Prevalence and Associated Factors for Non-Utilisation of Postnatal Care Services: Population-Based Study in Kuwadzana Peri-Urban Area, Zvimba District Of Mashonaland West Province, Zimbabwe

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ABSTRACT

A cross-sectional study of 466 mothers and a case control study (31 cases and 99 controls) were conducted in a peri-urban town of Kuwadzana, Zimbabwe. The objectives were to determine the prevalence and associated factors for non-utilisation of postnatal care (PNC) services. A logistic regression analysis was done in order to adjust for confounding factors. The prevalence of non-utilisation of PNC was 10.1% (95% CI 7.4, 12.8%). Respondents who belonged to the Apostolic religion and who had non-medical birth attendance during the last birth were 2.17 (95% CI 1.11, 6.62) and 5.30 (95% CI 1.90, 14.79) times more likely not to have utilised PNC services. Religion and birth attendance should be considered in interventions geared towards reducing the non-utilisation rate of PNC services. (*Afr J Reprod Health* 1999; 3(2):25-32)

RÉSUMÉ

La prévalence et les facteurs associés responsables de la non-utilisation des services post-natals: une enquête basée sur la population de la région péri-urbaine de Kuwadzana dans le district de Zvimba dans la province ouest de Mashonaland du Zimbabwe. Une enquête traversale sur 466 mères et une étude individuelle (31 cas et 99 cas témoins) ont été effectuées dans une ville péri-urbaine de Kuwadzama au Zimbabwe. L'objectif était de déterminer la prévalence et les facteurs responsables de la non-utilisation des soins post-natals (SPN). Une analyse de la regression logistique a été faite pour régler les facteurs confondants. La prévalence de la non-utilisation des soins post-natals s'élève à 10,1% (95% CL 7,4, 12, 8%). Les répondantes qui appartenaient à la religion apostolique et qui n'avaient pas bénéficié du service de la maternité pendant le dernier accouchement avaient 2,17 (95% CL 1,11, 6,62) et 5,30 (95% CL 1,90, 14, 79) fois plus de possibilité de ne pas avoir bénéficié des SPN. La religion et le service de la maternité devraient être tenus en compte quand il s'agit des interventions destinées à la réduction du taux de la non-utilisation des SPN. (*Rev Afr Santé Reprod* 1999: 3(2):25-32)

KEY WORDS: *Prevalence, factors, non-utilisation, postnatal care, Zimbabwe*

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Introduction

Postnatal care (PNC) services have an essential goal of ensuring a healthy mother and baby. When the baby is six weeks old, the mother's physical and emotional health is checked. The mother is examined whether she has recovered from the effects of pregnancy, labour and delivery. In particular, the mother is examined for symptoms of anaemia, urinary tract infection or of emotional distress or depression.[1] In addition, breasts, abdomen and pelvis are examined to ensure that involution is complete and that any trauma sustained during delivery is fully healed. The pelvic floor is also assessed for any dribbling or stress incontinence. The mother is also examined for any dyspareunia. If the mother is found with any problem, she is promptly treated to ensure that she is healthy.

The other issues discussed during a postnatal care visit include contraceptive needs and methods, and the mother's and child's nutrition and immunisation.[2,3] Infants born to high risk mothers can also be screened for congenital syphilis during the PNC review clinic.[4] It is therefore important for women to attend PNC services that are provided in their areas.

Many of the non fatal pregnancy complications that the eight million women in developing countries suffered from over five years ago could have been prevented through postnatal care.[5] MacArthur *et al* [6] reported a 47% maternal morbidity rate within the first six weeks. Usually, morbid events gradually decline after delivery without clinical intervention. The rate at which they decline is very slow and can be accelerated by giving treatment[7] to mothers when they visit the PNC services.

In developed countries, the uptake of postnatal visit at six weeks by women has increased from 32% in the 1940s to nearly 90% in recent years.[8] In 1997, the Gweru District of Zimbabwe had 48% coverage of postnatal care.[9] There are indications in the Mashonaland West Province that recent uptake of postnatal visits match those of the developed countries in the 1940s. According to the Mashonaland West provincial medical director's annual report for 1994, PNC coverage rates fluctuated over the last five years (1990–1994). They varied from 31.1% in 1990, 38.2% in 1991, 34.0% in 1992, 31.4% in 1993 to 44.2% in 1994.[10] Although the estimated PNC attendance rates are prone to error, it is clear that PNC services are being underutilised.

It is government's policy to provide PNC services to all women six weeks after delivery. PNC services can have a positive effect on both maternal and infant survival; we therefore need to determine the extent to which PNC services are used and identify the subgroups in the population, which are at a greater risk of inadequate care. Therefore, the objectives of the study were (1) to estimate the prevalence of non-utilisation of PNC services, and (2) to determine the factors associated with non-utilisation of PNC services.

Methods

In order to achieve the objectives of the study, a cross-sectional study and a case control study were conducted.

Cross-Sectional Study

This study was conducted among children aged six weeks to 23 months in the area in order to collect information on whether the mothers had attended the six weeks PNC review after delivery. There was no validation of the self-reported non-utilisation of PNC services. The respondents were mothers of these children. If the mother was not at home and the neighbours confirmed that there was a child within that age group in the household, a follow-up was done to get the mother at home later.

Case Control Study

From the cross-sectional data, the mothers were identified as cases if they had not attended PNC clinic and as controls if they had attended. In order to increase the authenticity of the study, three controls were sought for each case. The three controls were the nearest neighbours to the case.[11] The number of cases identified in the cross-sectional study was too small to warrant sub-sampling. The purpose for this investigation was to study factors associated with non-utilisation of PNC services. The data collection tool was the questionnaire administered to the mothers, enquiring about their demographic, socio-economic, religious and cultural beliefs, staff attitudes and medical factors. One of the investigators (IH), who supervised the interviewers during data collection, was not blinded to the case/control status of the subjects.

Data Processing and Analysis

The questionnaires were checked for completeness and consistency of information at the end of every field data collection day and before storage. Data entry and analysis was done using the statistical package, *Epi-Info.*[12] The odds ratios (OR) and their exact 95% confidence intervals (CI)[13] were used to test for association between qualitative variables. In order to adjust for confounding variables, a logistic regression in STATA[14] was used. P-values were those of the Yates' corrected Chi-square test or the Fisher's exact test, where appropriate. A p-value of less than 0.05 was considered statistically significant.

Ethical Considerations

The interviewers introduced and familiarised themselves with the respondents by giving a concise explanation of the research objectives so as to obtain informed consent and confidence of the respondent. Confidentiality of the respondents was assured, as neither names nor person identification numbers were reflected on the questionnaires. The questionnaires were numbered for purpose of identification during data editing.

Results

Prevalence of Non-Utilisation of PNC Services

The cross-sectional study revealed that there were 466 mothers with children aged 6 weeks to 23 months prior to carrying out a case control study. Of these mothers, only 47 indicated that they had not attended the six weeks PNC review clinic after their last pregnancies. This gave a 10.1% (95% CI 7.4% to 12.8%) prevalence rate of non-utilisation of PNC services.

Controls

Ninety-nine mothers were enrolled into the case control study. The decision to attend PNC clinic was made by the control mothers themselves, except for one (1%), who indicated that it was the decision of her husband. None of the mothers reported paying for the PNC consultation. Majority (86%) of the mothers attended the PNC clinic because they wanted a general examination of themselves and their babies. The other 14% attended the PNC clinic for pregnancy check-up and commencement of family planning.

Sixteen mothers (16%) said they had wanted to ask one or two questions from the health personnel but could not do so because they realised how busy the staff at the clinic were. Another 2% of the mothers managed to ask their questions and were satisfied with the answers they got.

As to whether or not the mothers would attend PNC clinic again in future, 90 (90%) said they would, while the remaining 10% said they would not, since they felt they had given birth to enough children and did not anticipate getting pregnant again.

On ways to improve PNC services, in order to make more mothers to attend, 40% of the mothers suggested continuous health education during the ANC visits, 35% suggested that the clinic be improved in terms of structure and staffing, while 25% did not have suggestions to make. Only a small percentage (4%) of the mothers expressed displeasure about the bad attitude of some staff members at the clinic during the PNC clinic.

Cases

The original number of cases identified was 47. Out of these 47 cases, 14 could not be contacted, and two could not be found at the time of conducting the case control study. However, 31 of the 47 cases identified during the cross-sectional study participated in the case control study, giving a non-respondent rate of 34%.

The decision not to attend PNC clinic was entirely upon the mother in 71% of the cases, while 29% needed their husbands' decision as to whether or not to attend. The reasons for not attending PNC clinic among the cases are shown in Table 1. The most frequent response (32%) among cases was religious beliefs.

Bivariate Analyses

The cases and controls were comparable in terms of age [OR=0.64, 95%CI (0.26, 1.58), p=0.399] with 39% of the cases, compared with 49% of the controls being in the 15 to 24 years age group; age of spouses [OR=0.84, 95%CI (0.34, 2.13), p=0.838], with 58% of the cases compared with 62% of the controls being in the 15 to 34 years age group; and in terms of marital status [OR=1.54, 95%CI (0.39, 8.92), p=0.761], with 90% of the cases compared with 86% of the controls being married.

Table 1 **Reasons for not Attending PNC Review Clinic (Total=31)**

Reasons	n	%
Attending to other family matters	7	23
Not aware	4	13
No need (was healthy)	8	26
Religious beliefs	10	32
Do not stay in the area	2	6

Table 2 **Socio-economic Characteristics of the Cases (Total=31) and the Controls (Total=99)**

Characteristic	n (%)	Cases n (%)	Controls OR (95%CI)	P-value
Respondents' education (years)				
0–5	5 (16%)	23 (23%)	0.64 (0.17, 1.96)	0.556
6–11	26 (84%)	76 (77%)		
Spouse's education (years)				
0–6	3 (10%)	8 (8%)	1.18 (0.19, 5.34)	0.729
7–13	28 (90%)	88 (92%)		
Number of people in household				
0–5	14 (45%)	61 (62%)	0.51 (0.21, 1.26)	0.159
6–15	17 (55%)	38 (38%)		
Number of children				
1–4	26 (84%)	86 (87%)	0.79 (0.23, 3.09)	0.766
5–8	5 (16%)	13 (13%)		
Respondent's religion				
Apostolic	16 (52%)	24 (24%)	3.33 (1.31, 8.39)	0.008
Other	15 (48%)	75 (76%)		
Respondent's occupation				
Housewife	21 (68%)	67 (68%)	1.00 (0.39, 2.68)	0.831
Other	10 (32%)	32 (32%)		
Family income				
< $500	14 (45%)	52 (53%)	0.74 (0.30, 1.81)	0.610
$501+	17 (55%)	47 (47%)		

OR = odds ratio *CI = confidence interval*

Table 3 **Medical Characteristics of the Cases (Total=31) and the Controls (Total=99)**

Characteristic	Cases n (%)	Controls n (%)	OR (95%CI)	P-value
Number of pregnancies				
= 1–5	27 (87%)	90 (91%)	0.68 (0.17, 3.25)	0.508
6–10	4 (13%)	9 (9%)		
Place of lastdelivery				
Non-institutional	13 (42%)	8 (8%)	8.22 (2.65, 25.99)	<0.001
Institutional	18 (58%)	91 (92%)		
Birth attendance				
Non-medical	12 (39%)	9 (10%)	6.32 (2.07, 19.35)	<0.001
Medical	19 (61%)	90 (90%)		
ANC attendance				
No	11 (28%)	0 (0%)	—	<0.001
Yes	20 (72%)	99 (100)		
Chronic disease				
Yes	0 (0%)	4 (4%)	0.00 (0.00, 4.88)	0.572
No	31 (100%)	95 (96%)		
Obstetric complication				
Yes	3 (10%)	17 (17%)	0.52 (0.09, 2.00)	0.402
No	28 (90%)	82 (83%)		
Method of delivery				
NVD	30 (97%)	90 (90%)	3.00 (0.38, 135.81)	0.450
CS	1 (3%)	9 (10%)		

OR = odds ratio
CI = confidence interval
— = undefined odds ratio
NVD = normal vaginal delivery
CS = ceasarian section
ANC = antenatal care

Table 2 shows the distribution of socio-economic factors between cases and controls. Of the factors, only religion was significantly associated with non-utilisation of PNC services [OR=3.33, 95%CI (1.31, 8.39), p=0.008].

A few medical-related factors were found to be significantly associated with non-utilisation of PNC services (Table 3). Place of last delivery [OR=8.22, 95%CI (2.65, 25.99), p<0.001], birth attendance [OR=6.32, 95%CI (2.07, 19.35), p<0.001] and ANC clinic attendance (OR undefined, p<0.001) were all significantly associated with non-utilisation of PNC services.

Logistic Regression Analysis

Bivariate analyses indicated that the factors — religion, place of last delivery, birth attendance and ANC attendance — were significantly associated with non-utilisation of PNC services. In order to determine among these factors which ones were independently associated with non-utilisation of PNC services, a stepwise logistic regression analysis was conducted. The factor, ANC attendance, was not considered in the model because its odds ratio was not defined.

After considering the factors — religion, place of delivery and birth attendance — in the model,

only religion and birth attendance still remained significantly associated with non-utilisation of PNC services. Respondents who had non-medical birth attendance were 5.30 [95%CI (1.90, 14.79), p=0.001] times more likely not to utilise PNC services than those who had been attended by health personnel. Meanwhile, respondents who belonged to the Apostolic religion were 2.71 [95%CI (1.11, 6.62), p=0.028] times more likely not to utilise PNC services.

Discussion

Limitations of the Study

Sixteen (34%) of the 47 mothers who had been initially identified during the census as potential cases could not be reached during the case control study. This is because the case control study was conducted at harvest time, and some of these mothers had gone elsewhere to work in the fields. Therefore, the results in the current case control study may be biased although it is difficult to determine the direction of the bias, as no information was collected from the dropouts.

The cross-sectional study did not seek mothers who may have lost their last siblings before the age of two months. The issue of death of the very young ones in the study community is culturally sensitive and no attempt was made to locate mothers who lost their siblings.

The odds ratio of the factor "ANC attendance" was not defined, it could therefore not be considered in the logistic regression. As a result, we could not determine whether ANC attendance was independently associated with non-utilisation of PNC services.

Reasons for Attending and not Attending PNC Clinic

It was pleasant to note that eagerness to be commenced on family planning was among the reasons for attending PNC review clinic. This indicates that a good number of women in the study area are aware of the need to prevent unwanted pregnancy, and this goes a long way to reduce the suffering from unwanted pregnancies. It is estimated that between 40 and 60 million women seek termination of unwanted pregnancy worldwide every year.[15] It is also necessary to note that 14% of the controls feared they could be pregnant. Sexual intercourse is usually resumed by the majority of postnatal women before the six weeks visit; 1% resume regular intercourse by the first week, 43% by the fourth week and 60% by the sixth week.[16,17]

It is disheartening to note that some women who did not come for PNC check-up said they did not know that they needed to come back. This probably means that health workers do not educate all their clients on the need for PNC services. A study of women's perceptions determining the use of MCH services in Bangladesh identified similar reasons.[18]

Religion

The finding that respondents who belonged to the Apostolic religion were more likely not to utilise PNC services than the respondents who belonged to other religions is not surprising. Most people of the Apostolic religion do not attend clinics because of their religious beliefs. They depend more on prayer and faith healing than on modern medicine. However, because not all people who belonged to the Apostolic religion did not utilise PNC services, efforts should be concentrated on finding ways to convince those who do not utilise PNC services to do so. It is important to mention to them that attending the PNC review does not automatically imply that they will receive medication for their ailment, which contradicts their beliefs. Some of the benefits of attending PNC reviews include obtaining information on nutrition and how to monitor the child's or mother's health. These benefits have nothing to do with getting medication.

Birth Attendance

Mothers who had non-medical birth attendance were more likely not to utilise PNC services than those attended by the health personel were. There is a need, therefore, to develop a deliberate health education programme to target grandmothers and aunts who most likely are the birth attendants. The programme should emphasise the need for mothers to attend PNC review clinics, after explaining the objectives of PNC services. The programme could be run in conjunction with that of the traditional birth attendants (TBAs). One of the most important arguments in favour of greater collaboration between the TBA and the health services is that it is a way of bridging the gap between what are often two different cultures.[19]

Use of non-medical birth attendants and religious affiliation with the Apostolic church are likely to be correlated with the place of last delivery and antenatal care (ANC) attendance, which are both risk factors in the bivariate analyses. This points towards a "syndrome" of non-use of medical services, whether ANC, PNC or place of delivery, which is likely related to religious affiliation with churches that encourage prayer and faith as methods for treating disease and maintaining health.

Prevalence of Non-Utilisation of PNC Services

A prevalence rate of 10% non-utilisation of PNC services estimated in the current cross-sectional study does not compare with that of 44% estimated in 1994 in Mashonaland West Province of Zimbabwe.[10] The prevalence of non-utilisation of PNC services for the province was estimated using the T5 form. The current study was conducted in Mashonaland West Province but the estimate varies from that of the provincial level. This difference could partly be explained by differences in sampling methods used, or partly by the different time periods the studies were conducted, or partly because of the non-representative nature of the current sample to the provincial sample.

However, caution should be taken when accepting the estimated prevalence rate of non-utilisation of 10%. It may be that mothers who did not use PNC services because of negligence may have falsely reported that they did attend PNC services. In contrast, women who did not attend PNC services because of religious conviction may be less likely to falsely report that they did attend PNC services. This could create a bias that would inflate the contribution of religious reasons for not using PNC services and underestimate the contribution of negligence to lack of PNC service use.

Conclusions

To reduce the level of non-utilisation of PNC services in the current community, the following are recommended:

1. Educate persons belonging to churches that encourage prayer and faith as methods for treating diseases and maintaining health on PNC services, which does not contradict their religious beliefs.
2. Encourage more training of the traditional birth attendants on the need for their clients to attend PNC clinics.

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