RESEARCH ARTICLES

Level of knowledge on postnatal care and its associated factors in Ndola, Zambia

BC Chembe[1], S Siziya[1]

1.Michael Chilufya Sata School of Medicine, Copperbelt University, Ndola, Zambia

Correspondence: Chembe Banda Chikoka-Onse (chikokaonse_banda@yahoo.com**)**

Citation style for this article:
Chembe BC, Siziya S. Level of knowledge on postnatal care and its associated factors in Ndola, Zambia. Health Press Zambia Bull. 2017;1(4), [Inclusive page numbers]

Postnatal care (PNC) is considered as the most important maternal and child health service offered for a period of six weeks from the time of delivery. Inability to promote health behaviours affecting mothers and newborn children, illnesses, disabilities and death occur due to lack of PNC. Hence, the study was conducted to determine the level of knowledge on PNC and its associated factors. In early 2015, a cross sectional study was conducted at an urban health facility run by the district health office providing mother and child health care services in Ndola, Copperbelt province, Zambia. A total of 268 women attend postnatal care clinic were interviewed using a structured questionnaire. The chi-square test and fisher's test were used to determine association and multivariate logistic regression was used to determine independent factors for knowledge on PNC. Among the respondents, 18.7% had knowledge on postnatal care. Respondents who had attained up to primary level of education 87% (OR=0.13; 95% [0.02- 0.97]) were less likely to have knowledge on postnatal care. Level of knowledge on postnatal care was low among the respondents. Change towards Information, Education and Communication (IEC) materials such as pictorial presentations should be used, while conducting postnatal clinics in order to improve women's level of knowledge.

Introduction

Postnatal care is the care given to the mother and the infant from delivery up to six weeks. The principal objectives of postnatal care services are to evaluate, maintain and promote the health of the birthing woman and the new born and to foster an environment that offers help and support for diverse health and social needs. Postnatal care is one of the important maternal health care services for only prevention of complications of impairment and disability but also reduction of maternal mortality. Postnatal care services enable health professionals to identify post-delivery problems, individual potential complications and prompt treatments as well as promoting health of the mother and baby [1]. Multiple factors have been identified worldwide to affect utilization of postnatal care services such as socio-demographic, economic and cultural factors as well as knowledge of women on postnatal care [2-4]. Lack of knowledge is a significant predictor

of utilization of most health services. Procedures require women's knowledge and that of health care providers. So, health care providers should disseminate appropriate information in an appropriate way in order for women to understand the information on why they need to utilise the services.

This indicates that in order for women to utilise the service the need to have the right information and knowledge for them to utilize service such as postnatal care [5]. Most studies reveal that level of knowledge on postnatal care is associated with the following factors; maternal age, parity, marital status, occupation, education level of both mother and spouse, religion, number of household occupants, place of delivery, residence, source of information and antenatal visit. A few studies also include mode of delivery, chronic diseases (such as HIV, hypertension, diabetes mellitus etc.), birth attendant, complications associated with previous pregnancies, general condition of mother and baby after delivery, care providers attitude and mother's attitude [6-8]. A number of studies have been done on utilization of postnatal care services, factors associated with utilization of postnatal care services and a few on knowledge, attitude and practice towards utilization of postnatal care in Zambia as well as other counties. No study on knowledge on postnatal care and its associated factors has been done in Ndola, Zambia. Hence the objective was to determine the knowledge level and its associated factors on postnatal care in this part of the country.

Table 1: Description of socio-demographic characteristics of the respondents by age

		Age (years)		
Factor	**Total n (%)**	**<30 n (%)**	**30+ n (%)**	**p value**
Parity				
Primiparous	112 (41.9)	83 (64.3)	29 (21.0)	<0.001
Multiparous	155 (58.1)	46 (35.7)	109 (79.0)	
Marital status				
Married	217 (81.3)	89 (69.0)	128 (92.8)	<0.001
Single	50 (18.7)	40 (31.0)	10 (7.2)	
Number of occupants				
<4	66 (24.8)	37 (28.9)	29 (21.0)	0.005
4	61 (22.9)	37 (28.9)	24 (17.4)	
5	48 (18.0)	23 (18.0)	25 (18.1)	
6-13	91 (34.2)	31 (24.2)	60 (43.5)	
Respondent's occupation				
Working	139 (52.1)	45 (34.9)	94 (68.1)	<0.001
House wife	47 (17.6)	21 (16.3)	26 (18.8)	
Student	36 (13.5)	27 (20.9)	9 (6.5)	
Unemployed	45 (16.9)	36 (27.9)	9 (6.5)	
Respondent's education level				
Up to primary	33 (12.4)	11 (8.5)	22 (15.9)	0.014
Secondary	98 (36.7)	58 (45.0)	40 (29.0)	
Tertiary	136 (50.9)	60 (46.5)	76 (55.1)	
Husband's education level				
Up to secondary	65 (29.1)	24 (25.5)	41 (31.8)	0.310
Tertiary	158 (20.9)	70 (74.5)	88 (68.2)	
Respondent's religion				
Catholic	77 (28.8)	39 (30.2)	38 (27.5)	0.627
Non-catholic	190 (71.2)	90 (69.8)	100 (72.5)	
Mode of transport				
Car	191 (71.5)	90 (69.8)	101 (73.2)	0.536
Foot	76 (28.5)	39 (30.2)	37 (26.2)	
Time taken to access postnatal care (minutes)				
<10	56 (21.2)	23 (18.0)	33 (24.3)	0.426
10- 14	66 (25.0)	32 (25.0)	34 (25.0)	
15- 24	76 (28.8)	36 (28.1)	40 (29.4)	
25+	66 (25.0)	37 (28.9)	29 (21.0)	

Methods

A cross sectional study was conducted from February, 2015 to May, 2015 at an urban health facility in Ndola, Copperbelt province, Zambia.

Women attending postnatal clinic and under five clinics were requested to take part in the study. Out of a population of 891 women attending postnatal clinic during the period of four months, 268 mothers participated in the study. Using a Statcalc programme in Epi Info version 7 with the population size assuming expected frequency of 50% ± 5% and 95% confidence level the required minimum sample size was 268. Data was collected from all women who accepted to participate in the study.

A structured questionnaire was used to interview women that contained both closed and open ended questions. The questionnaire included information on socio-demographic characteristics, history of previous and current pregnancy, knowledge on PNC and attitude towards utilization of PNC. Knowledge questions included items on postnatal care timing, activities conducted in postnatal clinic and the benefits of utilizing postnatal care services.

Filled in questionnaires were checked for completeness and consistency of responses. Open ended questions were coded and entered on questionnaire. Data entry was done using Epi data version 3.1 and exported to SPSS version 16.0 for analysis. Editing was done after running the frequencies and checking for out of range responses. Responses to questions on attitudes were pre-coded as strongly agree, agree, strongly disagree or disagree. During the analysis, these were post-coded to either positive attitude or negative attitude. The Chi-squared test was used to determine associations between predictor variables and the outcome; and in cases were the Chi-squared test was not valid the Fisher's exact test was used. Meanwhile, the Backward logistic regression analysis was used to determine independent predictors for knowledge on PNC. The Odds ratio (OR) was reported together with its 95% confidence interval (CI).

The proposal was reviewed and approved by the Public Health Unit of the School of Medicine, Copperbelt University. Permission to conduct the study was sought from the District Health Office (DHO), Copperbelt University- School of medicine, the facility were the study was conducted and all respondents before participating in the study.

Results

Two hundred and sixty eight women were interviewed in the study with a response rate of 100%. Table 1 shows that all factors except respondent husband education level, respondent's religion, and mode of transport and time take to get to the facility were significantly associated with age. Primiparous women were more likely to be aged less than 30 years and those who were married were less likely to be aged less than 30 years old. Respondents with less than 5 occupants in their home were more likely to be less than 30 years of age. Women who attained up to primary education level were less likely to be less than 30 years of age. Overall 29.1% of the participants had husbands who had attained up to secondary level of education, 28.8% were catholic, 71.5% used a car to get to the facility and 21.2% took less than 10 minutes to get to the facility. Altogether, 18.7% of the respondents had knowledge on postnatal care. Tables 2 to 4 show factors associated with knowledge on postnatal care. None of the factors except respondent's education level were associated with knowledge. Respondents who had attained up to primary level of education were 87% (OR= 0.13; CI 95% [0.02- 0.97]) less likely to have knowledge compared to respondents who had attained higher level of education.

Table 2: Socio-demographic characteristics factors associated with knowledge on postnatal care

		Knowledge		
	Total	Yes	No	
Factor	n (%)	n (%)	n (%)	p value
Parity				
Primiparous	112 (41.8)	22 (44.0)	90 (41.3)	0.725
Multiparous	156 (58.2)	28 (56.0)	128 (58.7)	
Age (years)				
<30	129 (48.3)	25 (50.0)	104 (47.9)	0.791
30 and above	138 (51.7)	25 (50.0)	113 (52.1)	
Marital status				
Married	218 (81.3)	44 (86.0)	175 (80.3)	0.349
Single	50 (18.7)	7 (14.0)	43 (19.7)	
Number of occupants				
<4	67 (25.1)	11 (22.0)	56 (25.8)	0.573
4	61 (22.8)	9 (18.0)	52 (24.0)	
5	48 (18.0)	9 (18.0)	39 (18.0)	
6-13	91 (34.1)	21 (42.0)	70 (32.3)	
Respondent's occupation				
Working	140 (52.2)	25 (50.0)	115 (52.8)	0.958
House wife	47 (17.5)	10 (20.0)	37 (17.0)	
Student	36 (13.4)	7 (14.0)	29 (13.3)	
Unemployed	45 (16.8)	8 (16.0)	37 (17.0)	
Respondent's education level				
Up to primary	33 (12.3)	1 (2.0)	32 (14.7)	0.042
Secondary	98 (36.6)	22 (44.0)	76 (34.9)	
Tertiary	137 (51.1)	27 (54.0)	110 (50.5)	
Husband's education level				
Up to secondary	65 (29.0)	12 (34.0)	53 (29.6)	0.697
Tertiary	159 (71.0)	33 (73.3)	126 (70.4)	
Respondent's religion				
Catholic	77 (28.7)	17 (34.0)	60 (27.5)	0.361
Non- catholic	191(71.3)	33(66.0)	158 (72.5)	
Mode of transport				
Car	192 (71.6)	40 (80.0)	152 (69.7)	0.146
Foot	76 (28.4)	10 (20.0)	66 (30.3)	
Time taken to access postnatal care (minutes)				
<10	57 (21.5)	11 (22.0)	46 (21.4)	0.610
10-14	66 (24.9)	13 (26.0)	53 (24.7)	
15- 24	76 (28.7)	17 (34.0)	59 (27.4)	
25 and above	66 (24.9)	9 (18.0)	57 (26.5)	

Discussion

Most of the respondents (81.3%) did not have knowledge on postnatal care. The results also show that the majority of women did not know what postnatal care is with regard to, postnatal care timing, activities conducted in postnatal clinic and the benefits of utilizing postnatal care services. Knowledge on postnatal care was only significantly associated with respondent's education level.

Although Information, Education and Communication (IEC) are given by health personnel every time before the postnatal clinic is conducted, women with primary

Table 3 Associations of history of previous and current pregnancy with knowledge on postnatal care

		Knowledge		
	Total	**Yes**	**No**	
Factor	**n (%)**	**n (%)**	**n (%)**	**p value**
Antenatal attendance				
Yes	267 (99.6)	50 (100)	90 (41.3)	1.000
No	1 (0.4)	0 (0.0)	128 (58.7)	
Number of antenatal visits				
1	4 (1.7)	1 (2.1)	3 (1.6)	0.086
2	25 (10.8)	3 (6.4)	22 (12.0)	
3	52 (22.5)	5 (10.6)	47 (25.5)	
4	81 (35.1)	23 (48.9)	58 (31.5)	
5 and above	69 (29.9)	15 (31.9)	54 (29.3)	
Place of delivery				
Home	7(2.6)	1 (2.0)	6 (2.8)	0.944
Hospital	211 (78.7)	40 (80.0)	171 (78.4)	
Clinic	50 (18.7)	9 (18.0)	41 (18.8)	
Mode of delivery				
Spontaneous virginal delivery	221 (82.5)	40 (80.0)	181 (83.0)	0.612
Caesarean section	47(17.5)	10 (20.0)	37 (17.0)	
Birth attendant				
Nurse	83 (32.2)	13 (27.1)	70 (33.3)	0.703
Midwife	116 (45.0)	23 (47.9)	93 (44.3)	
Doctor	59 (22.9)	12 (25.0)	47 (22.4)	
Complications in previous pregnancies				
Yes	41 (15.3)	8 (16.0)	33 (15.1)	0.557
No	125 (46.6)	20 (40.0)	105 (48.2)	
Not applicable	102 (38.1)	22 (44.0)	80 (36.7)	
Chronic diseases				
Yes	77 (28.7)	9 (18.0)	68 (31.2)	0.063
No	191 (71.3)	41 (82.0)	150 (68.8)	
General condition of mother				
Weak	42 (15.7)	7 (14.0)	35 (16.1)	0.270
Ill	53 (19.8)	14 (28.0)	39 (17.9)	
Well	173 (64.6)	29 (58.0)	144 (66.1)	
General condition of baby				
Well	251 (93.7)	48 (96.0)	203 (93.1)	0.747
Unwell	17 (6.3)	2 (4.0)	15 (6.9)	
Postnatal attendance				
Yes	152 (93.7)	29 (100)	123 (96.1)	0.585
No	5 (3.2)	0 (0.0)	5 (3.9)	
Source of information				
Clinic	204 (77.9)	38 (76.0)	166 (78.3)	0.531
Media	22 (8.4)	3 (6.0)	19 (9.0)	
Others	36 (13.7)	9 (18.0)	27 (12.7)	

level of education are less knowledgeable than women with tertiary education attending

the same postnatal care clinic. This could be because of women with low education level find it difficulty or do not grasp the information given compared to women with higher education level. The other reasons could be because of high level of ignorance associated with low education level women, cultural beliefs shared among women from their respective areas of residence and socio-economic factors. For instance, women attending postnatal clinic late may miss the IEC because they go to the facility on foot and takes them more time than those who own cars or those who can afford to pay taxis fare. Similar results were obtained in a study done in Kasama which state that educated women were more likely to understand health education messages better than their illiterate counter parts [6]. Poor maternal knowledge, attitude and practice on cord care were associated with young, poor mothers of low education who had acquired knowledge from the health workers [9]. It was stated in another study that poor knowledge, attitude and practices were associated with young postnatal mothers, low education and who had acquired knowledge from other health workers [10]. However, two studies were conducted in Mazabuka, Zambia among male and female residents which reflect different results about level of knowledge. A study done among female residents reveal that the majority of the women had low knowledge, 50% of those mothers could not define postnatal care, 18% gave correct but not complete definitions and only 23% gave correct definitions. These results indicated that although some mothers had knowledge about postnatal care, they did not have total knowledge on postnatal [11]. A study among male residents indicated that most men were knowledgeable [12]. From these results, it was established that education level is an important factor associated with knowledge on postnatal care. Improving knowledge on postnatal care services will ultimately improve utilization of postnatal care services. In the current study, few women had knowledge on postnatal care and education was associated with PNC. There were no considerable limitations in this study. There is need to change the Information, Education

Table 4: Associations of attitudes with knowledge on postnatal care

		Knowledge		
	Total	Yes	No	
Factor	n (%)	n (%)	n (%)	p value
It is important to receive postnatal care				
Positive	264 (99.2)	50 (100)	214 (99.1)	1.000
Negative	2 (0.82)	0 (0.0)	2 (0.9)	
All women who deliver should receive postnatal care				
Positive	262 (98.5)	50 (100)	212 (98.1)	1.000
Negative	4 (1.5)	0 (0.0)	4 (1.9)	
Receiving postnatal care can reduce post-delivery disabilities				
Positive	256 (96.2)	49 (98.0)	207 (95.8)	0.693
Negative	10 (3.8)	1 (2.0)	9 (4.2)	
Poor attendance of postnatal clinics is the cause of most maternal disabilities				
Positive	238 (89.1)	48 (96.0)	190 (87.6)	0.084
Negative	29 (10.9)	2 (4.0)	27 (12.4)	
Going for postnatal care may prevent complications				
Positive	260 (97.4)	49 (98.0)	211 (97.2)	1.000
Negative	7 (2.6)	1 (2.0)	6 (2.8)	
Women should attend postnatal clinic				
Positive	260 (97.4)	49 (98.0)	211 (97.2)	1.000
Negative	7 (2.6)	1 (2.0)	6 (2.8)	

and Communication (IEC) materials to carter for the less educated such as pictorial presentations during postnatal care clinics.

Acknowledgements

We wish to thank all those who assisted us in our research work. Special thanks go to the District Health Office and members of staff at the health facility for allowing us to conduct the study at their facility and all the women who were ready and willing to participate in this study.

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