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Description of the Psychological State of a Pregnant Women with Fetal Death Attended at Hospital General Ambato Iess in Ecuador

[1]Janeth Carolina Patín Ibarra, [2]Riber Fabián Donoso Noroña, [3]Gloria Rebeca Medina Naranjo

[1]Universidad Regional Autónoma de los Andes (UNIANDES), Ecuador. Icarola.patin@hotmail.com

[2]Universidad Regional Autónoma de los Andes (UNIANDES), Ecuador. ua.riberdonoso@uniandes.edu.ec

[3]Universidad Regional Autónoma de los Andes (UNIANDES), Ecuador. ua.gloriamedina@uniandes.edu.ec

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ABSTRACT

Background: Fetal stillbirth refers to the death of a fetus after the 20th week of pregnancy, but before delivery and can have multiple causes, including maternal factors and placental or fetal problems.

Objective: The aim of the study was to describe pregnant women with fetal death attended at the Hospital General Ambato IESS in Ecuador.

Methods: It was an epidemiological study corresponding to the descriptive level, being observational, prospective, cross-sectional, and descriptive. The population study consisted of 20 patients with fetal death, who were surveyed for the corresponding description of their pregnancy.

Results: It was found that most of the patients were married and had a high school education. In addition, they all belonged to the Catholic religion and had a general type of insurance. There was a high prevalence of polycystic ovary disease, as well as a history of hypothyroidism and ovarian cancer in the patients' mothers, and no mammograms were performed. No alcohol, tobacco or drug consumption habits were found.

Conclusions: It was concluded that fetal death can occur at any age of the mother, however, the risk is higher in those younger than 20 years and older than 39 years. New studies are suggested to focus on the effectiveness of different interventions to prevent fetal death; to perform longitudinal studies to better understand its underlying causes; to analyze its psychological and emotional impact on women and their partners; and to evaluate specific risk factors in different populations and contexts.

Keywords: Fetal abortion, perinatal mortality, risk factors, preterm delivery, fetal death

INTRODUCTION

Stillbirth, also known as stillbirth, refers to the death of a fetus after the 20th week of pregnancy, but before delivery. This pregnancy complication can have multiple causes, including maternal factors, placental problems, and fetal problems. Several recent studies delve into this important and current line of research (1,2,3,4,5,6).

The detailed description of pregnant women who experience a fetal death is of great importance due to several reasons. First, an accurate description of the risk factors and characteristics of women who experience fetal death can help doctors and other health professionals identify and treat women at risk for this complication in the future. According to a study published in the journal *BMC Pregnancy and Childbirth* in 2021, risk factors for fetal death include advanced maternal age, obesity, smoking, and gestational diabetes (1).

Second, it can help researchers identify the underlying causes of this complication and develop better prevention and treatment methods. A study published in the journal *PLoS One* in 2018 finds that women with a history of fetal death have higher levels of anxiety and depression than women who do not experience this complication (7).

Third, it can help women and their partners better understand what's going on and process their loss more effectively. According to a 2019 study in the *Journal of Obstetrics, Gynecologic, and Neonatal Nursing*, women who experience a stillbirth often feel isolated and marginalized, and may benefit from increased emotional and psychological support (6).

This study was pertinent to the context of Ecuador (8,9), where the studies that are evidenced on this subject are insufficient. Within the analysis of the theoretical framework of this study, there is some research related to risk factors for fetal death in Latin American countries, including Ecuador (10,11,12). These studies highlight the importance of identifying risk factors for stillbirth and improving antenatal care to prevent this complication.

Within this scope, the scientific question faced was: How to describe pregnant patients with fetal death? In this context, the objective of this study is to describe pregnant women with fetal death attended at the Ambato IESS General Hospital in Ecuador.

METHODS

Study Classification

It was a study with an epidemiological design corresponding to the level of descriptive research, being observational, since there was no intervention of the researchers and the data showed the natural evolution of the data beyond their control.

In addition, it was prospective because the data required to carry out the study were collected for the purpose of the research, so they were primary data on which we had control for possible measurement biases.

On the other hand, it was a cross-sectional study, since all the variables were measured on a single occasion. Likewise, it was descriptive, since the statistical analysis was univariate.

Study population

For the purpose of the study, the target population was analyzed to the 100 patients attended at the Ambato IESS General Hospital, in Ecuador, in 2022, between the months of January and August. But after considering fetal death as an inclusion criterion, only 20 women made up the study population, and it was not necessary to calculate a sample.

Patients who did not give informed consent to participate in this study were considered as exclusion criteria.

Variables

The variables analyzed were categorical, so it was used within the descriptive statistics to calculate the absolute and relative frequencies.

The variable of interest was fetal death, while the sociodemographic or characterization variables were the following (See Tables 1, 2 and 3):

- Age.
- Marital status.
- Type of laterality.
- Religion.
- Type of insurance.
- Instruction.
- Race.
- Personal history.
- Family history.

- Surgical history.
- Gynecological-obstetric history.
- Eating habits.
- Defecation habits.
- Urination habits.
- Alcoholic habits.
- Smoking habits.
- Drug use habits.
- Sleep habits.
- Medication consumption habits.

Research methods and techniques

As methods of the theoretical level of knowledge, the Analytical-Synthetic, the Inductive-Deductive, the Historical-Logical and the systemic approach were used, as in other epidemiological design studies (13,14,15,16,17). On the other hand, as a method of the empirical level of knowledge, the measurement was appealed through the survey technique to measure the characteristics of the study population through the collection of data, which in this case were obtained from the answers issued by the respondents to the questions formulated in the questionnaire. which were subsequently statistically analyzed.

Data were obtained through questionnaires, that is, a list of questions that the participants answered, whose conformation was based on the documentary review on the line of research on fetal death and the own experience of the authors of this study.

Ethical criteria

During the study, the data of the case analyzed were protected to maintain confidentiality and the ethical guidelines established by the Helsinki Conference were respected. This ethical instrument establishes the principles for conducting research on human subjects and was adopted by the World Medical Association in 1964. Since then, it has been updated several times, the last update being made in 2013. Case data were not disclosed to preserve participants' privacy (18,19).

RESULTS

Table 1 shows the sociodemographic variables of the study population.

Board 1. sociodemographic variables of the study population.

Sociodemographic variables		Frequency	Percentage	Total	
				F	%
Age	15 to 19	0	0	20	100%
	20 to 39	20	100%		
	40 to 64	0	0		
	> 64	0	0		
Marital status	Bachelor	0	0	20	100%
	Married	17	85%		
	Common-law marriage	3	15%		
	Divorced	0	0		

	Widower	0	0		
	Dexterous	20	100%		
Type of laterality	Left-handed	0	0	20	100%
	Left-handed disgruntled	0	0		
	Christian	0	0		
Religion	Catholic	20	100%	20	100%
	Secular	0	0		
	Atheist	0	0		
Type of insurance	General	20	100%	20	100%
	Private	0	0		
	Primary	0	0		
Instruction	High school	14	70%	20	100%
	Technological	3	15%		
	Superior	3	15%		
	Mongrel	20	100%		
Race	White	0	0	20	100%
	Indigenous	0	0		

Source: Database of the General Hospital Ambato IEES.

Within Table 1, it stands out that 100% of the patients with the presence of fetal deaths were in an age range of 20 to 39 years, 85% were married, 15% were in free union, 100% were right-handed, 100% belonged to the Catholic religion, 100% had a type of general insurance, 70% had a secondary education, 15% had a technological education and 15% had a higher level.

Table 2 shows the personal, family, surgical, and gynecological-obstetric history of the study population.

Board 2. Personal, family, surgical, and gynecological-obstetric history of the study population.

Personal pathological history		**Frequency**	**Percentage**	**Total**	
				F	**%**
Subclinical hypothyroidism		3	15%		
Polycystic Ovary Diagnosed	10 – 20 years	15	75%	20	100
Not referred to		2	10%		
Family History				20	100
Mother: Hypothyroidism and		17	85%	20	
Ovarian Cancer					100
Father: Colon Cancer					
Not Referred		3	15%		
Surgical History				20	100
Not Referred		16	80%		
Allergies		4	20%	20	100
Gynecoobstetric History:					
Menarche:	15 – 20 years	20	100%	20	100
Menstrual Cycles	Irregular	14	70%	20	100
	Regular	6	30%		

Beginning of sexual life	18 – 25 years	20	100%	20	100
Sexual Partners	One	5	25%	20	100
	Two	10	50%		
	More than two	5	25%		
Dyspareunia	Refers	14	70%	20	100
	Not Referred	6	30%		
Postcoital bleeding	Refers	4	20%	20	100
	Not Referred	16	80%		
Transmitted diseases:	Refers	0		20	100
	Not Referred	20	100%		
Methods of contraception	Refers	15	75%	20	100
	Not Referred	5	25%		
Pap Test	Recently	6	30%	20	100
	A year ago	12	60%		
	More than a year	2	10%		
Mammography:	Not performed	14	70%	20	100
	It is done	6	30%		
Colposcopy	Refers	8	40%	20	100
	Not Referred	12	60%		

Source: Database of the General Hospital Ambato IESS.

From the results presented in Table 2, as relevant results, it is worth noting that within the personal pathological history, 15% of those treated had subclinical hypothyroidism, 75% had polycystic ovary detected between 10 and 20 years, and 10% did not refer.

In addition, in the family history highlights that 85% of those attended had in their mothers: hypothyroidism and ovarian cancer, and in fathers: Colon cancer and 15% did not refer family history.

In the surgical history, 80% did not describe and 20% presented allergies; while in the gynecological-obstetric antecedents it was evidenced that 100% presented menarche in an age range between 15 and 20 years; 70% had irregular menstrual cycles and 30% had regular menstrual cycles. In addition, 100% presented their beginning of sexual life between 18-25 years.

Within sexual partners, 25% had only one sexual partner, 50% two partners, and 25% mentioned having more than two. In dyspareunia it was obtained that 70% reported and 30% did not refer. In post-coital bleeding, 20% reviewed and 80% did not; in sexually transmitted disease it was found that 100% did not refer; while within the methods of contraception it was evidenced that 75% counted and 25% did not.

Similarly, 30% mentioned that the Pap test was recently performed; 60% did it a year ago and 10% more than a year ago. Mammography was not performed by 70% and 30% did, while colposcopy showed that 40% did refer it and 60% did not.

Table 3 shows the eating, defecation, urination, alcoholics, tobacco consumption, drug consumption, sleep and medication habits of the patients analyzed.

Board 3. Eating, defecation, urination, alcoholics, tobacco use, drug use, sleep and medication habits.

Habits		**Frequency**	**Percentage**	**Total**	
				F	%
Alimentary	1 time a day	0	0	20	100

	3 times a day	15	75%		
	5 times a day	5	25%		
Defecatory	1 time a day	16	80%	20	100
	2 times a day	4	20%		
	5 times a day	0	0		
Micciconarium	1 time a day	0	0	20	100
	4 times a day	13	65%		
	5 times a day	7	35%		
Alcohol	Refers	0	0	20	100
	Not Referred	20	100%		
Tobacco	Refers	0	0	20	100
	Not Referred	20	100%		
Drugs	Refers	0	0	20	100
	Not Referred	20	100%		
Dream	8 hours	16	80%	20	100
	more than 8 hours	0	0		
	less than 8 hours	4	20%		
Drugs	Refers	14	70%	20	100
	Not Referred	6	30%		

Source: Database of the General Hospital Ambato IESS.

From the results obtained in Table 3, it is worth noting that 75% of the women who presented fetal death had a dietary habit of 3 times a day, and 25% of 5 times a day; 80% of those treated presented a picture of defecation 1 time a day and 20% twice a day. Regarding urination, it was found that 65% of those attended performed it 4 times a day and 35%, 5 times a day. As for habits such as alcohol, tobacco and drugs, 100% did not refer, and finally as for medications, 70% referred and 30% did not.

DISCUSSION

Preterm birth can happen at any time during pregnancy, with more risk of being diagnosed in women who have ineffective prenatal control, that is, less than 5 consultations throughout pregnancy. Therefore, preterm birth is often caused by the lack of prenatal check-ups or ignorance of the value of this to have healthy babies and that the mother enjoys complete comfort during her pregnancy, which is influenced by low levels of education, especially throughout youth.

Pregnant women and their unborn babies still face a number of risks that threaten their health and history, which is why not all pregnancies result in a single healthy baby.

According to a 2018 study by González-Block et al., published in the journal *BMC Pregnancy and Childbirth* in 2018, the stillbirth rate in Latin America is around 17.7 per 1,000 live births, which represents a higher rate than in other low- and middle-income countries (21).

On the other hand, a 2021 study by González et al., which is published in the journal *Archives of Gynecology and Obstetrics* focuses on Argentina and finds that the fetal death rate in the country is approximately 7.9 per 1,000 live births. However, this rate varies significantly by region and socioeconomic status (22).

The age factor is one of the determining factors for fetal health. The 2019 study by Jelliffe-Pawlowski et al., evidences that certain maternal characteristics, such as older age, obesity and tobacco use, are associated with an increased risk of specific subtypes of preterm birth. The study also notes the importance of mid-pregnancy serum biomarkers, *such as chorionic gonadotropin-binding protein and pregnancy-associated protein A, as potential predictors of specific subtypes of preterm birth (23).*

On the other hand, the 2021 study by Rodríguez-Bailón et al. examines the association between maternal and

neonatal characteristics and fetal mortality in women over 35 years of age. The results suggest that advanced maternal age, along with other factors such as gestational hypertension and fetal growth restriction, are associated with an increased risk of fetal mortality in women older than 35 years (24).

These two studies highlight the importance of understanding the relationship between maternal characteristics and fetal health, with the aim of developing better strategies for the prevention and treatment of obstetric complications, as well as improving the health and well-being of mothers and their babies.

Several studies show that smoking during pregnancy is a risk factor for fetal health. According to some of these studies, nicotine can cause uterine spastic vasculitis, which can cause placental insufficiency and intrauterine growth retardation. These effects can lead to serious complications such as placental abruption.

A study published in the journal *Acta Obstetricia et Gynecologica Scandinavica* in 2021 finds a significant association between tobacco use during pregnancy and increased risk of placental abruption (25). Another study reported in the journal *Reproductive Toxicology* in 2018 also finds that nicotine exposure during pregnancy may increase the risk of fetal growth restriction and other fetal health problems (26).

Based on the results obtained in the present study, the authors make four suggestions for future studies on fetal death, considering that they could include:

1. To investigate the effectiveness of different interventions to prevent stillbirth, such as continuous fetal monitoring, early detection and treatment of underlying medical conditions, and fetal wellness education.
2. Conduct longitudinal studies to better understand the underlying causes of stillbirth and how these causes may affect long-term maternal and fetal health.
3. Analyse the psychological and emotional impact of stillbirth on women and their partners, and develop appropriate interventions to provide emotional and psychological support.
4. Assess specific risk factors for fetal death in different populations and settings, and develop prevention and treatment strategies tailored to those populations and settings.

Conflict of interest

In this study of fetal death, it is declared that there are no conflicts of interest that may affect the objectivity and integrity of the results obtained. All ethical and research aspects have been carried out in accordance with relevant international standards and guidelines. The confidentiality and privacy of participants' data has been preserved and their informed consent for participation in the study has been obtained.

CONCLUSIONS

In the present study, pregnant women with fetal death attended at the Ambato IESS General Hospital in Ecuador were described, concluding that fetal death can occur at any age of the mother, however, the risk is higher in children under 20 years of age and older than 39 years.

It was evidenced that most of the patients were married and had a secondary level of education. In addition, all belonged to the Catholic religion and had a type of general insurance.

A high predominance of polycystic ovary detected between 10 and 20 years was found, as well as a history of mothers of patients with hypothyroidism and ovarian cancer, in addition to not performing mammograms.

In addition, in terms of habits such as alcohol, tobacco and drugs, no patient reported having it, and as for medications, most reported systematic medication.

The authors conclude their study by suggesting new studies within this line of research focused on investigating the effectiveness of different interventions to prevent fetal death; conduct longitudinal studies to better understand the underlying causes of fetal death; To analyze the psychological and emotional impact of fetal death on women and their partners and to assess specific risk factors for fetal death in different populations and contexts.

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