● **Original article**

CERVICAL CYTOLOGY EXAMINATION: INQUIRY INTO THE KNOWLEDGE, ATTITUDE AND PRACTICE OF PREGNANT WOMEN

Ana Raquel Rodrigues Rosa[1], Tayane Siqueira de Lima e Silva[2], Izabel Cristina da Silva Carvalho[2], Antônia Sylca de Jesus Sousa[3], Ângelo Brito Rodrigues[4], Jardeliny Corrêa da Penha[5]

ABSTRACT: Objective: to verify the knowledge, attitude and practice regarding the cervical cytology examination of pregnant women assisted in the Family Health Strategy. **Method:** Knowledge, Attitude and Practice inquiry developed with 46 pregnant women attended in primary health units of Floriano, Piauí state. Data collection was carried out from May to July 2016, with the application of a previously elaborated instrument. Descriptive analysis was performed, with the Chi-square test for the association of the nominal variables. **Results:** the pregnant women presented inadequate knowledge, attitudes and practices regarding the cytology examination. There was a significant association of some variables with the practice of pregnant women in relation to cervical cytology (examination can be performed during pregnancy, *p*=0.030, reason why the test would be performed during pregnancy, *p*=0.043). **Conclusion**: pregnant women need to understand the cervical cytology examination and the importance of its performance during pregnancy, in order to be able to adhere to the practice of performing the examination.
KEYWORDS: Papanicolaou test; Knowledge, Health attitudes and practice; Pregnant women; Neoplasms of the cervix; Women's health; Primary healthcare.

EXAME CITOPATOLÓGICO DO COLO DO ÚTERO: INVESTIGAÇÃO SOBRE O CONHECIMENTO, ATITUDE E PRÁTICA DE GESTANTES

RESUMO: Objetivo: verificar o conhecimento, a atitude e a prática das gestantes atendidas na Estratégia Saúde da Família sobre o exame citopatológico do colo do útero. **Método:** inquérito Conhecimento, Atitude e Prática desenvolvido com 46 gestantes atendidas em unidades básicas de saúde de Floriano, estado do Piauí. A coleta de dados foi realizada de maio a julho de 2016, com aplicação de um instrumento previamente elaborado. Realizaram-se análise descritiva, e, para associação das variáveis nominais, o Teste de Qui-quadrado. **Resultados:** as gestantes apresentaram percentual de conhecimento, atitudes e práticas inadequado sobre o exame citopatológico. Houve associação significante de algumas variáveis com a prática das gestantes em relação ao citopatológico do colo uterino (exame pode ser realizado durante a gestação, p=0,030, motivo pelo qual faria o exame estando grávida, p=0,043). **Conclusão:** as gestantes precisam conhecer o exame citopatológico do colo do útero e a importância da sua realização durante a gestação, para conseguirem aderir à prática do exame.
DESCRITORES: Teste de papanicolaou; Conhecimentos, atitudes e prática em saúde; Gestantes; Neoplasias do colo do útero; Saúde da mulher; Atenção primária à saúde.

EXAMEN CITOPATOLÓGICO DEL CUELLO DEL ÚTERO: INVESTIGACIÓN SOBRE EL CONOCIMIENTO, ACTITUD Y PRÁCTICA DE MUJERES EMBARAZADAS

RESUMEN: Objetivo: verificar el conocimiento, la actitud y la práctica de las embarazadas atendidas en la Estrategia Salud de la Familia sobre el examen citopatológico del cuello del útero. **Método:** encuesta "Conocimiento, Actitud y Práctica" desarrollada con 46 embarazadas atendidas en unidades básicas de salud en el municipio de Floriano, estado de Piauí. El recogimiento de datos fue realizado de mayo a julio de 2016, con aplicación de un instrumento previamente elaborado. Se realizaron análisis descriptivos; y, para la asociación de las variables nominales se utilizó el test de Chi-cuadrado. **Resultados:** las embarazadas presentaron un porcentaje de conocimiento, actitudes y prácticas inadecuado sobre el examen citopatológico. Hubo asociación significativa de algunas variables con la práctica de las embarazadas, en relación al citopatológico del cuello uterino (el examen puede ser realizado durante la gestación, p=0,030; motivo por el cual harían el examen estando embarazadas, p=0,043). **Conclusión:** las embarazadas precisan conocer el examen citopatológico del cuello del útero y la importancia de su realización durante la gestación, para conseguir adherir a la práctica del examen.
DESCRIPTORES: Test de Papanicolaou; Conocimientos, actitudes y práctica en salud; Gestantes; Neoplasias do cuello del útero; Salud de la mujer; Atención primaria a la salud.

[1]Nurse. BSc in Nursing from the Federal University of Piauí (UFPI). Floriano-PI-Brazil.
[2]Nurse. BSc in Nursing from the Federal University of Piauí (UFPI). Teresina-PI-Brazil.
[3]Nurse. MSc in Clinical Care in Nursing and Health. Temporary Professor of the Nursing Department of the State University of Piauí. Picos-PI-Brazil.
[4]Nurse. MSc in Public Health. Professor of the Nursing Department of the Federal University of Piauí. Floriano-PI-Brazil.
[5]Nurse. PhD in Nursing from the Federal University of Ceará. Professor of the Department of Nursing of the Federal University of Piauí. Floriano-PI-Brazil.

Corresponding Author:
Ana Raquel Rodrigues Rosa
R. João Pires, n. 555, 64890-000, Canto do Buriti-PI-Brazil.
E-mail: anaraquelrrr21@hotmail.com

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INTRODUCTION

Cervical cancer (CC) is considered an important public health problem, due to its high morbidity and mortality. Although the incidence rate of this condition has reduced over the last three decades, worldwide data from 2012 show an estimated 527,000 new cases were reported in women, making this the fourth most common type of cancer among them[1].

In Brazil, in 2016, 16,340 new CC cases were expected, with an estimated risk of 15.85 cases per 100,000 women. In the Northeast Region, this cancer ranked second, with a risk of 19.49 per 100,000 women. In Piauí, the estimated new cases were 24.51 in every 100,000 and 30.32, in every 100,000 women specifically in Teresina, being higher than the national average[1].

Regarding the CC primary prevention methods, there is the use of condoms, which partially protect from human papillomavirus (HPV) infection, as well as vaccines against HPV: one being bivalent, which protects against oncogenic types 16 and 18, and the other quadrivalent, protecting against non-oncogenic types 6 and 11 and oncogenic types 16 and 18. Both vaccines are available in Brazil free of charge for individuals aged 9 to 13 years[2].

Cervical cancer and intraepithelial lesion screening methods include the cervical cytology examination (or pap smear test), an early search strategy, performed in the Family Health Strategy (FHS), by the nurse or physician[2-3]. The CC screening guidelines recommend annual testing in women between the ages of 25 and 64, at intervals of 3 years after two consecutive annual negative tests[2,4].

The cervical cytology examination should also be performed in pregnant women, which may be requested as one of the complementary exams, preferably up to the seventh month of gestation[2]. The spontaneous presence of the pregnant woman in the FHS, when she attends health services more frequently, can be used to detect the pathology[5]. It should be mentioned that there is no need to perform the collection of the endocervix in pregnant women, since the squamocolumnar junction is externalized[2].

Thus, following the recommendations of the Ministry of Health, it is important to note that all women, especially pregnant women, should undergo the cytology examination. It is of paramount importance that they have adequate knowledge about the examination, as well as the attitude and practice necessary to perform it, so that there can be effective screening and control of CC in Brazil.

The evaluation of the knowledge, attitude and practice of the female population, especially pregnant women, regarding the cervical cytology examination, aims to observe the perception of the women regarding CC and the examination that detects it, which can have a great influence on its performance and the frequency with which it is performed. This information can be used as a basis for professionals and health services, regarding the adoption of measures that can guarantee information and health for the population.

Given the above, the present study aimed to verify the knowledge, attitude and practice of pregnant women assisted in the Family Health Strategy regarding the cervical cytology examination. The importance of the study is the strengthening of health promotion and CC prevention actions aimed at pregnant women. Providing awareness can dispense with myths that prevent the examination during the gestational period and thus promote greater acceptance to perform it, improving the screening and control of this pathology.

METHODOLOGY

This was a quantitative study, of the Knowledge, Attitude and Practice (KAP) type, which consists of a formative evaluation, with a set of questions that aim to evaluate what people know, think and how they act faced with a particular problem[6].

The study was carried out in six Primary Health Units (PHUs) of the municipality of Floriano, state of Piauí. These PHUs were selected because they had a larger number of pregnant women registered, totaling 222 pregnant women, thus sampling was by convenience. The population consisted of pregnant women enrolled and attended in these services, and the number of participants was defined by means of the sample calculation for a finite population, which generated a sample size of 198 pregnant women.

The participants met the following inclusion criteria: women with gestational ages up to 28 weeks (7 months), counted from the date of last menstruation (DLM), and who had performed at least one prenatal consultation. The exclusion criteria were: women under the age of 18 and those who had difficulty understanding the questions. With the application of these criteria, the final sample was 46 pregnant women. It was possible to perceive the absence of these women in the PHUs for prenatal monitoring.

Data collection occurred from May to July 2016. Initially, the pregnant women were invited to participate in the study while waiting for any consultation or care in the PHU. The structured interviews were performed individually in a room reserved for the purpose and the participants, after being informed about the objectives of the study, signed two copies of the consent form.

An instrument was used to guide the data collection, which included, in the first part, questions about sociodemographic variables (age, marital status, schooling and individual monthly income) and obstetric-gynecological variables (onset of sexual activity, prior history of sexually transmitted disease/infection - STD/STI, gestational age and number of pregnancies); and, in the second part, the KAP survey, adapted from three versions of surveys already applied with different women's groups[7-9].

The KAP survey consisted of a form that contained objective questions about the knowledge, attitude and practice of women regarding the cervical cytology examination. In this study, the following specifications were considered adequate: knowledge - the pregnant woman had heard about the examination and was able to report that it is intended to detect CC, she affirmed that it can be performed during pregnancy and cited two precautions (previous recommendations) that should be performed prior to the procedure; attitude – she replied that the examination would be performed during pregnancy and reported that she would do it to detect CC; and practice - the participant reported that she had performed the examination during the current or previous pregnancy.

Data were tabulated and analyzed using the Statistical Package for the Social Sciences IBM (SPSS IBM), version 20.0. A descriptive analysis (absolute and relative frequencies) was performed and the Chi-square test was carried out for the association of the nominal variables, adopting a p-value of less than 0.05 and a 95% confidence interval.

The study was submitted to and approved by the Research Ethics Committee, under authorization No. 1.632.521, following the principles expressed in Resolutions No. 466/12 and 510/16 of the National Health Council[10-11], which deal with research with human subjects. This guaranteed confidentiality, anonymity and the right of pregnant women to stop participating in the study at any time.

● RESULTS

A total of 46 pregnant women, with a mean age of 24.65 years, mean schooling of 13.07 years of study, and a mean individual monthly income of R$308.53 participated in the study. It was verified that 23 (50%) were between 21 and 30 years of age, 21 (45.7%) had between 13 and 15 years of study, and 21 (45.7%) were in stable unions. Regarding the individual monthly income, 24 (52.1%) had no income and 10 (21.7%) had an income of half a minimum wage.

Regarding the gynecological-obstetric variables, it was observed that 36 (78.2%) of the pregnant women had started sexual activity at between 15 and 19 years of age, 43 (93.5%) had no history of previous STD/STI, 26 (56.5%) had gestational ages between 14 and 26 weeks, and 24 (52.1%) reported two or three pregnancies.

According to Figure 1, 44 (95.7%), 45 (97.8%) and 38 (82.6%) of the women presented inadequate knowledge, attitude and practice, respectively.

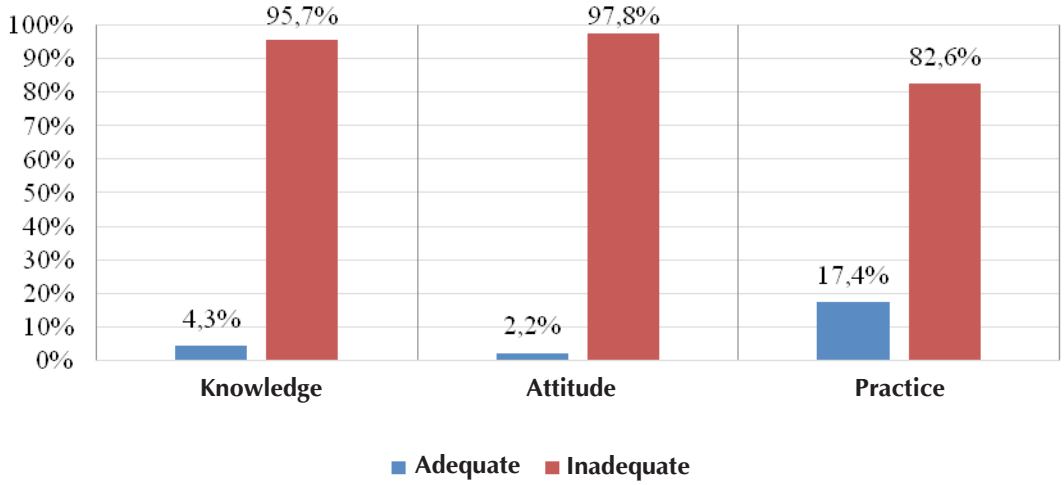

Figure 1 - Description of the knowledge, attitude and practice of the pregnant women regarding the cervical cytology examination. Floriano, PI, Brazil, 2016

The knowledge and attitude of the pregnant women were associated with adequate or inadequate practice in relation to the cervical cytology examination. As shown in Table 1, the knowledge variable that questioned whether the test could be performed during pregnancy (p=0.030) and an attitudinal variable (reason for doing the test during pregnancy, p=0.043) presented statistically significant associations with practice.

Table 1 - Association of the practice of cervical cytology examination with the knowledge and attitude of the pregnant women about the examination. Floriano, PI, Brazil, 2016

Knowledge and attitude of the pregnant women regarding the exam	Practice of the pregnant women regarding the exam				p-value
	Adequate		Inadequate		
	N	%	N	%	
I have heard of the exam (n=46)					
Yes	8	17.4	35	76.1	0.411
No	-	-	3	6.5	
The examination can be performed during pregnancy (n=46)					
Yes	8	17.4	23	50.0	0.030
No	-	-	15	32.6	
I would do the exam during pregnancy (n=46)					
Yes	8	17.4	32	69.6	0.228
No	-	-	6	13.0	
Why do the test (n=40)					
Other reasons*	7	17.5	32	80.0	0.043
To prevent CC	1	2.5	-	-	

* Other reasons: to detect inflammation; prevent diseases in general; avoid infection in the fetus or during the birth; protect the baby; to know whether there is any change; and because it is important.

Considering that knowledge is a fundamental variable for the development of an adequate practice in healthcare, it was also possible to relate, by simple bivariate analysis, the knowledge variables with the adequate or inadequate practice of the pregnant women regarding the cervical cytology examination. The information is presented in Table 2.

Table 2 - Distribution of the frequency of the practice of cervical cytology examination according to the variables related to the knowledge of the pregnant women about the examination. Floriano, PI, Brazil, 2016

Knowledge and attitude of the pregnant women regarding the exam	Practice of the pregnant women regarding the exam			
	Adequate		Inadequate	
	N	%	N	%
What is the aim of the exam/Purpose (n=46)				
To prevent CC	2	25	4	10.5
To detect CC	-	-	6	15.8
Do not know	1	12.5	15	39.5
Other purposes	5	62.5	13	34.2
Pre-examination precautions (n=46)				
Only not having sexual intercourse 24 hours before	1	12.5	4	10.5
Only trimming pubic hair	1	12.5	7	18.4
Not having intercourse 24 hours before and trimming pubic hair	1	12.5	2	5.3
Not having sexual intercourse 24 hours before and not using douches or vaginal creams 48 hours before	1	12.5	1	2.6
Do not know/do not remember	4	50	24	63.2
Source of knowledge about the exam (n=46)				
Family	1	12.5	10	26.3
Nurse	3	37.5	5	13.2
Community Health Agent	1	12.5	1	2.6
Family and Nurse	-	-	1	2.6
Neighbor/friend	-	-	5	13.2
Television	-	-	4	10.5
Lectures/posters	2	25	8	21.1
Why the test cannot be performed during pregnancy (n=15)				
Could not answer	1	25	2	18.2
Harms the baby (fetus) or the pregnancy	-	-	7	63.6
May cause hormonal changes	2	50	1	9.1
May cause miscarriage	1	25	1	9.1

Although eight of the 46 women questioned about the purpose of the cervical cytology examination presented adequate practice, none reported that it was to detect CC. Five (62.5%) reported other purposes, three (16.66%) inflammation, two (11.11%) to know whether there was a nodule or cyst in the uterus, one (5.55%) infection, five (33.33%) to know whether if they have a disease in the uterus, one (5.55%) to know whether they have cancer, followed by 16 (34.9%) who did not know the reason why

the examination was performed. Among the 38 who presented inadequate practice, 15 (39.5%) of them did not know the purpose of cytology examination.

Regarding the precautions to be taken before the examination, the majority of the pregnant women with adequate practice did not know or remember previous recommendations and, among those with inadequate practice, this variable was also predominant, with 24 (63.2%) responses. Regarding the source of knowledge about the cytology, among the pregnant women with adequate practice, information was predominantly received from nurses and posters/lectures. Among the participants with inadequate practice, 10 (26.3%) had heard about the examination from relatives, and eight (21.1%) from posters/lectures.

Of the 46 pregnant women, 15 stated that the cervical cytology examination could not be performed during pregnancy. Of these, four had adequate practice of the examination, however, two of them wrongly stated that it could cause hormonal changes. Among the 11 of these pregnant women who had inadequate practice, seven (63.6%) stated that the test would harm the baby (fetus) or the pregnancy.

● DISCUSSION

The prevalent age group among the interviewed women corresponds to that of women with a profile of young adults. A study on the coverage of the cervical cytology examination during prenatal care, performed with 445 puerperas in Rio Grande, Rio Grande do Sul state, revealed that 141 (31.7%) were 25 to 29 years of age; in addition, the group of puerperal women aged 20 years and over presented a prevalence (p=0.004) of performance of the test in the previous 36 months, when compared to the younger women[12].

Concerning marital status, it was noted that the majority of the participants were in a stable union. This data is similar to that of the study carried out in São Gonçalo do Amarante, Ceará state, with 390 women awaiting performance of the cytology examination, with 302 (77.4%) of them being in a stable union[13]. A community-based study of 60 women enrolled with an FHS team in the city of Montes Claros, Minas Gerais state, Brazil, investigated their adherence to the cervical cytology examination and found that 38 (63.3%) were married, with this variable showing a statistically significant association with adherence to the test (p=0.014)[14]. This does not corroborate what was found in the present study, since, although the majority were in a stable union, there was no adequate practice to perform the cervical cytology examination during pregnancy, as shown in Figure 1.

Regarding schooling, the participants predominantly had completed 13 to 15 years of study. A discordant result was found in a study carried out in Rio Grande, Rio Grande do Sul state, which showed that 193 (43.4%) participants had 9 to 11 years of study[12]. In Porto Velho, a study on barriers for CC prevention, developed with 286 women, identified that 64.8% of them had between 9 and 12 years of study[15]. The deficiency in the knowledge about the cervical cytology examination may be related to the low level of education of the women, which may contribute to non-adherence to this examination. However, among the results presented, no inter-variable association tests were performed. An epidemiological study carried out in Feira de Santana, in Bahia state, found a statistically significant association between non-adherence to the examination and low levels of education (p=0.01)[16].

Regarding the individual monthly income, most interviewees reported having no income. A similar finding was identified in the municipality of Rio Grande - RS, where the majority of the puerperas (340, 76.4%) had a *per capita* family income lower than one minimum wage. This inquiry also revealed that these women and those who had a delivery through the Brazilian National Health System (SUS) had a significantly greater risk of having less coverage of the cytology examination at the end of prenatal care[12]. In contrast, in Bauru - SP, a study carried out with 370 women attending a PHU, which aimed to evaluate the level of information about the cervical cytology examination and its association with sociodemographic variables, among them income, showed that 192 (51, 9%) of the women had family income of up to two minimum wages and that those with higher incomes had adequate knowledge about the examination[17].

The majority of the interviewees reported that the onset of sexual activity took place during adolescence, between 15 and 19 years. A similar finding was identified in Fortaleza, Ceará state, through a study in which the age group of 15 to 20 years old predominated, with 47 (61.04%) reports on the year in which the first sexual intercourse occurred[18]. Another study, also carried out in Fortaleza, with 144 women, on the factors associated with the performance of the cytology examination for the prevention of CC, showed that the onset of sexual practice corresponded to an average of 17 years of age[19]. This variable should be investigated, since the early initiation of sexual activity is a risk factor for CC, as during adolescence metaplasia intensifies and coitus increases the probability of atypical transformation, potentiating cellular alterations[20].

Another risk factor for CC investigated was previous history of STD/STI, especially HPV infection, with it being noted that these diseases were uncommon. However, the interviewees may have been unaware of STD/STI symptomatology. The same finding was observed in São Gonçalo do Amarante, Ceará state, in an inquiry in which the KAP survey was applied, with 390 women, with only 39 (10%) having a previous history of STD/STI[13].

It was observed that the majority of the pregnant women reported having two to three children. In Rio de Janeiro, a study performed with 3,340 pregnant women about reproductive risks showed that 1,151 (35.5%) of them were in their first pregnancy[21]. However, in agreement with the present study, in Rio Grande - RS, it was verified that 251 (56.4%) women reported two or more pregnancies, and 228 (51.2%) were multiparous; with the group of women with two to three pregnancies and previous deliveries being more likely to be up to date with cytology examinations at the end of prenatal period[12].

The knowledge, attitude and practice of pregnant women regarding the cervical cytology examination were found to be mostly inadequate. Lack of knowledge about the exam and its purpose, shame, fear and embarrassment, as well as lack of attitude, limited access to health services and reduced healthcare are factors that constitute barriers to the performance of cytology examinations, making women more vulnerable to CC[22].

In the investigation of the knowledge of the pregnant women regarding the cervical cytology examination, the majority affirmed that they had already heard about the exam (*N*=43) and that it could be performed during pregnancy (*N*=31), however, they did not know the purpose and could not report at least two precautions to be taken before its performance. Therefore, the participants of the present study were considered to have inadequate knowledge. Conversely, in the municipality of Turvânia, Goiás state, the knowledge observed in 40 women regarding the cervical cytology examination was high, since all knew of the examination, and 32 (80%) of them reported screening of the uterus for CC as its function[23]. In a study of 453 women from Floriano, Piauí state, about their knowledge, attitude and practice regarding the examination, 181 (36.7%) of them demonstrated having adequate knowledge[24]. On the other hand, and in agreement with the present study, in a Heideggerian phenomenological study with 10 pregnant women, in the FHS of Bahia, it was evidenced that the women responded to the request for the cervical cytology examination, however, they did not understand the reason for carrying it out, considering that they did not know of any relationship between the examination and the prevention of CC[25].

The request for the cervical cytology examination during the gestational period can cause many concerns for women, since they believe that it cannot be performed during pregnancy[5]. It is also possible to consider the possibility that some women may prefer not to know the exam results, since at the time of its performance the health professional needs to observe an intimate region, which the women themselves are often unaware of and are ashamed of to have it looked at and touched[26].

Regarding the precautions that should be taken before the examination, the majority reported that they did not know or remember. To not know these precautions means not practicing them, which can lead to changes in the results and to difficulty in performing the procedure and reading the slides, generating problems, such as frustration and lack of return of the woman for examination[9]. Taking this into account, it is important that the health professional, especially the nurse, advises the women about the precautions or recommendations of the Ministry of Health to be considered before the examination.

They are: avoiding the use of lubricants, spermicide or intravaginal medication for 48 hours, because gel is used in the examination to introduce the transducer; sexual abstinence in cases where there is the use of lubricants and spermicide and to not be menstruating, which does not apply to pregnant women[2].

Considering that it is important that women are informed about the cytology and, consequently, have appropriate attitudes and practices, the participants were questioned concerning the sources of information about the examination. Most of them mentioned family members, and among them, the majority presented inadequate practice, which leads to the assumption that they are also unaware of the cervical cytology examination and its purpose. In contrast, a study of 267 women, in São José de Mipibu, Rio Grande do Norte state, presented the physician as the main source of information about the cytology examination (105, 40.1%), followed by friends or relatives (53, 20.2%)[27]. Health professionals have the necessary tools, through health education, to empower the users regarding the practice of the cytology examination[28].

Regarding attitude, the pregnant women were questioned about the performance of the examination during pregnancy, with 40 interviewees stating that they would do so, however, when asked why they would do so, they reported reasons other than CC prevention: to detect inflammation, to prevent diseases in general, to prevent infection in the fetus or during the birth, to protect the baby, to know whether there is any change, and because it is important. A similar result was observed in a study with 10 pregnant women, who spoke about risks and complications that could occur during the birth or other pathologies, even those that had performed the examination during the pregnancy[25].

Regarding the practice of the cervical cytology examination, the majority had not undergone the examination during the current or previous pregnancy, therefore the practice was considered inadequate. A qualitative study with 13 pregnant women in Petrolina - PE, regarding the attitude and practice related to the cervical cytology examination, showed that the indication of this does not mean prevention. It was present in the discourses that the examination was not performed because the medical professional did not request it and because it should not be performed during the gestational period[5]. Thus, there is still erroneous information that the examination should not be performed during pregnancy, which demonstrates deficiency in the knowledge about the real reason for its performance and a certain authority of the health professionals, since it is still understood that the examination can only be performed through their prescription.

The application of the KAP enabled a situational diagnosis, by identifying the knowledge, attitude and practice of pregnant women regarding the cervical cytology examination, contributing to demonstrate weaknesses in the study population regarding screening for CC, which highlights the importance of the construction of strategies by the nurses.

● CONCLUSION

The results of the study showed that the majority of the pregnant women presented inadequate knowledge, attitude and practice regarding the cervical cytology examination. In this context, it is important to define strategies to overcome the deficiencies found, so that these women may have more knowledge and greater adherence to the cervical cytology examination, positively impacting their quality of life with the early detection of CC and the reduction of morbidity and mortality due to this condition. Thus, the formulation and implementation of educational strategies by health professionals, especially nurses, is suggested in order to make pregnant women aware of the cervical cytology examination and to allow them to be empowered with the appropriate attitudes and practices for the prevention and early detection of CC.

It is also important to note that during the construction of the present study, a serious limitation was observed: the difficulty in reaching a larger number of pregnant women, because during the collection of data low attendance of pregnant women in the PHUs for prenatal monitoring was noticed.

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