



ORIGINALES

Social risk factors related to urinary tract infections in pregnant women Montería

Factores de riesgo social relacionados con las infecciones de vías urinarias en mujeres embarazadas, Montería-Colombia

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ABSTRACT:

Introduction: Urinary tract infections represent one of the most common alterations during the gestation period, if not operated on they can generate maternal deaths; Analyzing the social determinants of health, factors and situations that represent a risk in the development of these infections in the maternal allows us to find actions that promote health to reduce their prevalence and possible complications.

Objective: To establish social risk factors related to urinary tract infections in pregnant women in Montería, Colombia.

Methods: A quantitative, cross-sectional study was applied in 37 hospitalized pregnant women, a survey was applied with sociodemographic aspects, gynecological-obstetric factors, personal care, hygienic habits, and aspects related to urinary tract infections, multiple correspondence analysis was performed.

Results: Most of the pregnant women hospitalized with urinary tract infections aged between 24-29 years in 41%, 73% lived in free union, a large part of 70% of the urban area, 95% belonged to a low socioeconomic stratum, had professional technical studies, and a high rate 41% were working.

Conclusion: The social risk factors identified, low socioeconomic status, education, unemployment, inadequate habits related to health care, and lack of adherence to prenatal care. It was evident that the knowledge that the pregnant woman has about her self-care, diet and hydration are important factors that condition the risk of infection in the urinary tract.

Key words: pregnant woman; urinary tract infections; social determinants of health; social risk factor.

RESUMEN:

Introducción: Las infecciones de vías urinarias representan una de las alteraciones más comunes durante el periodo de la gestación, de no ser intervenidas pueden generar muertes maternas; analizar los determinantes sociales de la salud, factores y situaciones que representan un riesgo en el desarrollo de estas infecciones en la materna permite encontrar acciones que promuevan la salud con el fin de disminuir su prevalencia y sus posibles complicaciones.

Objetivo: Establecer los factores de riesgo social relacionados con las infecciones de vías urinarias en mujeres embarazadas en Montería, Colombia.

Material y métodos: Estudio cuantitativo, transversal, en 37 gestantes hospitalizadas, se aplicó una encuesta con aspectos sociodemográficos, factores gineco-obstétricos, cuidado personal, hábitos higiénicos y aspectos relacionados a las infecciones urinarias, se realizó análisis de correspondencia múltiple.

Resultados: La mayoría de las gestantes hospitalizadas con infecciones de vías urinarias con edades entre 24-29 años en un 41%, el 73% convivían en unión libre, gran parte el 70% de la zona urbana, un 95% pertenecían a un estrato socioeconómico bajo, contaban con estudios técnicos profesionales, y un alto índice 41% se encontraba laborando.

Conclusión: Los factores de riesgo social identificados, el bajo nivel socioeconómico, educativo, el desempleo, hábitos inadecuados relacionados con el cuidado de la salud, y falta de adherencia al control prenatal. Se logra evidenciar que los conocimientos que tiene la gestante sobre su autocuidado, la dieta y la hidratación son factores importantes que condicionan el riesgo de infección en las vías urinarias.

Palabras claves: mujer embarazada, infecciones urinarias, determinantes sociales de la salud, factor de riesgo social.

INTRODUCTION

Urinary tract infections (UTIs) are the most common bacterial infections during pregnancy⁽¹⁾. Pregnant women are at greater risk for anatomical, structural, functional, hormonal, and mechanical changes, due to reduced smooth muscle tone, decreased ureteral peristalsis, and relaxation of the urethral sphincter⁽²⁾. The importance of this pathology lies not only during pregnancy, because it is related to the threat of premature labor and premature rupture of membranes⁽³⁾, but also in the future, since it has been blamed for permanent hypertensive conditions. UTI can occur mainly during the second and third trimesters, making these infections the second most common medical complication during pregnancy⁽⁴⁾. They are considered a public health problem, therefore, they represent a challenge for health professionals, since their consequences can also affect the fetus, we have in them; low birth weight, fetal death, anemia, sepsis, renal failure, and acute respiratory distress syndrome^(5,6).

Research has shown that 10% of hospital admissions in pregnant women are due to UTI⁽⁷⁾; the prevalence of UTI in pregnancy ranges from 2% to 10% worldwide⁽⁸⁾. Three main types of urinary tract infections during pregnancy are described: asymptomatic bacteriuria, acute cystitis, and acute pyelonephritis; whose clinical presentation varies among themselves^(9,10). International studies⁽¹¹⁾ explain the association between social risk factors and UTI in pregnant women, among which low schooling, low socioeconomic status, poor hygiene habits, and sexual activity are documented⁽¹²⁾. Maternal and child health is one of the indicators that reflects the health system of a country, it represents the economic, educational, nutritional conditions and access to social protection networks⁽¹³⁾. Improving the health and nutritional status of pregnant women and lactating mothers to achieve a reduction in maternal morbidity and mortality should be a global priority, especially that they achieve effective access to emergency obstetric services and pre- and post-natal care. childbirth⁽¹⁴⁾.

The Sustainable Development Goals (SDGs) set the 2015-2030 horizon; in them, objective number 3 "Health and Well-being" proposes to guarantee a healthy life and promote well-being at all ages, establishing within its goals, the reduction of the global maternal mortality rate to less than 70 per 100,000 live births and guarantee universal access to sexual and reproductive health services, including family planning,

information, education, integration of reproductive health into national strategies and programs⁽¹⁵⁾. Despite these global policies in Colombia, we find every day a total of 40 pregnant women are close to death from preventable causes, according to the National Health Observatory (ONS). 40% of these maternal deaths are concentrated in the poorest population in 20%, the area of residence (rural or urban), educational level and health insurance were taken as axes of inequality⁽¹⁶⁾.

The approach from the social determinants of health allows these complex causes to be recognized. In this way, these problematic situations can be intervened from their causal root and recommend specific actions in specific contexts. This Model of the social determinants of health defined by the WHO shows the differences between population groups and configure the state of health of each individual through its impact on two groups of determinants: the intermediate ones that are defined as living conditions, lifestyles, psychosocial circumstances, behavioral or biological factors, and the health system and structural factors, including education, gender, ethnicity, and social cohesion related to social capital⁽¹⁷⁾.

The social determinants of health make visible the living conditions of the different population groups, in the levels of health risk to which these groups are exposed and in the differentiated access to the resources and services available in the health system⁽¹⁸⁾. These risk factors (biological, environmental, socio-cultural, and economic) can act individually or together, increasing exposure to a disease process.

The social situation of the individual then interferes in the acquisition of risky behavior that exposes him to the development of diseases that precede risk factors such as physical inactivity, tobacco and alcohol consumption, inadequate diet, low socioeconomic level, obesity, age, among others⁽¹⁹⁾. For this reason, it is intended to determine the association between social risk factors and UTI urinary tract infections in pregnant women admitted to a hospitalization service of a health institution in Montería-Colombia, will allow this research, analyze in light of the of the social determinants of health, those factors and conditions that represent a risk in the development of UTIs in pregnant women in order to reduce their prevalence and possible complications during pregnancy. Nursing should lead spaces that contribute to the improvement of the well-being of mothers in risk conditions, in which health intervention is necessary, both in the preventive field and in treatment. Programs and policies must be designed that seek to reduce fragile conditions and improve the living conditions to which some of them are subjected.

MATERIAL AND METHODS

A descriptive cross-sectional study was carried out in a medium-complexity health institution in the hospitalization area from July to September 2021. Non-probabilistic sampling for convenience, the study population consisted of 37 pregnant women diagnosed with UTI. Inclusion criteria: pregnant women hospitalized with a diagnosis of UTI, over 18 years of age, with the ability to answer questions, availability of time and willingness to participate in the study after signing informed consent. The study from which these results emerge was submitted for evaluation by the Ethics Committee of the Faculty of Health Sciences of the University of Córdoba, Colombia. The technique that was used was the survey; and the instrument, a structured questionnaire, composed of four categories, the first investigates the

sociodemographic aspects, in the second, the gynecological-obstetric factors of the pregnant woman, the third on the personal care and hygienic habits of the pregnant woman and the fourth category on aspects related to urinary tract infections. validated by experts in the subject of the study, the reliability of the instrument was given when carrying out a pilot test.

The information was organized in the Excel program, using descriptive statistics by absolute frequency and relative frequency, under summation and percentage formulas for each group of variables of a quantitative and qualitative nature grouped into sociodemographic aspects, gynecological-obstetric factors, and those related to personal care and IVU in pregnant women, presented in the instrument. The multiple correspondence analysis technique was used, which is a statistical technique used to analyze, from a graphic point of view, the dependency and independence relationships of a set of categorical variables. The results were obtained from the programming language R 4.1.2 (2021-11-01) /Copyright (C) 2021 The R Foundation for Statistical Computing Platform: x86_64-apple-darwin17.0 (64-bit).

Correlational type studies have the purpose of knowing the association between two or more concepts, variables or categories in a sample or a particular event. In correlational studies, to evaluate the relationship, a measurement of these is made, then they are quantified and analyzed to know their links, these in turn are supported by hypotheses tested ⁽²⁰⁾. It was determined whether there is an association between social risk factors and UTI in hospitalized pregnant women.

For this research, the international ethical guidelines for research related to the health of human beings prepared by the Council for International Organizations of Medical Sciences (CIOMS) ⁽²¹⁾ were complied with, as well as the principles of ethics in research and its application, described in the Belmont report ⁽²²⁾ which are: respect for people, beneficence, non-maleficence, and justice.

RESULTS

During the study period, there were 37 hospitalized pregnant women with a confirmed diagnosis of urinary tract infection. Most of them aged between 24-29 years in 41%, we found that 73% lived in free union and a large part of these pregnant women, 70% of them were from the urban area, we found that 95% belonged to a low socioeconomic stratum 1 and 2, they had professional technical studies, and some university; a high rate of 41% was working, as can be seen in Table 1.

Table 1: Sociodemographic characterization of pregnant women hospitalized with UTI.

Variables	N	%	
Age	18-23 years	10	27
	24-29 years	15	41
	30-35 years	8	22
	35 or more	4	11
Civil status	Single woman	4	11
	Married	6	16
	Free union	27	73
Residence area	Urban	26	70

	Rural	11	30
Socioeconomic	1	21	57
	2	14	38
	3	2	5
	Complete primary	1	3
Schooling level	Incomplete high School	3	8
	High school	9	24
	Technique	12	32
	Technologist	1	3
	University	10	27
	Postgraduate	1	3
	Housewife	11	30
Occupation	Student	5	14
	Employee	15	41
	Unemployed	6	16
	Contributory	24	65
Affiliation regime	Subsidized	13	35

Source: self-made

When applying the survey, it was possible to demonstrate the factors that condition the social risk of pregnant women hospitalized with UTI, as shown in Table 2; The results obtained show that the highest percentage is in the last trimester of pregnancy, 89% of them began their prenatal care during the first weeks of gestation, but to a lesser extent, 5% observed with concern that they did not attend this during their pregnancy, according to the Comprehensive Care Route for the Promotion and Maintenance of Health and the Comprehensive Health Care Route for the Perinatal Maternal Population stipulated in resolution 3280 of 2018 of the Ministry of Health and Social Protection in Colombia ⁽²³⁾, indicates that the start of control is before week 14.

Table 2: Gynecological - Obstetric factors of pregnant women hospitalized with UTI.

Variables	N	(%)	
Trimester of gestation	First trimester	2	5
	Second trimester	6	16
	Third trimester	29	78
Number of pregnancies	1	15	41
	More than one pregnancy	22	59
Assistance to prenatal controls	Sometimes	2	5
	Does not attend	2	5
	Always	33	89
Intergenic period	Two years ago, and more	20	54
	Has not had children	17	46
History of abortion	Yes	27	73
	No	10	27

	1	7	19
Deliveries	More than 2	2	5
	0	28	76

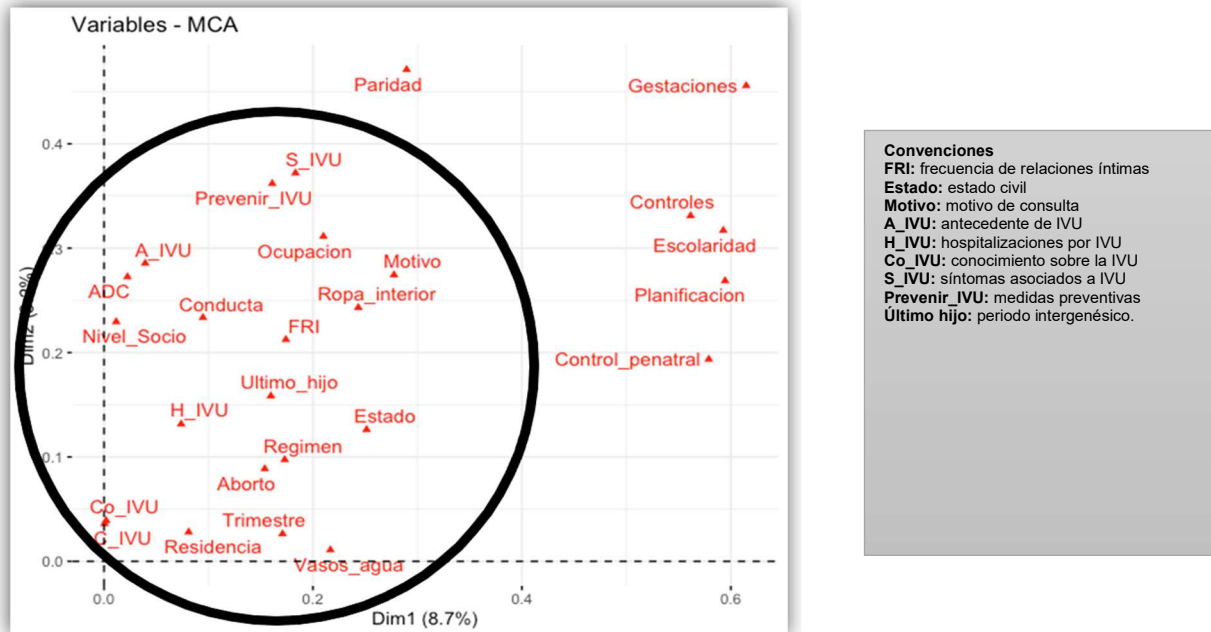
Source: self-made

Other data with important variables for the investigation, they report to us; 49% of pregnant women with UTI who are hospitalized consume more than 8 glasses of water a day, the vast majority of them maintain adequate hydration, with respect to the underwear used, a greater proportion corresponds to the one made only with 60% cotton, but some answered that they wear both cotton and lycra underwear, and others prefer to use only lycra. A large part of pregnant women cleans their genitals correctly, as recommended by experts in 97%.

Regarding sexual activity, 43% of pregnant women hospitalized with UTI state that they have sexual intercourse at least three times a week, the same proportion state that they do not have sexual intercourse during pregnancy, and 14% affirm that they have sexual intercourse more than once a week. three times a week. However, regarding the history of UTI, it was possible to identify in those hospitalized with UTI, 43% commented that they had not suffered, 27% presented an episode of UTI and 30% of the respondents stated that they had presented more than two episodes in 6 months. This indicates that most have suffered urinary tract infections between 1 and 2 episodes at least.

With the results of the study, multiple correspondence analysis (ACM) was carried out, this statistical technique applied from the set of categorical data obtained. We observe in Image 1, some relevant variables, organized in a plane, represented through points, The variables that are closest to each other, in the Euclidean plane or space, denote that there is an association between them and the further away they are from each other, it shows that there is no association.

Image 1: Association between the sociodemographic variables, gynecological-obstetric variables, personal care, and hygiene in the pregnant woman according to the UTI category of a group of maternal hospitalized in an HPI in Montería-Colombia.



This multiple correspondence statistical analysis takes the set of variables and subdivides them into two large dimensions established in a vertical axis Dim 2 (8.2%) and a horizontal axis Dim 1 (8.7%), with a coefficient of variance of 16 %. The most representative variables in the research and their relationship between them are represented in the plan. Through a circle drawn on the plane, the most representative homogeneous subgroup of variables and their association are indicated. These variables correspond to socioeconomic level, glasses of water, genital hygiene, trimester of pregnancy, intergenic period, marital status, reason for consultation, history of abortion, area of residence, and frequency of intimate relationships due to their proximity in the plane with those corresponding to UTI.

As can be seen in the map, the socioeconomic level (identified as a social risk factor), presents a greater association with the variable antecedent to UTI (A_UTI). The variable glass of water is associated with knowledge about UTI (Co_UTI). A relationship was also found between the underwear used, the frequency of intimate relationships with the UTI prevention variable. On the other hand, the variables pregnancy trimester, intergenic period, marital status, reason for consultation, history of abortion, area of residence, although they are representative for the study, do not present an association with the variables of the IVU category.

DISCUSSION

Age at pregnancy is an important determinant for the development of possible complications during pregnancy, a pregnancy before the age of 20 and after the age of 35 is associated with a greater social risk in maternal and perinatal health. This risk can become a public health problem that occurs more frequently in developing

countries ⁽²⁴⁾. However, the socioeconomic level is also considered another important social determinant for timely access to health services influences it, individual self-care habits, affected health, therefore, low socioeconomic level and poverty are risk factors of maternal deaths ⁽²⁵⁾.

Education promotes self-care during pregnancy, has a positive impact on perinatal maternal morbidity and mortality indicators, which allow reducing complications in the state of health. Therefore, the epidemiological relationship between the presence of UTI during pregnancy and low educational level is evident ⁽²⁶⁾.

The risk of symptomatic UTI increases gradually during pregnancy, from onset to term. In pregnant women without concomitant pathologies, the risk is higher for those with a low socioeconomic level, and those with a history of UTI ⁽²⁷⁾, which is related to what was found in this study, in which an association between socioeconomic level and history of IVU (A_UTI). Studies ⁽²⁸⁾ have shown that there may be an increase in the incidence of extreme maternal morbidity (EMM), in patients belonging to low socioeconomic strata, which is associated with inequities in health, where the population belonging to these strata has few possibilities of access to health services. Non-adherence to prenatal control influences the appearance of changes in the health of the mother such as preeclampsia or organic problems and in the newborn such as low birth weight ⁽²⁹⁾.

It is important to include non-pharmacological measures through educational interventions. These strategies include proper intimate hygiene, increased fluid intake and hygiene before and after sexual intercourse, the importance of wearing light clothing, and not delaying voluntary emptying of the bladder ⁽³⁰⁾.

CONCLUSIONS

The factors that condition the social risk identified in pregnant women hospitalized with UTI are low socioeconomic and educational level, unemployment, lack of self-care, inadequate habits related to health care, lack of adherence to prenatal control, and failures in health education. Through multiple correspondence analysis, associations were established between socioeconomic level and history of UTI, diet and hydration care performed by hospitalized pregnant women is associated with knowledge about UTI, and a relationship was also found between underwear used, the frequency of intimate relations with the variable prevention of UTI. It is mentioned that the variables gestation trimester, intergenetic period, marital status, reason for consultation, history of abortion, although they are representative for the study, do not present an association with the variables of the IVU category.

It is of Relevance for Nursing to generate self-care practices, it is recommended to strengthen health education in hospitalized pregnant women, aimed at healthy habits and hygiene practices through recreational activities that generate interest in the pregnant woman. Organize events such as educational talks aimed at pregnant women to publicize the concept of urinary tract infections, predisposing factors, and possible complications. It is important to identify pregnant women between 19 and 35 years of age, of rural origin, with a degree of education lower than high school and occupation as a housewife and multiparity, to carry out timely monitoring and prenatal control to prevent the presence of tract infection urinary.

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