infant mortality to mothers and families have been identified (Lu & Johnson, 2014).

Strategies for risk-reduction education associated with determinants of infant mortality should focus on community engagement and include family planning, educational program content, modification of health-related behavior, and improvement of access to antenatal care. Head Start centers are convenient locations that can serve as hubs of education for the entire family. Head Start programs have provided comprehensive child development, educational, health, nutritional, social, and other varied services to predominately underserved preschool children and their families, and Head Start programs have also been required to mediate the direct participation of parents in the development, implementation, conduct, and direction of local programs (McGroder, 1990). As a result, Head Start center teachers, administrators, and other workers often serve as intermediaries with underserved community members.

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Most research has demonstrated that Head Start centers provide positive effects on cognitive and socioemotional development for children (Ludwig & Miller, 2007); however, little research has explored concepts of infant mortality with Head Start centers and staff (Brooks-Gunn et al., 1988; Fastring et al., 2017; Vaden-Kiernan et al., 2010; Zigler et al., 1994). This research project assessed perceptions, knowledge, attitudes, values, and beliefs of Head Start workers on nutrition, exercise, breastfeeding, safe sleep, smoking, stress, postpartum depression, and mental health topics related to infant mortality in a Mississippi Gulf Coast Head Start consortium. As Head Start employees working with underserved and vulnerable families, they can provide education and support to these families. Evaluating perceptions, knowledge, attitudes, values, and beliefs on topics related to infant mortality can assist in the development of new strategies, prevention programs, platforms, and continuing education for these workers so they can provide more directed support for families they interact with in order to reduce infant mortality.

Methods

A 47-item questionnaire was developed that focused on areas associated with primary prevention of infant mortality: nutrition (Reyes et al., 2013; Yang & Huffman, 2013), exercise (Groth & Morrison-Beedy; 2013; Harris et al., 2014), breastfeeding (Murimi et al., 2010; Vaaler et al., 2010), safe sleep (Moon et al., 2010; Salm Ward & Ngui, 2015), smoking (Dietz et al., 2010; Salihu et al., 2003), stress (Auerbach et al., 2014; Collins et al., 1998; Sable & Wilkinson, 2000), postpartum depression (Sealy et al., 2009; Yonkers et al., 2001), and mental health (Gotlib et al., 1989; Schetter & Tanner, 2012). Five to seven questions were asked related to individual perceptions, knowledge, attitudes, values, beliefs, or skills associated with each content area. The questionnaire also collected demographic information and information on job position and full- or part-time status. Respondents were provided a five-point Likert-type scale to rate their range of agreement from strongly agree to strongly disagree. All survey questions were reviewed to determine if expected answers were provided (e.g., on the statement, "It is my responsibility to promote healthy eating only among the children that attend the Head Start centers," we would expect respondents to reply that they "disagreed" or "strongly disagreed"). The percentage of responses that met this criterion were summed and are reflected in the "Yes" column of Table 2. Those responses that were not expected ("strongly agree" or "agree") were summed and are reflected in the "No" column. The neutral option was used as a proxy for the participant being unsure of their response. As this was intended to be a pilot study, the questions had not been previously tested for reliability and validity. This study was approved by the Institutional Review Board at the University of Southern Mississippi.

The questionnaire was administered to teachers, teacher aides, caregivers, and family support workers employed at the Head Start centers in five cities (Gautier, Moss Point, Ocean Springs, Pascagoula, and Vancleave) along the Mississippi Gulf Coast. Times for survey dissemination and collection were arranged in advance with Head Start administrators and in cooperation with

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staff for convenience and to ensure availability. Centralized locations with research staff for survey dissemination and collection were set up, and light refreshments were offered as an incentive for participation. Informational letters and consent forms were sent out a week prior to survey dissemination, and announcements were made at Head Start centers on dates prior to data collection. The letter explained the purpose of the study, and the consent forms noted participant rights, risks, expectations of confidentiality, and benefits of participation. All responses were kept anonymous, and no information was collected that could link participants to their individual responses aside from the fact that they are all employees of Head Start centers in Mississippi Gulf Coast counties. The letter also noted that completion and submission of the survey would serve as consent for participation.

Microsoft Excel (2016) and SPSS v24 (IBM, 2015) were used to perform statistical analyses on the data collected. As this was an exploratory pilot study, analyses were limited to descriptive statistics.

Results

Demographic Characteristics

A total of 82 questionnaires were collected from 85 teachers, teacher aides, caregivers, and family support workers, representing a 96.5% response rate. Demographics of program participants can be found in Table 1. Twenty-two percent of participants were employed in Gautier, 22.0% in Moss Point, 13.3% in Ocean Springs, 30.5% in Pascagoula, and 12.2% in Vanclave.

Seventy-eight participants responded to the question about age. Of these, the age range distribution was as follows: 18–24 (7.7%), 25–34 (28.2%), 35–44 (41.0%), 45–54 (9.0%), and 55 and older (14.1%). The majority of workers were between the ages of 25 and 44 years.

Seventy-eight workers also responded to the item about race. Of these, the distribution was as follows: White/Caucasian (17.9%), Black/African American (80.8%), and Asian (1.3%). Five of the workers (6.4%) were of Hispanic/Latino ethnicity.

Of the 80 workers who responded to the education level item, the highest levels of education completed were as follows: high school (5.0%), some college (8.8%), associate's degree (48.8%), bachelor's degree (33.8%), and master's degree (3.8%). Most of the workers had completed degrees beyond high school.

Seventy-nine workers provided information about their job titles. Workers were categorized as teachers (43.0%), teacher aides (29.1%), caregivers (1.3%), family support workers (12.7%), or other (13.9%), for which a position could be written. Of the 79 workers who responded to the

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question about employment status, 96.2% reported full-time employment, and 3.8% reported part-time employment.

Table 1

Demographic Characteristics of Participants

	n	%
Location		
Gautier	1	22.0%
Moss Point	1	22.0%
Ocean Springs	1	13.3%
Pascagoula	2	30.5%
Vancleave	1	12.2%
Total	8	100.0%
Age		
18–24 years	6	7.7%
25–34 years	2	28.2%
35–44 years	3	41.0%
45–54 years	7	9.0%
55+ years	1	14.1%
Total	7	100.0%
Race		
Black/African American	6	80.8%
White	1	17.9%
Asian	1	1.3%
Hispanic/Latino	5	6.4%
Total	7	100.0%
Ethnicity		
Hispanic/Latino	5	6.4%
Hispanic/Latino (No)	7	93.6%
Total	7	100.0%
Education		
High school graduate	4	5.0%

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Some college	7	8.8%
Associate's degree	3	48.8%
Bachelor's degree	2	33.8%
Master's degree	3	3.8%
Total	8	100.2%
Job Title		
Teacher	3	43.0%
Teacher Aide	2	29.1%
Caregiver	1	1.3%
Family Support Worker	1	12.7%
Other	1	13.9%
Total	7	100.0%
Employment Status		
Full-time	7	96.2%
Part-time	3	3.8%
Total	7	100.0%

Content Areas*Nutrition and Pregnancy*

Results from the survey can be found in Table 2. Six items about nutrition and pregnancy were included in the questionnaire. In general, respondents had high levels of knowledge regarding this topic: 93.9% agreed that pregnant mothers should take a multi-vitamin every day during pregnancy, 67.1% agreed that folic acid helps to prevent spina bifida and anencephaly, and 64.2% disagreed that it is okay for mothers to have an occasional glass of wine during pregnancy. Agreement that they had the knowledge and skills to teach nutrition concepts and healthy eating to Head Start families was also high (70.4%). The majority of the participants (70.4%) believed that many of the centers' families consume foods with high levels of fat and sugar because they cost less, taste better, and are more convenient. However, the group was more divided with regard to whether it was their responsibility to promote healthy eating only among the children who attend Head Start centers, with 51.2% agreeing and 39.0% disagreeing.

There were relatively high numbers of unsure responses for some of the items. Nearly one-quarter of respondents were not sure that they had the knowledge and skills to teach nutrition concepts and healthy eating to families, and approximately one-third were unsure whether folic acid helps to prevent spina bifida and anencephaly.

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Exercise and Pregnancy

Five items about exercise and pregnancy were included in the questionnaire. The respondents' knowledge about exercising throughout pregnancy was relatively high, with 60.7% disagreeing that a pregnant woman should limit exercise to the first trimester only, 60.4% agreeing that a woman should exercise during her second trimester, and 57.0% agreeing that a woman should exercise during her third trimester. All respondents agreed that physical activity is important to healthy families, and approximately three-quarters reported feeling comfortable advising Head Start families on exercise regimens.

It is important to note that, although most workers felt that pregnant women should exercise beyond their first trimester, nearly equal numbers thought they should not exercise beyond the first trimester (20.3%) or were unsure (19.0%). Additionally, nearly 30% of respondents were unsure whether pregnant women should exercise during the second or third trimesters, and 19.0% were not sure if they felt comfortable advising families on exercise.

Breastfeeding

Five items about breastfeeding were included in the questionnaire. The majority of respondents agreed that breastfeeding decreases the risk of infant mortality (59.0%), that immune systems of breast-fed infants are more developed than those of formula-fed infants (66.3%), and that a mother should not breastfeed if she is using drugs or drinking a lot of alcohol (92.6%). However, the majority of participants (56.8%) also agreed or were unsure (24.7%) that formula-fed babies are just as healthy as breastfed babies in the long run, and 41% of respondents either disagreed (20.5%) or were unsure (20.5%) that breastfeeding reduces the risk of infant mortality. Additionally, more than one-quarter of respondents were unsure whether immune systems of breast-fed infants differed from those of formula-fed infants, and nearly three-quarters disagreed (54.8%) or were unsure (19.5%) whether they had the knowledge and skills to advise mothers on how to properly breastfeed.

Safe Sleep

Five items in the questionnaire addressed safe sleep. An equal number of participants agreed (35.1%) or were unsure (35.0%) that they could give accurate and correct information on safe sleep. The same percentages agreed or were unsure that they have the knowledge and skills to teach families about the risks related to sudden infant death syndrome. However, nearly two-thirds of respondents do not tell mothers to lay a sleeping baby on their stomach (62.9%) or do not believe it is acceptable for new mothers to put their babies in bed with them when they sleep (61.3%). It is important to note, however, that approximately 37% of participants agreed (14.1%) that they would tell or were not sure (23.1%) if they would tell mothers to lay sleeping babies on their stomachs, and nearly 39% agreed (17.5%) or were unsure (21.3%) if new mothers should put their babies in bed with them when they sleep. Fifty-five percent of respondents knew a mother who had an infant who died before its first birthday.

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Smoking

The questionnaire contained four questions about smoking. Approximately two-thirds of respondents agreed that smoking around a baby increases the infant's chance of dying before its first birthday. Nearly three-quarters reported feeling comfortable counseling a pregnant woman against smoking, and about 80% felt comfortable counseling family members against smoking around a pregnant woman. However, nearly 38% of participants disagreed (16.3%) or were unsure (21.3%) that smoking around a baby increases its risk of infant mortality, and roughly 20% of respondents were not sure if they would be comfortable counseling a pregnant woman against smoking. Additionally, only 17.3% of those who participated in the survey felt they had the knowledge and skills to teach smoking cessation techniques to pregnant women.

Postpartum Depression

There were five items on the questionnaire that addressed postpartum depression. In general, the respondents indicated a low ability to recognize symptoms of postpartum depression in others (45.6%) and to differentiate between the baby blues and postpartum depression (34.1%). They also indicated a low belief that they had the knowledge and skills to teach families about the symptoms of baby blues (21.3%) and postpartum depression (32.1%). Approximately 55% of respondents reported familiarity with the symptoms of postpartum depression. For all items, the number of responses that indicated disagreement or uncertainty were either roughly equal to or showed greater uncertainty than disagreement.

Stress

Six items in the questionnaire addressed stress. Less than one-quarter of workers felt they had the required training to evaluate and counsel families dealing with high-stress situations. Additionally, many workers felt they may offend families if they asked about personal issues associated with stress, such as domestic violence (52.5%), sexual abuse (49.3%), and physical or emotional abuse (48.1%). Many respondents also felt that racism and discrimination are important contributors for stress among African American mothers (54.4%) and that African American mothers are exposed to more structural stressors than mothers of other races (43.9%). For each item related to stress, approximately one-quarter to one-third of respondents reported uncertainty. Based on these results, it can be concluded that workers may benefit from training to help them tactfully approach, evaluate, and counsel families that are dealing with high-stress situations and/or personal issues. These trainings should include information specific to addressing stressful issues among African American mothers.

Mental Health

Eleven items addressed mental health in this questionnaire. Responses were divided for the five items that gathered information about the respondents' views on dealing with mental health problems. Thirty-seven percent of respondents believed that there is something admirable about a person who handles his/her problems and fears without seeking professional help; however,

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nearly equal numbers either disagreed (29.6%) or were unsure (33.3%). Almost 52% of participants would consider taking prescribed medications for their mental health. Only 32.7% believed that personal and emotional troubles tend to work out by themselves. More than 22% would prefer dealing with their mental health issues inside a church rather than seeking medical attention, but 38% were unsure. Nearly 49% of respondents indicated that they only turn to friends and family for support and advice when they are upset.

Five items gathered information about whether respondents felt they could identify mental health issues. Participant responses indicated confidence in their abilities to tell if someone was suffering from a mental health problem (60.2%). Similarly, the majority of participants agreed that they can tell when a parent or child that they work with has depression (61.7%), social anxiety (51.8%), a personality disorder (55.5%), or a drug addiction (56.3%). It is important to note, however, that the percentage of uncertain responses for each of these items ranged from approximately one-quarter to one-third. Additionally, 80% of workers indicated interest in receiving more education and training to help them better understand mental health issues that impact their community.

Table 2
Survey Results by Content Area

	n	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Yes	No	Unsure
Nutrition and Pregnancy									
It is my responsibility to promote healthy eating only among the children that attend the Head Start centers.	82	32.9%	18.3%	9.8%	20.7%	18.3%	51.2%	39.0%	9.8%
I have the knowledge and skills to teach nutrition concepts and healthy eating to Head Start families.	81	38.3%	32.1%	23.5%	6.2%	0.0%	70.4%	6.2%	23.5%
Pregnant moms should take a multi-vitamin every day during pregnancy.	81	74.1%	19.8%	6.2%	0.0%	0.0%	93.9%	0.0%	6.2%
Folic acid helps to prevent spina bifida and anencephaly.	76	35.5%	31.6%	32.9%	0.0%	0.0%	67.1%	0.0%	32.9%
It's okay to have an occasional glass of wine during pregnancy.	81	6.2%	13.6%	16.0%	28.4%	35.8%	19.8%	64.2%	16.0%
Many of my families consume foods with high levels of fat	81	38.3%	32.1%	12.3%	14.8%	2.5%	70.4%	17.3%	12.3%

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and sugar because they cost less, taste better, and are more convenient.										
Exercise and Pregnancy										
Physical activity is important to healthy families.	78	92.3%	7.7%	0.0%	0.0%	0.0%		100.0%	0.0%	0.0%
I feel comfortable advising Head Start families on exercise regimens.	79	27.8%	46.8%	19.0%	5.1%	1.3%		74.6%	6.4%	19.0%
A pregnant woman should exercise only during the first trimester.	79	8.9%	11.4%	19.0%	43.0%	17.7%		20.3%	60.7%	19.0%
A pregnant woman should exercise during the second trimester.	81	12.3%	48.1%	29.6%	6.2%	3.7%		60.4%	9.9%	29.6%
A pregnant woman should exercise during the third trimester.	79	8.9%	48.1%	27.8%	12.7%	2.5%		57.0%	15.2%	27.8%
Breastfeeding										
Breastfeeding decreases the risk of infant mortality (death within the first year of life).	78	24.4%	34.6%	20.5%	14.1%	6.4%		59.0%	20.5%	20.5%
I have the knowledge and skills to advise mothers on how to properly breastfeed their babies.	82	13.4%	12.2%	19.5%	40.2%	14.6%		25.6%	54.8%	19.5%
Immune systems of breast-fed infants are more developed than immune systems of formula-fed infants.	80	35.0%	31.3%	27.5%	6.3%	0.0%		66.3%	6.3%	27.5%
If a mom is using drugs or drinking a lot of alcohol, she should not breastfeed.	80	81.3%	11.3%	2.5%	1.3%	3.8%		92.6%	5.1%	2.5%
In the long run, formula-fed babies are just as healthy as breast-fed babies.	81	23.5%	33.3%	24.7%	16.0%	2.5%		56.8%	18.5%	24.7%
Safe Sleep										
I can give accurate and correct information on safe sleep.	80	11.3%	23.8%	35.0%	26.3%	3.8%		35.1%	30.1%	35.0%

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I tell mothers to lay a sleeping baby on its stomach.	78	6.4%	7.7%	23.1%	24.4%	38.5%		14.1%	62.9%	23.1%
Mothers who have just had babies should put their babies in bed with them when they sleep.	80	10.0%	7.5%	21.3%	25.0%	36.3%		17.5%	61.3%	21.3%
I have the knowledge and skills to teach my families about the risks related to sudden infant death syndrome.	80	11.3%	23.8%	35.0%	23.8%	6.3%		35.1%	30.1%	35.0%
I know a mother who has had an infant who died before the baby's first birthday.	80	26.3%	28.8%	10.0%	11.3%	23.8%		55.1%	35.1%	10.0%
Smoking										
I feel comfortable counseling a pregnant woman against smoking during her pregnancy.	79	38.0%	35.4%	19.0%	5.1%	2.5%		73.4%	7.6%	19.0%
I feel comfortable counseling family members against smoking around a pregnant mother during her pregnancy.	82	41.5%	37.8%	14.6%	3.7%	2.4%		79.3%	6.1%	14.6%
Smoking around a baby increases the infant's chance of dying before its first birthday.	80	35.0%	27.5%	21.3%	11.3%	5.0%		62.5%	16.3%	21.3%
I have the knowledge and skills to teach smoking cessation techniques to pregnant women.	81	3.7%	13.6%	18.5%	45.7%	18.5%		17.3%	64.2%	18.5%
Postpartum Depression										
I am familiar with the symptoms for postpartum depression.	81	12.3%	43.2%	23.5%	13.6%	7.4%		55.5%	21.0%	23.5%
I can recognize symptoms of postpartum depression in others.	81	12.3%	33.3%	30.9%	17.3%	6.2%		45.6%	23.5%	30.9%
I can differentiate between the baby blues and postpartum depression.	82	8.5%	25.6%	32.9%	24.4%	8.5%		34.1%	32.9%	32.9%
I have the knowledge and skills to teach my families	80	7.5%	13.8%	41.3%	26.3%	11.3%		21.3%	37.6%	41.3%

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about the symptoms for baby blues.										
I have the knowledge and skills to teach my families about the symptoms for postpartum depression.	81	9.9%	22.2%	33.3%	24.7%	9.9%		32.1%	34.6%	33.3%
Stress										
Racism and discrimination are important contributors for stress among African American mothers.	81	19.8%	34.6%	24.7%	17.3%	3.7%		54.4%	21.0%	24.7%
African American mothers are exposed to more structural stressors (like low-income, housing problems, food stability, and childcare) than mothers of other races.	82	18.3%	25.6%	30.5%	22.0%	3.7%		43.9%	25.7%	30.5%
I have the required training to evaluate and counsel families dealing with high stress situations.	82	6.1%	17.1%	28.0%	37.8%	11.0%		23.2%	48.8%	28.0%
I may offend families if I ask about personal issues associated with stress like domestic violence.	82	15.9%	36.6%	26.8%	11.0%	9.8%		52.5%	20.8%	26.8%
I may offend families if I ask about personal issues associated with stress like sexual abuse.	81	16.0%	33.3%	30.9%	16.0%	3.7%		49.3%	19.7%	30.9%
I may offend families if I ask about personal issues associated with stress like physical or emotional abuse.	81	16.0%	32.1%	33.3%	14.8%	3.7%		48.1%	18.5%	33.3%
Mental Health										
There is something admirable about a person who is willing to handle his or her problems and fears without seeking professional help.	81	12.3%	24.7%	33.3%	22.2%	7.4%		37.0%	29.6%	33.3%
I would consider taking prescribed medications	81	9.9%	42.0%	22.2%	14.8%	11.1%		51.9%	25.9%	22.2%

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for my mental health.										
Personal and emotional troubles, like many things, tend to work out by themselves.	79	5.1%	26.6%	27.8%	34.2%	6.3%		31.7%	40.5%	27.8%
I would prefer dealing with my mental health issues inside a church rather than seeking medical attention.	81	4.9%	17.3%	38.3%	30.9%	8.6%		22.2%	39.5%	38.3%
If I am really upset, I only turn to my friends and family for support and advice.	80	12.5%	36.3%	21.3%	22.5%	7.5%		48.8%	30.0%	21.3%
I doubt that I would even be able to tell if someone was suffering from a mental health problem.	78	2.6%	19.2%	17.9%	48.7%	11.5%		21.8%	60.2%	17.9%
I can tell when a parent or a child that I work with has depression.	81	12.3%	49.4%	27.2%	11.1%	0.0%		61.7%	11.1%	27.2%
I can tell when a parent or a child that I work with has social anxiety.	81	11.1%	40.7%	33.3%	14.8%	0.0%		51.8%	14.8%	33.3%
I can tell when a parent or a child that I work with has a personality disorder.	81	11.1%	44.4%	28.4%	14.8%	1.2%		55.5%	16.0%	28.4%
I can tell when a parent or a child that I work with has a drug addiction.	80	15.0%	41.3%	26.3%	16.3%	1.3%		56.3%	17.6%	26.3%
I would be interested in more education and training to help me better understand mental health issues that impact our community.	80	40.0%	40.0%	16.3%	2.5%	1.3%		80.0%	3.8%	16.3%

Discussion

Reducing the incidence of infant mortality is a national public health priority, and the determinants of infant mortality are well known (Office of Disease Prevention and Health Promotion, 2014). Head Start teachers, teacher aides, caregivers, and family support workers are uniquely positioned to help those families most at risk for losing a child in their first year of life, as evidenced by the fact that 55.1% of respondents agreed with the statement, "I know a mother who has had an infant who died before the baby's first birthday." Based on the data gathered from Head Start teachers, teacher aides, caregivers, and family support workers, specific education on the social determinants and primary prevention methods for infant mortality is needed in Mississippi.

While there was considerable knowledge about nutrition, exercise, and smoking during pregnancy and the postpartum period, there were also relatively high numbers of unsure responses for many of the knowledge-based questions. For example, approximately one-third of respondents were unsure whether folic acid helps to prevent spina bifida and anencephaly. Nineteen percent were unsure if a woman should exercise only in the first trimester, almost 30% were unsure if a woman should exercise at all in the second trimester, and 28% were unsure if a woman should exercise in the third trimester. Over 16% of respondents reported that smoking does not increase an infant's risk of dying before its first birthday, and 21.3% were unsure.

Nearly one-third of respondents did not feel that they had the knowledge and skills to teach nutrition concepts and healthy eating to families, and one-quarter did not report feeling comfortable advising families on exercise and physical activity regimes. Only 17.3% of participants reported that they had the knowledge and skills to teach smoking cessation techniques.

Nutritional information can be confusing, and adequate educational messages for families may be lacking. Interventions designed to improve knowledge, address cultural values and beliefs, and increase skills and self-efficacy on nutrition concepts, healthy eating, and the importance of prenatal vitamins and folic acid may be useful to Head Start staff. Programs to improve Head Start staff's knowledge regarding the benefits of exercise during pregnancy with teaching skills for sharing information with families is needed. In addition, Head Start staff do not feel confident in their abilities to help pregnant women quit smoking; education about the association between smoking and infant mortality, training on smoking cessation techniques, and increasing informal counseling skills would be beneficial.

While there are considerable knowledge levels about the benefits of breastfeeding, only 26% of respondents are confident that they have the knowledge and skills to advise on how to breastfeed properly. Only 35% of respondents report that they can give accurate and correct information on

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safe sleep. Tailored health education about proper breastfeeding methods and safe sleeping would also be beneficial for Head Start staff as they advise families and conduct home visits.

Data from the questionnaire indicate a significant need for educational programs that define postpartum depression, describe its symptoms and compare them to those of other types of psychological distress, and enhance the workers' self-efficacy to share this information with Head Start center families. Among participants, stress was noted to be especially prevalent among African American women, and respondents requested additional training to help them tactfully approach, evaluate, and counsel families that are dealing with high-stress situations and/or personal issues. These trainings should include information specific to addressing stressful issues that affect African American mothers. Finally, respondents appeared to differ somewhat on their personal views and methods of coping with mental health issues. Many participants considered that they would be able to identify different kinds of mental health issues in parents and children with whom they work, but the vast majority would like additional education and training. Based on these results, valuable interventions may include a review of specific symptoms of different types of psychological distress to ensure that the staff can match symptoms to conditions, information about the consequences and prevalence of stigma associated with mental health conditions and how to reduce it, and linkage to mental health resources in the community.

Conclusion

Head Start programs offer a variety of service models depending on the needs of the local community, including services related to early learning, health and developmental screenings, and family well-being. As such, many Head Start programs work with vulnerable populations such as racial and ethnic minorities, farmworker camps, and tribal communities. They are responsive to the ethnic, cultural, and linguistic heritage of each child and family. Working with Head Start teachers, teacher aides, caregivers, and family support workers should be a strategy to address infant mortality in Mississippi, though there may be inherent challenges in their capacity to implement these approaches. Overall, findings from this research indicated interest in receiving more education, training, and skills to help them better understand infant mortality determinants and ways to address them. Developing health education programs and interventions to provide knowledge and skills for Head Start workers to serve as intermediaries to and for families would be a novel approach to address this health disparity. It would be an expanded population-based methodology to reduce infant mortality and improve birth outcomes before and between pregnancies, and across the lifespan.

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Susan Mayfield-Johnson is also partially supported by the National Institute of General Medical Sciences of the National Institutes of Health under Award Number 1U54GM115428.