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Postnatal care knowledge, attitudes and practices: Evidence from mothers

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Abstract

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Introduction: According to the literature that has been examined thus far, the majority of factors that lead to new-born and maternal death can be reduced by providing postnatal care. Critical interventions that can put an end to avoidable maternal and new-born fatalities can be given during the first few days after delivery. Postnatal care is essential for the health and survival of both mother and child because this is still the most vulnerable time for both. We therefore set out to investigate the levels of postnatal care knowledge, attitudes and practices among primiparous mothers at Women and New-born hospitals, at University Teaching Hospitals.

Materials and Methods: a quantitative cross sectional study approach was used at a national 3rd level hospital. Quantitative data from primiparous postnatal mothers still hospitalized and from outpatient reviews within 6 days of birth were collected using a convenience sampling method; non-probability sampling. A total of 150 primiparous mothers meeting the inclusion criteria were included based on the hospital statistics for primigravida deliveries.

Results: under two-thirds (62.7%) of participants had poor knowledge on postnatal care compared to fewer who had adequate knowledge (37.3%). Majority who demonstrated poor knowledge were likely 19 years and below (82.05%) compared to those 20 years and above (55.86%). On attitudes, participants recognized that postnatal care was both important (n = 138, 92.0%) and necessary (n = 137, 91.3%). About practices majority of the study participants did not receive postnatal care from a professional (n = 107; 72.3%) nor did they practice traditional teachings on postnatal care (n = 100, 84.75%). When compared to those who had inadequate awareness of postnatal care, the number of antenatal care visits was higher for those with appropriate knowledge (Mean difference = -1.44; 95% CI: -2.30 to -0.58.

Conclusion: Understanding postnatal care is crucial for maternal and new-born outcomes, especially for the younger and more vulnerable mothers. Creating of postnatal care awareness is likely to increase knowledge in this sensitive group with high likelihood of enhancing positive attitudes and practices of the same.

Key words: *Postnatal care, Primiparous, Postnatal period, Neonatal period.*

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INTRODUCTION

Around 2.4 million babies worldwide have been lost in the first four weeks of life [1]. Despite the more than a third decrease in maternal mortality worldwide between 2000 and 2017, there still was a tragic estimated 810 women that had been dying each day from lack of antenatal and postnatal care [2]. The majority of neonatal deaths were in low- and middle-income nations, and about half of them happened at home. South Asia and Sub-Saharan Africa (SSA) had the highest newborn mortality rates [3, 4]. Until date, literature has constantly reviewed that most of the factors contributing to neonatal and maternal deaths could be averted through provision of postnatal care [5,6,7,2]. During the immediate postpartum period, critical interventions to end preventable maternal and newborn deaths needed to be delivered [8].

In this study, the postnatal period was defined as the first six weeks after birth while postnatal care (PNC) as care given to the mother and her newborn baby immediately after the birth of the placenta and for the first 42 days of life [9]. Postnatal care is essential for the health and survival of a mother and her newborn because the postpartum period has historically been the most susceptible for both (mother and newborn), [10]. Therefore, postnatal care was considered one of the most crucial maternity and child health care services offered at the time, as its absence would lead to death or impairment as well as missed opportunities to encourage healthy behaviors impacting women, new mothers, and children.

Despite being the best time to carry out interventions to improve the health of both the mother and the infant, the postnatal period was sadly the most neglected component of maternal care internationally. [11]. Additionally, numerous studies conducted locally revealed that the majority of women had little awareness about postnatal care, which is a crucial factor determining the use of postnatal care [12]. Various global and continental studies/reviews documented that adolescence and primiparous motherhood was associated with poor maternal and neonatal outcomes that were related to diverse factors among them poor utilization of postnatal care based on their limited knowledge on the same [13, 14, 15,16].

The most notable source of concern regarding maternal and neonatal wellbeing was centered on primiparous mothers [15]. More over 65% of all maternal deaths worldwide occurred in the first 42 days after delivery, and the same percentage of neonatal deaths occurred in the first seven days of life. [17]. Furthermore; about 16 million girls between the ages of 15 and 19 give birth each year, the majority of them primiparous, according to the World Health Organization (WHO), and one in five adolescent girls worldwide give birth by the age of 18 [18]. In spite of the fact that SSA had the highest prevalence of adolescent pregnancies in the world [19], most of these pregnancies were unplanned [20], which further limited understanding of PNC and, ultimately, its application. The increase in the proportion of girls in the poorest regions, such as SSA and South East Asia, to up to one in three was concerning [18], which made PNC knowledge even more necessary.

The bulk of maternal and newborn mortality occur during labor and the postpartum period, and the majority of these deaths occur in SSA, as is well documented [21, 22, 23]. Alarming was the fact that regardless of the state of affairs, PNC which is a critical component to change the picture [8] remained poorly utilized [24, 25, 26]. Worldwide and specifically in Zambia, a number of variables, including sociodemographic, economic, and cultural ones, as well as the women's understanding of postpartum care, were discovered to have an effect on how PNC services were used. [27, 28, 12]. Given that lack of awareness has been a powerful indicator of underutilization for the majority of medical services, women needed proper information and knowledge in order to use the PNC [29].

The United Nations (UN) 2015 highlighted its ideal benchmarks regarding SDG 3 targets on maternal and child health by 2030 i.e., “reduce the global maternal mortality ratio to less than 70 per 100,000 live births and reducing neonatal mortality to at least 12 per 1,000 live births” [30]. The recent past statistics scored some successes but not as desirable judging by the UN set ideal. In SSA, the maternal mortality rate (MMR) was 533 per 100,000 live births, or 200,000 maternal deaths annually [31] and neonatal mortality rates at 27 per 1,000 live births and 252 per 100,000 live births, respectively, in Zambia [32]. These statistics showed that the country was far from the envisaged ideal by UN. The Ministry of Health Zambia however made efforts in fostering PNC services by implementing the WHO guidelines and enhancing human resource support staff through the Safe Motherhood Action Groups (SMAG’s).

Regardless of the efforts by the ministry

of health Zambia, the utilization of PNC still remains low and factors attributable to this were cited as mostly lack of knowledge among others [33,35, 25]. Although a lot of studies around this topic (PNC) had already been done in Zambia and at University Teaching Hospitals- Women and Newborn Hospital (UTH's-WNH), there was still a dearth of information and or literature on PNC knowledge and its associated factors on primiparous mothers. Until now, no study has been done regarding PNC knowledge on primiparous mothers in Lusaka district. WNH being a national referral hospital with 90 underage deliveries from 454 prime gravidas delivered in the 3rd quarter of 2021; and with maternal and neonatal mortality rates as high as 141 and 1,206 respectively in 2020 [35]; there was a need to investigate PNC knowledge, attitudes and practices on primiparous mothers which had never been done before.

We set out to investigate the levels of postnatal care knowledge, attitudes and practices among primiparous mothers at Women and Newborn hospitals, UTH.

MATERIALS AND METHODS

Design

This was a quantitative cross-sectional study conducted at University Teaching Hospitals-Women and Newborn Hospitals (UTH-WNH) in Lusaka District Zambia. The researcher collected quantitative data from the primiparous postnatal mothers that were still admitted in postnatal wards B13, B11, B01 and B11 and also from those that sought reviews as outpatient in B02 within their first 6 days post-delivery at WNH-UTH.

Study site

The study was conducted in a WNH-UTH, s (3rd level specialist referral hospital) as it was based on both the women that were still being managed in the postnatal wards and those that were still being followed up in the outpatient obstetric clinic for their first postnatal reviews. A quantitative cross-sectional study at this facility helped to highlight the magnitude of the perceived problem in a quicker way for enhanced follow-up investigations/studies while implementing some available solutions with capacity to trickle down to other levels of care any positive implementations timely and successfully.

In this study, 150 first time postnatal mothers delivered at UTH-WNH from 6 hours post-delivery up to six days of delivery formed the study population. This size of study population emanated from the hospital statistical background of about 151 prime gravida deliveries on quarterly average [35].

All four study locations within the hospital used the same inclusion and exclusion criteria for study participants. Primiparous postnatal moms who delivered at WNH between six hours and six days after giving birth who had the physical, mental, and cognitive capacity to consent to participate in the study were eligible participants (study sample). Potential participants were selected through analysis of hospital records/client files to objectively ascertain their eligibility for the study. All postpartum women who gave birth at UTH-WNH and did not match the stated inclusion criteria were included in the exclusion criteria.

Data analysis

Given the quantitative nature of this study, all the data was entered into a computer and examined using Stata version 14.0 to produce descriptive and inferential statistics that assisted in addressing the questions, objective, or problem under investigation. A t test was also used to compare the knowledge, attitudes, and behaviors of primiparous mothers in various age groups, with a p-value of 0.05 being considered significant.

RESULTS

Participant's demographic characteristics

One hundred and fifty participants took part in this study. The results revealed that over 7 in 10 of the participants were 20 years and above (74%), majority were single (40.67%), most had gone as far secondary level of education (40%), over 60% were employed (62%) and most of the participants lived in medium density areas (50.67%) (Table 1).

Table 1: Participants' demographic characteristics

Variable	Category	Frequency (n = 150)	Percentage
Age	19 years and below	39.00	26.00
	20 years and above	111.00	74.00
Marital Status	Single	61.00	40.67
	Married	37.00	24.67
	Divorced/Separated	51.00	34.00
	Widowed	1.00	0.67
Education Level	None	3.00	2.00
	Primary	32.00	21.33
	Secondary	60.00	40.00
	Tertiary	55.00	36.67
Employment	Formal	32.00	21.33
	Informal	25.00	16.67
	Employed	93.00	62.00
Residence	High density	28.00	18.67
	Medium density	76.00	50.67
	Low density	33.00	22.00
	Rural	13.00	8.67

Knowledge on Postnatal Care Among Primiparous Mothers

This study also sought to establish level of knowledge on postnatal care among primiparous mothers. Knowledge was assessed using 7-items which were combined to come with up with overall score on knowledge. The results revealed that, only 37.3% of the study participants had adequate knowledge about postnatal care compared to under two-thirds who did not (62.7%). The study further revealed that majority of those who demonstrated poor knowledge were more likely to be 19 years and below (82.05%) compared to those 20 years and above (55.86%). This observation was significant as demonstrated in Figure 1 further helps see the increase in good knowledge on postnatal care from those aged 19 years and below compared to those 20 years and above

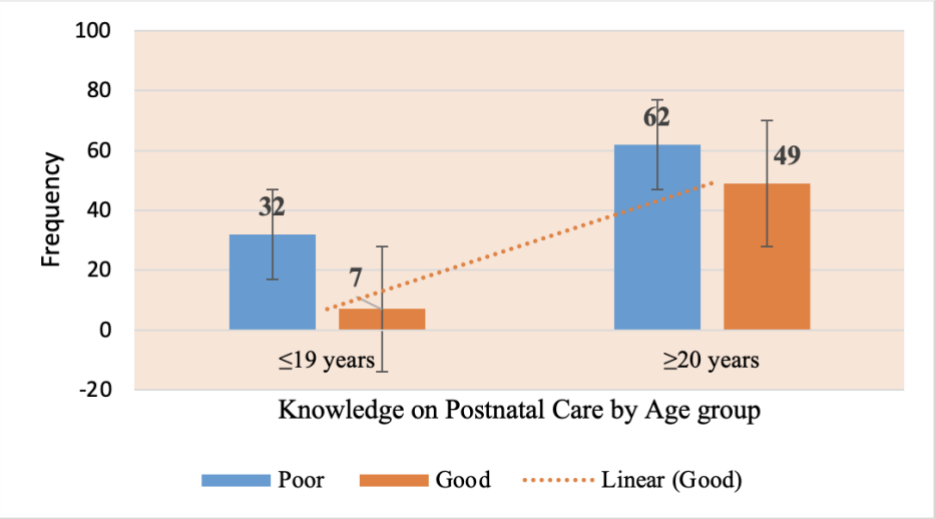

Figure 1 Knowledge on Postnatal Care among Primiparous Mothers by Age group

Attitudes Associated with Knowledge on Postnatal Care Among Primiparous Mothers

Attitudes focused on the perception that primiparous mothers had towards postnatal care. The results revealed that majority of the participants recognized that postnatal care was both important (n = 138, 92.0%) and necessary (n = 137, 91.3%). The results further revealed that negative attitudes towards importance of postnatal care were more common among mothers with poor knowledge (83.33%) compared to mothers who had good knowledge (16.67%). Similar observations were made on the attitudes towards necessity of postnatal care, were mothers with no knowledge (92.31%) were more likely to consider PNC as unimportant compared to those that had adequate knowledge (7.69%). The results of the necessity of postnatal care were statistically significant after we performed a Fisher's exact test (test no shown). Figure 2 depicts this trend in increasing positive attitudes with increased knowledge of postnatal care.

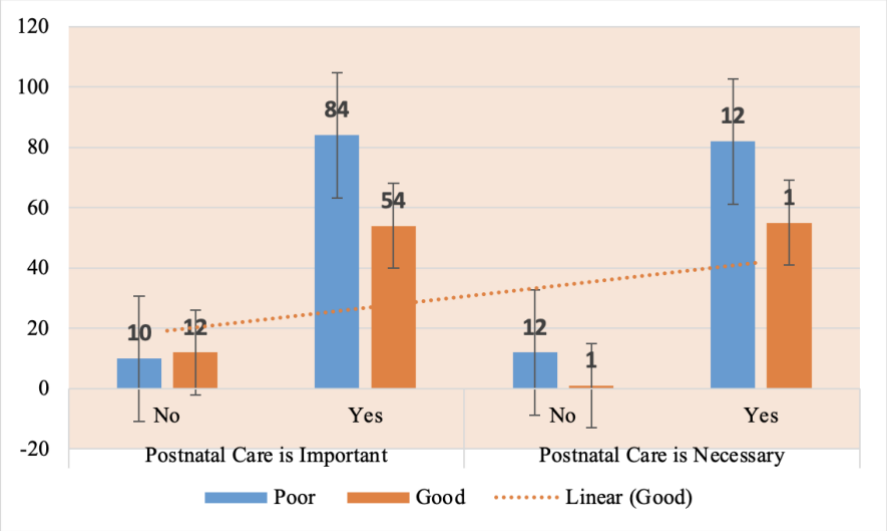

Figure 2 Association between Attitudes and Knowledge on Postnatal Care among Primiparous Mothers

Practices of primiparous mothers on postnatal care

Practices on postnatal care were assessed from a professional and traditional perspective. The findings demonstrated that the vast majority of the research participants did not receive postnatal care from a professional (n = 107; 72.3%) nor did they practice traditional teachings on postnatal care (n = 100, 84.75%). Women compared by age group these results were not statistically significant (results not shown). The results are further displayed using a clustered bar chart which does not show any possible association between age and each practice on postnatal care (Figure 3).

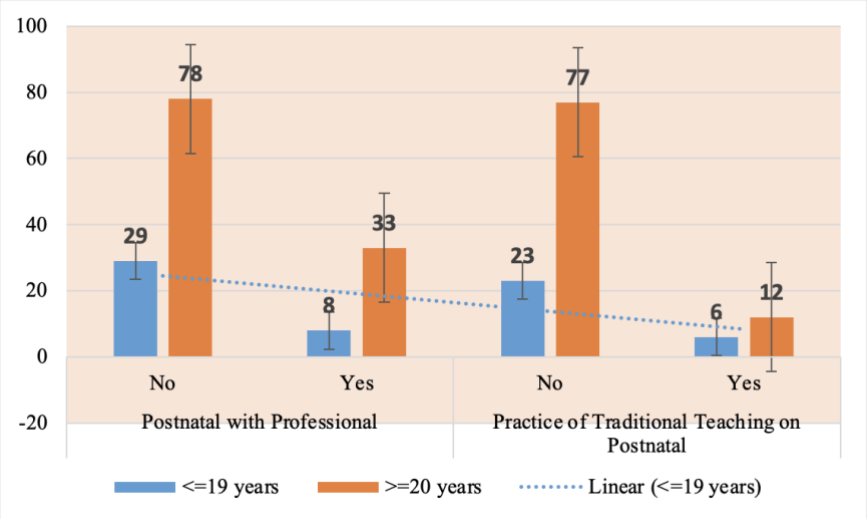

Figure 3 Practice of postnatal Care with professionals and after traditional teaching by Age group among primiparous mothers

The average number of antenatal care visits between mothers who used postnatal services and those who did not, as well as between mothers with good knowledge of postnatal care and those with poor knowledge, was compared using an independent sample t test. The results showed that on average difference was between mothers who had used postnatal compared to those that did not was -1.03 and was reported to be a significant result (Mean difference = -1.03; 95% CI: -1.97 to -0.10). Those with good awareness of postnatal care made an average of more antenatal visits than those with inadequate knowledge, which was also a statistically significant difference (Mean difference = -1.44; 95% CI: -2.30 to -0.58) (results not shown).

Table 5 Comparing Average Antenatal Care Visits by Postnatal Care Attendance with Professional

Variable	Categories	ANC Visits
Postnatal Care Attendance	Yes	6.27
	No	5.23
	Mean Difference (95% CI)	-1.03 (-1.97 to -0.10) *
Postnatal Care Knowledge	Poor	4.91
	Good	6.36
	Mean Difference (95% CI)	-1.44 (-2.30 to -0.58) *

*$p < 0.05$

DISCUSSION

In an attempt to determine postnatal care knowledge levels among primiparous mothers, the study revealed that, close to 37.3% of the study participants had adequate knowledge about postnatal care compared to the under two-thirds who did not (62.7%). This is in correlation with a study done in the copper belt which revealed that most women had low levels of knowledge on postnatal care, a factor that is critical in influencing utilization of postnatal care [12]. Similar to this Zambian study, an Indian tertiary hospital study on PNC knowledge among primiparous mothers reechoed low knowledge levels on postnatal care and recommended that it is imperative to increase public understanding and awareness of the importance of community-based newborn care in order to dispel common misconceptions

and harmful customs in Indian communities [36]. This study further revealed that majority of those who demonstrated poor knowledge were more likely to be 19 years and below (82.05%) compared to those 20 years and above (55.86%) and the observation was significant at P value 0.004. Such a finding is consistent with some continental and international studies/reviews, which found that primiparous motherhood and adolescence are linked to poor maternal and neonatal outcomes for a variety of reasons, including inadequate postnatal care utilization based on their limited understanding of the topic. [13, 14, 15]. Furthermore, a study in China revealed that lack of knowledge and experience for young primiparous mothers contributed to poor outcomes and disabilities such as postnatal depression which is a major global public health challenge [16]. Another study yet again in Egypt that aimed at eliciting the influence of general features of young women on their awareness of and adherence to healthy practices during the postpartum period [37] found that 99.28% of the women in the study were not even following the recommended health practices for postpartum care, and 89.86% had inaccurate total knowledge scores concerning postpartum care.
Attitudes focused on the perception that primiparous mothers had towards postnatal care and the results revealed that majority of the participants recognized that postnatal care was both important (n = 138, 92.0%) and necessary (n = 137, 91.3%). This was an important and vital finding in relation to a global study which stated that making sure mothers' needs for emotional support are satisfied is a component of providing for maternal health during the postnatal period for improved maternal and neonatal outcomes [38].
Similar observations were made on the attitudes towards necessity of PNC, were mothers with no knowledge (92.31%) were more probable to consider postnatal care as unimportant compared to those that had adequate knowledge (7.69%). These findings on the necessity of postnatal care were statistically significant after a Fisher's exact test with a P value of 0.032, indicating a trend of increasing positive attitudes with increased knowledge of postnatal care. This relates to a UK based study on a sample of primiparous mothers which revealed that they had a variety of unmet information demands, such as not understanding how frequently to change their baby's diaper, how frequently to pick up their crying infant, or how regularly to breastfeed [13], a factor that has potential to enhance PNC negative attitudes.
All these findings continue to echo the strong association that knowledge has on attitude i.e., increased PNC knowledge with increased PNC positive attitude. Perception drives attitude and postnatal care attributable factors found to be associated with primiparous mother's perception of postnatal care knowledge depended on the type of communication and care provided [39]. This is similar to findings of primary health centres in five Gaza governorates where primiparous postnatal knowledge was dependent on information given and maternal age [40].
Practices on postnatal care were also assessed from a professional and traditional perspective. The study results revealed that majority of the study participants did not receive PNC from a professional (n = 107; 72.3%) nor did they practice traditional teachings on postnatal care (n = 100, 84.75%). This finding grossly relates to some global findings; "the postnatal period is the most neglected aspect of maternal care globally, notwithstanding it being the ideal time to perform interventions to improve the health of both the mother and baby" [11]. Regardless, there is still a need; "most postpartum new mothers express their eager demands for professional guidance and support with their baby care and own care" [41].
These results point to a hole that the Ministry of Health of Zambia attempted to fill by strengthening the safe motherhood recommendations, which suggested that women receive at least four postnatal checkups: the first within six hours of delivery, the second on the second day after delivery, the third on the sixth day after delivery, and the last within six weeks after delivery. (MoH, 2011). However, studies conducted between 2014 and 2017 revealed that postnatal care services in Zambia were underutilized [33, 34, 25].
Postpartum professional support study for primiparous mothers in China revealed that this period is critical due to the many new physiological and emotional changes that apparently overwhelm these mothers [16]. To fill this evident gap in professional and or community based postnatal care services, primiparous mothers require a lot of support for them to practice this critical aspect of childbirth. An Indian study therefore recommended improvement in knowledge and awareness in

the society regarding community-based newborn care to help remove myths and wrong practices which are rampant in Indian communities [36].

When women were compared by age group, the results were not statistically significant suggesting that there is no possible association between age and primiparous mothers practice on postnatal care. This finding, however, contradicts a study conducted in Egypt, which found that 99.28% of young women were not compliant with postpartum care health practices [37]. The study finding is further not in agreement with various local studies which highlighted age, parity and knowledge to be factors in the practice/utilization of postnatal care [43, 44, 45]. An empirical generalization with these findings cannot be made in this study because the young primiparous mothers in this sample were fewer compared to the 20years and above that formed majority of the study sample.

The analysis of the results obtained also showed that there was a difference in the median antenatal care visits between women with a good score on knowledge compared to those who had a poor score. An independent sample t test was further carried out to determine the difference in the average of antenatal care visits between mothers who had used postnatal services and those that did not as well as mothers with good knowledge on postnatal care and those with poor. On average, the difference was between mothers who had used postnatal care compared to those that did not -1.03 and was reported to be a significant result (Mean difference = -1.03; 95% CI: -1.97 to -0.10) and the number of antenatal care visits for those who had adequate knowledge on postnatal care were likely more compared to those who had poor knowledge (Mean difference = -1.44; 95% CI: -2.30 to -0.58).

These findings are however in contrast with the analysis of the ZDHS 2018 which revealed that complete continuum of maternal was reducing from 64.1% during pregnancy to 57.3% at delivery and 38% during the postpartum period [46] similar to the Uganda demographic health survey analysis for 2016. This posed a serious threat to the health and wellbeing of pregnant women and newborns in Zambia and across Africa. However, the contrast observed with the established literature is likely attributable to social demographic confounders such as age (74% above 20 years) and education status (40% secondary level) which have capacity to influence knowledge for those that attended antenatal care more and consequently utilization.

CONCLUSION

Despite having poor consultation Understanding postnatal care is crucial for maternal and newborn outcomes, especially for younger, more vulnerable mothers. Raising awareness of postnatal care is likely to boost understanding among this delicate group and is highly likely to enhance good attitudes and practices about the topic.

DECLARATION

Competing interests There were no competing interests from all authors in this study.

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