



Practice of Postnatal Care Among Women at 6 Weeks in Selective Health Centers

Patrick Nemeiyimana^{1*}, Niyigena Alexia², Uwumuremyi Fabrice², Nyirabanza Josee³, Uwamaliya Esperance³, Nsengiyumva Richard³, Iraguha Alain³, Turatsinze Benon³, Karenzi Valens³, Shema Eliah³, Nshimiyimana Charles³, Ruhumuriza Anselme³ and Uwingabire Emmerance³

¹Medical Informatics Innovates Ltd, University of Rwanda-Center of Excellence in Biomedical Engineering, Kigali, Rwanda

²Legacy clinics, Rwanda

³University of Rwanda, Kigali, Rwanda

*Correspondence: Patrick Nemeiyimana, Medical Informatics Innovates Ltd, University of Rwanda-Center of Excellence in Biomedical Engineering, Kigali, Rwanda, E-mail: nemeypatrick2015@gmail.com; DOI: <https://doi.org/10.56147/jidpc.2.1.8>

Citation: Nemeiyimana P, Alexia N, Fabrice U, Josee N, Esperance U, et al. (2025) Practice of Postnatal Care Among Women at 6 Weeks in Selective Health Centers. *J Infect Dis & Pati Care* 2: 8.

Abstract

Post-natal care is critical period for women, neonatal and families, in which maternal and neonatal mortality and morbidity remains extremely high. Rwanda has little awareness in community PNC package. The main objective of study is to assess the practice of postnatal care according to WHO Guideline in selected health centers in Kigali. This study has a descriptive a cross-section design. Data will derive from the observation of a 100 women and babies who came for vaccination at 6 weeks at Bumbogo and Kacyiru health center. The sample technic was purposive sampling, we used designed checklist to collect data and to assess the package, level and quality of post-natal care delivered to the women and their babies. 100 women and babies, the package on PNC is done at 10% other 90% receive insufficiently, the level of PNC obtain by women is very low for 80% of them while other receive on low level of 20% of PNC and quality of PNC deliver to the women is low. For the babies, the package receive is almost 60% but 40% receive sufficient package of PNC. The level receive by babies is low at 65% and quality deliver is low on 65% while 35% receive high quality of PNC. The package, level and quality are low compared to WHO guideline. It would be recommendable that midwives are advised to follow the guidelines as they are the most productive in PNC. The Ministry of Health is requested to organize training for the staff of health center in order to improve the quality of PNC. Finally, we should consider that the package of PNC is large (many parents, short time and few nurses). Health centers need more staff.

Keywords: Package; Level; Quality; Postnatal care at 6 weeks; Women and her babies

Received date: January 11, 2025; Accepted date: January 15, 2025; Published date: February 10, 2025

Introduction

Postnatal Care (PNC) starts immediately after birth until 6 weeks, is critical periods for women, neonatal, caregivers and families, during, this period of time burden of maternal and neonatal mortality and morbidity remains insupportable highly. Postnatal care on extremely quality can reduce those complication and mortality [1].

Research shows that 6 weeks after birth is an opportunity to improve the maternal and newborn health through supporting and facilitating behaviors such as breast feeding, family planning methods and other behaviors related to PNC [2].

Postnatal care is about helping the women to be able to

take care of herself and her baby, supporting the physical and emotional wellbeing and establishing a relationship between the mom, baby and family. Discussion with healthcare providers will help the women to be aware of some myths and complication that occur in this period and how to prevent them [3].

The research showed that last visit of PNC completes all package of PNC and answering the relevant question. In fact, the number of visits provide PNC content is absolutely essential and help us to minimize and avoid death in post-natal [2].

Background

67% of women died during period of postnatal and 25%



of women reported a less discussion with health care providers about mental, emotional and physical support during this period. A full assessment of mother and newborns and health education, would provide opportunities to increase knowledge about the post-natal period and some complications that can occur. Lastly consultation provide joy, satisfaction and the missing points in previous consultation [4].

WHO recommends delivering high quality postnatal care including education and treatment to reduce those complications the best way to help the well-being mom, baby, family and society by providing new guideline on evidence-based policies and procedure [5]. The study done in Iran as a developing country had assessed the level of effective quality care delivered to postnatal women [1].

According to Subramanian et al. they found that the global health community has started to reduce the maternal infant mortality and morbidity in the postnatal period while 2.5 million neonates who died in the postnatal period were typically from Low/Middle Income Countries (LMIC) [6]. Therefore, postnatal care intervention increases the knowledge on assessment of mothers and newborns to higher quality which reduces about 56% of complications and death during the period of postnatal.

The study done in 66 LMIC showed that 15% of mothers and infants did not receive any postnatal care during COVID-19 which resulted in a poor quality of care [2].

Furthermore, postnatal mortalities and morbidities happen in all countries across the world, but high rates of it occur in sub-Saharan Africa, where the neonate mortality rate 53 deaths per 1000 live births and the maternal mortality rate is 547 deaths per 100000 births [7].

The study done in Tanzania promotes package and recommend 4 visits of PNC to the maternal and newborn after births, those checkups happen in different time after 48 hours, 2 days to 3 days, 8 days to 28 days and 29-42 days after birth. After the setting of 4 visits the study showed only 34% of women who gave birth received the PNC package within 2 days after birth while 2% of women who gave birth received the PNC package within 3 days to 42 days [8].

Currently in Rwanda, the neonatal mortality rate is 20/1000 live births. The goal of the country is to reach SDG (Sustainable Development Goal) of 12/1000 live births or under by 2030 [9]. Postnatal care services provided in Rwanda are still below in the global target which is currently 70%. Nevertheless, where the births take place, WHO recommends the 4 visits of PNC within 24hrs after birth, 3-4 days, 7-14 days and finally 6 weeks after births [10].

Study showed that high quality postnatal care provided by health professional reduce maternal and neonatal mortality up to 30%-60% in difference health facilities it is in this regard that we wish to conduct evidence-based practice of postnatal care at 6 weeks in 2 selected health centers [1].

Problem statement of study

In Rwanda, less than half of mother received the adequate PNC and it is associate with different factors. Findings from difference evidence suggest the rethink policies to improve the PNC counselling and education after delivery, continue training of health care providers [10].

Rwanda has little awareness in community PNC package and PNC 4 in specific is not well recognize, PNC 4 additional problem to a workload that means PNC have not yet on effective awareness [11]. It is in this we wish to conduct research related to package of PNC at 6 weeks received by women who attend vaccination visit at selective health centers.

Objective of the study

Main objective

The main objective of our study is assessing the practice of postnatal care according to WHO guideline in selective health centers in Kigali.

Specific objective

Specific objective of our study is following in detail:

- To assess the package received by women come at 6 weeks vaccination at selected health center in Kigali in accordance of WHO guideline at selective health center.
- To assess level of practice postnatal care provided to women at 6 weeks postpartum. In accordance to who guideline at select health select health center in Kigali,
- To assess the quality of PNC received by women attending vaccination service at 6 weeks postpartum at 2 selective heath centers in Kigali.

Research question

- What is level of maternal satisfaction with postnatal care received at 6 weeks? Does the mother attending 6 weeks PNC have a contact card.
- Is the package given to women at 6 weeks of PNC enough?
- Do the healthcare practices follow the guideline of PNC at 6 weeks?

Description of PICO question

How the women receive the postnatal care package at 6 weeks Bumbogo and Kacyiru Heath center?

P: Women in postnatal at 6 weeks

I: Implementation of structured PNC at 6weeks

C: Compare the standard of who PNC WHO GUIDLINE and what they do.

O: Improving the quality of PNC at 6 weeks.



The significance of study

During the period of postnatal there are high rate of maternal and neonatal mortality and morbidity, when provide the high quality of care in this period show same reduction of rate.

Education: About research result and recommendation, this evidence practice will help to see the strength and area to improve for those things is not going well related to PNC. And also, will help us to be aware and provide the effective care of postnatal at 6 weeks.

Policy making, quality and administration: Bumbogo and Kacyiru health center will the what study show and improve awareness and providing full package of PNC at 6 weeks, the gap will help them to make improvement in implementation of 6 weeks package of PNC. Also, they will help them to see importance of deliver full package of PNC at 6 weeks.

Research: After this study, the researcher will start to conduct other study relevant to our study and then they will use our findings and also the researcher will go deeply in order to improve the maternal and neonatal well-being by providing highly quality of care.

Practice: After result findings from our study will help health care provided to fill the gap in PNC package and also help them to continue using PNC card, also the will help CHWS to put PNC card in our mother language in order to help them in providing the quality of care in schedule 2 and 3.

Literature Review

This chapter of review concept practice of postnatal care at 6 weeks as essential package to mother and newborn well-being.

Theoretical review

Postnatal refer to first 42 days following childbirths, is crucial period for mother and neonate postnatal care is about allowing the mother to take herself and her baby, supporting the physical and emotional wellbeing of both and creating the bond of them [12,13].

Quality postnatal care services can have a lifetime positive effective on health and wellbeing of women and baby also facilitating a supportive area of parents and families [14].

In 2022 March, the World Health Organization (WHO) publish new guideline and recommendation related to PNC in order to provide the positive postnatal experience to mother and newborn postnatal care is essentially due to ending preventable maternal and newborn mortality and morbidity during postnatal care we detect the early complication and managing of it in order to promote wellbeing of mother and baby [5,14,15].

Actually, postnatal is seriously or critical period of the

mother and neonate, the maternal and newborn mortality and complication is high rate, up on 30% of maternal death after birth while the globally infant births 17 per 1000 live births are at high risk of death. In generally three million of infant death every year [1].

Globally, maternal death account for 10% of women in (15-49 years) but the maternal death during post-partum 50%-71% due to complication of pregnancy and other problem related to the period. Those death are preventable when women access the good quality of PNC [16].

In Canada, recommends that women and their newborns received PNC care follow up at 1 week and 4-6 weeks after birth, yet the lack of consistence methods of implementation of postnatal care, education with in supporting the Canadian, so the Canada try to provide clear access of quality of care in PNC by implemented with doctors and midwives through giving information on taking takin care of newborn and maternal even number of visit during this period [17].

In Kazakhstan, the study indicate that the care provided to women in perinatal include postnatal care is unsatisfactory and furthermore the care delivery to clients still unstandardized. So that to reduce poor quality of postnatal care is improve the knowledge and skills of nurse and midwives even follow the guideline of postnatal care [18].

Each year in Africa at least 870,000 neonates die in postnatal period, Ethiopia is the fourth country among top 10 countries in Africa on high number of neonate mortality rate. Ethiopia Heath Demographic Survey (EHDS in 2019) show that neonate die rate still highly because had 30 per 1000 live birth so to eradicate this situation is improved in delivery of PNC service which essential for life outcome of newborn and mother [19].

In Zambia country with high maternal mortality rate (252 deaths per 100000 live births) and neonatal mortality rate (23.5 deaths per 1000live births) [16].

The last ZDHS (Zambia Demographic Health Survey) show the 21% of women delivery, only 64% received the PNC in 24hrs after while 40% did not received the PNC within 48hrs also are not aware of other schedule, PNC service provide by health providers but on low quality due to lack of sufficient health providers, lack of skills on it and lack of mentorship and training [16].

In sub Saharan Africa especially Nigeria, the study show high number maternal and neonatal mortality rate occur during post-partum associated with poverty, illiteracy and low level of knowledge about maternal health care also study had found that uptake of quality of postnatal care improve the maternal and neonate outcome in life, although the difference evidence on benefit of postnatal care for reducing the maternal and neonatal mortality rate, poor quality of postnatal care can cause but no limitation due to several factors include lack of maternal awareness on importance of PNC, cultural belief, long waiting time, forgetting schedule, lack of skilled health care provider [20].



Nigeria Demographic Health Survey (NDHS) find out low prevalence of attending the last visit of PNC (at 6 weeks) between the postnatal women in Nigeria due to lack of awareness of schedule and activity so they need to improvement accessibility and education on it in order to promote health outcome of mother and neonate [21].

Alerek health center in Uganda, the report indicates all women gave birth at health facilities but only 78% attend first month PNC after delivery but not attend last visit of PNC at 6 weeks because the low uptake of PNC the women and newborn failure to supporting and education about postnatal changes [22].

Various study in Kenya finds out the gap in quality of care for mother during postpartum period, they know that 6 weeks of postpartum is critical period for mother and newborn. The 43% of mother in Kenya did not received the postnatal care for their health, also inadequate care of PNC cause un meet need in family planning in Kenya [23].

In Rwanda the study shows the neonatal mortality during postnatal period account approximated one third of all child death while 57% of maternal and 81% of neonatal did not receive postnatal care service on time [24].

M-CHWS (Maternal Community Health Workers) program was established in order to improved maternal health and neonate through the follow up of them at community (home), in Rwanda have 4 schedules of PNC during 6 weeks so the first visit take place at health facility where delivery take place, second and third done at home with MCHWS and last visit at 6 weeks take place at health center at the time of vaccination schedule of baby [24].

According to Wilson and Carrington suggest that postnatal care schedule to help the mother and neonate wellbeing and list same importance of postnatal care, one of them are the following [25]:

Importance of postnatal care

PNC is based on assessment of wellbeing for mother and newborn, the early detection of any complication treats and management, is essential not only for women and well-being of neonate entire in family. Immediate and late postnatal care tends emphasis on high optimal maternal and her baby well-being through monitoring and health promotion [26].

PNC is key element of maternity continue care and opportunities to improve the outcome of women and her baby by routine supportive, information, advocacy, advice, education, assess, manage and refer the risk that can occur during parenthood [27].

Study done in Gambia inadequate uptake of postnatal care contribute large rate of mortality rate of mother and her baby, regardless the fact is playing role in avoiding postnatal death. PNC is important key measure reduction of maternal neonatal mortality and morbidity [28].

In Rwanda the neonatal mortality rate has been slow reduce about one third mortality but has still below SDG target of 70% of live, to achieve that goal is to increase

uptake of maternal neonatal health service like PNC and accessibility of those service, Postnatal care help the family to understand the new experience of taking newborn and mother in period [29].

Better births identifying the need for better postnatal care to address the important under findings and providing in this area, which can have impact on the life chance and wellbeing of women, neonate and family through the postnatal counselling and assessment which reduce the death of 6 weeks births [3].

Good postnatal care is dynamic improving the maternal health approximately 60% reduce the period of postnatal, the number of postnatal contacts is important due to in visit make discussion like family planning, assessment wellbeing of mother and her babies also is continuity care occur in postnatal periods [30].

Goals and postnatal care schedule

The goal of care in postnatal periods are following:

- Support of the mother and her family in transition period of new family and help for needs.
- Prevent and early diagnosis even treatment of complication for mother and newborn.
- Referral of mother and infant for specialist care if it is necessary
- Health education about breast feeding
- Counselling on baby care
- Health education about maternal nutrition and supplement
- Health education about family planning
- Immunization of infant.

PNC Schedule

PNC 1: Before discharge

PNC 2: 48-72 hrs

PNC3: 7 -14 dys

PNC 4: At 6 weeks

The package of postnatal care at 6 weeks

Care starts with routine physical examination of mother and newborn.

Assess any complication sign of postpartum.

Health education about nutrition, family planning and the time to sex practice.

Health education about breastfeeding as need.

Health education about hygiene and lochia status. Assess any warning sign on baby.

Immunization of baby as schedule at 6 weeks [25].



Empirical literature

Evidence show us the continuously postnatal care prevent 60% maternal death and extended beyond 42 days can promote health outcome of maternal and newborn well-being, the care provided to women and neonate can take place at health facilities, home [31].

PNC awareness still low and when the women gave birth at health facilities level is lowest, the study was conducted in 33 countries around world show us the one third of women give birth at health facilities discharged without PNC checkups. In LMIC use inequitable due different social culture among rural and urban [31].

Heedlessly the benefit of PNC for maternal and neonate wellbeing, evidence discovered most women and neonate did not gain PNC with skilled health providers, In Pakistan Demographic Health Survey (PDHS) the 34.6% of women and 64.3% of neonate did not receive PNC or check up by health professional in 6 weeks postnatal period [32].

In Bangladesh many women gave births at health facilities left without the any orientation about checkup or support in period of 6 week postpartum, hence only 21% of women and 22% of neonate obtain the postnatal care from the skilled health providers in period of 42days after births [33].

In Nigeria only 38% of women and 42% of neonate receive the postnatal care within 2 days of postpartum also the use four visit of checkup during periods, so the last at 6 weeks are low prevalence of attending the schedule among the women .it means need more attention for women in reminding the schedule of visit [21].

Usually, PNC take place during first 24hrs followed by assessment during 48hrs to 72 days followed by 7 days to 14 days and 42 days. The coverage of PNC in six weeks is 52% in sub-Saharan Africa, from data found in Africa the uptake of PNC at home is low by community health worker, only 11% of women received PNC in first weeks in Malawi, 15% of women received PNC in three days after birth in Tanzania and 38% of women received PNC first visit and secondary in Ghana [34].

According to Bekele et al. Ethiopia ministry of health recommend the four visit of PNC for mother and newborn the first one day1, day 3, day 7 and 42 days, so Ethiopia demographic health survey (EDHS) discover the only 17% of women and 13% of neonate receive the postnatal care within 2 days after births, 81% of women did attend the PNC at all, continue to search and found that 13% of women receive the PNC in 42 days, 5% within 3 days, 2% within 2 weeks [34].

PNC starts after birth until 6 weeks to avoid any complication that can happen after gave birth like postpartum hemorrhage and other related cause of maternal and newborn morbidity and morbidity, it means a lack of appropriate post- natal care at any schedule can lead to maternal and neonatal outcome.

In east Africa research that conducted in Kenya and Tanzania showed that only 10 to 30% of women receive full package of PNC [35].

In Rwanda usually use the four visit of PNC up to 6 weeks after birth, in 2017 the study was conducted found that PNC4 at 6 weeks was 56% of PNC1, while in 2018 was 73% of PNC1 after discharge, this findings showed that PNC attendance increase but it is not at goal level [11].

To sum up the existing literature on practice of PNC at 6 weeks was review in this chapter, we have seen that goal of PNC especially at 6 weeks and importance as it can reduce maternal and neonatal mortality and morbidity. Also, we have seen those various studies in different content around world, so it better to complete and delivery the service to mother and neonate in period of postnatal in order to reach on goal SGD in 2030.

Methodology

Introduction

This chapter describe the methodology that will use to carry out this study. It presents the area of study, study design, study approach, target population, sample design, sampling procedure, data collection methods data collection instrument, reliability and validity of data collection instrument, data collection procedure, data analysis, problems and limitations of study and ethical considerations.

Study design

In this study, researchers will use Descriptive cross-section design

Study approach

Our study will use quantitative methods. Data will derive from the observe the women and babies who came for vaccination at 6 weeks at Bumbogo and Kacyiru health center.

Target population

The target population of study is referred to subset of population from larger population, also it set based for researchers and objective of study [36]. Our population will be the women and their babies who came for vaccination at 6 weeks at Bumbogo and Kacyiru health center.

Inclusion criteria

Women and infant attend vaccination at 6weeks postpartum

Exclusion criteria

Women and infant attending other vaccination visit and the one who did not want to participate.

Women and their babies who come at 6 weeks vaccination but not still in postpartum periods.



Sampling design

Sample size

The sample size for the study was 100 women in postnatal chosen purposively. The sample size refers to entire group of population which researcher's want to generalize the research findings [37].

Sampling technique

In our study, we will use purposive sampling, purposive sampling technique is the types of non- probability where research use their judgement based on their criteria to choose who will participate in the study [38].

Data collection instrument

We will use designed checklist (positive postnatal care guideline and recommendation by WHO) in this current study to collect data.

Variable and measure

Our checklist will use to assess the level and quality of post-natal care delivered to the women and their babies at Bumbogo and Kacyiru health centers

The first part (part I) will made a demographic data which was: age, marital status, place of residence, Muslim, Christian, none religion.

The second parts (part II) will made history of pregnancy and delivery of women composed by place of delivery, number of pregnancies and number of visits done by Community Health Works (CHWs), complication during delivery.

The third part (part III) will assess the level of PNC provided to the women and their infants.

In this part, the following variables will use:

Women

- Introduce her/his self to the client
- Ask for client consent
- Waiting time
- Use appropriate language to the client
- Make client privacy
- Client confidentiality health information
- Explain the important of PNC to the women and newborn.
- Wash hand
- Nurse or midwife explain to the client material usage.
- Empty bladder
- Taking vital sign and parameters.
- Asses or ask the general status of women about: breast engagement Uterine involution

- Lochia and bleeding
- Perineal tear or C/S
- Low limb edema
- Provide Iron supplement
- Health education about: family planning Nutrition
- Hygiene
- Babies care
- Immunization
- Danger signs
- Documentation and report the client all findings.
- Vetting.

Babies

- Ask client consent
- Use appropriate language
- Waiting time
- Wash hand
- Make client privacy
- Confidentiality of client health
- Taking vital sign and parameters
- Asses or ask the baby general status about: appearance
- Fontanels
- Conjunctives
- Umbilical cord
- Genital organ
- Passing urine and stool
- Asses abnormality and danger signs
- Awareness of women to the baby's danger sign
- Immunization of baby
- Schedule for next schedule
- Report and document all findings
- Vetting

Measurement of level and quality of PNC delivered to women and babies

The part I and part II will not grade.

The part III will compose by the level and quality of



postnatal care delivered to women

To evaluate the level same symbols will use: High if the women or babies receive more than three variables of PNC, low if the women or babies receive three variables PNC while very low were given to the women or babies who receive less than three care.

About the quality of PNC delivered we consider the same variable what health care provider do which include: introduce to the client, ask for consent, use appropriate language, washing hand, vetting, documentation and report, privacy for client, confidentiality, waiting time.

On quality when the women receive more than six variables will have high quality while received less than six will have low quality. For the babies when obtain more than four will have high quality while below four will grade low quality.

Those symbols will use: Received (R): If the women receive the care as recommended Partial Received (P) to mean the women who receive that care. Not Received (NR) to mean the women who not receive any care.

Received score at 3 marks, partially received score to 2 marks and not received score to 1-mark high class will grade on 65% and above while low class will score less than 65%

Validity and reliability of research instruments

The reliability and validity will be evaluated. The researchers and supervisors validated established on guideline, the pilot study will conduct at Bumbogo and Kacyiru health center.

Data collection procedure

After receiving approval of the university of Rwanda institutional review board (UR/IRB) and research authority approval from Bumbogo and Kacyiru health center, researchers will communicate to head of vaccination service for go-ahead of carrying our study. The researcher starts to gather data through assessing level and quality of PNC package delivered to women in postnatal periods

Before to start process of data collection, we introduce ourselves to the women and explain goals of study, we obtained an oral consent from the participant. During this process we use checklist designed from WHO guideline for level and quality of PNC.

Data analysis

Data will analyze and present by use of percentage using excel sheet. The data will be presented on PIE chart and graph.

Limitation of the study

In pilot study we will only base on observation of level and quality of PNC package delivered to women in that period, so we will not participate in provide care to the

women and their babies.

And also, our study will not experiment anything.

Ethical consideration

Our study, UR/IRS will have approval and we will find the permission letter from selected health center and we will have to make presentation ourselves to staff and client before collecting data. The study participant were voluntary and free to quit any time, the study would not women names present in our data it mean privacy.

Presentation of Result and Findings

Introduction

The chapter four shows us the findings from our research. The findings obtained in data collection are answered our research question. The figure and table are used to show all findings from our study, for interpretation we use the percentage. The sample size was 100 women and her babies who come for vaccination at 6 weeks of post-natal at Kacyiru and Bumbogo Health center.

Detail PNC package received by women

Table 1: Presentation variables findings to the women.

Variable	Received n(%)	Partial received n(%)	Not received n(%)
Explain the importance of PNC to women and her babies	7(7%)	13(13%)	80(80%)
Nurse or Midwife explain the material client usage	0(0%)	25(25%)	75(75%)
Taking vital sign and parameters	0(0%)	0(0%)	100(100%)
Assess or ask the general status of women	10(10%)	25(25%)	65(65%)
Provide iron supplement	0(0%)	0(0%)	100(100%)
Health education	61(61%)	19(19%)	20(20%)

This table shows us the package of PNC received by women and also presents different variable that were on checklist. The package of PNC is included in the above variable where among of 100 women participants, only 10% were able to obtain a full assessment or ask about their general status, which includes the breast engagement, uterine involution, lochia, perinea tear or c/s site and low limb edema. Also, around 61% received the full health education about the family planning, nutrition, hygiene, babies care, immunization, danger signs.



Classification of two class include high class or low class

Figure 1 presents the overall the package of postnatal care, among 100 women participant the only 10% was obtain the sufficient package of PNC, they were waged the high class after scoring from 65% and above. The rest at a large number was 90% scored below 65% which low class.

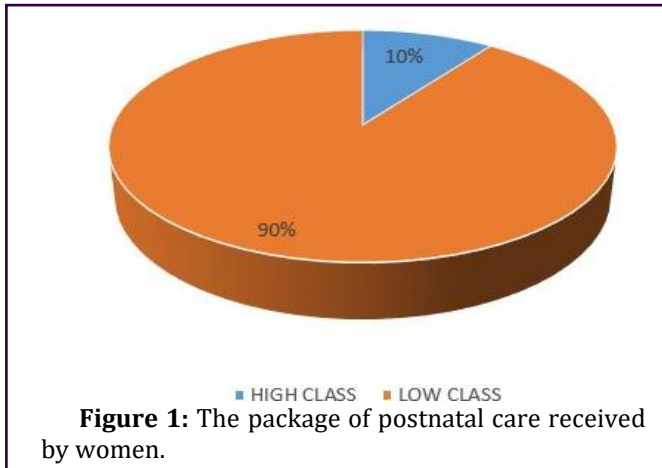


Figure 1: The package of postnatal care received by women.

passing urine or stool meaning that participant didn't obtain that package or got little of it.

Classification of two class on high class or low class

Figure 2 only 40% of all participant babies was receive sufficient postnatal packages, which means they were graded above 65% marks (high class) while 60% babies didn't receive sufficient PNC packages which were below 65% marks (low class).

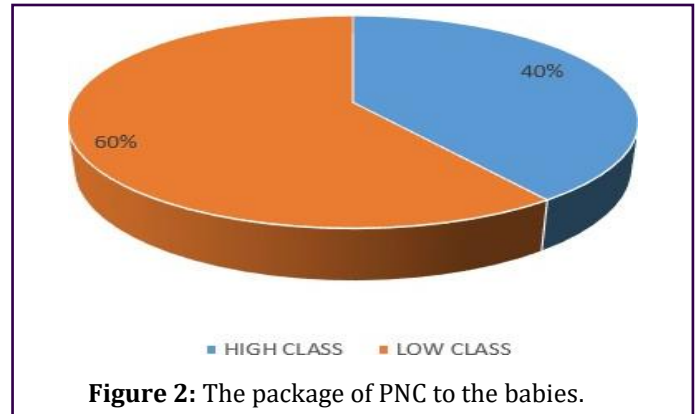


Figure 2: The package of PNC to the babies.

The package of PNC to the babies

Table 2: Presentation of variable findings to the babies.

Variable	Received n(%)	Partial received n(%)	Not received n(%)
Taking vital sign and parameters	0(0%)	52(52%)	48(48%)
Assess or ask babies general status	14(14%)	51(51%)	31(31%)
Assess the abnormality and danger sign	8(8%)	22(22%)	70(70%)
Awareness of women to the babies danger sign	62(62%)	8(8%)	30(30%)
Immunization of baby	100(100%)	0(0%)	0(0%)
Schedule for next visit	100(100%)	0(0%)	0(0%)

Classification of the amount of PNC received by women

Figure 3 shows the level of PNC is very low because among 100 women participants, 80% Of women received less than three care in standard, but others try to obtain at least three cares in 20% of them which was low. We have six different variables of care that women are supposed to obtain during PNC, so when women receive above three cares, they are directly classified as high, but when women receive only three cares, they are classified as low while women received below three cares are classified as very low.

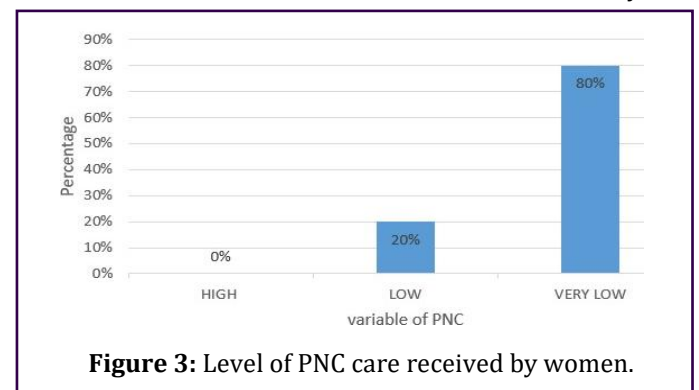


Figure 3: Level of PNC care received by women.

Classify the amount of PNC received by Babies

In figure 4, the level of PNC delivered to the babies is low because the majority of baby participants were 65% (65) out of 100 of babies, but at least 12% of them obtained high level of PNC according to the standard. We have six different variables of care that babies are supposed to obtain during PNC, so when babies receive above three cares, they are directly classified as high, but when babies receive only three cares, they are classified as low while babies received below three cares are classified as very low.

Babies' participant information about the package of PNC is summarized in the above table; different variables on the checklist present the result. Where 100% of participant were able obtain the vaccine and schedule next visit sufficiently, 62% were able to assess or ask abnormality and danger signs and 14% were able obtain a full assessment or ask about general status, which includes appearance, fontanels, conjunctives, umbilical cord, genital organ,

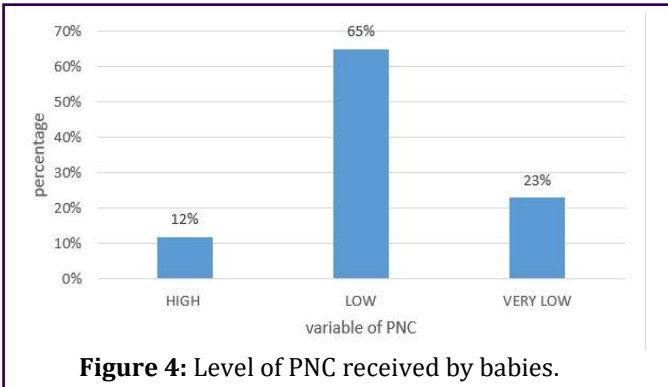


Figure 4: Level of PNC received by babies.

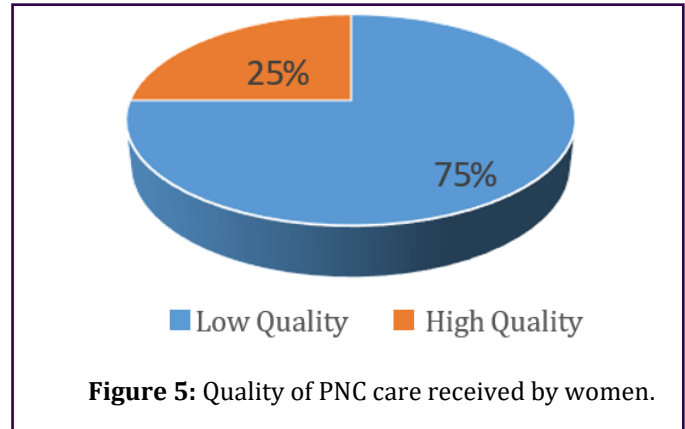


Figure 5: Quality of PNC care received by women.

The quality of PNC delivered to women

This **table 3** presents the overall quality of postnatal care received by women and shows us the result of quality for same variable which was on the checklist. 100% of all participants reached the care on time. But all participants didn't ask about bladder emptying as precaution before assessment.

Table 3: Presentation variables findings to the women.

Variable	Received n(%)	Partial received n(%)	Not received n(%)
Introduce her/his self	90(90%)	2(2%)	8(8%)
Ask for client consent	55(55%)	5(5%)	40(40%)
Waiting time	100(100%)	0(0%)	0(0%)
Use appropriate language to the client	8(8%)	67(67%)	25(25%)
Make client privacy	13(13%)	34(34%)	53(53%)
Client confidentiality health information	35(35%)	13(13%)	52(52%)
Empty bladder	0(0%)	0(0%)	100(100%)
Hand washing	0(0%)	0(0%)	100(100%)
Document and report clients result	0(0%)	32(0%)	68(68%)
Vetting	0(0%)	0(0%)	100(100%)

Classify two categories of PNC on high quality or low quality

Figure 5 shows that 75% of women participants received low quality of postnatal care while a small number of them received high quality, at least 25% of them was received average of PNC. When the women receive more than six variables, they have high quality while received less than six, they have low quality.

The quality of PNC delivered to babies

This **table 4** are presenting the quality of postnatal care to the babies and its shows the variable that was on the checklist: all participants received good quality of time which was 100%, other variables show us quality delivered to a low number of participants.

Table 4: Presentation variables findings to the babies.

Variable	Received n(%)	Partial received n(%)	Not received n(%)
Ask for client consent	52(52%)	8(8%)	40(40%)
Use appropriate language to the client	56(56%)	10(10%)	34(34%)
Waiting time	100(100%)	0(0%)	0(0%)
Make client privacy	11(73%)	19(7%)	70(20%)
Hand washing	12(12%)	23(23%)	65(65%)
Client confidentiality health information	14(14%)	24(24%)	62(62%)
Document and report clients result	0(0%)	100(100%)	0(0%)
Vetting	0(0%)	0(0%)	100(100%)

Classify the two categories of PNC received on high quality or low quality

Figure 6 shows that among the 100 of babies, only 35% received high quality of PNC due to obtaining at least 4 variables in variety of them. The largest number was obtained with low quality of PNC about 65%. If the babies obtain more than four, they have high quality while those below four have low quality.

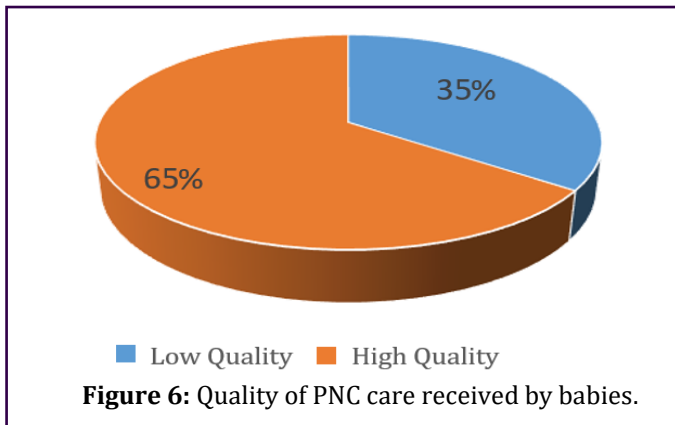


Figure 6: Quality of PNC care received by babies.

Discussion of Findings/Result

Health care providers and clients in GASABO district observe PNC services as very important thing to newborn babies and mothers. However, lack of awareness on PNC system protocols decreases perception of the quality of PNC services. Thus, we address the major components of WHO guidelines related to PNC services gaps mentioned during the practice of health providers.

Effective time management, immunization, scheduling of next visits and timeline reporting is a key component of PNC quality.

Our findings suggest that community health workers and health care providers appreciate the benefits of PNC services. During these visits, women and their new born baby receive important information about breastfeeding, vaccination, growth monitoring, family planning and danger signs and iron supplement with good nutrition. They also receive information about hygiene and disease prevention such Malaria, HIV, COVID-19 and others. Nevertheless, our findings show that health care providers don't have enough and clear information on standard guidelines of PNC services, missing information on PNC card especially related to those visits which should done in community [18]. Women report worries around access to and quality of PNC and low perceived value of PNC in terms of health benefits for health women and babies [31].

A similar study done at Zambia in rural area was found low quality of PNC services in first 48 h postpartum, which contribute to non-adherence to evidence-based practice. Long waiting times, in particular, affect user perception of service quality and user satisfaction of services.

According to our study, we suggest to encourage community health workers to implement correctly PNC visits done in community with proper use of PNC card, to use properly PNC guidelines at the level of health center, to encourage health education for each PNC visit.

Conclusion

In concluding, this study was to assess the practice of post-natal care at 6 weeks in 2 selected BUMBOGO and KACYIRU Health Centers. In general, large number of women and babies received the PNC package insufficiently,

compared to standards, others to WHO protocol. The level and quality received by women and babies is low compared to standard. The WHO recommends delivering high quality postnatal care including education and treatment to reduce those complications, the best way to help the well-being mother, baby, family and society by providing new guidelines on evidence-based policies and procedure. This is of great value because a well-done PNC significantly reduces mortality and morbidity during these six weeks. What we can advise from what we have seen is that the community health workers put effort into the PNC and be refreshed like the health providers and it is emphasized that the health center managers have the information first and foremost to achieve the goal according to WHO.

Recommendations

These recommendations are based on our observations and taking care of them will produce good and lasting results. The recommendations are addressed to the selected health centers, the health care providers; health centers managers who work there and the Ministry of Health.

Selected Bumbogo and Kacyiru health centers

These health facilities are recommended to establish PNC protocols so that nurses and midwives can use it regularly, in order to improve these services. And also, is recommended to have specific equipped place for PNC services.

Health care providers of selected Bumbogo and Kacyiru

Nurses and midwives are advised to follow the guidelines, as they are the most productive in PNC in order to improve the patients care. They should also know the importance of PNC as well as its complete package.

Ministry of health

The Ministry of Health is requested to organize training for the staff of health centers and for the health center managers in order to improve the quality of PNC. The Ministry of Health is required to closely monitor and provide a response to the iron deficiency in PNC. The ministry of health is requested to introduce files in different languages especially spoken by community health workers, to encourage community health workers in PNC providing services, regular training for health community workers on PNC guideline.

The package of PNC is large; there are many parents, short time and few nurses thus ministry of health is recommended to increase number of health care providers for better PNC services.

Suggestions for Further Study

The next survey will be conducted outside of GASABO district. It would also be good to conduct research on PNC based on health care providers.



References

1. Abdoli NL, et al. (2023) Adaptation and implementation of clinical guidelines on maternal and newborn postnatal care in Iran: Study protocol. *Reproductive Health* 20: 1-14. [Crossref] [Google Scholar] [Indexed]
2. Langlois EV, et al. (2023) Improving policy, financing and delivery of postnatal care services. [Crossref] [Google Scholar] [Indexed]
3. Owen MD, et al. (2020) Postnatal care education in health facilities in Accra, Ghana: Perspectives of mothers and providers. *BMC Pregnancy and Childbirth* 20: 1-10. [Crossref] [Google Scholar] [Indexed]
4. Macdonald C, et al. (2021) Postnatal care: New NICE guideline for the Cinderella service. *British Journal of General Practice* 71: 394-395. [Crossref] [Google Scholar] [Indexed]
5. World Health Organization (2022) WHO recommendations on maternal and newborn care for a positive postnatal experience.
6. Subramanian L, et al. (2020) Just-in-time postnatal education programs to improve newborn care practices: Needs and opportunities in low-resource settings. [Crossref] [Google Scholar] [Indexed]
7. Esopo K, Derby L, Haushofer J (2020) Interventions to improve adherence to antenatal and postnatal care regimens among pregnant women in sub-Saharan Africa: A systematic review. *BMC Pregnancy and Childbirth* 20: 1-12. [Crossref] [Google Scholar] [Indexed]
8. Serbanescu F, et al. (2023) Individual, community and health facility predictors of postnatal care utilization in rural Tanzania: A multilevel analysis. *Global Health Science and Practice* 11: 1-20. [Crossref] [Google Scholar] [Indexed]
9. Batamuriza M, Uwingabire E, Oluoyinka A (2020) Essential newborn care among postnatal mothers at selected health centers in Eastern Province, Rwanda. *Rwanda Journal of Medicine and Health Sciences* 3: 139-151. [Crossref] [Google Scholar]
10. Kawuki J, Gatasi G, Sserwanja Q (2022) Prevalence of adequate postnatal care and associated factors in Rwanda: Evidence from the Rwanda demographic health survey 2020. *Archives of Public Health* 80: 1-11. [Crossref] [Google Scholar] [Indexed]
11. Williams P, Murindahabi NK, Butrick E, Nzeyimana D, Sayinzoga F (2019) Postnatal care in Rwanda: Facilitators and barriers to postnatal care attendance and recommendations to improve participation. *Journal of Global Health Reports*. [Crossref] [Google Scholar] [Indexed]
12. Zhao S, et al. (2023) Key factors associated with quality of postnatal care: A pooled analysis of 23 countries. *eClinicalMedicine* 62: 102090. [Crossref] [Google Scholar] [Indexed]
13. Beraki GG, et al. (2020) Knowledge on postnatal care among postpartum mothers during discharge in maternity hospitals in Asmara: A cross-sectional study. *BMC Pregnancy and Childbirth* 20: 1-10. [Crossref] [Google Scholar] [Indexed]
14. Galle A, et al. (2023) Measures to assess quality of postnatal care: A scoping review. *PLOS Global Public Health* 3: e0001384. [Crossref] [Google Scholar] [Indexed]
15. Wojcieszek AM, et al. (2023) WHO recommendations on maternal and newborn care for a positive postnatal experience: Strengthening the maternal and newborn care continuum. *BMJ global health* 8: 8-11. [Crossref] [Google Scholar] [Indexed]
16. Sialubanje C, et al. (2023) Postnatal care services in rural Zambia: A qualitative exploration of user, provider and community perspectives on quality of care. *BMC Pregnancy and Childbirth* 23: 1-14. [Crossref] [Google Scholar] [Indexed]
17. Dol J, et al. (2022) Canadian women's experience of postnatal care: A mixed method study. *Canadian Journal of Nursing Research* 54: 497-507. [Crossref] [Google Scholar] [Indexed]
18. Colet P, Aimagambetova G, Kossybayeva K (2020) Evidence-based inpatient postnatal care among women in a national hospital in Kazakhstan: A best practice implementation project. *JBI evidence implementation* 18: 318-326. [Crossref] [Google Scholar] [Indexed]
19. Kebede SA, Weldeesenbet AB, Tusa BS (2022) Determinants of postnatal care and timing of the first postnatal care for newborns in Ethiopia: Further analysis of 2019 Ethiopian demographic and health survey. 10: 1-8. [Crossref] [Google Scholar] [Indexed]
20. Omobolanle A, et al. (2020) Effectiveness of a mobile health intervention on uptake of recommended postnatal care services in Nigeria. [Crossref] [Google Scholar] [Indexed]
21. Akinsola T, Abdus-Salam RA, Oladokun A (2023) Attitude of postpartum women towards multiple postnatal clinic schedule in south-west Nigeria. *European Journal of Obstetrics & Gynecology and Reproductive Biology*: 100197. [Crossref] [Google Scholar] [Indexed]
22. Brian M (2023) Factors influencing utilization of postnatal care services among women attending Alerek Health Centre III Abim District International Network Organization for Scientific Research (September).
23. Jones RM, et al. (2020) A Short Message Service (SMS) increases postpartum care-seeking behavior and uptake of family planning of mothers in peri-urban public facilities in Kenya. *PLoS ONE* 15: 1-13. [Crossref] [Google Scholar] [Indexed]
24. Nishimwe C, Mchunu GG (2022) Exploring health provider's knowledge on the home-based maternal and neonatal health care package in Rwanda. *BMC Pregnancy and Childbirth* 22: 1-12. [Crossref] [Google Scholar] [Indexed]
25. Wilson J, Carrington E (2022) *Obstetrics and gynecology*. [Google Scholar]
26. Al-Hadi A, et al. (2022) Women's utilization, experiences and satisfaction with postnatal follow-up care systematic literature review. *Sultan Qaboos University Medical Journal* 22: 455-471. [Crossref] [Google Scholar] [Indexed]
27. Finlayson K, et al. (2023) Factors that influence the uptake of postnatal care from the perspective of fathers, partners and other family members: A qualitative evidence synthesis. *BMJ Global Health* 8: 1-18. [Crossref] [Google Scholar] [Indexed]
28. Barrow A, Jobe A (2022) Predictors of postnatal care service utilization among women of childbearing age in the Gambia: Analysis of multiple indicators cluster. [Crossref] [Google Scholar] [Indexed]



29. Nishimwe C, Mchunu GG (2021) Stakeholders perceptions regarding implementing maternal and newborn health care programs in Rwanda. 3: 1-21. [Crossref] [Google Scholar] [Indexed]
30. Beaumont E, et al. (2023) Socioeconomic inequity in coverage and quality of maternal postnatal care in Ethiopia. *Tropical Medicine and International Health* 28: 25-34. [Crossref] [Google Scholar] [Indexed]
31. Beňová L, et al. (2023) Facilitators and barriers of implementation of routine postnatal care guidelines for women: A systematic scoping review using critical interpretive synthesis. *Journal of Global Health* 13: 1-17. [Crossref] [Google Scholar] [Indexed]
32. Iqbal S, et al. (2023) Trend analysis of multi-level determinants of maternal and newborn postnatal care utilization in Pakistan from 2006 to 2018: Evidence from Pakistan demographic and health surveys. 1-25. [Crossref] [Google Scholar] [Indexed]
33. Doha M, et al. (2020) Original article study on knowledge about postnatal care among mothers in selected urban communities. 2: 24-27. [Google Scholar]
34. Bekele G, et al. (2023) A multi-site, non-randomized study of the feasibility and acceptability of a family-led postnatal care model in the Ada District, Ethiopia. *Gates Open Research*: 1-8. [Crossref] [Google Scholar]
35. Mlandu C, Matsena-Zingoni Z, Musenge E (2023) Predicting the drop out from the maternal, newborn and child healthcare continuum in three East African community countries: Application of machine learning models 1: 1-10. [Crossref] [Google Scholar] [Indexed]
36. Willie MM (2023) Distinguishing between population and target population: A mini review. *Surgery Research Journal* 3: 4-6. [Google Scholar]
37. Gudlavalleti AG, Mcguire H, Dominguez PP (2022) Commissioning, contracting and contextualizing guidelines to other jurisdictions: Experience from NICE knowledge exchange seminar series: A collaboration between NICE International and IHOPE. 1: 58-60. [Crossref] [Google Scholar]
38. Campbell S, et al. (2020) Purposive sampling: Complex or simple? Research case examples. *Journal of Research in Nursing* 25: 652-661. [Crossref] [Google Scholar] [Indexed]