



Functioning of Care Teams During Clinical Handover in the Reference Maternity Wards of Ouagadougou in Burkina Faso

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Abstract

Introduction: Clinical handover refers to the transfer of responsibility for patient care from one provider or team to another through the exchange of essential information. Assessments of its implementation and evaluation have highlighted several shortcomings in the program. This study examined how healthcare teams conduct clinical handovers in three referral maternity hospitals in Ouagadougou, Burkina Faso.

Methods: This cross-sectional study was conducted from August to November 2023 among healthcare workers in the maternity wards of three tertiary hospitals: Yalgado Ouedraogo, Tengandogo, and Bogodogo University Hospitals. Exhaustive sampling with consecutive recruitments was performed. Data were collected using an interviewer-administered questionnaire. Epi Info version 7.1.6 was used for data analysis. Variables were described using the mean and proportion.

Results: Overall, 53.31% of the eligible healthcare workers participated in the study. The mean age was 41±6 years, and length of professional experience was 12.9±4.3 years. Midwifery staff accounted for 81.06% of the participants. Written communication is the most common method of information exchange between healthcare professionals. However, the quality of the written information was inadequate in more than half of the cases, creating potential risks for patient safety. Team functioning during clinical handover was suboptimal, characterized by limited interaction between teams and informal overlapping handover periods, with 49.70% of scheduled overlaps not being respected.

Conclusion: The functioning of care teams during shift changes showed several deficiencies related to team dynamics, composition, and activities. The development and implementation of standardized procedures are needed to improve clinical communication between healthcare professionals in referral maternity units.

Keywords: Clinical handover, patient safety, care teams, maternity, Burkina Faso

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Introduction

The administration of care can be likened to a process with more or less vital risks, occurring in a dynamic environment where there may be several

communication times between teams.¹ It is rare for health facilities to have a single provider. Collaboration and coordination of care are essential, with clinical handovers being the key link. Clinical handover is the

term commonly used to describe the communication of relevant patient information between caregivers to ensure continuity of care.² It is defined as the transfer of responsibility for patient care from one provider or team of providers to another, through sharing essential information.³

The lack of communication between care teams is a human factor that constitutes one of the major aspects of most adverse events associated with care.⁴ During obstetric care, one-third of malpractice cases were found to involve miscommunication among members of the obstetrical team.⁵ Yet, in the context of optimizing collaborative care, effective communication between clinicians is important to facilitate continuity of care, eliminate avoidable errors, and provide a safe environment for patients.⁶ The use of care supports is the basis for communication between caregivers during shifts.

The implementation of effective clinical handovers requires proper functioning of healthcare teams to ensure shift changes. The functioning of care teams determines the organization and support provided to ensure continuous and safe care.

The handover are by themselves a moment of coordination and cooperation in the activity between caregivers as well as between teams through the articulation of one's work with that of others.⁷ Legally, these situations also refer to a transfer of responsibility between the participants.⁸

In the hospital context, handovers require interprofessional collaboration, the objective of which is to be part of a coherent care project common to all the caregivers of a service.⁸ This is the case for an effective working relationship between the multidisciplinary team and a clear organizational structure for midwives, women, and medical staff with explicit and transparent communication lines, which are essential to ensure optimal care for mothers and their babies.⁹ The lack of formalization of the shift handover process constitutes a major deficiency in the functioning of care teams.

In Burkina Faso, there are no procedures or protocols for standardizing clinical handovers. It is then necessary to pay particular attention to this communication process between caregivers to appreciate the means of information transmission and the composition and dynamics of care teams.

Furthermore, to the best of our knowledge, no study has examined clinical handovers in Burkina Faso. It is important to collect information on the functioning of care teams in the reference maternity hospitals. This study aimed to describe the functioning of care teams in three reference maternity hospitals in Ouagadougou.

Type and period of study

This cross-sectional study was conducted from August 7th to November 22, 2023.

Framework and scope of the study

This study focused on third-level university hospitals (CHU) in the healthcare system in Burkina Faso, a resource-limited country in West Africa. Burkina Faso has a three-tiered pyramid-shaped health system for healthcare provision. The first level consists of two tiers: the first tier includes health and social promotion centers (CSPS) and medical centers (CM), and the second tier of care is represented by the Medical Center with Surgical Unit (CMA) or district hospital (HD).

The second level comprises regional hospital centers (CHR). The third level comprises university hospital centers (CHU). It is the highest level of reference for specialized care.¹⁰ the four university hospitals in Ouagadougou, three (03) offering gynecology and obstetrics services were selected for the study. These were the university hospitals: Yalgado Ouédraogo, Bogodogo and Tengandogo.

Population and inclusion criteria

The study population was composed of all maternity hospital staff from university hospitals (Yalgado Ouédraogo, Bogodogo and Tengandogo) in the city of Ouagadougou. The participants included midwives, doctors,

and nurses. This population was estimated based on hospital action plans. Caregivers were selected for this study, meeting the inclusion criteria, namely: to agree to participate in the study, to be present at the time of the study, and to have a seniority in the position of at least 3 years for doctors in specialization and at least 1 year for doctors, midwives, and full-time nurses.

Sample and sampling

For this study, exhaustive sampling of 317 caregivers and a consecutive recruitment method were used to recruit caregivers. The hospitals were selected by reasoned choice, given the package of activities carried out and the administrative organization of these establishments. The caregivers who met the inclusion criteria, namely, who those agreed to participate in the study, were present at the time of the study, and had a seniority in the position of at least 3 years, were selected for this study. The sample consisted of 317 caregivers at the time of the study, which was the target sample (Table 1).

Method, technique and tools for data collection

Data were collected using a questionnaire. This questionnaire was previously pretested in a hospital with the same characteristics as our field of study. The pre-test enabled us to make corrections to our collection tools. Data were collected within maternity services after the study was presented to the participants. Appointments were set up according to the availability of respondents to ensure the continuity of services. Data collection was carried out by three (3) previously trained medical students who had already participated in the surveys.

Study variables

The variables were related to the means of information transmission between caregivers (available care materials, quality of written and oral transmission), the composition, dynamics, and interactions between individuals and care teams (number of care teams, number of caregivers per team, overlap time, shift handover times, adherence to working hours, multidisciplinary nature of care teams, effective presence of all members of both teams).

Data analysis

Data analysis was performed using Epi Info version 7.1.6 software after cleaning the database. Descriptive statistical data were generated for the study. Proportions were calculated based on scores of "0" or "1," corresponding to "No" or "Yes" responses, respectively, for dichotomous variables. For open-ended questions and filters, responses were grouped according to the categories expressed before calculating the proportions.

Ethical considerations

This study was approved by the ethics committee (approval number: N°2023-03-065) and authorized to conduct an investigation by the general management of the university hospitals concerned. Participants were recruited from hospitals through the presentation of general information about the study's purpose. Participation was voluntary and required signing a free and informed consent form. Anonymity was guaranteed, and availability constraints were taken into account to ensure continuity of services.

Table 1. Health workers numbers retained by university hospital for the study

Staff Profile	University hospital centers			Total
	Yalgado Ouédraogo	Bogodogo	Tengandogo	
Doctors	12	10	9	31
Midwives	110	93	49	252
Nurses	19	7	8	34
Total	150	110	49	317

Results

In total, 169 of the 317 healthcare professionals participated in the study, representing a participation rate of 53.31%. Of the 169 healthcare professionals who participated in the study, 69 came from the obstetric emergency unit and delivery room, representing a rate of 40.83% (Table 2).

Characteristics of the people surveyed

Midwifery staff represented 81.06% of all participants. The mean age was 41.12 years, with a standard deviation of ± 6 years, ranging from 36 to 55 years. The average seniority of respondents was 12.9 years, with a standard deviation of ± 4.3 years, and extremes of 8 and 26. Table 3 presents the details of the sociodemographic characteristics.

Methods of transmitting information between caregivers and teams

Information was transmitted between healthcare professionals both orally and in writing. Written handovers relied on patient records, shift reports, instructions, transfer forms, and treatment charts. Respondents did not mention any dedicated clinical communication tool. Written transmission was the most frequently used method for sharing clinical information, according to 50.88% of the respondents. However, 59.76% of respondents felt that both methods should be combined for greater effectiveness. Moreover, 57.39% of respondents considered the quality of the information transmitted to be insufficient. Indeed, incomplete, poorly transcribed, untranscribed information, or erasures on the care support were noted.

Composition, dynamics and interactions between people

The number of teams was six for all units in the three hospitals. The care teams were composed of profiles, and the number of caregivers per team depended on the care unit of the patient. The daily schedule was divided into two shift rotation periods:

7:30 a.m. to 5:00 p.m. for the day teams and 5:00 p.m. to 7:30 a.m. for the guard team. For the emergency department, the number of caregivers was three (3) for midwifery staff and nurses and two (2) for hospital services.

The existence of overlap time between shift teams was noted by 80.04% of the respondents. However, this overlaps time varied between 15 and 40 min depending on the number of patients and their clinical conditions, according to 10.65% of respondents. Furthermore, the overlap time was not formally defined by all respondents but was considered sufficient by more than half (56.80%). Failure to adhere to shift handover times and overlap time was reported by 49.70% of the respondents. The reasons given were primarily lateness (66.66%) and absence (3.33%). Activities carried out during the overlap time mainly consisted of handing over instructions (100%), presenting patient files (47.92%), introducing patients awaiting surgery (31.36%), discussing specific cases (8.87%), and sharing experiences (6.50%).

According to 61.53% of respondents, communication between care teams during shift changes was insufficient. According to 55.62% of respondents, the presence of members from both teams during shift handovers was ineffective. The coordinators and supervisors of the care units were not involved in these assignments. The most common reason given was administrative workload (74.55%). In addition, the handovers were carried out separately by profile, between midwives, doctors, and nurses according to all respondents, despite the high level of teamwork (66.27%). However, the staff and clinical visits were carried out daily according to all respondents. According to the respondents, clinical visits are carried out by doctors specializing in gynecology and obstetrics, assisted by medical students. Interdisciplinary collaboration was considered unsatisfactory by 52.07% of respondents with separate medical visits and shift handovers (Table 2 and 3).

Table 2: Distribution of staff surveyed by university hospital during the study

Staff Profile	Yalgado Ouédraogo University Hospital n (%)	Bogodogo University Hospital n (%)	Tengandogo University Hospital n (%)	Set n (%)
Doctors	2 (2.89)	0 (0.0)	3 (8.33)	5 (2.95)
Midwives	54 (78.26)	57 (89.06)	26 (72.22)	137 (81.06)
Nurses	13 (18.85)	7 (10.93)	7 (19.45)	27 (15.97)
Total	69 (100)	64 (100)	36 (100)	169 (100)

Table 3: Distribution of surveyed staff according to socio-demographic categories

Variables	Number of participants (n)	Percentage of participants (%)
Age (years)		
30-39	69	40.83
40-49	88	52.07
> 50	12	07.10
Professional seniority (years)		
3-5	00	00
5-9	44	26.04
10-14	58	34.31
15-19	61	36.09
20 and over	06	3.56
Sex		
Women	92	54.43
Men	77	45.56
Professional categories		
Doctors	5	2.96
Nurses	27	15.98
Midwives	137	81.06
Units/ Services		
Emergency/Delivery Room	69	40.83
High-risk pregnancies	55	32.55
Post-operative	31	18.34
Postpartum period	14	8.28

Discussion

This study aimed to describe the functioning of care teams in three reference maternity hospitals in Ouagadougou. The results revealed shortcomings in the dynamics and interaction of care teams and in the use of care resources. Institutional barriers to the implementation of adequate clinical handovers were also identified.

Methods of transmitting information between caregivers and teams

The results showed insufficient availability and use of clinical communication tools in the ED. These tools form the basis of clinical communication among healthcare

professionals in the three university hospitals. The use of written materials as an essential means of information exchange between healthcare professionals has also been noted in other studies.¹¹⁻¹³ Care documents are essential to ensure the traceability and continuity of the care provided. Failures related to the documentation of care are a source of errors or omissions in management processes.

The Joint Commission's adverse event surveillance report in hospitals in the US has shown that inadequate communication has been associated with adverse events that are indicators of patient safety (The Joint Commission, 2017).¹⁴

As for oral handover, it was brief or almost non-existent. Contrary results were found in Gambia, where handover was essentially oral when it occurred.¹³

Despite the existence of written records of care, the quality of the recordings was insufficient. "Incomplete notes," combined with "illegible handwriting," could lead to gaps in information regarding patient care.^{11,13} However, the quality of written communication is the real key to a concise oral transmission that guarantees the quality and safety of care.¹⁴

No specific support dedicated to clinical handover was mentioned by respondents. This observation was also made in Gambia¹³ or the respondents stated that only notes on scraps of paper and the report log were used. Contrary results were observed in Ireland and Australia, where written materials were used to support oral transmission.^{15,16}

More than half of the respondents felt that written and oral communication should be combined to be effective. The use of care materials containing clear and accurate information on patient care facilitates the transfer of relevant information between care teams and provides medico-legal evidence of care provided.^{8,11,13,17-19}

Dynamics and interactions between caregivers and care teams

An analysis of the functioning of the care teams revealed deficiencies in the management of multidisciplinary handovers. Little interaction was observed between the different disciplines during shift changes, with varying levels from one site to the next. Similar results were presented by other studies, which noted a low level of interaction among healthcare professionals.^{11,20-22} Yet, multidisciplinary and interdisciplinary communication is a way to cultivate team awareness in large organizations like hospitals. This awareness allows teams to understand what activities they are working on and how these activities relate to each individual's work.²³

Also, effective communication between caregivers is of the utmost importance to foster an open, horizontal, assertive, and confident dialogue in order to promote ethical and humanistic-scientific behaviors in the healthcare sector.²⁴ In order to optimize communication between caregivers, standardization has been widely recommended in the literature as a strategy that ensures the transmission of essential and reliable information about patient care.²⁵⁻²⁷

To this end, several standardization mnemonics have been identified in the literature. However, no comparative study has been conducted to determine the most effective tools for adequate handovers. The tools identified in the literature have been adapted to each context, making comparisons difficult. However, the Situation, Background, Assessment, Recommendation (SBAR) tool has been recommended by the WHO with possible adaptations.²⁸

In addition, the handover process is sometimes limited to simply reading files and instructions, especially when the two teams do not respect the overlap time due to delays, as in other studies.¹³ Not all members of the care team participated in the handovers when they were observed. The same was true in Gambian hospitals, where only team leaders were involved.¹³

A small proportion of respondents reported variable overlap times. However, they stated that this overlap time was not always observed. These results are consistent with those found by other studies indicating variations in transmission duration. The lack of fixed schedules has resulted in staff absences, both incoming and outgoing, or shortened or even completely cancelled transfers.^{11,13}

The content of the information shared between teams varied from one department to another and from one caregiver to another in the absence of a standard. Several studies have identified the absence of standards as the primary cause of the failure to implement adequate clinical handover.^{13,29-32} The handover of instructions was the main activity carried out during periods of overlap according to

the majority of respondents, as was also noted in Ireland.¹¹

Unit coordinators and supervisors did not participate in the shift handovers. The reason given was the administrative workload. Similar observations were made in other studies where no supervision or guidance from senior nurses and team leaders was provided during shift handovers.^{13,29,31,33}

Limitations of the study

This study had several limitations. The data were collected within maternity hospitals, which might not have allowed participants to answer the questions freely. Moreover, the low overall statistical representativeness of this study does not allow generalization of the results obtained. In addition, there was an underrepresentation of certain professional categories that did not allow for proper interpretation of the results. The objective of this study was to describe the functioning of care teams related to clinical handover in three reference maternity hospitals in Ouagadougou. An interventional study on the implementation of an evidence-based standardized model should be considered.

Conclusion

This study identified shortcomings in the dynamics and interactions between caregivers and care teams, as well as in the use of means of transmission of information between caregivers and care teams. The transfer of information between caregivers was primarily based on written materials. However, no specific support was provided for the handover. Oral handovers were almost nonexistent. However, the main part of teamwork is still based on communication among members. In addition, insufficient filling of these supports was noted as potentially causing loss of essential information and a risk to patient safety. The proper use of care materials is a professional duty for caregivers, and the quality-of-care materials is the basis for effective clinical handover. In addition, the completion of a transmission by a multidisciplinary team makes it possible to optimize the sharing of

essential information on patient care with the healthcare team. The non-formalization of overlap time between care teams was noted as a shortcoming, causing delays and absences during shifts.

The standardization of practices has recommended the WHO through the use of tools that have yielded conclusive results, such as the mnemonic Situation, Background, Assessment, Recommendation (SBAR), with possible adaptations for the harmonization of practices. This would help improve the quality of care and patient safety in maternity wards, thereby reducing the occurrence of maternal and perinatal deaths.

Ethics approval

Ethics approval This study received ethical approval from the Burkina Faso Health Research Ethics Committee, under number N°2023-03 -065. Ethical provisions were followed throughout the study.

Availability of data and materials

Availability of data and materials the data collected and analyzed during the study are available from the corresponding author upon request.

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Conflict of interest

There are no conflicts of interest related to this study

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Author Contribution

All authors contributed significantly to the conception, study design, execution, data acquisition, analysis, and interpretation of the data. All authors

participated in drafting, revising, and critically reviewing the manuscript. Finally, all authors have agreed on the journal to which the manuscript has been submitted, have given final approval of the version to be published, and have agreed to be accountable for all aspects of the work.

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