

Unveiling the evolution of fetal death in pregnancy in different cultures

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Abstract

Objectives: to describe the identification of fetal death during pregnancy in Brazilian and Canadian women.

Methods: clinical-qualitative study with women who experienced the outcome of fetal death in their pregnancies, living in Maringá (Brazil) and participating in the Center d'intervention familiale (Canada). Data collection was performed through a semi-structured interview with the question: How did you find out about your baby's death? Readings were performed and the relevant aspects were categorized into themes according to the places where the death was confirmed.

Results: in both countries, the main causes of death were the same, related to complications in pregnancy and childbirth, and health problems of the pregnant woman or fetus. Brazilian women had a higher frequency of deaths in the third trimester and Canadian women experienced a majority of deaths in the second trimester. The stillbirths were found in different places, times and moments categorized at prenatal routine consultation, emergency care, expected death from congenital malformations of poor prognosis and labor.

Conclusions: the determination of fetal death during pregnancy was due to possible intrinsic interferences of the pregnancy period. Based on the women's experiences, it was possible to demonstrate the clinical practice of identifying fetal death according to the cultural scenario. Continuous studies on prenatal care for women who had stillbirths are necessary for early detection of pathological conditions and appropriate interventions.

Key words Fetal death, Pregnancy complications, Congenital abnormalities, Brazil, Canada



Introduction

Studies on fetal deaths are essential worldwide because of the variation in fetal mortality rates that could be avoided by correct interventions. Information on the causes of still births, when available, are often reported in developed countries for placental complications.¹ In developing countries, which account for 98% of fetal deaths, they are attributed to infections, complications during labor and birth, congenital malformations, hypertensive syndromes, pre-existing diabetes, infections during pregnancy, inadequate prenatal care, and low quality of childbirth and intrapartum care, highlighting access to timely referral for delivery.²

In Brazil and Canada, the monitoring of fetal deaths is carried out through information systems in each country, which consider fetal death, death before complete expulsion or extraction from a product of conception at 22 weeks or fetal weight equal to or greater than 500 g, according to criteria established by several international organizations³ and the 10th Revision of the International Classification of Diseases (ICD 10) due to improved survival rates.

Pregnancy, even when unplanned but normally accepted, brings with it in the psychic and social imaginary phenomenon of a birth, a life, a mother, a father, a family. In this cultural representation of pregnancy, when the pregnancy evolves to fetal death, the paradox between life and death is manifested, bringing forth the technology of the modern world and the contradiction of the so-called “natural order of things”, both for the couple, the family, and the health team.⁴

The experience of having a child is normalized by the woman’s culture, and one realizes that the gestational period is not isolated, closed in itself, but encompasses a series of interconnected factors. During the prenatal consultation, it is necessary to visualize the environment where pregnancy developed, and the concerns of this period. Unfortunately, even though the main concern is losing the baby⁴, many pregnant women still do not have a guaranteed reference in the health services when any alteration is manifested in the pregnancy, having to search for two or more urgent emergency services until they get assistance for the complication.⁵

Although pregnancy loss may be a universal experience, its representation and influence on an individual’s life are modified by personality, culture and society.^{6,7} Studies covering fetal loss point to this event as one of the health indicators to analyze the living conditions of a population, since it directly reflects the health of the pregnant woman, the quality of obstetric care and the use of health services. In view of the literature, the objective of the present study was to describe the identification of fetal death during pregnancy in Brazilian and Canadian women.

Methods

The present study is a sequence⁷ that completed a multicenter research. In this presentation, the clinical-qualitative method was adopted, with 26 women residing in the municipality of Maringá (Brazil) in 2013, and 18 women participating in the *Centre d’études et de Recherche en Intervention Familiale* (CERIF), at the University of Quebec, in Outaouais in Gatineau (Canada), Who experienced fetal death in the period from 2010 to 2013.

The clinical-qualitative method aims at adjusting the problems originated in clinical practice, supported by empiricism and theory linked to clinical performance. The clinical-qualitative method is the clinical attitude of the researcher in taking in the meanings attributed by individuals in relation to the phenomenon experienced in the health-illness process, and demonstrates the daily experiences of the subjects in their social group, determining a mold to individual life that is shared culturally.⁸

Data collection was finalized during the year 2014, through semi-structured interviews, using the open-ended guiding question: How did you learn about the death of your baby? Information was also collected about the characterization of the women: age, religion, type of delivery, duration of pregnancy, and the causes of fetal death.

For Brazilian women, the inclusion criterion was all women who had had a fetal death in 2013 and lived in Maringá-PR, and the exclusion criterion was all women whose address was not located. It is noteworthy that all Brazilian women accepted the invitation and only four women were not located because their address was incorrect on the death certificate.

For Canadian women, since there is a support group for families after fetal loss at CERIF, the inclusion criteria were all women participating in CERIF’s support groups who had a fetal death between 2010 and 2013. The exclusion criterion was all women who participated in a period different from that delimited in the study.

The semi-directed interview was offered in the two official languages of the study population (French and Portuguese), held in a private place according to the interviewee’s suggestion, and lasted on average of 80 min. The interviews were audio-recorded and supplemented with Field diary notes at the end of each interview to record the non-verbal expressions, manifestations, and reactions of the women.

Subsequently, the interviews were transcribed and subjected to readings and re-readings, in order to identify relevant aspects. Next, they were categorized into discussion topics that corresponded to the research objective and the rules of exhaustivity, representativity, homogeneity, and pertinence were applied. The discussion

topics were debated with the research team, and qualitative content analysis was performed, supported by the psychodynamic theoretical framework.⁸

The qualitative content analysis, with the intention of guaranteeing an understanding of the perspective of the woman studied among the various acceptable interpretations, considers the group discussion of the results among the researchers, a validity of a correct and representative result of the empirical reality and acceptable to the scientific community. The use of the psychodynamic theoretical referential, in the clinical-qualitative method, involved the conceptual aspects of understanding the attitudes of mental states of people on the move and the influences of unconscious levels.⁸

The results were organized into thematic categories in order to systematize the ideas that contemplated the objective of the study, then allowing the inference to the results found and discussed based on the literature. The anonymity of the women interviewed was guaranteed and, for the presentation of the results, they were identified with the letter "M", followed by the initial of each country Brazil (B), Canada (C), and numbered according to the order of inclusion of the participants. The names of the hospitals and health services were also not disclosed. For the analysis of the information collected regarding the characterization of women, a descriptive analysis by Microsoft Excel[®] software was used.

The study was approved by the Research Ethics Committee of the State University of Maringá, under opinion 407.840/2013.

Results

Regarding the sociodemographic and reproductive characteristics of Brazilian women, the average age was 29 years; all of them were religious (Catholic or Evangelical), most deliveries were cesarean and most deaths were in the third trimester. For Canadian women, the average age was 31, only half were Catholic, most deliveries were vaginal and most deaths were in the second trimester.

The causes of death in Brazil were related to placental abruption, maternal hypertensive disorders, congenital malformations, hemorrhage, unspecified hypoxia, isthmus-cervical incompetence, cord entanglement, diabetic mother syndrome, multiple pregnancy, uterine rupture or an undefined cause. In Canada, deaths occurred due to placental abruption, hemorrhage, interruption due to congenital malformation, cord entanglement, labor, preeclampsia, cytomegalovirus, or undefined cause.

The evolution of pregnancy into fetal death was identified by clinical complications, complications during pregnancy and delivery, and health problems of the pregnant woman and the fetus. To deal with the anguish,

anxiety and experience of suffering from the loss, it was necessary to understand the meaning of these facts based on the women's manifestations. In the context of the speeches, it was possible to perceive phenomena common to women who experienced fetal loss, and organized into three thematic categories according to the places where the evolution of the pregnancy in fetal death was diagnosed. The thematic categories identified for the outcome of the pregnancy in fetal death were: in clinics during prenatal routine, in emergency services, and in imaging services during ultrasonography to detect the expected death in cases of congenital malformations with poor prognosis.

Identification of fetal death during routine prenatal consultation

The routine prenatal care and the perception that the pregnancy was not progressing well led the woman to seek medical care in order to obtain information about her health status and that of the fetus. Thus began a long process, marked almost always by anxiety, fear, and distress at the unknown. The diagnosis of fetal death in the routine prenatal consultation brought distress. Death is an unpredictable news in this place, because normally what was expected was a diagnosis of the gestation development and not a consultation to identify the fetal death.

I noticed a delay in hearing the heartbeat, which at the last visit was in seconds. The doctor pulled my pants down further and opened my blouse more. I knew that it was not normal, not hearing the heart. Seeing the doctor's face, I understood that something was wrong. I started to cry before the doctor even said anything. Until the birth, I felt hope and despair (MC7).

The doctor didn't hear his (baby 1) heart beat, didn't say anything and referred me to confirm on ultrasound. We were going to schedule the delivery, because I was already at 38 weeks, but we didn't schedule it because she (baby 2 with cleft palate) was underweight, and we were holding on as long as we could because of her (MB3).

Identification of fetal death in emergency services

Besides the identification of fetal death in the office during routine prenatal care, adverse changes in the woman's body during pregnancy caused her to seek emergency services. This concern was also aroused in the family members who accompanied the woman in the search for assistance which began a pilgrimage in search of care. The category identified in the cases of the evolution of the pregnancy into fetal death was due to the search for

emergency services because of some concerns in the health condition.

I went to the doctor, because I felt very unwell. The doctor said everything was normal. When I got home, I started to have pain in my abdomen. I thought it was a stomach problem, and I suffered all weekend. On Monday, I noticed bleeding in my mouth and lost consciousness. The paramedics said it was not urgent and recommended returning to the doctor (...) To get to the appointment, I needed help from my husband and father. The doctor immediately transferred me to the hospital, as I had internal bleeding and pre-eclampsia (...) The baby died shortly before the emergency delivery, from the medications I received (MC9).

I had high blood pressure that would not normalize. I went to the hospital that takes care of me, and the doctor on duty asked me to find an obstetrician, mine was traveling and no one could find another. At another hospital, the gynecologist gave me cardiocography and medication, and let me go and find my doctor. I went to the cardiologist and the doctor when he returned. Afterwards I had another very heavy bleed. My placenta detached completely and I had to have an emergency cesarean section (MB14).

The clinical cases of fetal loss in the two countries also point out that the moment of the decision to seek care occurred in situations that implied childbirth, when the woman went into labor, the membranes ruptured, the presence of contractions, the baby “stopped moving” or in the presence of clinical changes in the mother’s body. The reports of the evolution of the pregnancy in fetal death during labor involved:

My waters broke. I went to the hospital to deliver the baby. As I had few contractions, they installed oxytocin. When they did the epidural, the baby’s heart rate dropped, but it recovered quickly. About 30 minutes after the epidural, the doctors gave me more oxytocin. Ten minutes later, I saw the blood flowing, it was a premature placental abruption. I was referred for emergency c-section. In the recovery room, as I saw my husband, I realized that my daughter was dead. I didn’t need to hear words to understand what had happened (MC8).

Everything was fine in the pregnancy and the doctor said that I could fulfill my wish of a normal birth. I started having contractions and I lost focus

on the fetal movements. The contractions subsided the following night. I began to worry that labor had not progressed. At that point, the doubt came to me that the baby might have died (MC5).

I don’t even like to remember (I cry). I went to the health center and asked the doctor to refer me for a C-section, because I was already at 38 weeks, high blood pressure (210x170), and in the other two pregnancies the doctor referred me for a C-section. The doctor said I couldn’t, because it would be the hospital doctor who would deliver the baby (...) On Good Friday, the baby moved in the morning and then didn’t move anymore. The next day, I went early to the hospital, the student and the doctor didn’t hear he heart, and they referred me to the ultrasound. At the ultrasound they didn’t tell me anything, and as I was already suspicious, I became more nervous. Then the doctor told me that he was dead. They tried normal labor, I had no dilatation and they did a cesarean section (MB5).

Identification of fetal death in imaging services when performing ultrasonography in cases of congenital malformations with poor prognosis

Another category identified was when the diagnosis of fetal death occurred during the expected evolution in cases of congenital malformation identified by ultrasonography (USG). In Brazil, fetal deaths due to malformation occurred in the third trimester, since only in cases of anencephaly, a condition in compatible with life, would it be allowed to induce therapeutic delivery before effective labor.

In Canada, despite the doctrine of Christianity, therapeutic termination of pregnancy is possible up to 23 weeks in cases of congenital malformations with a poor prognosis and/or non-viability and when the woman makes this choice. Therapeutic termination, even in countries where it is legalized, is not accepted by Christianity. Thus, it is up to the religious members that participate in the health team to respect the woman’s decision in her autonomy as a human being.

The radiologist who issued the diagnosis (osteogenesis imperfecta) and the prognosis (lethal) of the malformation was significant in my decision. The clarity of his observations and explanations, as well as the confidence issued in the prognosis helped us (parents) make the best decision for me and the medically interrupted fetus (MC16).

When I had a morphological ultrasound I found out that she had Patau’s syndrome. The USG doctor

Said that she was not well at all. The prenatal doctor said that she would not survive and that it was incompatible with life. I got desperate and thought: -I am going to have to wait until she is Born or at the most 3 months of life? My doctor didn't want to take it out and advised me to wait for God's will to be done. With 8 months gestation I had bleeding and went to the doctor; he told me that I could go home that the contractions would start. When they were strong I went back to the hospital, after almost a day I had no dilation and they performed a cesarean section (MB21).

Although the pregnancy cycle is the same in all regions of the world, the needs surrounding this period vary according to cultural groups, thus shaping patterns and behaviors and generating a certain structure and social organization, which may present similarities and/or differences. The routine prenatal consultation with clinical, laboratory, and imaging exams is a support for the evaluation of the pregnancy's evolution. According to the culture of each country, based on the test results it is possible to organize and direct care and support networks.

Discussion

The main causes of fetal death in both countries involved health problems of the pregnant woman, the fetus and problems with the pregnancy. The identification of a fetal death was based on clinical complications in the woman's body, labor, ultrasonography and the perception that the pregnancy was not progressing well, showing the path taken in the health services. In some cases, the woman had already been informed of the probable occurrence of death and in other situations they were surprised by the fatality.

In Brazil and in all its regions, the fetal mortality rate has been stationary since the 2000s, with a fetal mortality rate in the country of 9.3 per 1,000 births. However, with regard to the characteristics of the fetuses, the trend in the cause of fetal deaths due to congenital malformations, deformities and chromosomal anomalies is increasing. The causes of deaths from conditions arising in the perinatal period have a tendency to increase only in the Northeast region, while the other basic causes show a tendency to increase in the Southeast and South regions.^{9,10}

The main causes of death were hypertensive diseases, placental abnormalities, early congenital syphilis and intrauterine hypoxia before and during labor, with a greater magnitude of mortality of children of mothers with low education when compared to those of mothers with high education.⁹ Considering the frequency of fetal deaths due to maternal morbidity and unfavorable socioeconomic situation, it can be mitigated with greater investment

in prenatal care, especially in mothers of greater social vulnerability.

It is relevant to highlight that in Brazil, free prenatal care is available in Basic Health Units, with remuneration by the public health system or in private practices, when consultations are paid directly by the client or indirectly, through medical agreements or health insurance system. Despite the universality, equity, and integrality of the public service, it is in the private service that women receive the greatest assistance in terms of the number of consultations, laboratory and obstetric exams, vaccines, and ultrasound.¹¹

With regard to Canada, studies¹²⁻¹³ have shown that the highest rates of still births occur with those living in isolated rural areas, referred to as indigenous, aboriginal or, first nations, who do not use the English or French languages,¹³ in women of extreme ages, such as adolescents or those 35 years of age or older,¹² women with low education level, and smokers, present in higher prevalence in these remote regions.¹⁴

In a detailed analysis of the main causes of death according to regions of Canada, for the Inuit population, fetal growth restriction, placental and adnexal disorders, and congenital anomalies were found. For First Nations residents, diabetes, hypertension, and congenital anomalies were noted. In the few cases in the non-aboriginal population, placental and attachment disorders were detected.¹² The language barrier and the lack of facilities adapted to the norms and cultures prevent the indigenous population from accessing the benefits of improved care and health services in urban centers.¹²

However, the higher occurrence of fetal deaths on weekends, which is a reality found in Brazil and some developed countries, was not found in Canada, even after the necessary statistical adjustments were made, confirming that accessibility and quality of care are maintained on weekends in the Canadian reality. The inequality in relation to the higher prevalence of late and full-term gestation in fetal deaths among Aboriginal people than among non-Aboriginal people is a cause for concern, because cases of stillbirth in the third trimester are potentially preventable.¹² This demonstrates the need for improvements in the quality of prenatal care for Aboriginal people, especially given their common characteristics of overweight and greater use of tobacco.¹⁴

The Canadian government also provides free prenatal care for women legally residing in the country. In low-risk cases, the consultation is usually performed by the family doctor or university-level professional midwife, while high-risk cases are followed up by obstetricians. Prenatal care can also be provided by health insurance paid for by pregnant women in specific clinics. Although 98.6% of live births and 97.8% of fetal deaths occurred in the hospital in the period from 2007 to 2011, there was an

increasing variation in the number of non-hospital births in this period, of more than 40% for live births and more than 100% for fetal deaths.¹⁵

In indigenous regions, prenatal care is usually provided by local midwives, where 97% of deliveries are vaginal with 85% being accompanied by these traditional midwives, and the main reasons for referral to medical care are premature labor and pre-eclampsia. In the Inuit region, the lowest rate of perinatal mortality occurs when the monitoring is done by a physician, compared to midwives, but without statistical significance. Thus, this result is not yet conclusive, since when extreme preterm infants were excluded, the rates were better when deliveries were conducted by traditional midwives.¹³

The success of the midwifery service in the Inuit Aboriginal region is supported by the knowledge and skills of local midwives and through the support of an interprofessional team, which demonstrates the possibility of culturally competent and safe local care, even in remote communities without C-section capacity.¹³

In the event of pregnancy-related complications to the fetus' health, risk detection implies emergency service attendance. In several countries, there is a pre-hospital service, represented in Brazil by the Mobile Emergency Care Service (SAMU) to promote, in emergency situations, transport and adequate and safe care for the population that has suffered some injury to their health, of clinical and/or obstetric nature. The reality shows a high demand not pertinent to the pre-hospital emergency service, according to the Ministry of Health's obstetric risk classification protocol, especially in the assistance to pregnant women in the third trimester with signs and symptoms of labor.¹⁶

Among the resources required in unfavorable clinical and/or obstetric health conditions of the pregnant woman and/or fetus, access to a reference service with specialized attention in evaluation and follow-up is required. Ultrasonography is the resource most often used to diagnose pregnancy complications and fetal death, and has contributed to the management of obstetric care. Obstetric ultrasonography can identify placenta previa, fetal malposition, multiple gestation, ectopic pregnancy, retained placenta products after delivery, fetal malformations, fetal growth restriction, poly- and oligohydramnios, obstructive myomas, and fetal death.¹

The reality in countries where it is allowed points out that therapeutic termination of pregnancy for congenital malformation is an emotionally intense experience. The news of the diagnosis of a malformation is received with shock and surprise by the woman. The decision to continue or terminate the pregnancy has been considered the most difficult in the couple's lives due to the ambivalence of feelings and moral dilemmas it produced.¹⁷

The diagnosis of fetal malformation can affect parents' mental health. When being confirmed a fetal abnormality, an imaginary fear becomes reality. The way each woman experiences this situation is unique and singular, however, they all experience feelings of guilt, that deserves attention and adequate reception by health professionals.¹⁸ To improve fetal mortality care and indicators, investments are needed in health services, professional training, and information for women and society about the existence of technology and rights that favor a safer and more humane birth. This work must be organized in an integrated and continuous manner, including health sector and intersectoral planning and actions.¹⁹

This study identified that the evolution of the pregnancy into fetal death was due to possible intrinsic complications of the pregnancy. Using the clinical-qualitative method, it was possible, based on the women's experiences, to demonstrate the clinical practice of identifying fetal death indifferent cultural contexts. For women of both countries the same main causes of fetal deaths were identified, although there existed a difference in the duration of pregnancy, mainly related to the possibility of choosing a therapeutic termination of pregnancy in Canada.

Although the data from this study can be transferred to populations with similar characteristics and contexts, we caution about the possible limitation of the study regarding the transferability of the findings by limiting data collection to women from only one municipality in Brazil and one region in Canada.

Due to the possibility of congenital malformation incompatible with life, there is a need to include the topic in the university and technical curricula of health professionals, so that professional practice is adequate in cases of fetal death and the woman and couple receive coherent assistance in these cases.⁴

Unfortunately, fetal death events still occur in developed and developing countries and demonstrate the quality and quantity of goods and services available to an individual or an entire population. Studies on the prenatal care of women who have had a fetal death are needed for early detection of pathological conditions and support in structuring the appropriate care.

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Authors' contribution

Paris GF, Montigny F, Pelloso SM contributed to the conception and design of the study. Paris GF conducted the literature review, data collection and analysis of results.

All authors have approved the final version of the article and declare no conflict of interest.

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