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Women's experiences in the hospital around the time of a stillbirth:
Results from a pilot study in Georgia

By

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Degree to be awarded: MPH

Global Epidemiology

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By

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Bachelor of Science
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2014

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An abstract of
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Abstract

Women's experiences in the hospital around the time of a stillbirth:

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By Nimmy Josephine Thomas

Background: Qualitative studies have shown that there is insufficient support from the healthcare system for families after a recent stillbirth. The purpose of this study was to examine the prevalence of support services and clinical tests offered to families after a stillbirth and investigate whether there are differences in the receipt of these services by maternal characteristics and gestational age at delivery.

Methods: Data were analyzed from a pilot study of the expansion of the Pregnancy Risk Assessment Monitoring System (PRAMS) to include women who experienced a stillbirth in Georgia. Analyses were conducted using Fisher's exact tests and Mantel-Haenszel methods.

Results: The pilot study had an adjusted response rate of 40% ($n = 49$). Most women indicated that they were offered the opportunity to see and hold their stillborn, but other opportunities to make memories (i.e. family photographs with the baby, rocking, dressing, and bathing the baby) were offered less frequently ($< 50\%$).

The option of taking photographs of the baby with the family were less likely to be discussed with non-white mothers (PR: 0.37; 95% CI: 0.16 – 0.87) and mothers with stillbirths between 20 – 27 weeks of gestation (aPR: 0.38; 95% CI: 0.16 – 0.92). Despite the fact that women will produce breastmilk as early as 16 weeks' gestation, women who had early stillbirths were half as likely to receive lactation information (aPR: 0.51; 95% CI: 0.30 – 0.85). Although most women (77.5%) reported that a fetal autopsy was offered, only 38.7% of these women indicated that an autopsy was performed (95% CI: 21.9% – 57.8%).

Conclusions: Although this survey was conducted among a small sample of women in Georgia, these results illustrate that there are areas for improving the healthcare services women receive around the time of a stillbirth and that support services are not consistently offered to all women, particularly those who deliver a stillbirth between 20 and 27 weeks. Guidelines on stillbirth management should be updated to include information about support services and lactation information. More research is needed to better understand the circumstances surrounding the offer of a fetal autopsy, and identifying ways to improve the acceptance of these clinically-recommended evaluations.

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Background

Introduction

A stillbirth, as defined by the World Health Organization, is a fetal death at or after 28 weeks of gestation or a birthweight of 1000g [1]. In 2015, an estimated 2.6 million stillbirths occurred worldwide and approximately 98% of these occurred in low- or middle-income countries [2]. In the United States, stillbirth is defined differently from the WHO criteria due to advancements in medical care that have resulted in improved survival rates at younger gestational ages [3]. Although reporting requirements differ by vital records jurisdiction, the Centers for Disease Control and Prevention recommends reporting of fetal deaths occurring at 20 weeks of gestation or later or with a delivery weight of 350 grams or more [4]. Nationally, stillbirth affects 1% of all pregnancies resulting in roughly 24,000 stillborn babies annually [5], with 2013 U.S. data suggesting an annual rate of 5.96 stillbirths per 1,000 live births and fetal deaths [4]. The overall rate does not accurately depict the magnitude of the effect of stillbirth on women from a wide spectrum of racioethnic backgrounds. The fetal mortality rate for non-Hispanic black women is more than twice the rate for non-Hispanic white women and the fetal mortality rate for American Indian or Alaskan Native women and Hispanic women is 27% and 7% higher than the rate for non-Hispanic white women, respectively [4]. These numbers illustrate that stillbirth affects a large number of women annually even in a high-income country such as the United States, and it is a health condition that disproportionately affects women from racial and ethnic minority groups. While research of the etiology and prevention of stillbirth is ongoing [6], parents who endure these devastating losses need

to be provided with compassionate care and sufficient information during the grieving period.

Current Guidelines for Stillbirth Management

The American College of Obstetricians & Gynecologists (ACOG) has published a bulletin on the management of stillbirths which serves as the only national guideline for clinicians in the United States for the treatment and care of patients who experience a stillbirth [7]. The bulletin details known risk factors for and potential causes of stillbirth. With regards to clinical management after a stillbirth has occurred, providers are recommended to approach the topic with sensitivity. Providers are encouraged to refer to the fetus by name (if given) and to provide parents with information on options for evaluation and examination of the stillborn. Parents should be informed about the importance of a fetal autopsy in identifying the possible cause(s) of the stillbirth and evaluating their risk of a stillbirth in a subsequent pregnancy. Less invasive methods of examination should also be discussed such as the use of photographs, x-ray imaging, ultrasonography, magnetic resonance imaging (MRI), and tissue sampling (blood and/or skin). Presentation of both invasive and non-invasive options are important in the event that parents have personal, religious, or cultural objections to a fetal autopsy. Proper clinical management of stillbirth requires a complete perinatal and family medical history, a physical examination of the fetus, and evaluation of lab results. ACOG indicates that the three most important tests are fetal autopsy; examination of the placenta, cord and membranes; and karyotype evaluation. With respect to patient support after a stillbirth, ACOG recommends providing emotional support and clearly communicating test results to the patients. For further management of grief and

depression, the patient should be referred to a bereavement counselor, spiritual leader, peer support group or a mental health professional. While the ACOG bulletin does provide some guidance for healthcare providers, it is noticeably lacking when it comes to recommendations regarding the psychological and social aspects of care.

In the United Kingdom, the Royal College of Obstetricians & Gynaecologists (RCOG) published guidelines on stillbirth management in 2010 [8]. These guidelines also include similar information regarding risk factors, possible causes, and clinical management of stillbirth, but the main difference between these two documents is the inclusion of psychological and social aspects of care. Although there are no clear recommendations, this document offers bi-lateral evidence on seeing, holding, and naming the baby as well as offering mementos such as photographs, hand and foot prints, and locks of hair. In addition, these guidelines highlight the need for psychological support for clinical staff involved in the care of a patient with a stillbirth through improved bereavement training that helps staff cope with the loss. One of the hallmark differences between the RCOG and ACOG recommendations is that RCOG provides recommendations for the practical aspects of care for the mother such as options for discussing lactation suppression as well as options for burial, cremation, and remembrance of the stillborn. Despite RCOG's guidelines highlighting options for psychological support for patient and clinical staff, the emphasis of the document remains on the clinical examination and evaluation of the mother and fetus. Qualitative research on patient experience after a stillbirth indicate that this focus on clinical support might not directly align with patient interests and needs during bereavement [9, 10]. Patients

emphasize the need for emotional support from clinical staff through empathetic conversations, rather than a focus on clinical answers [9].

Patient Experience

Grief burden

It is estimated that one in five patients suffers from intense or prolonged grief following a perinatal loss [11]. A case control study examining the mental health of parents two months after a stillbirth found that mothers of a stillborn were 3.9 times more likely to experience anxiety (95% CI: 2.1 – 10.5) and 6.9 times more likely to experience depression (95% CI: 2.1 – 22.5) compared to mothers after a livebirth [12]. Hogue et al. also found a significant association between stillbirth and depressive symptoms in women with no history of depression 6-36 months post-delivery (aOR: 1.98; 95% CI: 1.02 – 3.82) [13]. In contrast, a case control study examining the effect of stillbirth on long-term (5-18 years after the event) psychological stress discovered that quality of life and depression measures were not significantly different between mothers of a stillborn compared to mothers of a liveborn [14]. Taken together, these studies suggest that these psychological symptoms may subside over time, although there is little evidence on the exact duration of this recovery period. In addition to the mental health impact, stillbirth has also been associated with increased relationship dissolution. Gold et al. examined the association between miscarriages and stillbirth on marriage and cohabitation outcomes using the National Survey of Family Growth [15]. They found that the breakup of a relationship after a stillbirth was 40% (95% CI: 1.10 – 1.79) higher compared to relationship dissolution after a livebirth [15]. The burden of stillbirth is not isolated to the psychological and social aspects of the bereaved parents' life; there is also an economic

cost. An overlooked aspect of stillbirth is that the mothers still incur costs associated with labor & delivery [9]. The average hospital costs associated with a stillbirth are approximately \$7,495 which is \$424 more than the average expenses for a livebirth after controlling for multiple births and serious medical complications [16]. These estimates only account for the costs associated with labor & delivery, but inclusion of the recommended comprehensive stillbirth assessment results in an additional charge of approximately \$1,450 [17]. The psychosocial and economic costs of stillbirth are a significant burden and must be addressed in stillbirth postpartum care.

Emotional support

Support from Clinical Staff

Front-line care of bereaved parents is provided by physicians, midwives, and nursing staff from the moment of stillbirth diagnosis through the delivery and postpartum care. Unfortunately, a review of literature finds that the word that is most often used to describe this care is “silence.” Staff are typically ill-prepared to provide bereavement care and support leaving patients with negative, lonely experiences of their first clinical encounter after a stillbirth [18]. The moment of stillbirth diagnosis is when parents begin to experience feelings of guilt, fear, and grief [19]; therefore, it is of particular importance that parents are not left alone in the silence of their thoughts at this encounter. A systematic review of parent experiences with health providers after a stillbirth found that the three most common areas of patient dissatisfaction were: a lack of communication between staff members to ensure that everyone was aware of the perinatal death; health providers avoiding participation in postpartum care; and a lack of emotional support and sensitivity [10]. This same review found that the four most helpful

approaches from staff members were: providing strong emotional support by spending extra time with the family; providing physical support through opportunities to create memories with their child; educating families about what to expect in the grieving process; and providing explanations about the cause(s) of the death [10].

Stillbirth is a traumatic experience that leaves parents with detailed memories of every encounter that happens during their labor, delivery, and postpartum care and these memories can affect their recovery trajectory [18, 19]. Patients were generally satisfied with the care they received from the nursing staff, but often patients had mixed experience with physicians and other hospital staff [10]. A qualitative study that interviewed obstetrician-gynecologists (OB/GYNs) about postpartum care after a stillbirth found that clinicians were not trained in providing counseling or support to families, so they deferred those tasks to nursing staff and social workers [9]. From a patient's perspective, this deferral is seen as avoidance on the part of the clinician, resulting in patient dissatisfaction [10]. The contrasting patient and provider perspectives on the role of healthcare providers in postpartum care after a stillbirth elicit a need for a national standardization of best practices in patient care after a stillbirth.

Creating Memories

In contrast to staff support, evidence is inconsistent on the risks and benefits of having contact with the stillborn child. Systematic reviews of current evidence on seeing and holding a stillborn illustrate that some studies show no impact on mental health, while others suggest that seeing or holding the baby may result in a decreased likelihood of post-traumatic stress disorder symptoms and reduced anxiety in mothers [20, 21]. One controversial study in a survey of women in the pregnancy after stillbirth reported that

seeing and holding a stillborn baby resulted in *increased* anxiety [20]. A more recent study on the effect of holding a stillborn on mental health and well-being suggests that women who held their baby had higher rates of anxiety and relationship problems [22]. However, it is important to note that the quality of research in this area has been poor with low response rates, unrepresentative cohorts, and incomplete adjustment for confounding factors [23]. Therefore, it has been difficult to make evidence-based recommendations for seeing and holding a baby after a stillbirth. One consistent finding in all studies investigating the impact of seeing and holding a stillborn has been that higher rates of satisfaction with their decision retrospectively are reported among women who held their baby compared to women who did not [23]. Therefore, the latest guidelines from the Stillbirth & Neonatal Death Support (SANDS), a charity that works to improve perinatal bereavement care in the United Kingdom, recommend that parents are *offered* the opportunity to see and hold their baby and hospital staff should provide sufficient support to the parents in the decision-making process [24]. In accord with this finding, the Royal College of Obstetricians & Gynaecologists guidelines state that parents should not be persuaded to have contact with their baby, but they should be supported in their decision to see and hold their child if they choose to do so [8].

Mementos

Another way for the parents to be supported in the grieving process after a stillbirth is through opportunities to create tangible memories of their child. These memories can come in the form of photographs, hand or foot impressions, and other mementos. A qualitative study on the stillbirth experience of mothers in the United Kingdom found that the common theme among the interviewed women was this idea of having only “one

chance to get it right” [19]. A lifetime of memories have to be made in a very short period of time and these physical mementos enable them to hold on to these moments after they leave the hospital [19]. A qualitative study on the stillbirth experiences of mothers in the United States also found that women appreciated having the opportunity to create memories with their stillborn and these experiences were found to be invaluable in their grieving process [9]. A systematic review of current evidence on the impact of memory creation has found no adverse effect on the psychosocial health of bereaved parents [11]. RCOG guidelines support the creation of mementos with parental consent and encourage hospital staff to store them if parents are not ready to hold on to these items during the early period of their grieving process [8].

Lactation Support

A physiological aspect of stillbirth that is overlooked in the same regard as the need to undergo labor and delivery is information about lactation and options for addressing breast milk production. Women are taken by surprise when their bodies express breast milk after a perinatal loss [25] and it is often seen as a painful betrayal by their own bodies. Therefore, it is important that women are told to expect milk production during the postpartum period, and that they are provided with options for lactation suppression and donation. Qualitative studies have shown that women have made both choices: suppress lactation to stop this enduring reminder of their painful birth experience, or continue lactation as an expression of motherhood or for donation purposes to turn an adverse outcome into a positive experience [26]. There are no guidelines on lactation options to be offered during postpartum care after a stillbirth. However, RCOG does indicate that women should be advised of adverse effects of pharmacological and non-

pharmacological options for lactation suppression [8]. A qualitative study of women who donated their breast milk after a perinatal loss found that lactation was not addressed sufficiently during their consultations with their health providers [25]. These women felt that all available options should be provided to bereaved mothers to make an informed decision about her breast milk production [25].

Clinical Examination and Evaluation

A point of agreement between ACOG and RCOG guidelines in the management and care of stillbirth is the emphasis on the need for a complete clinical stillbirth assessment. This includes a fetal autopsy as well as other examinations including blood tests, imaging, and inspection of the placenta and umbilical cord. There is a common understanding among the clinical community that results of these evaluations could be helpful to bereaved parents in future pregnancy planning [27], yet little is known about how to best approach bereaved parents to request consent for a fetal autopsy. A Cochrane review was unable to identify any randomized trials aimed at supporting parents' decisions about performing an autopsy after stillbirth [27]. Since the consent process for informing parents about these clinical evaluations occurs at a tough time for these families, physicians are left in the uncomfortable position of communicating their options during this period of grief [27]. Anecdotal evidence from a qualitative study that examined the physicians' experience of stillbirth found that these physicians were hesitant to bring up a sensitive topic during this difficult time, and that fetal autopsies were not offered unless they were explicitly requested by the parents [9]. Evidence from qualitative and quantitative studies suggest that parents who have conducted post-mortem investigations were content with their decisions to do so [9, 27]. A cross sectional study

of parent's experiences of post-mortem investigations found that parents who chose not to conduct a fetal autopsy were two times more likely to regret their decision in comparison to those who chose to conduct an autopsy [28]. A qualitative study that examined the factors that affected the decision-making process of bereaved parents found that parents were most interested in identifying the cause of stillbirth and preparing for future pregnancies [29]. This was followed by altruistic interests in improving medical knowledge on stillbirth etiology and helping other parents undergoing similar circumstances [29]. The area of least concern was social and cultural barriers including acceptability of a fetal autopsy [29]. The lack of standardized guidelines on the consent process for fetal autopsies and other clinical examinations makes it difficult for physicians to broach the topic during this sensitive time, and for bereaved parents to make a well-informed decision.

Clinician Experience

While most of the discussion around stillbirth management and care is focused on the patients, it is also important to consider the impact that this experience has on the clinical staff. A qualitative study examining physician experiences related to stillbirth found that physicians often felt underprepared to handle the palliative care and counseling aspect of postpartum stillbirth care, and thus deferred those tasks to social workers or nurses [9]. A survey of practicing obstetricians in the United States also revealed that 8% of these individuals considered giving up obstetric practice because of the emotional toll it posed in caring for patients with a stillbirth [30]. The psychological impact of a stillbirth on a physician could impair their ability to provide adequate bereavement care for the families [30].

One possible way that physician grief could be addressed is through training programs that address bereavement care and its psychological impact. A survey of ACOG members on the personal impact of stillbirths found that physicians who reported adequate training in coping with infant and fetal death without a known cause reported less guilt and were less likely to give up obstetric practice [31]. Current RCOG recommendations state that a system should be in place to provide clinical and psychological support to staff members who care for patients with a stillbirth [8]. Some of the coping methods recommended by physicians in their self-care process were talking informally with colleagues (87%) and with friends/family (56%) [30]. Obstetric training programs should be evaluated to ensure that there is an adequate system in place to train physicians to care for patients with a stillbirth as well as provide them with adequate psychological support for their own emotional well-being.

Women's experiences in the hospital around the time of a stillbirth:
Results from a pilot study in Georgia

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Abstract

Background: Qualitative studies suggest there is insufficient support from the healthcare system for families after a recent stillbirth. The purpose of this study was to examine the prevalence of support services and clinical tests offered to families after a stillbirth and investigate whether there are differences in the receipt of these services by maternal characteristics and gestational age at delivery.

Methods: Data were analyzed from a pilot study of the expansion of the Pregnancy Risk Assessment Monitoring System (PRAMS) to include women who experienced a stillbirth in Georgia. Analyses were conducted using Fisher's exact tests and Mantel-Haenszel methods.

Results: The option of taking family photographs with the baby were less likely to be discussed with non-white mothers (PR: 0.37; 95% CI: 0.16 – 0.87) and mothers with stillbirths between 20 – 27 gestational weeks (aPR: 0.38; 95% CI: 0.16 – 0.92). Although women will produce breastmilk as early as 16 weeks' gestation, women who had early stillbirths were half as likely to receive lactation information (aPR: 0.51; 95% CI: 0.30 – 0.85). Most women (77.5%) reported that a fetal autopsy was offered, but only 38.7% of these women indicated that an autopsy was performed (95% CI: 21.9% – 57.8%).

Conclusions: Support services are not consistently offered to all women, particularly those who deliver a stillbirth between 20 and 27 weeks. Guidelines on stillbirth management should be updated to include information about support services and lactation. More research is needed to better understand the circumstances surrounding the offer of a fetal autopsy, and identifying ways to improve its acceptance.

Keywords: Stillbirth, perinatal loss, perinatal bereavement, parental support, fetal autopsy

Background

Stillbirth affects roughly 1% of all pregnancies in the United States with approximately 24,000 families enduring these devastating losses each year [5]. In 2013, stillbirths became more prevalent than infant deaths, and now account for just over half of all deaths occurring between 20 weeks' gestation and the first year of life [4]. The overall rate does not accurately depict the magnitude of the effect of stillbirth on women from a wide spectrum of racioethnic backgrounds. The stillbirth rate among non-Hispanic black women is more than twice that of non-Hispanic white women, and the stillbirth rate for American Indian or Alaskan Native women and Hispanic women is 27% and 7% higher than the rate for non-Hispanic white women, respectively [4]. These numbers illustrate that stillbirth affects a large number of women annually even in a high-income country such as the United States, and it is a health condition that disproportionately affects women from racial minority groups. While research of the etiology and prevention of stillbirth is ongoing [6], parents who endure these devastating losses must receive appropriate care and resources, both around the time of delivery and postpartum.

Currently, the only national guideline for clinicians in the United States in the treatment and care of patients who experience a stillbirth is a 2009 bulletin on the management of stillbirth published by the American College of Obstetricians & Gynecologists (ACOG) [7]. This bulletin details known risk factors for and potential causes of stillbirth. Providers are recommended to approach the clinical management after a stillbirth with sensitivity. They are encouraged to refer to the fetus by name (if given) and to provide parents with information regarding options for investigating the cause(s) of the stillbirth. Parents should be informed about the importance of a fetal

autopsy in identifying these causes and for the management of subsequent pregnancies. Providers should also discuss less invasive methods of examination, including photographs, x-ray imaging, ultrasonography, magnetic resonance imaging (MRI), and tissue sampling. Although fetal autopsy and placental pathology have been identified as the most useful tests for identifying potential causes of stillbirth [32], presentation of both invasive and non-invasive options are important in the event that parents have personal, religious, or cultural objections to a fetal autopsy [7]. Proper clinical management of stillbirth requires a complete perinatal and family medical history, a physical examination of the fetus, and evaluation of lab results. ACOG indicates that the three most important tests are: fetal autopsy; examination of the placenta, cord and membranes; and karyotype evaluation. With respect to patient support after a stillbirth, ACOG recommends providing emotional support and clearly communicating test results to the patients. For further management of grief and depression, the patient should be referred to a bereavement counselor, spiritual leader, peer support group or a mental health professional. While the ACOG bulletin does provide some guidance for healthcare providers, it is noticeably lacking when it comes to recommendations regarding the psychological and social aspects of care.

In the United Kingdom, the Royal College of Obstetricians & Gynaecologists (RCOG) have published guidelines which include both clinical management of stillbirth and the social and psychological aspects of care [8]. Although postpartum care is still at the discretion of the provider, this document offers guidance through bilateral evidence on seeing, holding, and naming the baby as well as offering mementos (e.g. photographs, hand and foot prints, locks of hair). Given that the stillbirth experience can also take a toll

on the clinical staff, these guidelines highlight the need for psychological support for clinical staff through improved bereavement training. One of the hallmark differences between the RCOG and ACOG recommendations is that RCOG provides recommendations for the practical aspects of care for the mother such as options for discussing lactation suppression as well as options for burial, cremation, and remembrance of the stillborn. Despite RCOG's guidelines highlighting options for psychological support for patient and clinical staff, the emphasis of the document remains on the clinical examination and evaluation of the mother and fetus. Qualitative research on patient experience after a stillbirth indicates that the emphasis on clinical support might not directly align with patient interests and needs during bereavement [9, 10]. Patients emphasize the need for emotional support from clinical staff through empathetic conversations, rather than a focus on clinical answers [9].

Qualitative studies and anecdotal evidence have identified that there is insufficient support from the healthcare system for families after a recent stillbirth. Very few research studies have explored postpartum care for women after a stillbirth particularly in reference to support services and clinical exams offered to women in the hospital. The purpose of this study was to examine the prevalence of support services and clinical tests offered to women after a stillbirth and investigate whether receipt of these services differs by maternal characteristics and gestational age at delivery.

Methods

Data Source

This study was a secondary analysis of a pilot study of the expansion of the Pregnancy Risk Assessment Monitoring System (PRAMS) to include stillbirths in

Georgia, which has been previously described [33]. Eligible women were Georgia residents aged ≥ 18 years with a reported stillbirth between 12/1/12 – 2/28/13. Similar to the PRAMS data collection protocol, eligible women received a mailed survey and non-responders were followed-up by telephone. During the study period, 49 women (40%) who delivered at 28 different hospitals across Georgia responded to the survey. This study was approved by the Institutional Review Boards at Emory University and the Georgia Department of Public Health.

Variables of Interest

We were interested in whether maternal characteristics and gestational age at delivery were associated with receipt of support services and clinical evaluations. With the exception of maternal age and gestational age at delivery, all of these variables were collected via self-report. Due to the small sample size, some of the variables required further categorization. Race and ethnicity was dichotomized as White (those who described themselves as non-Hispanic white) and non-White (those who described themselves as Hispanic and/or other racial & ethnic categories e.g. Black or African American, American Indian or Alaskan Native, Asian, Native Hawaiian or other Pacific Islander, Multi-racial). Maternal education was dichotomized as having acquired a high school diploma or less and having completed at least some college. Maternal age and household income were dichotomized at their median values. Since all participants reported some form of insurance during pregnancy, health insurance status was categorized into two levels: employer- and publically-sponsored. Employer-sponsored insurance included individuals with private health insurance as well as members of the military covered through TRICARE or another military health care plan. Publically-

sponsored health insurance included individuals with Medicaid coverage. Following National Center for Health Statistics reporting, gestational age at delivery was categorized into two groups: early stillbirths (20 – 27 weeks of gestation) and late stillbirths (28+ weeks of gestation) [4].

Study participants were asked about the support services and clinical tests that were offered to them in the hospital. Support services included the offering of tangible mementos such as photographs of the baby, photographs of the baby with the family, hand and/or foot impressions. Women were also asked whether they were offered memory-creating opportunities such as seeing, holding, rocking, bathing, and/or dressing their baby, a baptism or blessing, and a funeral/memorial service. Additionally, women were asked whether they felt that they had received adequate support from their doctor or midwife and hospital nursing staff in their grieving process. In addition to these services, women were asked if they received any information regarding breast milk production and lactation suppression. Finally, women were asked whether they were offered an examination of the placenta and umbilical cord, and/or a full fetal autopsy. If the evaluation was offered, women were also asked whether it was performed.

Analysis

Univariate analyses examined the prevalence of support services and clinical tests offered in the study population. Bivariate analyses used Fisher's exact tests to examine whether there were any categorical differences in support services and clinical tests offered by maternal characteristics and/or gestational age. Lastly, multivariate analyses were conducted using Mantel-Haenszel procedures. Each maternal characteristic and gestational age at delivery was treated as a single exposure and its relationship with the

support services and clinical tests were evaluated. Directed Acyclic Graphs (DAGs) were used to identify potential confounders for each of these relationships [34]. All analyses were conducted using SAS 9.3 (SAS Institute, Cary NC).

Results

Of the 49 participants who responded to the survey, 51% were non-Hispanic white (Table 1). Most respondents (41%) were between the ages of 18 and 24. The majority (77%) had attained some college level education or higher. Stillbirths were approximately evenly divided by period of gestation with 45% occurring between 20 and 27 weeks of gestation. Just over half (54%) of the participants were covered by a publically-sponsored health insurance.

Nearly all families were offered the option to see and hold their baby (Table 2) and majority of those offered took the opportunity to see (93.6%) and hold (91.5%) their baby (data not shown). The majority of women also reported having been offered the options of taking photographs of the baby (87.2%), of receiving hand and/or foot impressions (83%) and receiving a bereavement packet on support services (86.7%). A moderate number of individuals also reported having been offered information on lactation (67.4%). Fewer women reported having been offered memory-making experiences with their baby such as rocking (44.7%), bathing (21.3%), or dressing their baby (31.9%) as well taking family photographs with the stillborn (40.4%).

In addressing support from clinical staff, 85.1% of women reported that support services were discussed with them by the nursing staff while only 42.6% of women reported that their physician or midwife had discussed support services with them (data not shown). Correspondingly, 90.9% of women reported that they felt adequately

supported in their grieving process by the nursing staff while 77.8% of women reported that they felt adequately supported in their grieving process by their physician or midwife (Table 2).

The majority of respondents were offered the two ACOG-recommended clinical exams: examination of placenta and umbilical cord (73.8%) and a fetal autopsy (77.5%) (Table 2). Although the majority of those who were offered an examination of the placenta and umbilical cord indicated that these evaluations were performed (77.4%), more than half of the families offered a fetal autopsy reported that it was not performed (P: 0.5; 95% CI: 0.3 – 0.7).

Mantel-Haenszel adjusted prevalence ratios were calculated to quantify sociodemographic differences in support services and clinical evaluations for women after a recent stillbirth. In comparing younger mothers (18 – 25 years of age) to older mothers (26+ years of age), there were no meaningful differences in the receipt of memorabilia, delivery of information, support from clinical staff, and clinical evaluations. However, younger women were approximately 60% less likely to be offered the opportunity to rock their baby compared to older women (adjusted PR: 0.4, 95% CI: 0.2 – 0.9). This difference was noted in crude analyses (Table 3) as well as in the analysis that adjusted for maternal race and ethnicity (Table 4).

There were no meaningful differences in the receipt of memory creation opportunities, delivery of information, and support from clinical staff by race and ethnicity. However, photographs of the baby with the family were approximately 60% less likely to be offered to non-white women in comparison to white women (PR: 0.4; 95% CI: 0.2 – 0.9). We also observed a difference in the offer of fetal autopsies by

maternal race and ethnicity (Table 4). Non-white women were 30% less likely to be offered a fetal autopsy in comparison to white women (PR: 0.7; 95% CI: 0.5 – 1.0).

In crude analyses, we observed differences in offers of a funeral/memorial service and fetal autopsy by maternal education (Table 3). However, these associations were attenuated after controlling for maternal age (Table 4).

We noted some differences in the services offered to women by the gestational age at delivery. Although there were no differences in offers of taking photographs of the baby alone, women with an early stillbirth were approximately 60% less likely to be offered the opportunity to take photographs of the baby with the family compared to women with later stillbirths (adjusted PR: 0.4; 95% CI: 0.2 – 0.9). Also, women who delivered a stillbirth between 20 and 27 week's gestation were approximately half as likely to receive lactation information (adjusted PR: 0.5; 95% CI: 0.3 – 0.9). These differences were noted in both crude analyses (Table 3) and race and ethnicity-adjusted analyses (Table 4).

There were no meaningful differences in the receipt of memorabilia, memory creation opportunities, support from clinical staff, and clinical evaluations by insurance status. Controlling for maternal education and household income level, women with employer-sponsored health insurance were 1.7 times more likely to receive lactation information compared to women covered through a publically-sponsored health insurance plan (adjusted PR: 1.7; 95% CI: 1.0 – 2.9).

There were no meaningful differences in the receipt of memorabilia, memory creation opportunities, delivery of information, and clinical support between women at different household income levels. Crude estimates illustrated that women with a lower

income level were approximately 40% less likely to be offered a fetal autopsy in comparison to women with a higher income level (PR: 0.66; 95% CI: 0.44-0.97).

However, this association was attenuated after controlling for maternal race and ethnicity and maternal education (adjusted PR: 0.9; 95% CI: 0.7 – 1.1).

Discussion

This pilot study provides preliminary data on support services and clinical evaluations offered to women around the time of a stillbirth. Nearly all women in our study were offered the opportunity to see and hold their baby, and those who were offered this opportunity chose to do so. This is an important aspect of supportive care of women after a stillbirth because it offers them an opportunity to have contact with their baby. The latest guidelines from the United Kingdom state that parents should not be persuaded to have contact with their baby, but they should be supported in their decision [8]. A systematic review of previous investigations on the impact of seeing and holding a stillborn have consistently shown that women who held their baby reported higher rates of satisfaction with their decision [23]; therefore it's important that women are well-supported in their decision-making process. Our findings also indicate that many women perceived that they received adequate support in their grieving process from clinical staff, although there were differences by provider type. A higher proportion of women reported receiving adequate support from nursing staff compared to their physician or midwife. This could be a result of the nursing staff spending more time with patients, as the respondents indicated that nurses were nearly two times more likely to discuss support services than physicians or midwives. This is consistent with previous research which found that clinicians were not trained in providing counseling or support to families, so

they deferred those tasks to nursing staff and social workers [9]. From a patient's perspective, this deferral is seen as avoidance on the part of the clinician, resulting in patient dissatisfaction with care [10]. Previous qualitative studies have illustrated that one of the most common words to describe post-stillbirth care is "silence" [18]. This is a result of ill-prepared staff who are unable to communicate with their patients with adequate emotional support and sensitivity and thus avoid participation in postpartum care [10]. The contrasting patient and provider perspectives on the role of healthcare providers in stillbirth postpartum care elicit a need for a national standardization of best practices in patient care after a stillbirth.

Our findings also suggest that there are gaps in support services offered to women after a stillbirth. Less than half the women in the study reported having been offered the opportunity to rock, bathe, or dress their baby. Qualitative studies on the stillbirth experience of mothers in the United Kingdom found that a common theme among interviewed women was that there is only "one chance to get it right" [19]. A lifetime of memories have to be made in a very short period; therefore, memory making experiences are an important component of post-stillbirth care. A systematic review of current evidence on the impact of memory creation has found no adverse effects on the psychosocial health of bereaved parents [11]. These opportunities to create memories do not interfere with the ability to conduct a fetal autopsy [35]. There is a need to expand the opportunity to have contact with the baby to include memory making experiences such as rocking, bathing, and/or dressing their child.

Another gap in care identified by the result of our study was the disparity in the provision of lactation information. Just over 30% of the sample reported that they did not

receive any information about lactation. Further, despite the fact that women will produce breastmilk as early as 16 weeks' gestation [36], women who had early stillbirths were about half as likely to receive lactation information (adjusted PR: 0.51; 95% CI: 0.30 – 0.85) compared to women who had late stillbirths, after controlling for maternal race and ethnicity. There is also a potential disparity in lactation information by health insurance status. Women with employer-sponsored health insurance were 1.7 times more likely to receive lactation information compared to women covered through a publically-sponsored health insurance plan (adjusted PR: 1.7; 95% CI: 1.0 – 2.9). It is unknown whether this association holds due to loss of precision in the adjusted estimates and the small sample size. Qualitative studies have shown that lactation and options for addressing breast milk production is often overlooked in the same regard as the need to undergo labor and delivery after a stillbirth [25]. Many women do not realize that they will still lactate after a stillbirth [25] and often find this to be a painful reminder of their loss. There are no guidelines on lactation options to be offered during stillbirth postpartum care. However, the Royal College of Obstetricians & Gynaecologists (RCOG) recommends that women should be advised of adverse effects of pharmacological and non-pharmacological options for lactation suppression [8]. Qualitative studies of women with a prior stillbirth have indicated the need for a comprehensive list of options to be presented to women after a stillbirth, including options for breast milk donation [25].

Although a majority of families are offered the ACOG-recommended clinical evaluations of the examination of the placenta and umbilical cord and a fetal autopsy, many of them did not have a fetal autopsy. The reasons for fetal autopsy refusal in this

population are unknown, however previous research suggests that this could be explained by a lack of adequate information and due to the fact that parents are overwhelmed by grief during the decision-making period [27]. There is consensus among the clinical community that these evaluations are valuable, and can be helpful to bereaved parents in future pregnancy planning [27]. A recent publication on the usefulness of diagnostic tests in evaluating potential causes of stillbirths have found that placental pathology followed by fetal autopsy were the two most useful diagnostic tests; they were helpful in confirming or excluding a cause of stillbirth in 64.6% and 42.4% of cases, respectively [32]. Since the consent process for informing parents about these clinical evaluations occurs at a difficult time for these families, physicians are left in the uncomfortable position of discussing the delicate topic of fetal autopsy during a period of intense grief [27]. Anecdotal evidence from a qualitative study that examined physicians' experiences of stillbirth found that these physicians were hesitant to bring up a sensitive topic during this difficult time, and that fetal autopsies were not offered unless they were explicitly requested by the parents [9]. Evidence from qualitative and quantitative studies suggests that parents who have conducted post-mortem investigations were content with their decisions to do so [9, 27]. A cross sectional study on parent's experiences of post-mortem investigations found that parents who chose not to conduct a fetal autopsy were two times more likely to regret their decision in comparison to those who chose to conduct an autopsy [28]. The current evidence indicates a need to better understand the circumstances surrounding the offer of a fetal autopsy, and identifying ways to improve the delivery of this information as well as the acceptance of these clinically-recommended evaluations.

This study has several limitations including a small sample size and a response rate of 40%. These could result in selection bias if those who participated in the survey are distinctly different from those who did not participate. Despite the small sample size, the results of this study address patient experience in a wide variety of hospital settings as the 49 participants in this study delivered at 28 different hospitals across Georgia. Since there are currently no national clinical practice guidelines on support services for women after a stillbirth, their experiences vary widely based on the protocols of care of the delivery hospital. Given this variation, these results may not be generalizable to reflect stillbirth postpartum care in other states. Our study found disparities in postpartum care for women after a stillbirth particularly among women who deliver a stillbirth between 20 and 27 weeks' gestation. These disparities could be reduced with the development and implementation of standardized practice guidelines on postpartum care for women after a stillbirth. More research is needed to identify the reason behind the low acceptance rate for fetal autopsies and increasing awareness of the importance of these stillbirth assessments.

Conclusions

Stillbirth affects 1% of all pregnancies in the United States [5]. Currently, there is insufficient information and care provided to women after a stillbirth. This study identified gaps in postpartum care for women after a stillbirth, particularly the need to expand the support services offered to include more memory creation opportunities and reduce disparities in the offer of family photographs with the baby and lactation information for women who experienced a stillbirth between 20 and 27 weeks of gestation. Additionally, the study identified that although clinical evaluations for stillbirth

assessment are offered, many families choose not to have a fetal autopsy. The results of this study provide quantitative evidence in support of the need for developing standardized care practices for women after a stillbirth and training obstetric healthcare teams in perinatal bereavement care. These policies will help reduce disparities in care currently present in support received by women after a recent stillbirth and improve acceptance of clinically-recommended evaluations. We aim to reduce the number of stillbirths, but unfortunately, we cannot eliminate them; therefore, we have a responsibility to provide the best care possible to families during these very difficult times.

Tables

Table 1. Characteristics of participants in the pilot study on the expansion of PRAMS to include stillbirths in Georgia.

Characteristic	N (%)
Maternal Age (n = 49)	
18-24	20 (41)
25-34	17 (35)
35+	12 (24)
Maternal Race/Ethnicity (n = 47)	
White	24 (51)
Non-White	23 (49)
Maternal Education (n = 47)	
High school diploma or less	11 (23)
Some college or higher	36 (77)
Gestational age at delivery (n = 49)	
20 - 27 weeks	22 (45)
28+ weeks	27 (55)
Annual Household Income (n = 44)	
≤ \$19,000	15 (34)
\$19,001 - \$37,000	14 (32)
≥ \$37,001	15 (34)
Health insurance during pregnancy (n = 48)	
Employer-sponsored	22 (46)
Publically-sponsored	26 (54)

Table 2. Prevalence of support services and clinical evaluations discussed with parents after a recent stillbirth.

Memorabilia	N (%)
Photographs of the baby (n = 47)	41 (87.2)
Photographs of the baby with the family (n = 47)	19 (40.4)
Hand and/or foot impressions (n = 47)	39 (83.0)
Mementos (e.g. hat, clothes) (n = 47)	31 (66.0)
Opportunities offered for memory creation	
See your baby (n = 44)	44 (100)
Hold your baby (n = 44)	43 (97.7)
Rock your baby (n = 47)	21 (44.7)
Bathe your baby (n = 47)	10 (21.3)
Dress your baby (n = 47)	15 (31.9)
Baptism or blessing (n = 47)	10 (21.3)
Delivery of information	
Information on lactation (n = 43)	29 (67.4)
Bereavement packet on support services (n = 45)	39 (86.7)
Funeral/memorial service (n = 47)	37 (78.7)
Adequate support from clinical staff	
Physician/Midwife (n = 45)	35 (77.8)
Nursing staff (n = 44)	40 (90.9)
Clinical Evaluation	
Examination of Placenta and Umbilical Cord (n = 42)	31 (73.8)
Offered	24 (77.4)
Performed	
Fetal Autopsy (n = 40)	
Offered	31 (77.5)
Performed	12 (38.7)

Table 3. Unadjusted prevalence ratios of support services and clinical evaluations by maternal sociodemographic variables						
	Maternal Age^a PR (95% CI)	Maternal Race and Ethnicity^b PR (95% CI)	Maternal Education Level^c PR (95% CI)	Gestational Age at Stillbirth^d PR (95% CI)	Health Insurance Status during Pregnancy^e PR (95% CI)	Household Income Level^f PR (95% CI)
Memorabilia						
Photographs of the baby	1.1 (0.9, 1.3)	1.0 (0.8, 1.2)	0.9 (0.7, 1.2)	1.0 (0.8, 1.2)	1.0 (0.8, 1.2)	1.0 (0.8, 1.3)
Photographs of the baby with family	0.5 (0.2, 1.1)	0.4 (0.2, 0.9)	0.4 (0.1, 1.4)	0.3 (0.1, 0.9)	1.5 (0.7, 3.1)	0.5 (0.2, 1.1)
Hand and/or foot impressions	0.9 (0.7, 1.2)	1.2 (0.9, 1.6)	1.1 (0.9, 1.4)	1.0 (0.7, 1.3)	1.0 (0.7, 1.3)	1.1 (0.8, 1.5)
Mementos (e.g. hat, clothes)	0.8 (0.5, 1.3)	1.1 (0.7, 1.7)	0.8 (0.4, 1.4)	1.0 (0.7, 1.5)	1.2 (0.8, 1.8)	0.7 (0.4, 1.0)
Opportunities offered for memory creation						
Saw your baby	0.9 (0.7, 1.0)	0.9 (0.7, 1.0)	0.8 (0.6, 1.1)	0.9 (0.7, 1.0)	1.0 (0.9, 1.2)	1.0 (0.8, 1.1)
Held your baby	0.8 (0.7, 1.0)	0.8 (0.7, 1.0)	0.8 (0.5, 1.1)	0.8 (0.7, 1.0)	1.1 (0.9, 1.3)	0.9 (0.8, 1.1)
Rock your baby	0.5 (0.2, 1.0)	1.2 (0.6, 2.2)	0.8 (0.3, 1.8)	0.6 (0.3, 1.3)	1.5 (0.8, 2.8)	1.1 (0.6, 2.2)
Bathe your baby	1.7 (0.6, 5.3)	1.0 (0.4, 3.1)	0.4 (0.1, 2.6)	0.3 (0.1, 1.3)	1.2 (0.4, 3.6)	1.3 (0.4, 4.1)
Dress your baby	0.8 (0.3, 1.8)	1.2 (0.5, 2.8)	0.8 (0.3, 2.4)	0.5 (0.2, 1.2)	1.6 (0.7, 3.9)	1.0 (0.4, 2.4)
Baptism or blessing	0.8 (0.3, 2.3)	0.7 (0.2, 2.2)	--- ^g	0.5 (0.2, 1.8)	1.5 (0.5, 4.8)	0.7 (0.2, 2.0)
Delivery of information						
Information on lactation	0.7 (0.5, 1.1)	0.7 (0.5, 1.1)	0.5 (0.2, 1.2)	0.5 (0.3, 0.8)	1.6 (1.0, 2.5)	0.8 (0.5, 1.2)
Bereavement packet	0.9 (0.7, 1.1)	0.9 (0.7, 1.1)	0.8 (0.5, 1.2)	0.8 (0.6, 1.0)	1.1 (0.9, 1.4)	0.8 (0.6, 1.0)
Funeral/memorial service	0.9 (0.6, 1.2)	0.8 (0.6, 1.1)	0.5 (0.3, 1.0)	0.8 (0.6, 1.2)	0.9 (0.6, 1.2)	0.9 (0.7, 1.3)
Adequate support from clinical staff						
Physician/Midwife	1.0 (0.7, 1.3)	1.0 (0.7, 1.4)	0.9 (0.6, 1.4)	0.8 (0.6, 1.2)	1.0 (0.8, 1.4)	0.9 (0.7, 1.3)
Nursing staff	1.0 (0.8, 1.2)	1.0 (0.8, 1.2)	0.8 (0.6, 1.2)	1.0 (0.8, 1.2)	1.0 (0.8, 1.2)	0.9 (0.7, 1.1)
Clinical Evaluations						
Examination of placenta and umbilical cord	1.2 (0.8, 1.7)	0.9 (0.6, 1.3)	0.9 (0.5, 1.5)	0.8 (0.5, 1.2)	1.3 (0.9, 1.8)	0.8 (0.6, 1.2)
Fetal autopsy	0.8 (0.5, 1.1)	0.7 (0.5, 1.0)	0.3 (0.1, 0.9)	0.7 (0.5, 1.1)	1.2 (0.9, 1.8)	0.7 (0.4, 1.0)

^aReference group: 26+ years

^bReference group: White

^cReference group: Some college or higher

^dReference group: 28+ weeks of gestation

^eReference group: Publically-sponsored insurance

^fReference group: \$22,001 and above

^gMantel-Haenszel PR could not be calculated because of zero cells

Table 4. Adjusted prevalence ratios of support services and clinical evaluations by maternal sociodemographic variables

	Maternal Age ^a PR (95% CI)	Maternal Race and Ethnicity ^b PR (95% CI)	Maternal Education Level ^c PR (95% CI)	Gestational Age at Stillbirth ^d PR (95% CI)	Health Insurance Status during Pregnancy ^e PR (95% CI)	Household Income Level PR (95% CI) ^f
Memorabilia						
Photographs of the baby	1.1 (0.9, 1.3)	1.0 (0.8, 1.2)	0.9 (0.6, 1.2)	1.0 (0.8, 1.2)	1.0 (0.7, 1.6)	1.1 (0.9, 1.2)
Photographs of the baby with family	0.6 (0.3, 1.4)	0.4 (0.2, 0.9)	0.4 (0.1, 2.0)	0.4 (0.2, 0.9)	1.8 (0.6, 5.0)	0.8 (0.3, 2.2)
Hand and/or foot impressions	0.8 (0.6, 1.1)	1.2 (0.9, 1.6)	1.2 (0.9, 1.6)	0.9 (0.7, 1.2)	1.0 (0.5, 1.8)	1.0 (0.6, 1.6)
Mementos (e.g. hat, clothes)	0.8 (0.5, 1.3)	1.1 (0.7, 1.7)	0.8 (0.4, 1.6)	1.0 (0.7, 1.6)	1.1 (0.6, 2.0)	0.4 (0.1, 1.1)
Opportunities offered for memory creation						
Saw your baby	0.9 (0.8, 1.0)	0.9 (0.7, 1.0)	0.9 (0.7, 1.1)	0.9 (0.8, 1.0)	1.0 (0.7, 1.3)	1.1 (0.9, 1.4)
Held your baby	0.9 (0.7, 1.0)	0.8 (0.7, 1.0)	0.8 (0.6, 1.1)	0.8 (0.7, 1.0)	1.1 (0.8, 1.6)	1.1 (0.9, 1.4)
Rock your baby	0.4 (0.2, 0.9)	1.2 (0.6, 2.2)	1.0 (0.5, 2.3)	0.6 (0.3, 1.2)	2.0 (0.7, 6.1)	1.3 (0.5, 3.6)
Bathe your baby	1.8 (0.5, 6.0)	1.0 (0.4, 3.1)	0.3 (0.04, 2.1)	0.3 (0.1, 1.3)	5.3 (0.3, 99.3)	1.9 (0.6, 6.3)
Dress your baby	0.7 (0.3, 1.7)	1.2 (0.5, 2.8)	0.9 (0.3, 2.4)	0.4 (0.2, 1.2)	3.9 (0.4, 36.0)	1.1 (0.4, 2.7)
Baptism or blessing	0.8 (0.3, 2.5)	0.7 (0.2, 2.2)	--- ^g	0.6 (0.2, 1.9)	2.5 (0.2, 33.3)	1.0 (0.3, 3.9)
Delivery of information						
Information on lactation	0.8 (0.5, 1.1)	0.7 (0.5, 1.1)	0.6 (0.3, 1.2)	0.5 (0.3, 0.9)	1.7 (1.0, 2.9)	1.0 (0.6, 1.6)
Bereavement packet	0.9 (0.7, 1.1)	0.9 (0.7, 1.1)	0.8 (0.5, 1.2)	0.8 (0.6, 1.0)	0.9 (0.6, 1.3)	0.9 (0.7, 1.3)
Funeral/memorial service	0.9 (0.7, 1.2)	0.8 (0.6, 1.1)	0.5 (0.3, 1.0)	0.9 (0.7, 1.2)	1.0 (0.7, 1.4)	1.4 (1.0, 1.9)
Adequate support from clinical staff						
Physician/Midwife	1.0 (0.7, 1.3)	1.0 (0.7, 1.4)	0.9 (0.6, 1.4)	0.8 (0.6, 1.2)	1.0 (0.7, 1.5)	0.9 (0.6, 1.5)
Nursing staff	1.0 (0.8, 1.2)	1.0 (0.8, 1.2)	0.8 (0.6, 1.2)	1.0 (0.8, 1.2)	1.0 (0.8, 1.3)	0.9 (0.7, 1.2)
Clinical Evaluations						
Examination of placenta and umbilical cord	1.2 (0.8, 1.7)	0.9 (0.6, 1.3)	0.8 (0.5, 1.4)	0.8 (0.6, 1.2)	1.5 (0.9, 2.6)	0.8 (0.5, 1.4)
Fetal autopsy	0.8 (0.6, 1.1)	0.7 (0.5, 1.0)	0.3 (0.1, 1.0)	0.8 (0.5, 1.1)	1.3 (0.8, 2.2)	0.9 (0.7, 1.11)

^aAdjusted for maternal race and ethnicity^bUnadjusted^cAdjusted for maternal age^dAdjusted for maternal race and ethnicity^eAdjusted for maternal education level and household income level^fAdjusted for maternal race and ethnicity and maternal education^gMantel-Haenszel PR could not be calculated because of zero cells

Future Directions

The latest guidelines from the American College of Obstetricians and Gynecologists on stillbirth management were published in 2009 [7]. During the last eight years, numerous studies have been conducted in understanding the patient experience after a stillbirth and there is accumulating evidence that patients need more from their care providers than clinical support [10]. Due to small sample sizes and other methodological challenges, there are still gaps in the development of evidence-based interventions to improve stillbirth postpartum care. One primary area requiring further research is the offer of a fetal autopsy. Consistent with the findings of our study, 2014 fetal death certificate data from Georgia indicates that a fetal autopsy was only performed on 11.9% of stillbirths [37]. Despite clinical recommendations from ACOG [7] and its recognition as the second most useful diagnostic test in identifying the etiology of a stillbirth [32], fetal autopsies are underperformed. A systematic review of interventions to support parents' decisions about autopsy after a stillbirth identified that no studies have examined effective ways to support parents in the decision-making process [27]. Further research is needed to gain a better understanding of the circumstances around the offer of a fetal autopsy and improve the acceptance of this clinically-recommended evaluation.

Results of this pilot study were limited by the small sample size and the 40% response rate. CDC's National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) Division of Reproductive Health has expanded the pilot study to improve stillbirth surveillance to Utah [38]. Data from the expanded surveillance should be examined to get better estimates of the prevalence of support services and clinical tests

offered to women after a stillbirth and investigate whether receipt of these services differs by maternal characteristics and gestational age at delivery.

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