

Research Article

Structural and Process Factors Influencing Documentation Practice in Private and Public Labour Wards of Parirenyatwa Maternity Hospital, Zimbabwe

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Abstract

Background: Documentation is crucial for evidence-based nursing. Proper documentation ensures effective communication and quality patient care, while poor documentation compromises care. This study compared structural and process factors affecting documentation quality and patient outcomes in private and public labor wards at Parirenyatwa Mbuya Nehanda Maternity Hospital (MNMH). **Methods:** A multiple methods approach was used. A total of 177 records were assessed for quality documentation, and 10 midwives were observed on practice documentation. Additionally, 116 interviews were conducted with midwives to elicit information on documentation practices. Data was collected and quantitative data was analyzed using Statistical Package for Social Sciences version (SPSS version 20). Qualitative data was manually analysed and thematic analysis was used to generate codes and themes. Quantitative data was presented in tables, graphs, as frequencies and percentages while qualitative data was presented in narrative form. **Results:** With regards to structural factors, being in a public labour ward was significantly associated with increased the likelihood of higher nurse to patient ratio compared to being in a private labour ward ($p=0.002$). No process indicator was significantly associated with the type of labour. Those in the public labour ward were more likely to have complications and admitted in (Neonatal Intensive Care Unit) NICU ($p=0.008$). **Conclusion:** The study determined that there was poor documentation practice in both public and private labour wards. Though there was a high level of awareness of critical aspects of labour to document and the importance of documentation by midwives from both wards, this did not necessarily translate to practice. There is a need to also formulate standard operating protocols and guidelines to guide and standardize documentation at MNMH.

Keywords

Labour Ward, Documentation, Quality, Health Outcomes, Structural Factors

1. Introduction

Maternal care, encompassing the preconception to postnatal period, is crucial in Zimbabwe, where maintaining a reduced maternal mortality rate remains challenging. The

country's maternal mortality rate stands at 363 per 100,000 live births [1]. Poor documentation, leading to missed communication and compromised patient handover, is a signifi-

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cant factor contributing to high maternal mortality and morbidity. Effective communication, through electronic or written documentation, is essential for improving maternal care in maternity departments.

Globally, clinical documentation is increasingly recognized as vital for healthcare quality and patient safety. Studies in Europe have shown that high documentation standards improve care coordination and health outcomes [2]. Electronic Health Records (EHRs) facilitate structured documentation, enabling predictive analytics, population health management, and precision medicine [3, 4]. However, EHR implementation can lead to information overload if not optimized [5]. Changes in documentation demands also affect nurse job satisfaction and retention [6]. Research continues to explore barriers and factors influencing documentation practices across diverse settings and countries [7].

In Africa, clinical documentation faces challenges such as lack of supplies, infrastructure, and training (Mate et al., 2019). High patient volumes and limited staff make prioritizing documentation difficult in busy environments like Rwandan district hospitals [8]. Frequent changes in healthcare worker roles also impact documentation quality [9]. Resource-constrained health systems struggle to invest in tools to support documentation practices [10]. Limited IT infrastructure hinders the adoption of electronic frameworks, although mobile technology has shown promise [11].

Midwifery documentation includes all records documented by midwives in relation to care. In labor wards, documentation provides a summary of events such as labor onset, fetal and maternal well-being, delivery, and discharge summaries. Proper documentation standardizes care, ensuring all patients receive essential levels of care and accurate descriptions of their care episodes. Poor documentation practices in labor rooms, especially in resource-constrained countries, hinder quality maternal healthcare services [12].

Documentation in healthcare facilitates assessment, treatment, and continuity of care, clinical handover, patient safety, and quality improvement. It also enhances midwifery education, research, and evaluation of care. Poor documentation can lead to medico-legal issues and mismanagement of maternity cases, affecting patient safety and care quality [13]. Effective documentation systems are critical for early detection of risk factors in pregnancy and labor, ensuring timely and appropriate midwifery care.

In Zimbabwe, public health facilities face severe funding shortages, affecting documentation standards and practices [14]. Private medical centers, being better funded, often have fewer documentation issues. Parirenyatwa Hospital, with its dual public-private maternity system, provides a unique opportunity to compare documentation practices based on resource availability. Partnerships for knowledge transfer can help overcome barriers in resource-constrained environments.

This study aimed to explore structural and process factors influencing documentation quality in public and private labor wards at Parirenyatwa Mbuya Nehanda Maternity Hospital.

Identifying best practices can generate adaptable solutions to improve maternal healthcare regionally and globally. Ensuring accurate and comprehensive records is essential for effective communication, continuity of care, and accountability [15]. The study's findings will support guideline development, resource prioritization, and quality improvement initiatives to enhance maternal care documentation.

2. Methods

2.1. Study Design

This study used the multiple methods approach to compare documentation practices in the public and private wards of Mbuya Nehanda Maternity Hospital. Quantitative and qualitative data was collected.

2.2. Study Site

The study was carried out at Parirenyatwa Group of Hospitals, at the maternity department known as Mbuya Nehanda Maternity Hospital. The maternity facility serves Harare Metropolitan Clinics and it's the country's largest Quaternary Institution and an Emergency Obstetric Neonatal Care (EmONC) referral center. The unit is staffed by both midwives and obstetricians who are trained obstetric care givers and are certified by their regulatory bodies to practice as birth attendants. The health care institution is an 1800 bedded facility, while the maternity facility is a 221 bedded department.

2.3. Study Population

The study population of this study were midwives working in Mbuya Nehanda Maternity Hospital and registered with the Nurses Council of Zimbabwe with a valid Practicing certificate.

2.4. Inclusion and Exclusion Criteria

Participants who met the following criteria were included in the study:

1. A midwife who was working in MNMH public and private labour wards, at the time of data collection and had a previous labour ward work experience of at least two years or more.
2. Midwives with a previous two years or more experience of working in either of the two labour wards the public labour ward and private labour ward and had recently moved to another department due to institutional rotation policy, were also included in the study since they possessed the pre-requisites and met the criteria.

The following were excluded from the study:

Midwives without a public or private labour ward experience

Nurses who did not have a midwifery qualification and a current practicing certificate.

2.5. Sample Size Determination (Quantitative)

In a study by Bolado et al, (2020) on documentation practice and associated factors among nurses working in public hospitals in Wolaita Zone, Southern Ethiopia, good documentation practices among the nurses were determined to be 42%. Using the proportion of 0.42 and the Dobson formula, the minimum sample size (n) of midwives required to take part in the study was calculated below:

Assumptions

P=0.754 b) 5% Error Risk ($Z\alpha$) such that $Z_{0.05}=1.96$ c) Precision set at 5% such that $\bar{X}=0.05$

$$n = \frac{Z^2 P(1-p)}{D^2} = \frac{(1.96)^2 (0.42)(0.58)}{0.0025}$$

The estimated sample size was determined to be: 374.

Given that the population of midwives has been severely reduced by the rampant brain drain and is less than 10 000 (estimated to be approximately 120), the sample size was moderated for using the Population Correction Formula abiding with the following assumptions:

$$[nf = n/(1+n/N)]$$

nf = the desired sample size when the study population is less than 10 000

n = the estimated sample size when the population is greater or equal to 10 000

N = estimated total study population

Therefore, the sample size that was required was $374 / (1 + 374/120) = 119$

Basing on the study by Paolo et al (2019) who sought to determine the usage of the partographs and explore the issues/challenges in its plotting at various levels of health facilities where by partographs were plotted in 48.7% of deliveries, the Dobson formula was also used to determine the number of records to be reviewed in order to assess the association between document quality and health outcomes

Assuming that:

P=0.754 b) 5% Error Risk ($Z\alpha$) such that $Z_{0.05}=1.96$ c) Precision set at 5% such that $\bar{X}=0.05$

$$n = \frac{Z^2 P(1-p)}{D^2} = \frac{(1.96)^2 (0.487)(0.513)}{0.0025}$$

Therefore, the number of partographs reviewed was: 184 records

2.6. Sampling Method

This study used the purposive sampling since it targeted midwives with specific characteristics working at Mbuya Nehanda Maternity Hospital to attain a homogenous sample.

2.7. Study Variables

In this study the dependent variable are the outcomes of labour documentation and the independent variables are the structural and process factors represented by socio-demographic characteristics which are age, gender, professional category, working unit and experience in years. Other independent variables included knowledge of nursing care documentation, nurse-to-patient ratio, stationery availability, in-service training and on the job training.

2.8. Data Collection Tools

Data was collected through a combination of quantitative method e.g., chart reviews, surveys, and qualitative methods (open ended questioning and observation). The structural factors were assessed through an analysis of staffing levels, resources available for documentation, and infrastructure of the labour ward.

The process factors were evaluated by examining communication patterns among healthcare providers, training programs for documentation practice and workflow processes. Health outcomes were measured by comparing rates of complications, and adverse events in both labour wards. A semi-structured questionnaire was utilized to collect data from midwives in order to assess for the structural and process factors influencing labour ward documentation. The sections of the structured interview guide were used to aid in assessing structural and process factors which included socio-demographic characteristics, factors influencing documentation, assessing knowledge of labour ward documentation, and how they practiced the actual documentation in the labour ward

A checklist was developed and used to extract data from the partographs and patient notes with the intention of determining the association between the quality of data and maternal and infant health outcomes. A structured observational tool was developed and was utilized to observe midwives while they performed activities patient care and documentation within the labour ward. Structured observation' is a method whereby conditions or key behaviors, are observed using a well-designed observation record form.

2.9. Data Analysis

Data entry and analysis was conducted using Statistical Package for the Social Science version 20 for quantitative data. Sample characteristics were described using descriptive statistics in tables, using frequencies, and percentages. A Chi square test of association was performed to examine the relationship between dependent and independent variables and p-value of less than 0.05 were interpreted to indicate statistical significance. Where Chi-square test was inappropriate, the Fisher's exact test was employed to test for significance of association.

Thematic analysis was utilized to analyze the data and

categorize it into major themes. Initially, all recordings were transcribed in full by the researcher, then repeated readings of the verbatim enabled the researchers to proceed with deductive coding till saturation. It was important to make repeated iterations between the interviews and the verbatim to better transcribe certain comments and terms. The researchers drew up a preliminary thematic framework comprising of themes constructed for this purpose from Donabedian's model. The observation sheets were transcribed and thematically reviewed.

2.10. Ethical Considerations

The study received ethical approval from the Joint Ethics and Research Committee (JREC). Written informed consent was obtained from all study participants before their partici-

pation in the study.

3. Results

3.1. Demographic Characteristics

Most nurses in both wards were aged 31-40 years 69 (59.5%). The age distribution was similar between private and public wards, with no significant difference ($p=0.702$) (Table 1). The mean age was approximately 39 years for both groups (Table 1). Participants were predominantly female in both wards 113 (96.6%). Majority of the participants had more than 6 years of experience 75 (64.7%) and there was no significant difference in years of experience between wards ($p=0.075$) (Table 1).

Table 1. Demographic characteristics of labour ward nurses in the private and public labour wards of MNMH.

| Variable | Category | Private ward N = 39 | Public ward N = 77 | Total N = 116 | Fisher's exact p-value |
|----------------------------|------------------|---------------------|--------------------|---------------|------------------------|
| Age group | 20 – 30 years | 2 (5.1) | 5 (6.5) | 7 (6.0) | 0.702 |
| | 31 – 40 years | 27 (69.2) | 42 (54.6) | 69 (59.5) | |
| | 41 – 50 years | 10 (29.6) | 28 (36.4) | 38 (32.8) | |
| | Not disclosed | 0 (0) | 2 (2.6) | 2 (1.7) | |
| Age | Mean (+/-SD) | 38.92(+/-3.93) | 39.47(+/-4.85) | | 0.479 |
| Gender | Female | 39 (100) | 73 (94.8) | 113 (96.6) | - |
| | Males | 0 (0) | 4 (5.2) | 4 (3.5) | |
| Professional Qualification | Midwife – BScNS | 4 (10.3) | 4 (5.2) | 8 (6.9) | 0.444 |
| | Midwife | 34 (87.2) | 68 (88.3) | 102 (87.9) | |
| | BScNS | 1 (2.6) | 5 (6.5) | 6 (5.2) | |
| Years of Experience | 2 years and less | 2 (5.1) | 13 (16.9) | 15 (12.9) | 0.424 |
| | 3 – 5 years | 6 (15.4) | 15 (19.5) | 21 (18.1) | |
| | More than 6 yrs. | 30 (76.9) | 45 (58.4) | 75 (64.7) | |
| | Not disclosed | 1 (2.6) | 4 (5.2) | 5 (4.3) | |

3.2. Completion of the Partograph

A total of 177 records were assessed for the quality of documentation with selected parameters being assessed for full, partial or non-documentation. Both wards show very low percentages (ranging from 1.87% to 7.14%) of full documentation for key (Table 2) Partograph items such as foetal

heart rate, moulding, descent of foetal head, cervical dilation, uterine contraction, blood pressure, temperature, and status of membranes. Documentation for delivery time, mode of delivery, foetal outcome, sex of newborn, weight of newborn, and Apgar score is nearly complete in both wards, with private wards slightly outperforming public wards in some categories.

Table 2. Documentation status of partographs in the private and public labour wards at MNMH.

| Partograph Item | Private ward – % Fully Documentation N – 70 | Public Ward – %Fully Documentation N – 107 |
|-------------------------|---|--|
| Foetal heart rate | 7.14% | 3.74% |
| Moulding | 7.14% | 3.74% |
| Descent of foetal head | 7.14% | 3.74% |
| Cervical dilation | 7.14% | 3.74% |
| Uterine contraction | 7.14% | 3.74% |
| Crossing of action line | 5.71% | 1.87% |
| Blood pressure | 7.14% | 1.87% |
| Temperature | 5.71% | 1.87% |
| Status of membranes | 7.14% | 3.74% |
| Delivery time | 100% | 95.33% |
| Mode of delivery | 100% | 93.46% |
| Foetal outcome | 100% | 97.20% |
| Sex of newborn | 100% | 100% |
| Weight of newborn | 100% | 100% |
| Apgar score | 100% | 100% |

3.3. Structural Factors Influencing Documentation Practice in Labour Wards

Both private and public wards reported inadequate stationery as a significant factor influencing documentation, with nearly equal percentages (69.2% in the private ward and 70.1% in the public ward; $p = 0.921$) (Table 3). Ward understaffing

was a prevalent issue influencing documentation in both settings, with 87.2% in the private ward and 88.3% in the public ward indicating its impact ($p = 1.000$) (Table 3). The nurse ratio of 1:10-15 was significantly more common in public ward (5.1% in private, 29.9% in public; $p = 0.002$) (Table 3). Excessive workload was a significant factor affecting documentation, especially in the public ward (89.7% in private, 98.7% in public; $p = 0.043$) (Table 3).

Table 3. Structural factors influencing documentation in the private and public labour wards at MNMH.

| Variable | Category | Private ward N = 39 | Public ward N = 77 | Total N = 116 | p-value |
|--|----------|---------------------|--------------------|---------------|---------|
| Inadequate stationary influences documentation | Yes | 27 (69.2) | 54 (70.1) | 81 (69.8) | 0.921 |
| | No | 12 (30.8) | 23 (29.9) | 35 (30.2) | |
| Ward understaffing influences documentation | Yes | 34 (87.2) | 68 (88.3) | 102 (87.9) | 1.000 |
| | No | 5 (12.8) | 9 (11.7) | 14 (12.1) | |
| | 1:2 | 5 (12.8) | 2 (2.6) | 7 (6.0) | |
| | 1:3 | 14 (35.9) | 2 (2.6) | 16 (13.8) | |
| | 1:4 | 13 (33.3) | 12 (15.6) | 25 (21.6) | |
| Nurse to patient ratio | 1:5 | 1 (2.6) | 6 (7.8) | 7 (6.0) | 0.100 |
| | 1:10 -15 | 2 (5.1) | 23 (29.9) | 25 (21.5) | 0.002* |
| Excessive workload influences docu- | Yes | 35 (89.7) | 76 (98.7) | 111 (95.7) | 0.043* |

| Variable | Category | Private ward N = 39 | Public ward N = 77 | Total N = 116 | p-value |
|---|----------|---------------------|--------------------|---------------|---------|
| mentation | No | 4 (10.3) | 1 (1.3) | 5 (4.3) | 0.100 |
| | Yes | 5 (12.8) | 21 (27.3) | 26 (22.4) | |
| Availability of essential medications | No | 34 (87.2) | 56 (72.7) | 90 (77.6) | 0.474 |
| | Yes | 22 (56.4) | 38 (49.4) | 60 (51.7) | |
| Availability of private office space influences documentation | No | 17 (43.6) | 39 (50.7) | 56 (48.3) | |
| | Yes | | | | |

Process factors affecting documentation practice at Mbuya Nehanda Hospital

Fewer nurses in the private ward (38.5%) underwent on-the-job training compared to the public ward (44.2%), but the difference was not statistically significant ($p = 0.559$) (Table 4). Attendance at formal workshops on documentation was similar between the private (20.5%) and public wards (18.2%; $p = 0.763$). Most nurses in both wards worked 8-hour shifts (61.5% in private, 71.4% in public). A smaller percentage worked 8-12 hour shifts (35.9% in private, 23.3% in public; $p = 1.0$). Immediate documentation after an observation was common (94.9% in private, 97.4% in public; $p =$

0.602). Documentation done when convenient was reported by more public ward nurses (15.6%) than private ward nurses (7.7%; $p = 0.380$). Documentation only for complicated cases was low in both wards (5.1% in private, 2.6% in public; $p = 0.602$). Documentation for normal labor was not reported in the private ward but was noted in the public ward (7.8%; $p = 0.096$). The majority used standard recommended charts (87.18% in private, 92.2% in public; $p = 0.504$). Time for delivery registry was commonly less than 15 minutes after delivery (46.15% in private, 64.9% in public; $p = 0.155$). (Table 4).

Table 4. Process factors influencing documentation in the private and public labour wards at MNMH.

| Variable | Category | Private ward N = 39 | Public ward N = 77 | Total N = 116 | p-value |
|---|---------------|---------------------|--------------------|---------------|---------|
| Able to give correct definition of documentation | Yes | 39 (100.0) | 76 (98.7) | 115 (99.1) | - |
| | No | 0 (0.0) | 1 (1.30) | 1 (0.9) | |
| Underwent on-the-job training | Yes | 15 (38.5) | 34 (44.2) | 49 (42.2) | 0.559 |
| | No | 24 (61.5) | 43 (55.8) | 67 (55.8) | |
| Attended formal workshops on documentation training | Yes | 8 (20.5) | 14 (18.2) | 22 (19.0) | 0.763 |
| | No | 31 (79.5) | 63 (81.8) | 94 (81.0) | |
| Length of shift | 8 hours | 24 (61.5) | 55 (71.4) | 79 (68.1) | 1 |
| | 8 – 12 hours | 14 (35.9) | 18 (23.3) | 32 (27.6) | |
| | Not disclosed | 1 (2.6) | 4 (5.2) | 5 (4.3) | |
| Documentation done immediately after an observation | Yes | 37 (94.9) | 75 (97.4) | 112 (96.6) | 0.602 |
| | No | 2 (5.1) | 2 (2.6) | 4 (3.5) | |
| Documentation done when it's convenient | Yes | 3 (7.7) | 12 (15.6) | 15 (12.9) | 0.380 |
| | No | 36 (93.3) | 65 (84.4) | 101 (87.1) | |
| Documentation done for complicated cases | Yes | 2 (5.1) | 2 (2.6) | 4 (3.5) | 0.602 |
| | No | 37 (94.9) | 75 (97.4) | 112 (96.6) | |
| Documentation only done for normal labour | Yes | 0 (0) | 6 (7.8) | 6 (5.2) | 0.096 |
| | No | 39 (100) | 71 (92.2) | 110 (94.8) | |
| Standard recommended charts used for documentation | Yes | 34 (87.18) | 71 (92.2) | 105 (90.5) | 0.504 |
| | No | 5 (12.82) | 6 (7.8) | 11 (9.5) | |

| Variable | Category | Private ward N = 39 | Public ward N = 77 | Total N = 116 | p-value |
|--|----------|---------------------|--------------------|---------------|---------|
| Time taken for initial Partograph entry | 10 mins | 13 (33.33) | 19 (24.7) | 32 (27.6) | 0.123 |
| | <10 mins | 15 (38.46) | 45 (58.4) | 60 (51.7) | |
| | >10 mins | 11 (28.21) | 13 (16.9) | 24 (20.7) | |
| Time taken for subsequent Partograph entry | 5 mins | 15 (38.46) | 26 (33.8) | 41 (35.3) | 0.611 |
| | <5 mins. | 20 (51.28) | 43 (55.8) | 63 (54.3) | |
| | >5 min. | 4 (10.26) | 8 (10.4) | 12 (10.3) | |
| Time taken for delivery register entry | 15 mins | 13 (33.33) | 19 (24.7) | 32 (27.6) | 0.155 |
| | <15 min | 18 (46.15) | 50 (64.9) | 68 (58.6) | |
| | >15 min | 8 (20.51) | 8 (10.4) | 16 (13.8) | |
| Insufficient time influences documentation | Yes | 35 (89.74) | 63 (81.8) | 98 (84.5) | 0.416 |
| | No | 4 (10.26) | 14 (18.2) | 18 (15.5) | |

3.4. Purposes and Importance of Documentation During Labour

In terms of knowledge of labour ward documentation, the majority of the study participants (approximately 90%) demonstrated high level of knowledge on various aspects of labour ward documentation. For instance, one participant had an additional definition of documentation and defined it as a “form of written evidence of work”. The majority of the participants were aware that documentation was essential for continuity of patient care, health planning purposes and for ensuring the provision of quality patient care. However, a lower proportion of midwives were aware that documentation was also essential for legal purposes and research purposes. Another less commonly cited purpose for documentation which some participants mentioned was essentially for record keeping.

The study participants working both in the public and private labour wards demonstrated high levels of awareness of the critical aspects of labour that should be documented, that is, the foetal status (100%), cervical dilation (99%), cervical effacement (99%), onset of labour (99%), and status of membranes (99%). Some study participants were also able to highlight more nuanced and specific critical aspects to be documented in labour including maternal status and wellbeing

(24%), labour contractions (14%), monitoring of administered medications (9%), caput and moulding (3%), progress of labour and change of mode of delivery.

3.5. The Association Between Documentation Quality and Health Outcomes for Mothers and Infants at Mbuya Nehanda Hospital

In this study, poor documentation practice was defined as absence of any form of documentation or partial entries with significant information missing. Proper documentation was therefore defined as complete documentation of all the stages of labour in addition to maternal and foetal outcomes. With regards to maternal outcomes, the private ward had 24.3% poor/unknown maternal outcomes whereas the public ward had 43.9% poor/unknown maternal outcomes and the difference was statistically significant ($p=0.021$).

Good/favorable foetal outcomes were reported in 75.7% of cases in the private ward and 56.1% of the cases in the public ward and the difference was statistically significant.

Poor documentation practice was reported in 92.9% of cases in the private ward and 97.2% of cases in the public ward. The difference in documentation practice between private and public wards is not statistically significant ($p = 0.267$).

Table 5. Documentation practice.

| Variable | Category | Poor/unknown outcome | Favorable Outcome | Fisher's exact p-value |
|------------------------|----------|----------------------|-------------------|------------------------|
| Documentation practice | Poor | 62 (96.88) | 107 (94.69) | 0.713 |
| | Good | 2 (3.12) | 6 (5.31) | |

| Variable | Category | Poor/unknown outcome | Favorable Outcome | Fisher's exact p-value |
|------------------------|-----------------|----------------------|--------------------|------------------------|
| Variable | Category | Private Ward N =70 | Public ward N =107 | Fisher's exact p-value |
| Maternal outcomes | Poor/unknown | 17 (24.29) | 47 (43.93) | 0.021* |
| Foetal outcomes | Good/ favorable | 53 (75.71) | 60 (56.07) | 0.008* |
| Documentation practice | Poor | 65 (92.86) | 104 (97.20) | 0.267 |
| | Good | 5 (7.14) | 3 (2.80) | |

4. Discussion

4.1. Demographic Characteristics

The majority of nurses in both private and public wards were aged 31-40 years (69.2% in private vs. 54.6% in public), indicating a mid-career workforce. This age distribution is similar to findings in other regions, such as South Africa [16]. The mean age of nurses was 38.9 years in private wards and 39.5 years in public wards, with no significant difference ($p = 0.479$), suggesting comparable experience levels that could influence documentation practices. Globally, similar age trends are seen in specialized units like maternity wards. A significant majority of the nursing staff were female (100% in private vs. 94.8% in public wards), reflecting the typical gender distribution in the nursing profession worldwide [6]. The slight presence of male nurses (5.19% in public wards) aligns with the growing but limited trend of male participation in nursing globally.

Experience levels showed a higher percentage of nurses in the private ward with more than six years of experience (76.9%) compared to the public ward (58.44%), though this difference was not statistically significant ($p = 0.075$). This trend is seen in other African countries, where private healthcare facilities often attract more experienced professionals due to better working conditions and remuneration [17].

The homogeneity in age and qualifications across wards suggests these factors might not be primary determinants of documentation quality. However, the slightly higher experience in the private ward could imply better documentation practices, as experience often correlates with higher competence and adherence to protocols. The predominance of female nurses reflects broader workforce trends and is unlikely to impact documentation quality directly. Specialized training in midwifery is crucial for quality care in maternity wards, and further training in documentation practices could enhance record quality.

A study in Ghana found that years of experience significantly impacted the quality of nursing documentation, with more experienced nurses performing better. This aligns with trends observed at MNMH, where more experienced private

ward nurses might contribute to better documentation practices. Research in India showed that nurses with higher educational qualifications, such as BScNS, were more likely to adhere to documentation standards. While the MNMH study shows a smaller proportion of such qualifications, enhancing educational opportunities might improve documentation quality.

The demographic characteristics of labor ward nurses at MNMH indicate similarities with global trends but also highlight specific local dynamics. Slight differences in experience levels could influence documentation quality. Comparing these results with similar studies underscores the importance of experience and professional qualifications in enhancing documentation practices, suggesting potential areas for targeted training and policy improvements in both private and public healthcare settings in Zimbabwe.

4.2. Structural Factors Influencing Documentation Practice in Labor Wards

The study revealed a significant correlation between being assigned to the public labor ward and a higher midwife-to-patient ratio. Increased workload was also significantly linked to being assigned to the public labor ward. Documentation quality was poor in both private and public labor wards but was marginally better in private wards. Kritzinger and others highlighted the challenges nurses face in dedicating adequate time to documentation amidst direct patient care responsibilities [18].

The findings align with previous research by Bailey, Wilson, and Yoong, which determined that midwife documentation quality deteriorated when workload surpassed a certain threshold [19]. Onasoga and others noted that heavy patient loads were associated with lower quality documentation in labor wards, with midwives feeling rushed to adequately cater to all patients' needs [20]. Paterson, Fair, and Spalding also reported similar results, noting a higher likelihood of incomplete or non-documentation when the nurse-to-patient ratio exceeded 1:2 [21].

Midwives stated that work pressure prevented them from allocating sufficient time to proper documentation, especially when understaffed. Rastogi, Phipps, and Sridhar indicated that overcrowded inpatient areas hindered detailed and fo-

cused documentation [22]. Heavy patient loads and high nurse-to-patient ratios have been shown to be detrimental to documentation quality in healthcare settings [23].

The study also investigated other structural factors impacting documentation practices, including equipment, facilities, human resources, and financial resources. No significant difference in the influence of these factors was found between public and private labor wards. Contrary to these results, Nematian et al. in 2019 found that deficiencies in essential medical devices interfered with nurses' ability to document vital patient information. Similarly, Maru et al. reported that shortages of essential medications and equipment often made it difficult to document comprehensive care plans [24].

Mgonja, Masanja, and Kahabuka observed that midwives struggled to provide detailed and concise documentation in overcrowded postnatal units with limited private space [25]. Similar sentiments were expressed in other studies which reported that errors in handwritten charts were likely in busy nursing stations with many distractions [26]. The contrasting findings might underline the structural factors affecting documentation practices and underscore the importance of addressing these challenges to ensure accurate and comprehensive patient documentation.

The study participants demonstrated a strong understanding of the essential components of labor that required documentation. However, the absence of specific protocols or standard operating procedures resulted in documentation lacking the required level of detail, making it ineffective for team communication and compromising care quality. Direct observation highlighted the consistent deficiency in thoroughness and attention to detail in records in both public and private facilities. These findings point to the critical need for structured protocols and guidelines to standardize documentation practices in labor wards.

4.3. Process Factors Affecting Documentation Practice

The study examined various process-related factors influencing documentation practices, including understanding the significance of documentation, mentorship opportunities, and documentation behaviors. These factors were not found to have a statistically significant influence on documentation practices in the private and public labor wards. However, prior studies have noted their significant influence. Hardido, Kedida, and Kigongo in 2023 attributed wide variations in documentation quality to inconsistent provision of formal training programs focused on developing core documentation competencies among healthcare workers [26].

Bolado and others, highlighted the limited availability of training opportunities for nurses, leading to variability and incompleteness in record-keeping [10]. Deficiencies in documentation practices, were noted in several studies emphasizing the lack of ongoing competency-based training opportunities for midwives post-initial education [28]. It is

important to standardize documentation during shifts and patient transfers for continuity of care, supported.

The importance of consistent and comprehensive tailored training programs to enhance core documentation competencies among healthcare workers becomes apparent. These trainings should be ongoing and implemented together with structured mentorship and education programs to improve documentation practices and ensure high-quality and standardized documentation, particularly during critical processes like shift changes and patient transitions.

The study assessed participants' knowledge of labor ward documentation, revealing that most (approximately 99%) exhibited a high level of understanding of various documentation aspects. Despite this, actual documentation practices were significantly poor in both private and public labor wards. Direct observation underscored inconsistencies and inadequacies in monitoring maternal and fetal vital signs, hindering continuity of care. This result was consistent with findings by Skirnisdottir, Østenfor, Vika, and Aasekjær, who highlighted similar challenges faced by midwives in busy environments with high patient volumes [27].

The study identified instances of incomplete and delayed partogram completion in both private and public labor wards. This pattern of inadequate monitoring during labor raises concerns about care quality at the facility. Furthermore, a lack of recorded interventions was observed, with some documented interventions leading to surgical procedures in private labor wards, while interventions in public wards were often undocumented. Melberga et al. in 2023 identified significant challenges in transferring patient medical information between primary health centers and district hospitals in Burkina Faso [28].

Addressing gaps in training, mentorship, and documentation practices is essential for enhancing care quality and continuity in healthcare settings. Implementing context-suitable structured training programs, providing ongoing education opportunities, and emphasizing standardized documentation practices can improve maternal care quality, promote better patient outcomes, and ensure effective patient information transfer across care continuums.

4.4. The Association Between Documentation Quality and Health Outcomes

The study determined that poor or unknown maternal and fetal outcomes were not significantly linked to inadequate documentation practices. However, these findings contrast with those of Kennedy et al. in 2019, who indicated a significant association between incomplete documentation of perioperative infection control processes and higher rates of surgical site infections [17]. A similar study in 2020 found that incomplete documentation correlated with longer neonatal intensive care unit (NICU) stays and increased diagnostic tests for infants [31].

The difference in findings between this study and previous studies could be attributed to the sample being midwives

from the same institution. Midwives at MNMH are often randomly assigned to either public or private wards, with staffing prioritized for the private ward. Their recall of experiences with documentation might overlap. A similar study demonstrated that incomplete documentation of pre-existing comorbidities or risk factors was associated with a higher likelihood of adverse events during hospitalization [30].

Although good documentation practices were more prevalent in private labor wards, this difference was not statistically significant. Conversely, poor or unknown outcomes were significantly correlated with the ward of admission. Patients and their infants in the public labor ward were more likely to experience complications, have infants admitted to the NICU, face maternal or infant mortality, or have unknown health statuses after discharge. This highlights a challenge with continuity of care in the public labor ward.

Comprehensive and accurate documentation is crucial for ensuring positive maternal and fetal outcomes in healthcare settings. Discrepancies or deficiencies in documentation practices can adversely impact patient safety, care quality, and overall health outcomes. Addressing these challenges is essential for improving healthcare delivery and outcomes for both mothers and infants.

5. Limitations

1. The study was carried out at an institution where the participants had homogenous characteristics which therefore made it difficult to be inferred since this was not a true representation of the population.
2. It was difficult to obtain consent and study rights from wholly private maternity institutions like Baines Maternity Hospital (BMH) and Avenues Maternity Hospital, which could have made the overall comparative study better as different settings would provide more realistic findings.
3. Failure to incentivize the MNMH midwives affected their willingness to partake in the study therefore affected their participation.

6. Recommendations

To enhance documentation practices and improve maternal and fetal outcomes at MNMH, we recommend the following strategies:

1. Develop and implement standardized documentation protocols and procedures in both private and public labor wards to ensure consistent and accurate patient information recording, including vital signs, partogram progression, and interventions.
2. Provide ongoing competency-based training for healthcare workers, particularly midwives, covering documentation standards, guidelines, and the importance of thorough and timely documentation in im-

proving patient outcomes.

3. Address structural factors impacting documentation by implementing manageable midwife-to-patient ratios, workload management strategies, and ensuring adequate availability of equipment and private facilities.
4. Establish mentorship programs within labor wards to provide support and guidance to midwives, reinforcing the importance of documentation, offering best practice guidance, and providing feedback on documentation quality.
5. Implement continuous quality improvement initiatives focused on enhancing documentation practices through regular audits, feedback mechanisms, and performance evaluations to identify areas for improvement and track progress.
6. Conduct a comparative study on documentation practices between wholly private institutions like Baines Maternity Hospital or Belvedere Maternity Hospital and public sector institutions like Parirenyatwa Group Hospital (PGH) or Sally Mugabe to gauge documentation variations and practices.

7. Conclusion

This sought to compare the structural and process factors influencing documentation practice in private and public labour wards of Parirenyatwa Mbuya Nehanda Maternity Hospital. Results showed that there is high midwife-to-patient ratios in labour wards and excessive workloads significantly impact documentation quality. The lack of specific protocols for labour ward documentation is compromising care quality. Despite high knowledge levels, actual documentation practices are poor, leading to inadequate monitoring. Process-related factors like understanding documentation's significance and mentorship opportunities are important, suggesting the need for comprehensive training. Absence of ongoing competency-based training and guidelines post-initial education contributes to poor documentation. Poor maternal and fetal outcomes were not significantly linked to inadequate documentation, though previous studies show a connection. Good documentation was more prevalent in private wards, but poor outcomes were more common in public wards, highlighting care continuity challenges.

Abbreviations

| | |
|------|---|
| MNMH | Parirenyatwa Mbuya Nehanda Maternity Hospital |
| NICU | Neonatal Intensive Care Unit |
| SPSS | Statistical Package of Social Scientists |
| BMH | Baines Maternity Hospital |
| PGH | Parirenyatwa Group of Hospitals |
| JREC | Joint Research Ethics Committee |

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Conflicts of Interest

The authors declare no conflict of interest.

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