CHILDBIRTH CARE: CONTRIBUTING TO THE DEBATE ON HUMAN DEVELOPMENT

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Parada CMGL, Carvalhaes MABL. Childbirth care: contributing to the debate on human development. Rev Latino-am Enfermagem 2007 setembro-outubro; 15(número especial):792-8.

This study aimed to evaluate care during childbirth and neonatal development in the interior of São Paulo in order to support managers responsible for formulating public policies on human development and allocating public resources to the women's healthcare. This epidemiological study focused on the evaluation of health services based on the observation of the assistance delivered by the Single Health System in 12 maternities and 134 delivers. The Brazilian Health Ministry or World Health Organization standards were adopted for comparison. The results revealed problems related to the structure of some maternities, where some well-proven practices in normal childbirth are still little used, whereas other prejudicial or ineffective ones are routinely used. Reversing this picture is essential in order to offer humanized quality care to women with consequent reductions in maternal and neonatal mortality rates, in such a way that the region achieves the millennium goals established for improving human development.

DESCRIPTORS: human development; health services evaluation; delivery

EVALUACIÓN DE LA ESTRUCTURA Y DEL PROCESO DE ATENCIÓN AL PARTO: CONTRIBUCIÓN AL DEBATE SOBRE DESARROLLO HUMANO

Con la finalidad de subsidiar a gestores responsables por la atención a la salud de la mujer en la formulación de políticas públicas dirigidas al desarrollo humano, se propone la presente investigación, cuyo objetivo es evaluar la estructura y proceso de atención al parto y al neonato desarrollada en una región del interior del Estado de São Paulo, Brasil. Se trata de un estudio epidemiológico caracterizado por la evaluación de la calidad de servicios de salud. Los resultados obtenidos fueron comparados con patrones establecidos por el Ministerio de la Salud y la Organización Mundial de Salud. Los resultados apuntan problemas con la estructura de algunas maternidades y revelan que prácticas demostradamente útiles en el parto normal aún son poco utilizadas, mientras que otras perjudiciales o ineficaces son rutinariamente utilizadas. Modificar esa situación será esencial para ofrecer atención humanizada y de calidad, con consecuente reducción en las tasas de mortalidad materna y neonatal, de forma que la región alcance las metas establecidas para la ampliación del desarrollo humano en el milenio.

DESCRIPTORES: desarrollo humano; evaluación de servicios de salud; parto

AVALIAÇÃO DA ESTRUTURA E PROCESSO DA ATENÇÃO AO PARTO: CONTRIBUIÇÃO AO DEBATE SOBRE DESENVOLVIMENTO HUMANO

Com a finalidade de subsidiar gestores da área de saúde da mulher, na formulação de políticas públicas, voltadas ao desenvolvimento humano, realizou-se esta investigação, cujo objetivo foi avaliar a estrutura e o processo da atenção ao parto e ao neonato desenvolvido em região do interior paulista. Estudo epidemiológico, voltado para avaliação dos serviços de saúde, baseou-se na observação da assistência prestada pelo Sistema Único de Saúde em 12 maternidades e 134 partos, adotando-se padrões estabelecidos pelo Ministério da Saúde ou Organização Mundial de Saúde para comparação. Os resultados apontam problemas relacionados à estrutura em algumas maternidades, mostrando que práticas úteis ao parto normal ainda são pouco utilizadas, enquanto que outras prejudiciais ou ineficazes ainda são utilizadas rotineiramente. Reverter esse quadro será essencial para oferecer atendimento de qualidade às mulheres, com conseqüente redução nas taxas de mortalidade materna e neonatal, para que a região atinja as metas estabelecidas para ampliação do desenvolvimento humano no milênio.

DESCRITORES: desenvolvimento humano; avaliação de serviços de saúde; parto

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INTRODUCTION

In recent decades, the United Nations Program for Development (UNPD) has worked not only with economic, but also with social indicators, especially in the health and educational areas. Among the eight objectives this Program established for the millennium, with a view to the decrease of social inequalities on the planet, two are closely related with delivery care: to decrease child mortality and to improve maternal health[1]. Brazil is among the 189 countries that committed to these objectives.

Currently, most of children's deaths are concentrated in the first month of life, evidencing the importance of factors related to pregnancy, delivery and puerperium. It is emphasized that, in spite of the continuous post-neonatal mortality decrease in Brazil as from the 1990's, neonatal mortality has remained relatively stability, representing more than 60% of children's deaths in the country[2]. The same situation is found in DIR XI (former *Direção Regional de Saúde* [Regional Health Board] of Botucatu/SP), where this study was performed. In 2005, this site showed a child mortality coefficient of 12.1 per 1,000 live births, a little below that of the State of São Paulo (13.4 per 1,000 live births), while neonatal mortality and post-neonatal coefficients were 8.3 and 3.8 per 1,000 live births, respectively[3].

In 2004 the National Policy Plan for Women prioritized the promotion of qualified and humanized obstetric and neonatal care, an indispensable condition for Brazil to be able to reach the goals established by the Millennium Human Development Summit, related to the decrease of maternal and neonatal indicators by 75% until 2015[4]. The actions to be performed include the expansion of the Pre-Natal and Birth Humanization Program, also making financial transfers for cities to complete the expansion and qualification protocols of care actions to the pre-natal, delivery and puerperal periods[5].

For the follow-up of UNDP goals oriented to improve maternal health, two indicators were adopted: maternal mortality rate and percentage of deliveries attended by a qualified healthcare professional[1]. Reasons for increased maternal mortality indicate poor social and economic conditions, low degree of information and educational background, family dynamics where violence is present and, above all, difficulties of access to quality healthcare services[4].

Maternal mortality is considered avoidable in 92% of cases[1], which reflects serious problems related to care in the pregnancy-puerperal cycle, if any. In the last official estimate, regarding 2002, the Brazilian maternal mortality ratio corresponded to 74.8 deaths per 100,000 live births, much higher than the indicator considered acceptable by the World Health Organization (WHO): 20 deaths per 100,000 live births[4].

However, as this is a rare event, the analysis of maternal mortality rates must consider, to the extent possible, large populations and trends over relatively long periods, avoiding the simple comparison of different rates in small populations or from one year to the other. Considering the period from 2001 to 2005, this indicator remained relatively stable in the State of São Paulo, ranging between 30.3 and 35.7 per 100,000 live births, a status different from the region governed by Botucatu where, in the same period, the rates range from zero to 98.5 per 100,000 live births[6].

Maternal and neonatal deaths must be treated as a result of the same precarious condition in pre-natal, delivery and post-natal care. Therefore, it is beyond doubt that the quality of women's care in this phase of life also constitutes an indicator of human development. To evaluate service delivery, in order to identify its fragilities and strengths, promoting care reorganization whenever required, is a way to participate in the effort to decrease the inequalities expressed by the UNDP.

This article shows and discusses, under the UNDP focus, the results related to the delivery care evaluation obtained through a broad project that evaluated the Pre-Natal and Birth Humanization Program (PNHP) at the DIR XI[7] of the State of São Paulo.

MATERIAL AND METHODS

This epidemiology study aimed to evaluate the quality of healthcare services. Structure and process components were evaluated. The structure analysis was related to the existing resources for service delivery, including physical, human and material resources, and the process corresponded to the evaluation of the activities performed by care providers, considering technical and interpersonal relation aspects[8].

From a total of 31 regional cities, 20 were included in the study, with the city's adherence to the PNHP until 2003 as the only inclusion criterion. All cities had basic healthcare units for pre-natal care and 11 had maternities for low risk delivery care, however, with a variable number of beds: three in the hospitals with the lowest monthly average of deliveries and 29 in the one with the highest average. There was one single service for tertiary care in obstetrics.

The structure indicators used were: for human resources, the presence of physicians and nurses in all shifts; for physical resources, the possibility of a companion in the pre-delivery period, the existence of PDP (pre-partum, delivery and puerperium) rooms and the adequacy of C-section and natural delivery rooms, of the joint room and nursery to receive the parents; for the material and equipment resources, the presence of compressed air, oxygen, surgical lamp, delivery table, emergency and anesthesia cart, stethoscope, sphygmomanometer, Pinard's stethoscope or Doppler sonar and heated cradle in the natural delivery and C-section rooms and, in the joint room and nursery, the number of cradles and clothes for mother and baby, and the existence of a restroom before the entry of the nursery; for rules and procedures, the availability of a joint room, written rules/procedures, systematic orientation activities to the mother, the use of nursing bottles, feeding bottles and artificial milk and the permission for the mother to remain in the nursery if the child's hospitalization is required.

The process indicators included: at hospitalization, the request for the pre-natal card, performance of uterine dynamic and vaginal touch examination, blood pressure measurement, auscultation of fetal heartbeats and performance of trichotomy and enema; in the pre-partum, the presence of a companion, prescription of fasting or rest, non-pharmacological control of pain, installation of venoclysis, auscultation of fetal heartbeats and completion of partogram; in the delivery room, visual and skin-to-skin contact of mother/baby, auscultation of fetal heartbeats and performance of episiotomy in vaginal delivery; for the newborn care, care by a pediatrician at the delivery room, provision of vitamin K, establishment of Apgar score in the first minute of life, pregnancy age by physical examination, weight identification, blood collection for blood type and VDRL (Venereal Diseases Research Laboratory) test and breastfeeding in the first hour of life.

Data Collection

Three instruments with closed questions were elaborated: the first one, for the interview with the manager, considered as the informer who was most knowledgeable about the service structure; the second and the third, for follow-up of delivery care processes, consisted of a check-list type program to be completed by the observers, also including aspects of the maternity structure, however, according to their perspective. All derived from a broad instrument used in a study developed in Maranhão[9], and small changes were made to adapt to the local reality.

Data were collected in 2004 and 2005, in two stages. In the first stage, all maternity managers were interviewed (n=12), usually the clinical director. In the second, all deliveries made through the Single Health System for seven consecutive days, 24 hours a day, were observed in all regional maternities (n=134); this observation was performed by healthcare professionals or previously qualified students. The coordination and supervision of the observation was performed by one of the authors, upon meetings with the observers held before, during and after data collection.

Data Analysis

As already shown, when evaluating the PNHP structure and process, the results obtained with the standards established by the Ministry of Health[10-11] or WHO[2] were compared, the practices known to be associated to better obstetric outcomes and useful to natural birth, and those harmful or inefficient were classified into three performance categories, according to their prevalence in the observed deliveries. In the first case, for most indicators, performance was considered satisfactory when a coverage rate of more than 80% was reached, except for blood pressure and fetal heart rate measurement. Due to their importance, innocuousness and easy performance, 100% coverage was established; the performance was considered regular when coverage ranged between 50% and 80% and rates lower than 50% indicated unsatisfactory performance. In the second case, as it includes indicators that are not advised, the performance was classified as satisfactory, regular and unsatisfactory considering, respectively, the following rates: below 20%, 20% to 50% and above 50%.

Ethical Procedures

This research project was analyzed and approved by the Ethics Committee at Botucatu School of Medicine of the *Universidade Estadual Paulista* and complied with all rules established for research involving human beings.

RESULTS

Information on the structure for delivery and newborn care are shown in table 1. Very low rates were found for all items related to human resources. None of the maternities had PDP rooms, in more than half of them the physical space allowed the presence of a companion in the pre-partum, and one delivery room was showed as inappropriate, due to its small size. The physical area of the joined room was appropriate in two thirds of the institutions and in a little more than half the institutions the nursery was adequate to receive the parents. The use of nursing bottles and feeding bottles was very high and the development of systematic educational activity, infrequent (table 1).

Table 1 - Resources, rules and procedures available in the DIR XI maternities, 2004/2005

Resources, Rules and Procedures (n=12)	Yes		No	
	Nº	%	Nº	%
Human Resources (24 hours/day)				
Obstetrician	2	16.7	10	83.3
Obstetric nurse in Delivery Room	0	0	12	100
Pediatrician	1	8.3	11	91.7
Anesthesiologist	1	8.3	11	91.7
Nurse at puerperium	0	0	12	100
Nurse in neonatal area	1	8.3	11	91.7
Physical resources				
Possibility of companion in the pre-partum	7	58.3	5	41.7
Existence of PDP rooms (pre-partum, delivery and puerperium)	0	0	12	100
Adequacy of C-section and natural delivery rooms	11	91.7	1	8.3
Adequacy of joint room	9	75	3	25
Adequacy of nursery to receive the patients	7	58.3	5	41.7
Material and Equipment Resources				
Equipment in the C-section and natural delivery rooms	10	83.3	2	16.7
Stethoscope/sphygmomanometer in the delivery room	7	58.3	5	41.7
Pinard/ Doppler sonar in the delivery room	1	8.3	11	91.7
Heated cradle in the delivery room	4	33.3	8	66.7
Adequacy in the number of cradles in the joint room	10	83.3	2	16.7
Clothes for the mother and the baby in the joint room/nursery	11	91.7	1	8.3
Restroom at the entrance of the nursery	7	58.3	5	41.7
Adequacy in the number of cradles in the nursery	10	83.3	2	16.7
Rules and Procedures				
Availability of joint room	11	91.7	1	8.3
Existence of written rules/procedures	6	50	6	50
Systematic activities of mothers' orientation	2	16.7	10	83.3
Nursing and feeding bottles routinely used	7	58.3	5	41.7
Artificial milk routinely used	1	8.3	11	91.7
Permission for the mother to enter the nursery	9	75	3	25

Data about the delivery and newborn care process are showed in table 2.

Table 2- Procedures performed with the pregnant patient at the hospitalization, pre-partum, and delivery room, and newborn care in DIR XI maternities, 2004/ 2005

Procedures and Routines (n=134)	Yes		No	
	Nº	%	Nº	%
Hospitalization				
Pre-natal card requested	132	98.5	2	1.5
Performance of uterine dynamic	75	56	59	44
Performance of vaginal touch exam	123	91.8	11	8.2
Blood pressure measurement	115	85.8	19	14.2
Fetal heart beats auscultation	122	91	12	9
Performance of trichotomy at the hospital	71	53	63	47
Performance of enema	31	23.1	103	76.9
Pre-partum				
Presence of a companion	15	11.2	119	88.8
Prescription of fasting	74	55.2	60	44.8
Prescription of rest	30	22.4	104	77.6
Non-pharmacological control of pain	16	11.9	118	88.1
Installation of venoclysis	90	67.2	44	32.8
Fetal heartbeat auscultation	118	88.1	16	11.9
Completion of partogram	113	84.3	21	15.7
Delivery room				
Visual mother/baby contact	121	90.3	13	9.7
Skin-to-skin mother/baby contact	6	4.5	128	95.5
Fetal heart beats auscultation	23	17.2	111	82.8
Episiotomy for vaginal delivery (n=95)	71	74.7	24	25.3
Newborn Care				
Pediatrician care in the delivery room	79	59	55	41
Vitamin K provided	133	99.3	1	0.7
Apgar score in the first minute of life	114	85.1	20	14.9
Pregnancy age by physical examination	51	38.1	83	61.9
Weight identification	134	100	0	0
Blood collection for blood type	104	77.6	30	22.4
Blood collection for VDRL test	33	24.6	101	75.4
Breastfeeding within the first hour of life	31	23.1	103	76.9

Considering the practices that must be encouraged, blood pressure measurement and fetal heartbeat auscultation rates were unsatisfactory, while the uterine dynamic performance was regular, at hospitalization; in the pre-partum room, the presence of a companion, the use of non-pharmacological methods to relieve pain and fetal heartbeat auscultation were unsatisfactory, and the completion of partogram was satisfactory; in the delivery room, the skin-to-skin mother/baby contact and fetal heartbeat auscultation were unsatisfactory and the mother/baby visual contact was satisfactory; in newborn care, pregnancy age determined by physical examination and blood collection for VDRL were unsatisfactory, while weight verification, establishment of Apgar score and vitamin K provision were satisfactory (table 2). Among harmful practices, the

performance of trichotomy and regular performance of enema were considered unsatisfactory; in pre-partum, the prescription of fasting and the installation of venoclysis were unsatisfactory, while the prescription of rest was usual. In the delivery room, the performance of episiotomy in vaginal deliveries was unsatisfactory (table 2).

DISCUSSION

This study shows an important characteristic: most of the indicators used were measured by direct observation of the maternity structure and the delivery care process. Therefore, it may be considered that the results show good reliability, if compared to the Brazilian studies with similar objectives performed to date, as they always collect data by checking patient files and interviewing pregnant patients and professionals.

According to the PNHP, all units integrating the SUS have the responsibility to have appropriate human resources for delivery care[11] and, in line with WHO, the midwife-nurse seems to be the most appropriate professional, with better cost-effectiveness, to be responsible for care in pregnancies and natural deliveries[12]. In spite of the above, none of the hospitals in this study have an acting midwife-nurse in the Delivery Room to attend natural deliveries 24 hours a day. Only one hospital has this expert to perform the delivery but, only during day shifts and in the absence of a physician. Even a general nurse is not present very much: no hospital had a nurse working exclusively in obstetrics, and only one of the hospitals had this professional acting specifically in neonatology area in all shifts. In most of the cases, the division of the few nurses hired to assist the whole hospital, and the presence of a single nurse per shift were common.

Regarding medical work, the most frequently observed situation in this study is that of the on-call obstetrician, which is not rare in Brazil. According to a study published in 2002, almost one third of the deliveries occurred in institutions with no obstetrician, not even on-call, and 74% did not have a pediatrician present[13]. This is an unacceptable situation, as legislation establishes that all units integrating the SUS must guarantee the presence of a pediatrician in the delivery room[11]. Comparing the situation seen in the DIR XI region with Brazilian data, a more favorable condition was found, as the pediatrician was present in 59% of the deliveries.

Still, the need for effective multiprofessional action, reconsideration of on-calls, especially in larger maternities, and the pertinence of the development of permanent educational activities must be considered, so that a higher number of deliveries is assisted by qualified professionals. This is a women's right and a country's obligation to improve its human development indicators.

The situation in the physical space where the pre-partum occurs is inappropriate in about 40% of the maternities, as it is incompatible with the presence of a companion. In general, the physical areas of the maternities and nurseries were not built to allow for care humanization. In addition, in one of the maternities, there was no joint room, essential to help in the elaboration of the mother-child relation and mandatory in SUS units since 1993[14].

Most of the hospitals studied had delivery rooms equipped with compressed air, oxygen, surgical lamp, delivery table, emergency and anesthesia cart. However, the presence of basic instruments like a stethoscope/sphygmomanometer and Pinard's stethoscope or Doppler sonar was not frequent. This form of organization in maternities is related to the medicalization of deliveries. This situation has been noticeable in Brazil since the second half of the 20th century. In recent years, it has been reviewed since, in a low risk situation, there must be little intervention, with measures taken in consistency with safety[12].

For the overall evaluation of the care process from hospitalization to delivery, among the practices useful for natural delivery, only the following indicators were satisfactory: request of pre-natal card, performance of vaginal touch exam, completion of partogram and mother/baby visual contact. Although positive for the quality of care[10-11], the good performance of these indicators does not seem to emerge from the implementation of the PNHP, as these were already established care practices. The unsatisfactory results for the presence of a companion, skin-to-skin mother/baby contact and non-pharmacological control of pain in the pre-partum show that the services have not worried about care humanization. However, it is emphasized that the patient's feeling of pain must be respected as, for many women, delivery is a synonym of pain and suffering, involving the need for help and support[15].

The failure to measure the mother's blood pressure and auscultate the fetal heartbeat indicates a major technical failure in the care process, contrary to the purpose of decreasing maternal and neonatal mortality. A sudden increase in blood pressure may indicate the need to hurry the delivery or transfer the patient to a more complex care level, while heartbeat auscultation is essential for the evaluation of fetal vitality, with subsequent conducts[12].

A number of procedures allowing for a better prognosis of newborns showed unsatisfactory performance, particularly the breastfeeding rate within the first hour of life, which scored only 23.1%, below the 40% recently obtained in a public maternity in Rio de Janeiro[16]. It must be remembered that favoring breastfeeding is also one of the UNPD goals and a priority in the Brazilian health policy.

Since the 1950's, it has been shown that human development indicators must include, in addition to the economic dimension, other dimensions related to people's social life and quality of life. In this effort, in the State of São Paulo, since 2000, such indicators have been considering the perinatal and child mortality rate, signaling the importance of mother-child care, as both rates keep a close relation to the quality of pre-natal care and delivery[17].

Considering the unfavorable results especially related to the quality indicators of the women's health care process during labor and delivery and newborn care, taking the PNHP as a reference, it should be questioned if improving maternal and child health has been a priority of the local people in charge - managers, professionals, society - through the implementation of health and human development policies.

CONCLUSIONS

Practices markedly favorable to health, useful in natural delivery and advised by the PNHP, such as the presence of a companion, non-pharmacological control of pain, skin-to-skin mother/baby contact, and the early start of breastfeeding, among others, are still little practiced in the maternities studied, while other clearly harmful or ineffective practices, such as fasting, venoclysis, trichotomy and episiotomy, are still frequently used.

Reverting this condition will be essential to deliver humanized and quality care to women, with a subsequent decrease of maternal and neonatal mortality rates, goals of the human development project in the new millennium Brazilian healthcare services are committed to.

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Recebido em: 1.4.2007
Aprovado em: 18.8.2007