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QUALITY OF THE PRENATAL CARE RECORDS IN THE PREGNANT WOMEN'S BOOKLET

QUALIDADE DOS REGISTROS DA ASSISTÊNCIA PRÉ-NATAL NA CADERNETA DA GESTANTE

CALIDAD DE LOS RECORDADOS DE CUIDADO PRENATAL EN EL CUADERNO DE LA MUJER PREGNANT

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Objective: to evaluate the quality of the records in the pregnant women's booklet, assessing the legibility and completeness of usual-risk pre-natal records. Method: evaluative, descriptive and quantitative study, conducted in nine basic health care units in São Luís, Maranhão, Brazil, in the period from May 2017 to September 2018. The records were evaluated according to legibility and completeness. Results: 92.4% of the booklets were considered with legible records. The assessment of the completeness showed that 72.4% had bad completeness. No record booklet was classified as good or excellent. The assessment by sections showed that the Routine Complementary Test section showed the best results, whereas the Complementary Activities section showed the lowest levels of completeness. Conclusion: the records in the pregnant women's booklet were predominantly bad, denoting a devaluation of this instrument and a probable noncompliance with the recommendations of the Ministry of Health for a quality assistance.

Descriptors: Health Evaluation. Quality of Health Care. Prenatal Care. Health Records, Personal.

Objetivo: avaliar a qualidade dos registros na caderneta da gestante averiguando a legibilidade e completude dos registros da assistência pré-natal de risco habitual. Método: estudo avaliativo, descritivo e quantitativo, realizado em nove unidades de saúde da atenção básica em São Luís, Maranhão, Brasil, no período de maio de 2017 a setembro de 2018. Os registros foram avaliados quanto à legibilidade e completude. Resultados: 92,4% das cadernetas foram consideradas com registros legíveis. A avaliação da completude evidenciou que 72,4% apresentaram completude ruim. Nenhuma caderneta foi classificada com registro bom ou excelente. A avaliação por seções demonstrou que a seção de Exames Complementares de Rotina apresentou os melhores resultados, enquanto a seção de Atividades Complementares apresentou os menores níveis de completude. Conclusão: os registros nas cadernetas da gestante foram predominantemente ruins, denotando uma desvalorização desse instrumento e um provável descumprimento das recomendações do Ministério da Saúde para uma assistência de qualidade.

Descritores: *Avaliação em Saúde. Qualidade da Assistência à Saúde. Assistência Pré-natal. Registros de Saúde Pessoal.*

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Objetivo: evaluar la calidad de los registros en la cartilla de las mujeres embarazadas, evaluando la legibilidad y la integridad de los registros de control prenatal de riesgo habitual. Método: estudio evaluativo, descriptivo y cuantitativo, realizado en nueve unidades de atención básica en salud en São Luís, Maranhão, Brasil, en el período de mayo de 2017 a septiembre de 2018. Los registros fueron evaluados en cuanto a la legibilidad y la integridad. Resultados: el 92,4% de las cartillas fueron consideradas con registros legibles. La evaluación de la integridad mostró que el 72,4% tenía mala integridad. Ningún registro de la cartilla fue clasificado como bueno o excelente. La evaluación por secciones mostró que la sección de Exámenes Complementarios de Rutina obtuvo los mejores resultados, mientras que la sección de Actividades Complementarias obtuvo los niveles más bajos de la integridad. Conclusión: los registros de la cartilla de mujeres embarazadas eran, en su mayoría, pobres, denotando una devaluación de este instrumento y un probable incumplimiento de las recomendaciones del Ministerio de Salud para una asistencia de calidad.

Descriptores: *Evaluación en Salud. Calidad de la Atención de Salud. Atención Prenatal. Registros de Salud Personal.*

Introduction

The adequate pre-natal care constitutes a considerable factor of health indicators related to the mother and baby, showing the potential to minimize the main causes of maternal and infant mortality[1]. In the Brazilian context, the Ministry of Health (MOH) provides a set of recommendations in order to qualify the pre-natal care, which include the early, periodic and continuous beginning, laboratory tests, classification of gestational risk, accomplishment of educational practices and information record in medical records and on the pregnant women's card[2].

The pregnant women's card, created in the 1980's, was established as one of the instruments of prenatal care record, and should contain the main pregnancy monitoring data and always stay with the mother, thus facilitating the flow of information between the services of assistance to women in the pregnancy-puerperal cycle[3]. Over the years, some modifications were carried out, culminating with the publication of the pregnant women's booklet in 2014, as part of the actions of the *Rede Cegonha* strategy for qualification of women's health care in pregnancy, childbirth and puerperium[4].

The pregnant women's booklet broadened the role of the pregnant women's card, as it included a set of guidelines and procedures of large importance in pre-natal care, which, until then, were not covered, such as information about changes in the maternal organism and the baby's development, tips for a healthy pregnancy and warning signs, guidance on labor and childbirth, suggestions for the successful breastfeeding, and space for the record of educational activities, dental appointments and pre-natal partner[5].

Since its implementation, this instrument has been considered an important tool of communication among professionals, allowing continuity of care at all health care levels. In addition to its function in the referral and counter-referral system, it has currently been used as a tool for evaluation of health services, once the quality of the records may reflect the quality of care, because, once a procedure is proven beneficial, the simple presence or absence of records of this procedure can be considered as indicative of good or bad quality[6-8].

Studies conducted in municipalities in different Brazilian regions showed low levels of completeness of records in the pregnant women's card, which shows that many procedures are not being performed and/or recorded. Furthermore, when recorded, many show inadequacy to the parameters recommended by the Ministry of Health[7,9-11].

Probably due to the relatively recent implementation of the pregnant women's booklet, few studies evaluating the records in this version have been published. Moreover, this study aimed to evaluate the quality of the records in the pregnant women's booklet, assessing the legibility and completeness of usual-risk pre-natal records in a municipality in northeastern Brazil.

Method

Evaluative, descriptive research, with quantitative approach, performed in health units

that provide usual-risk pre-natal care in the municipality of São Luís, Maranhão, Brazil, in the period from May 2017 to September 2018. The municipality of São Luís is divided into seven health districts, of which three were selected for this study: Centro, Bequimão and Itaqui-Bacanga. From each Health District, three health units were selected, totaling nine units.

The study population consisted of pregnant women who received prenatal care in the selected health units, in the data collection period. The non-probabilistic sampling, by convenience, was used, according to the demand of the services. Thus, the sample was composed of 105 pregnant women who met the following inclusion criteria: usual-risk pregnant women, after the 30th week of gestation, of any age, presenting communication ability, who had carried out at least three pre-natal appointments and with the pregnant women's booklet at data collection.

Data collection used an instrument composed of a checklist corresponding to the fields in the current model of the pregnant women's booklet standardized by the Ministry of Health[5]. The items were considered as "yes" when the record was present and complete, "partial" when the record was present, but incomplete, and "no" when the record was absent.

The data collected were entered into the database through the software Epi Info 7. Subsequently, the data were reviewed to identify possible typing errors. The results were presented as absolute and relative frequencies.

The records were classified as legible, illegible or partially legible. The assessment of the completeness occurred through the parameter recommended by the literature[12-13]. For each item of the booklet, completeness was verified by dividing the total absent information for the item by the total sample, and classified according to the levels of quality: excellent (incompleteness < 5%), good (5% ≤ incompleteness < 10%), regular (10% ≤ incompleteness < 20%), bad (20% ≤ incompleteness < 50%) and very bad (incompleteness ≥ 50%). The same criteria were considered to classify each booklet, pondering the division of the total number of blank items by the total number of items available for record.

To perform the classification of the completeness of each item of the booklet, seven sections were established: Identification; Classification of Gestational Risk; Graphs for Vitamin Monitoring and Supplementation; Gynecological and Obstetric Procedures; Complementary Tests, Routine; Immunization; and Complementary Activities.

This study is linked to the research entitled "Picturing the prenatal care in São Luís - MA", which received a favorable opinion from the Research Ethics Committee (REC) of the Federal University of Maranhão (UFMA), under n. 1.999.550, on 4 April 2017. The research followed the recommendations of Resolution n. 466/2012 of the National Health Council (CNS). The pregnant women who met the inclusion criteria received information about the study and were invited to participate. After consent, they signed the Informed Consent Form (ICF) or Informed Assent Form (IAF), and data collection was performed individually, respecting the privacy of pregnant women.

Results

The results showed that 92.4% of the pregnant women's booklet were considered with legible records, 5.7% with partially legible records and 1.9% with illegible records.

The completeness of the items in the Identification section varied from 3.8% (very bad) to 99.1% (excellent), corresponding to the number of the Monitoring System of the Humanization Program for Prenatal and Birth of Pregnant Women (*Sisprenatal*) and name, respectively. In this section, there was a predominance of items with bad and very bad records, as shown in Table 1.

Table 1 – Completeness of the identification records in the pregnant women's booklets. São Luís, Maranhão, Brazil – May 2017– Sep. 2018 (N=105)

Variables	Yes n (%)	No n (%)	Classification
Presence of records of:			
Pre-natal health unit	78 (74.3)	27 (25.7)	Bad
Service indicated for the delivery	50 (47.6)	55 (52.4)	Very Bad
Number of the Unified Health System Card	79 (75.2)	26 (24.8)	Bad
Sisprenatal number*	4 (3.8)	98 (93.3)	Very Bad
Social Identification number**	9 (8.6)	83 (79.1)	Very Bad
Name	104 (99.1%)	1 (1.0)	Excellent
Favorite nick name	38 (36.2)	67 (63.8)	Very Bad
Partner's name (optional)	41 (39.1)	64 (61.0)	Very Bad
Birth date	96 (91.4)	9 (8.6)	Good
Age	93 (88.6)	12 (11.4)	Regular
Race	72 (68.6)	33 (31.4)	Bad
Out-of-home work	62 (59.1)	43 (41.0)	Bad
Occupation	54 (51.4)	51 (48.6)	Bad
Address	77 (73.3)	28 (26.7)	Bad
Phone number	73 (69.5)	32 (30.5)	Bad
E-mail	15 (14.3)	90 (85.7)	Very Bad
Emergency contact	53 (50.3)	52 (49.5)	Bad

Source: Created by the authors.

Notes:
* Exclusion of 3 booklets 2018 edition, because they did not include this item.
** Exclusion of 13 booklets 2014 edition, because they did not include this item.

The records of the Gestational Risk Classification section were predominantly bad, with completeness ranging between 31.4% (very bad) and 90.5% (good). Quantitative data relating to previous pregnancies, such as the number of deliveries, the number of cesarean sections or the number of stillbirths, obtained better completeness. Information concerning the type of pregnancy (single, twin, triple or more) and the planning of pregnancy (planned or unplanned) are among the records with less completeness (Table 2).

Table 2 – Completeness of the gestational risk classification records in the pregnant women's booklets. São Luís, Maranhão, Brazil – May 2017– Sep. 2018 (N=105)

Variables	Yes n (%)	No n (%)	Partial n (%)	Classification
Presence of records of:				
Education	60 (57.1)	45 (42.9)	-	Bad
Marital status	63 (60.0)	42 (40.0)	-	Bad
Previous weight	65 (61.9)	40 (38.1)	-	Bad
Height	87 (82.9)	18 (17.1)	-	Regular
Type of pregnancy	50 (47.6)	55 (52.4)	-	Very Bad
Risk classification	33 (31.4)	72 (68.6)	-	Very Bad
Planned pregnancy	43 (41.0)	62 (59.1)	-	Very Bad
Family history	67 (63.8)	36 (34.3)	2 (1.9)	Bad
Pregnancies	95 (90.5)	5 (4.8)	5 (4.8)	Good
Clinical history	66 (62.9)	34 (32.4)	5 (4.8)	Bad
Current pregnancy	53 (50.5)	28 (26.7)	24 (22.9)	Bad

Source: Created by the authors.

Note: Conventional signal used:
- Numerical data equal to zero not resulting from rounding.

The Vitamin Monitoring and Supplementation Graphs section showed completeness very bad for all items. In 55.2% of the booklets, there were no records of the nutritional monitoring graph, 58.1% had no records of the fundal height curve for gestational age, 60.0% had no records of ferrous sulfate supplementation, and 61.9% had no records of folic acid supplementation.

Most records of the Gynecological and Obstetric Procedures section had bad completeness, ranging between 17.1% (very bad) and 91.4% (good). The components with better evaluation referred to the date of the last menstrual period (LMP), and the probable date of birth (PDB), whereas the records of Body Mass Index (BMI), edema and fundal height showed the lowest levels of completeness (Table 3).

Table 3 – Completeness of the gynecological and obstetric procedures records in the pregnant women's booklet. São Luís, Maranhão, Brazil – May 2017– Sep. 2018 (N=105)

Variables	Yes n (%)	No n (%)	Partial n (%)	Classification
Presence of record of:				
Date of last menstrual period	95 (90.5)	10 (9.5)	-	Good
Probable date of birth	96 (91.4)	9 (8.6)	-	Good
Complaint	59 (56.2)	3 (2.9)	43 (41.0)	Bad
Gestational age	89 (84.8)	0 (0.0)	16 (15.2)	Regular
Weight	89 (84.8)	0 (0.0)	16 (15.2)	Regular
Body Mass Index	18 (17.1)	43 (41.0)	44 (41.9)	Very Bad
Edema	40 (38.1)	10 (9.5)	55 (52.4)	Very Bad
Arterial blood pressure	86 (81.9)	0 (0.0)	19 (18.1)	Regular
Fundal height	45 (42.9)	7 (6.8)	53 (50.5)	Very Bad
Presentation	74 (70.5)	17 (16.2)	14 (13.3)	Bad
Fetal Heart Rate	73 (69.5)	2 (1.9)	30 (28.6)	Bad
Fetal Movement	59 (56.2)	8 (7.6)	38 (36.2)	Bad

Source: Created by the authors.

Note: Conventional signal used:

- Numerical data equal to zero not resulting from rounding.

In the Routine Complementary Tests section, there was prevalence of items with a good record, with this section showing better results. The completeness ranged between 61.0% (bad) and 94.3% (good), relating to the urine culture and fasting blood glucose tests, respectively (Table 4).

Table 4 – Completeness of the routine complementary tests records in the pregnant women's booklet. São Luís, Maranhão, Brazil – May 2017– Sep. 2018 (N=105)

Variables	Yes n (%)	No n (%)	Classification
Presence of records of:			
Blood Typing and Rh Factor	98 (93.3)	7 (6.7)	Good
Fasting blood glucose	99 (94.3)	6 (5.7)	Good
Syphilis (rapid test) and/or VDRL*	98 (93.3)	7 (6.7)	Good
HIV**/Anti-HIV	95 (90.5)	10 (9.5)	Good
Hepatitis B - HbsAg***	95 (90.5)	10 (9.5)	Good
Toxoplasmosis	95 (90.5)	10 (9.5)	Good
Hemoglobin/Hematocrit	94 (89.5)	11 (10.5)	Regular
Type I Urine	93 (88.6)	12 (11.4)	Regular
Urine culture	64 (61.0)	41 (39.1)	Bad
Ultrasonography (optional)	97 (92.4)	8 (7.6)	Good

Source: Created by the authors.

Notes:

* VDRL: Venereal Disease Research Laboratory.

** HIV: Human Immunodeficiency Virus.

*** HbsAg: Hepatitis B Virus Surface Antigen.

The completeness of all records of the Immunization section was classified as bad. In 20.0% of the booklets, there were no records of the tetanus vaccine, hepatitis B vaccine and influenza vaccine, and 28.6% had no records of diphtheria, tetanus and pertussis (dTpa) vaccine (data not shown in table). In the Complementary Activities section, all components showed very bad record, corresponding to the section with the worst evaluation (Table 5).

Table 5 – Completeness of the complementary activities records in the pregnant women's booklet. São Luís, Maranhão, Brazil – May 2017–Sep. 2018 (N=105)

Variables	Yes n (%)	No n (%)	Partial n (%)	Classification
Presence of records of:				
Educational activities	11 (10.5)	94 (89.5)	-	Very Bad
Visit to the maternity	2 (1.9)	103 (98.1)	-	Very Bad
Dental appointment	3 (2.9)	102 (97.1)	-	Very Bad
Partner's pre-natal*	0 (0.0)	88 (83.8)	4 (3.8)	Very Bad

Source: Created by the authors.

Notes: Conventional signal used:
- Numerical data equal to zero not resulting from rounding
* Exclusion of 13 booklets 2014 edition, because they did not include this item.

The classification of the completeness of each pregnant women's booklet revealed that 20.0% were considered with very bad record, 72.4% with bad record and 7.6% with regular record. No booklet was classified with good or excellent record.

Discussion

Once it is a tool capable of allowing an intercommunication between the professionals of care with women during pregnancy, childbirth and puerperium, legibility and completeness of records in the pregnant women's booklet are fundamental. The low readability and incompleteness may jeopardize the proper monitoring, due to difficulties in the interpretation and analysis of information by different professionals who provide assistance to women during the gravid-puerperal period[10]. The difficulty to interpret the data can lead to low reliability of professionals in relation to the recorded information, and may cause unnecessary repetition of procedures and/or questions[7].

Some proposals suggest the computerization of the pregnant women's booklet, with the creation of an integrated information system, which will provide the data record and survey in any unit that meets the pregnant woman. One of the positive aspects of this proposal is the good legibility of records, however, the computerization does not guarantee the good quality of data filling. Therefore, regardless of being digital or manual, health professionals are responsible for the effort to record information properly, in a reliable and complete manner[14-15].

In this study, the record of the pregnant woman's name corresponded to the booklet component with better assessment, being considered with excellent record. Nevertheless, the results showed a very bad record for the item "favorite nick name". In addition, knowing the pregnant woman's favorite nick name can generate a pleasant environment and constitute an important element for the establishment of the bond[16].

Studies show that the bond results from good reception, translated by simple gestures, such treating them cordially, listening carefully and using their name, especially the one they like most. The bond achieved in the relationship between professionals and pregnant women has been considered as a way to ensure adherence and a successful pre-natal follow-up[16-18]. Thus, bearing in mind that this booklet component is

an element that can promote bond formation, the record of such information becomes important.

Among the records of the Gestational Risk Classification section with lower levels of completeness, there is the information relating to the planning of pregnancy. An unplanned pregnancy is not programed by the couple or the woman, and may be unwanted (when contrary to desires and expectations) or inappropriate (when it occurs at a moment considered unfavorable). Both can be associated to a set of diseases related to maternal and perinatal health[19-20]. The occurrence of an unplanned pregnancy presents an increased risk for abortion, thus increasing the risk of maternal morbidity and mortality. Furthermore, this phenomenon may represent an increased risk of anxiety and depression, especially in the postnatal period[19-21].

A study carried out with 2,557 pregnant women in southern Brazil found that 65.0% of them had not planned the pregnancy[21]. Another study, conducted with 1,121 pregnant women in a city in northeastern Brazil, revealed a frequency of 60.2% for unwanted pregnancy[22]. Those results reveal a high occurrence of this phenomenon, which indicates that the research and the record of this information should not be neglected, due to the implications it can cause to maternal and child health.

The Complementary Activities section received the worst evaluation. In this section, the record regarding educational actions presented the best results, but still with very low level of completeness, lower than that observed in other studies. In Recife, for example, a study found that 37.0% of the cards contained record of, at least, an educational activity[23].

A research that aimed to know pregnant women's perception about health education highlighted some factors that stimulate participation in educational activities, such as the discussed themes and clarification of doubts. On the other hand, the barriers to participation included the little disclosure by health professionals and the disincentive to participate on the part of family members[24]. Therefore, the reasons that led to the very poor filling of this component should be questioned: if the booklet was not used to record the completion of educational actions, if those actions were not carried out or disclosed, or even if they have not been appreciated by pregnant women and/or their families.

The "visit to the maternity" also presented a very bad record. In this context, since 2007, every woman has the right, guaranteed by Law n. 11,634, of previously knowing and visiting the maternity where the delivery will occur. This bond should be ensured at her admission in the pre-natal care program[2]. In this sense, the pregnant women's booklet appears as an instrument that allows pre-natal care professionals to record the name of the health service indicated for the delivery and record the achievement of a prior visit to that service[5]. Nonetheless, the results found show a very bad completeness for the two types of information.

In national scope, a research evidenced that 41.3% of the interviewed women did not receive information on the referral maternity and 16.2% sought more than one service for admission to the delivery[25]. In this study, 47.6% of the booklets presented the record of the health service indicated for the delivery, suggesting that this percentage of pregnant women received this information, although some pregnant women may have received guidance, but the information was not recorded.

According to the Ministry of Health[26], the bond between the pregnant woman and the location where the delivery will occur is a fundamental action so that she feels safe during the birth, avoiding the pilgrimage seeking a place to give birth, a situation that could put at risk the lives of the woman and the child. Moreover, the unit of pre-natal care must facilitate the visit of pregnant women to the maternity, thereby strengthening the bond of trust between the woman and the service.

The component of the Complementary Activities section with the worst evaluation related to the partner's pre-natal, which had no complete record. Pre-natal care, until recently, had focused on only the mother and the baby.

Currently, the partner's pre-natal strategy has encouraged the inclusion and involvement of the man in this context, especially to prepare him for an active and conscious paternity, sharing with the woman the care with the child. In addition, this strategy aimed at early detection of diseases, immunization update and stimulus to participate in educational activities[5,27].

The insertion of a space for the partner's pre-natal in the pregnant women's booklet constituted an important measure for the stimulus to its accomplishment. However, the finding of low filling levels of this space suggests an incipient use of this strategy. The literature indicates that, although extending the pre-natal assistance to the partner seems simple, health services still have trouble in this insertion. In some cases, the awareness of professionals, pregnant women and their partners is still necessary[28].

On the other hand, one of the main reasons for the partner's absence in the pre-natal was the lack of time due to work, which has no strategy to be overcome. In this way, the authors suggest the promotion of spaces for dialog and exchange of experiences in zones that allow the partner's participation and the discussion about the importance of labor laws that ensure his inclusion in the routine pre-natal care, without jeopardizing the work, allowing the issuance of a companion leave during this period[28-29].

The overall filling of information in the booklets analyzed was bad. These results demonstrate an underutilization of this instrument, which can result in losses for the follow-up of women in the pregnancy-puerperal cycle, hindering the analysis of the evolution of pregnancy and the intercommunication between the professionals who assist this woman. Furthermore, assuming that the quality of the records made may reflect the quality of the assistance, the results show that the quality of pre-natal care needs to be improved in many aspects, especially in relation to the components currently included in this instrument.

Nevertheless, there is still the question if the gap is in service or in the records, bearing in mind that some procedures may be performed and not recorded, which indicates the need for health professionals' awareness for the appreciation of the pregnant women's booklet.

Conclusion

Most pregnant women's booklets presented legible, however, incomplete records. They prioritized the records relating to the name, date of birth, quantitative data related to previous pregnancies, date of last menstrual period, probable date of birth and most routine tests. The most absent records related to the partner's pre-natal, visit to the maternity, dental appointments, *Sisprenatal* number, nutritional monitoring graph, fundal height curve for gestational age, among others.

The records in the pregnant women's booklet were predominantly bad, denoting a devaluation of this instrument and a probable noncompliance with the recommendations of the Ministry of Health for a quality assistance.

The implementation of the pregnant women's booklet led to increased information and procedures to be recorded. This increased demand can justify the low levels of completeness verified in this study. Other factors that may be influencing this underutilization are unawareness of the purpose and importance of this tool by health professionals and the great demand for care, requiring studies that corroborate those propositions, in order to provide timely interventions.

Concomitantly with the deployment of the booklet, the pregnant women's booklet handbook was published for health professionals, and, to begin its implementation, a training should be carried out. Therefore, audits and periodic training of pre-natal care professionals should be performed, in order to promote awareness of the proper use of this tool, contributing to improving the quality of the records.

Collaborations

1 – conception, design, analysis and interpretation of data: Thaíse Almeida Rodrigues and Lena Maria Barros Fonseca;

2 – writing of the article and relevant critical review of the intellectual content: Thaíse Almeida Rodrigues, Ana Karina Bezerra Pinheiro, Andressa Arraes Silva, Luciene Rocha Garcia Castro, Milka Borges da Silva and Lena Maria Barros Fonseca;

3 – final approval of the version to be published: Thaíse Almeida Rodrigues, Ana Karina Bezerra Pinheiro, Andressa Arraes Silva, Luciene Rocha Garcia Castro, Milka Borges da Silva and Lena Maria Barros Fonseca.

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