



QUALITY OF CERVICAL CANCER SCREENING AND DETECTION ACTIONS: ASPECTS RELATED TO THE PERFORMANCE OF EXAMINATIONS AND GUIDANCE OF USERS IN THE MIDWEST

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ABSTRACT

Cervical cancer (UCC) is an important public health problem. The Papanicolaou (Pap) smear is among the control strategies of the UCC for the screening of the disease. The objective of this study was to analyze the quality of UCC tracing and detection actions. This is a cross-sectional study with secondary data from the database of the Department of Primary Care of the Ministry of Health, collected at the national level. It included women interviewed in the Midwest region (Goiás, Mato Grosso, Mato Grosso do Sul and the Federal District). We analyzed issues related to the Pap smear and the guidance offered to women regarding the disease and the examination. The statistical analysis was performed considering a level of significance of 5%. When cycles 1 and cycle 2 were compared, there was a reduction in the mean time between the last Pap smear and the interview. There was an increase in the percentage of women who received guidance regarding the importance of the UCC preventive examination and when to repeat it, however, this percentage is still insufficient for women to adhere to the actions proposed by the UCC control program.

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INTRODUCTION

Cervical cancer (UCC) is a health problem worldwide, affecting more than half a million women in 2012 and causing, in the same year, 266,000 deaths (Ferlay *et al.*, 2015). In Brazil, the most recent estimates for the biennium 2016-2017 indicated that 16,340 new cases of the disease would be diagnosed, representing 15.85 / 100,000 women annually (INCA, 2016). The Midwest region shows a high incidence rate of UCC (20.72 / 100,000) compared to the South and Southeast regions, as well as being the second Brazilian region with the highest mortality rate by the disease (6.61 / 100,000) registered between the years of 2011 and 2015, being higher than the Brazilian rate (5.79 / 100,000) (INCA, 2015).

The control of UCC is a priority, composing the Plan of strategic actions for coping with noncommunicable diseases (NCDs) (Brasil, 2011; Theme Filha *et al.*, 2016). The current recommendations of the Ministry of Health establish the performance of two first exams with annual interval. After two negative results, the periodicity becomes triennial, with a target population of 25-64 year-old women, which in Brazil represents approximately 55 million women (Inca, 2016; Derchain *et al.*, 2016). Even with the development of new Brazilian health policies aimed at improving access to health services and actions, among which is the offer of the Papanicolaou (Pap) smear in Primary Health Care (PHC), especially through the Family Health Strategy (FHS), there are still many challenges in a continental country such as Brazil, in which the distribution of financial resources, the establishment of professionals, the presence and quality of technological resources differ radically between the five Brazilian regions.

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Such differences are reflected in the patterns of health problems as well as the health care offered (Pinho-França *et al.*, 2016). All health agencies and services have the responsibility to guarantee access to users. The Ministry of Health develops policies to improve access to health care, but it is necessary for each municipality to be involved in the development of actions to encourage women to prevent UCC, for example through educational activities. Health education is a key strategy to address UCC prevention issues (Jorge *et al.*, 2011). UCC is a cancer with a high potential for cure, and its mortality can be considered avoidable, since the actions for its control rely on technologies for the diagnosis and treatment of precursor lesions, allowing healing in 100% of cases diagnosed in early stage (Labeit *et al.*, 2013). In 2016, Brazil carried out more than 15 million Pap smears through the Unified Health System (UHS), however, many women who do it are outside the established target population, and many others that should be examined have never received the test, increasing the chances of late diagnosis and death from the disease (Ministério da Saúde, 2017).

Pap smear is a low-cost, easy-to-perform test available in Primary Care services in Brazil. Still, the percentage of women who have never done it during their lifetime varied between the Brazilian studies – 7% (Gasperin *et al.* 2011), 7.6% (Muller *et al.*, 2008), 13.9% (Pinho *et al.*, 2003), 15% (Fernandes *et al.*, 2009) and 17.3% (Correa *et al.*, 2012). PHC professionals are expected to be more available and prepared to develop educational actions that allow women to participate more in the actions offered, as well as to recognize women who have never carried out the exam or who have their tests overdue (Tomasi *et al.*, 2015). In order to address this situation, ongoing assessments that provide information that enables the improvement of UCC tracking are necessary. Such actions should be focused on the provision of services, on the practice of professionals and, especially, on the adhesion of women (Roman *et al.*, 2014). Although there is a consistent literature on the coverage and aspects related to Pap smear in Brazil, there are few studies focusing on the states of the Midwest. Thus, the purpose of this study was to analyze the quality of UCC screening and detection actions, considering the aspects of conduction of the examinations and counseling offered to users in the Midwest.

MATERIALS AND METHODS

A cross-sectional study was carried out with secondary data from the database of the Department of Primary Health Care (DAB) of Ministry of Health, collected in the external evaluation of the National Program for Improving Access and Quality of Primary Care (PMAQ-AB), first and second cycles for the years 2012 and 2014, respectively, at the national level. In the first cycle of the PMAQ-AB, the program envisaged the contracting of at least 50% of the primary care teams who received by external evaluators, which resulted in the inclusion of 17,482 family health and primary care teams. In the second cycle, the numbers were higher: 30,522 family health and primary care teams were visited, corresponding to 90% of the total number of teams in the country in 2014 (DAB, 2015). For this study, we included the women interviewed in the Midwest region, which comprehends the states of Goiás (GO), Mato Grosso (MT), Mato Grosso do Sul (MS) and the Federal District (DF), being the state of MS the focus of interest of this investigation.

Thus, in cycle 1, 4,337 women were interviewed, of which 734 were in MS; in cycle 2, 8,967 women were interviewed, 1,759 in MS. The PMAQ-AB external evaluation data collection instrument consisted of three modules: Module I – Observation in the Basic Health Unit (BHU); Module II – Interview with a professional about the work process of the Primary Care Team and verification of documents in the BHU; Module III – Interview with the user in the BHU (data used in this article). In order to evaluate the access, information and quality of health care, specifically about the cytopathological examination and about the UCC, the questions of Module III of the evaluation instrument were selected:

- How many months ago did you have a cervical cancer screening?;
- Do you know how long you expect to receive the exam result? (in days);
- Are you always advised about the importance of cervical cancer screening and when you should repeat it?;
- Do you usually have the cervical cancer screening in this unit?

The analysis of the association between the variables evaluated in this study and the PMAQ-AB cycle, or even with MS and the other federative units of the Midwest, were performed using the chi-square test or Fisher's exact test. The comparison between the first and second cycles and between MS and other federal units of the Midwest was performed using the t-student test. The other results of this study were presented in the form of descriptive statistics or in the form of tables. Statistical analysis was performed using the statistical software SPSS, version 24.0, considering a level of significance of 5%. This study complied with all the requirements set forth in Resolution CNS466 / 2012 and was approved by the Ethics Committee on Research in Human Beings of the Universidade Federal do Mato Grosso do Sul.

RESULTS

The selected questions for this study presented different percentages of responses according to their applicability, so the total number of respondents oscillated from one question to another. Among the women interviewed, the majority reported having Pap smear in the health unit where they were being interviewed, and in cycle 1, the percentage of women in MS (74.5%) was significantly higher when compared to the other states and to the DF (65.8%) ($p < 0.001$, table 1). Likewise, in cycle 2, a higher percentage of MS women (72.6) performed the exam in the unit compared to the other states and the DF (70.3), but no significant difference was observed ($p = 0.621$, table 1). Comparing cycle 1 with cycle 2, a reduction was observed in the percentage of women in MS who reported performing the test in the same units, although the difference was not significant ($p = 0.684$, table 1), inversely, there was an increase in women who underwent the exam in the same unit when cycles 1 and 2 were compared in the states of GO, MT and the DF ($p = 0.056$, Table 1). When asked about always receiving guidance regarding the importance of the UCC preventive exam and when it should be repeated, the state of MS presented a significantly higher percentage of women who received guidelines when compared to the other states and the DF, both in cycle 1 ($p < 0.001$) and in cycle 2 ($p < 0.001$). Comparing the results of cycle 1 and cycle 2, the states of GO, MT and the DF showed an increase in the percentage of

women who received guidance on the preventive exam ($p=0.005$, Table 1); in MS, there was a small increase in the percentage in cycle 2, but it was not significant ($p=0.518$, table 1). Regarding the time elapsed between the last Pap smear and the interview, MS women presented on average less time when compared to women in the other states and the DF, both in cycle 1 and cycle 2 ($p=0.032$ and $p<0.001$ respectively, table 1). In MS, there was no significant reduction in the mean time of the last examination if cycles 1 and 2 were compared, differently from the states of GO, MT and the DF, which showed a significant reduction in the time elapsed between the last preventive exam and the interview ($p=<0,001$; Table1). There were no significant differences in the women's perception of the average waiting time to receive the result of the preventive exam when comparing MS and the other states and the DF in both cycles, and comparing the performance of the states in the cycles 1 and 2 (Table 1).

disease (Valente *et al.*, 2009). The state of MS presented a significantly shorter mean time interval between the last exam and the time of interview in both cycle 1 and cycle 2. Another positive result was that, both in MS and in the other states and the DF, there was a reduction in the time interval between the last Pap smear and the interview, when cycle 1 and cycle 2 were compared, showing improvement in women care with regard to UCC. It was not possible to evaluate the periodicity recommendations for the examination of each woman interviewed, since it was not the object information of the research. The UHS, through the Brazilian Ministry of Health, established the control of cervical cancer as a priority, composing the plan of strategic actions to address the NCDs (Brasil, 2011; Theme Filha *et al.*, 2016), so that improvement in actions, such as reducing the interval between examinations, may reflect changes in the work process of health teams, as well as greater participation of women in the proposed actions.

Table 1 . Perception of health users in relation to the prevention and early detection of cervical cancer (Module III of the PMAQ-AB). Comparative MS and other states of the Midwest

Item / cycle	State		Value of p
	MS	DF, GO and MT	
n (total)	Cicle 1 (734) Cicle 2 (1759)	Cicle 1 (3603) Cicle 2 (7208)	
How many months ago did you have a cervical cancer screening?			
Cicle 1	12,56±17,27	14,48±18,98	* 0,032
Cicle 2	11,12±10,52	12,93±11,80	* <0,001
Valor de p	* 0,091	* <0,001	
Do you know how long you expect to receive the exam result?			
Cicle 1	32,60±17,79	31,52±27,88	* 0,574
Cicle 2	30,23±17,59	34,37±34,11	* 0,155
Value of p	* 0,358	* 0,188	
Are you always advised about the importance of cervical cancer screening and when you should repeat it?			
Cicle 1	56,8 (417)	47,0 (1692)	** <0,001
Cicle 2	58,2 (1024)	49,8 (3592)	** <0,001
Value of p	** 0,518	** 0,005	
Do you usually have the cervical cancer screening in this unit?			
Cicle 1	74,5 (414)Aa	65,8 (1795)Ba	<0,001
Cicle 2	72,6 (85)Aa	70,3(327)Aa	0,621
Value de p	0,684	0,056	

The results of the first two questions are presented in mean ± standard deviation. The number of users with an affirmative answer (three last questions) is presented in relative frequency (absolute frequency). The value of p in bold indicates a statistically significant difference. * T-student test. ** Chi-square test.

DISCUSSION OF RESULTS

The results of the analyzed data show differences between the state of MS and the other states of the Midwest and the DF. In general, significant differences were also observed when comparing cycles 1 and 2. One of the objectives of the PMAQ-AB is to improve the quality of health care in the scope of Primary Care, seeking to ensure, through its different phases, but especially the external evaluation, the establishment of quality standards, through an evaluation process that can be compared between different cycles. It is expected that the evaluation will trigger permanent changes that can be detected and amplified in the next evaluation process (BRASIL, 2015). The current recommendations of the Ministry of Health establish that women carry out two first exams with annual interval. After two negative results, the frequency becomes every three years, with the target population being women aged 25-64 years (INCA, 2016). Other Brazilian studies that evaluated the frequency of cytology examination investigated the performance of at least one exam in the last 3 years (Correa *et al.*, 2012; Albuquerque *et al.*, 2009; Muller *et al.*, 2008; Amorim e Barros 2014). It is known that UCC is a cancer with a high potential for cure when diagnosed in the early stages, thus, the greater the number of women examined, especially in the target age group, the greater the chances of detecting the

Another relevant indicator for the evaluation of access and quality is the woman's knowledge about where to perform the Pap smear. In Brazil, UCC screening is done opportunistically, that is to say, women who are looking for the unit specifically to perform this examination, or in any other opportunities are examined, thus it is of fundamental importance that they know where it can be carried out for free (Valente *et al.*, 2009). It was observed that most of the women performed their preventive examination in the unit in which they were being interviewed, suggesting knowledge about where to perform it in the recommended period. The state of MS, from cycle 1 to cycle 2, presented a slight reduction, not significant, in the percentage of women who performed the exam in the unit. This may indicate a reversal in Pap smear's offerings, as well as women's information about the possibility of doing so, since an opposite movement was expected, the increase of women adhering to the actions offered by the health service, such as observed in the states of GO, MT and the DF. It is worth emphasizing that the geographic distance, the difficulty in scheduling exams and disinformation, fear and anxiety may be related to the lower performance of Pap smear, and it is up to the health team to identify and minimize such barriers that prevent the early detection of UCC (Pinho *et al.* 2003; Davim *et al.*, 2005; Valente *et al.*, 2009). The success of programs focused on specific health problems, such as UCC screening

and detection, depends on several factors, related both to the offer of actions (prophylaxis, conducting examinations and referral for treatment when necessary and educational actions) and to factors regarding the woman herself, since she should seek the health services to perform examinations at the appropriate periodicity. Recognizing barriers that hinder women's access to Pap smear has been the subject of worldwide studies (Eaker *et al.*, 2001; Yabroff *et al.*, 2003; Ackerson and Gretebeck, 2007; Fernandes *et al.* 2009; Roman *et al.*, 2014; Theme Filha *et al.* 2016). Only the provision of actions such as the Pap smear is not sufficient to modify the incidence and mortality indicators by UCC, so professionals must also engage in educational actions that increase women's knowledge and, consequently, generate appropriate practices (Vasconcelos *et al.*, 2017). It is known that social factors such as level of schooling interfere both in knowledge and in the practice of performing the cytopathological examination, however, it is up to health professionals to overcome these difficulties with counseling and education practices that may favor self-care among women. In this study, when asked about receiving counseling on the importance of preventive examination of UCC and when to repeat it, the percentage of women interviewed can be considered unsatisfactory if we consider the importance of actions like this. The state of MS presented better performance in cycle 1 when compared to the other states and the DF ($p < 0.001$); when compared to cycle 1 and cycle 2, MS has not significantly improved its actions to guide women users of health services, unlike the other states and the DF, which have significantly improved the percentage of women who reported having received such guidance ($p = 0.005$). However, even improving, the percentage of women guided did not reach 50%. The lack of involvement of the team to educate and involve women in their care may be the main barrier to improving access and quality of actions aimed at the prevention and control of UCC.

Conclusion

It was observed that between cycle 1 and 2 of the external evaluation of the PMAQ-AB, there was a reduction in the average time between the last Pap smear and the interview. Most of the interviewed women performed their Pap smear at the health unit in which they were interviewed, demonstrating knowledge about where to perform the exam through the UHS. On the other hand, the percentage of women who reported having been advised about the importance of Pap smear and their periodicity is still small, both in MS and in the states of GO, MT and the DF.

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