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# International Journal of Nursing and Midwifery

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Full Length Research Paper

Evaluation of the quality of postnatal care and mothers’ satisfaction at the university college hospital Ibadan, Nigeria

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Globally, postpartum care is a neglected part of maternal health, even though 50% of maternal deaths occur in the first weeks after childbirth. Literature is sparse on the quality and content of postnatal care provided in Nigeria. This study aimed to assess the quality of Postnatal Care (PNC) for mothers using the World Health Organization (WHO) practice guideline of postnatal care. An exploratory cross-sectional design was employed among 57 purposively selected mothers in postnatal clinic and wards. Data were collected in two phases using three checklists to examine facility resources and quality of postnatal care provided; and one questionnaire to evaluate mothers’ satisfaction in both the clinic and the wards. Data were analyzed using descriptive statistics. The facility assessment showed an inadequate infrastructure and human resources. Only 47.9% of the recommended routine postnatal care was provided on the postnatal wards and 42.3% in the postnatal clinic. Level of satisfaction was found to be poor among 63.2% of the women on the wards, and good among 82.5% of the women in the clinic. Findings suggest that inadequate resources for PNC. Organizations need to strengthen PNC services by providing recommended resources and a standard guideline that will serve as a framework for provision of quality postnatal care services.

Key words: Postnatal care, postnatal care guideline, quality care, maternal satisfaction.

INTRODUCTION

The postnatal period is the first six weeks after birth, which is critical to the health and survival of the mother and her newborn. The most vulnerable time for both is during the hours and days after birth (WHO, 2014). Despite this long-standing definition, the postpartum period frequently lasts for several months and it is documented as a neglected aspect of modern maternity care. Accordingly, Pallangyo et al. (2017), reported that the global picture confirms that postpartum care is a neglected part of maternal and neonatal health, yet 50% of maternal deaths occur in the first weeks after childbirth. It is therefore not surprising that literature is sparse on the puerperium and where it exists; it deals primarily with abnormal involution and pathology (Kearns et al., 2016). The WHO has highlighted widespread and persistent health problems, including death experienced...
by women after childbirth, many of which are unreported by women and not identified by healthcare professionals (WHO, 2014). Furthermore, WHO (2014) reports that of the 289,000 maternal deaths that occur each year, worldwide and 50 to 71% occur within the postnatal period. Unfortunately, 99% of these maternal deaths occur in low and middle income countries including Nigeria (Blencowe et al., 2012).

Despite the more than 20 years fight against maternal deaths, Nigeria still documents one of the worst maternal mortality statistics in the world. With a maternal mortality ratio of 576 per 100,000 live births, Nigeria is second only to India in the global estimates of maternal mortality.

Consequently, Nigeria loses about 153 women of childbearing age every day and a woman’s chance of dying from pregnancy and childbirth in Nigeria is 1 in 13 (NDHS, 2013). Specifically, over 40,000 maternal deaths occur in Nigeria yearly (APHR, 2017). Reports from other low income countries such as Uganda also suggest poor Postnatal Care (PNC) services. There is no document to suggest an adapted standard for PNC services in Nigeria. However, effort is geared towards achieving the recommended standard specified by the WHO.

Khanal et al. (2014), reported that the postnatal care indicated that standards were infrequently met as only 2 in 5 women in their study were reported to have received a postnatal check-up within one hour of delivery. In another study in Pakistan, Munawar et al. (2017) revealed verbalization of the low quality of maternity care by most of the participants.

In Nigeria an extensive review of the literature suggests a dearth of researches on the content and quality of postnatal care, even though care is routinely provided for women. However, several important indicators such as mortality indices reported from recent studies raise concern about its quality and effectiveness, consequently the question of quality and coverage.

Accordingly, Kinney et al. (2010) reiterates that the burden of maternal death can effectively be reduced when efforts are geared towards overcoming both the coverage and quality gaps in postnatal care. This is also consistent with other reports. For example, Carvajal-Aguirre et al. (2017) in an audit review of the content of ANC and PNC services concluded that the gap between coverage and content as a measure of quality of care is tremendously wide in all countries.

Therefore, in order to accelerate maternal and newborn survival, the authors suggested an urgent need for increased efforts targeted at improving both the coverage and actual contents of maternal and newborn health interventions.

In response to the morbidity and mortality indices, the WHO in 2014 established guidelines of postnatal care, to promote quality and ensure effectiveness. Again in 2016 the organization endorsed the availability and the use of all recommended resources to achieve optimal health care outcomes and improve the use and satisfaction of individuals, families and communities with maternal health services.

Implicitly, a first step towards achieving the goals for maternal health in the Sustainable Development Goals (SDGs 3): ensuring healthy lives and promoting the well-being of all at all ages. For women this would mean to routinely monitor quality along the continuum of care in terms of structure, process and outcome, within the context of Donabedian model of quality care. The aim of this study was to assess the available resources (Structure) used in the provision of postnatal care in the facility, evaluate routine postnatal practices on the postnatal wards and clinic in accordance with WHO guidelines (Process), and to examine women’s level of satisfaction (Outcome) with the care they received in the study setting. The Donabedian model of quality care was used as the framework to evaluate the extent of implementation of WHO guideline for quality postnatal care. The three dimensions of quality care identified in the model namely; structure, process and outcome dimensions served as the basis for assessment in this study.

MATERIALS AND METHODS

This study was an exploratory cross-sectional survey. It employed a mixed method of data collection, which consists an initial phase of qualitative data collection followed by a second phase of quantitative data collection. The observation was the dominant method and it was employed in order to examine the actual care being provided by the care providers. On the other hand, the structured interview with questionnaire was used to assess the level of satisfaction among mothers.

The sample size of 57 mothers was determined using the formula \( n = \frac{N}{1 + N \times (e^2)} \) Where; \( N \) = estimated population, \( e \) = level of error of tolerance (5%). A purposive sampling method was used in the selection of the mothers who gave consent to participate and affirmed that they would return to postnatal checkup. Purposive sampling method was used because only few of the mothers who had normal delivery confirmed they would return for postnatal follow-up in the facility. Mothers with still borne, postpartum hemorrhage or instrumental deliveries and caesarean section were excluded. Four data collection instruments were designed to achieve the objectives of the study, which included three checklists and one questionnaire. The checklists were adapted from WHO (2014) guideline for postnatal care to assess the structure (human resources, material resources and infrastructure), the process dimension (care provided) on the postnatal wards and postnatal clinic. A structured questionnaire was administered to the mothers to determine their level of satisfaction with postnatal care on the postnatal wards and postnatal clinic.

Ethical approval to conduct the study was issued after review by the University of Ibadan/University College Hospital Ethical Committee (NHREC/05/01/2008a). The respondents’ participation in the study was voluntary and consent was obtained after giving an explanation of the study. The respondents were assured of the absence of risk by their participation and confidentiality.

The qualitative data was collected first through non-participant observation using the prepared checklists to record relevant information on the available resources in the facility and on the postnatal care provided to the women. The duration of the
Table 1. Facility Assessment.

| Items                              | Available | Not available |
|-----------------------------------|-----------|---------------|
| facility readiness                | √         |               |
| 24 h availability                 | √         |               |
| Emergency preparedness            | √         |               |

**Equipment**
- Weighing scale: √
- Sphygmomanometer: √
- Stethoscope: √
- Thermometer: √
- Sterilizer: √
- Instruments: √

**Medicine**
- Analgesics: √
- Antibiotics: √
- Haematinics: √
- Supplies: √
- Infection Prevention Measures: √

**Infrastructure**
- Functional Ambulance: √
- Backup Source of Electricity?: √
- Comfortable Beds: √
- Toilet and Bathroom facilities: √
- Regular water supply: √
- Regular electricity supply: √

**Staffing**
- General Medical Doctors: √
- Specialist Medical Doctors: √
- Midwives: √
- Nurses: √
- Laboratory Scientists: √
- Pharmacists: √
- Community Health Nurses: √
- IEC materials: √
- Guidelines /Protocols: √
- Registers: √
- Continuous education and training in postnatal care: √
- Supervision: √
- Number of Doctors (O&G): 46
- Doctor patient ratio (Average): 1:8

Total score: 22 (66.7%)  11 (33.3%)

observation on both the wards and the clinic was 4 weeks.

The mothers were selected for an exit interview and each respondent’s questionnaire was marked and their phone numbers obtained to facilitate a follow up in the postnatal clinic. The mothers were followed up to their clinic appointment date, consent was obtained again and they were administered their individual questionnaires to complete on their exit from the postnatal clinic. Quantitative data obtained was analyzed using the Statistical package for social sciences (SPSS) version 22 and all results were presented using descriptive statistics, t-test, ANOVA and Chi
RESULTS

Facility assessment (structure)

The result that only 66.7% of the required resources were available in the study setting, which is an indication of poor adherence to the WHO recommendation for postnatal care facility. The facility provides 24 h services and emergency preparedness alongside the availability of basic equipment needed to meet the health needs of postnatal women (Table 1). However, electricity supply, regular water supply, bathrooms and toilets are inadequate for the care of the postnatal women. The numbers of functional bathrooms and toilets on the wards and in the clinic appear insufficient in comparison to the population of the women. There are a total of 50 beds in the postnatal wards with an average of 25 patients on each ward including antenatal patients on admission, postnatal patients who had normal delivery and those who had complicated deliveries. In each ward and the clinic, there are two functional bathrooms and toilets with no regular water supply. On the average, 25 patients are seen in the postnatal clinic every clinic day. The available specialist medical doctors, midwives are insufficient with an average midwife to patient ratio of 1:8 per shift. There are no standardized postnatal guidelines and protocols used in the provision of care to the postnatal women in the facility. Although there are various in-service trainings organized in the institution on life saving skills, evaluation of nursing care, pain management, documentation, geriatrics, care of placenta, essential care of the newborn, advancement of health care, basic trauma care and cardio pulmonary resuscitation; continuing education and training on postnatal care is lacking.

Assessment of postnatal care (process)

From the findings, only 42.9% of the required postnatal care was observed to be provided on the wards (Table 2) and 42.3% in the postnatal clinic (Table 3). This depicts poor adherence to the WHO practice guideline for postnatal care in the postnatal unit of the study setting. All women with uncomplicated vaginal delivery received care for at least 24 h after delivery in the study setting. On the wards, the initial assessment within the first 24 h after birth were conducted except checking for excessive bleeding which was not visually assessed, although the women were verbally asked if bleeding was normal or excess of 25% of the observation period. Meanwhile urine voiding resumption, frequency and characteristics were not assessed throughout the observation period. During the physical assessment beyond 24 h after birth bladder and bowel function, lochia, healing of perineal wound and breast were assessed about 30% of the observation period. Midwives were observed not to assess mothers for complaints such as headache, fatigue, back pain, and perineal hygiene during the period under investigation. Prophylactic antibiotics were prescribed for patients with perineal tears. Mothers were not provided with discharge counseling on the physiology of puerperium and danger signs. However, midwives (30%) provided counseling on family planning, maternal nutrition, breast care and follow up. Documentation was done in all cases and emotional support was observed in 16.7% of the observation period. While the only prescribed routine postnatal visit is from 6 weeks after birth and there is no provision for home visits within the first week of childbirth. A physical examination that was observed being conducted in the postnatal clinic was; blood pressure check, pallor, lochia, and uterine involution, while temperature, inspection of perineum for healing, and breasts were not assessed. Assessment of emotional and psychological wellbeing, resumption of sexual intercourse and dyspareunia were not observed in all the visits to the clinic.

Socio-demography of mothers

Table 4 illustrates the analysis of the demographic data of the postnatal women (mothers). A total of 57 mothers were sampled between the age of 20 and 40 with mean ±SD = 31±1.58. The majority (49.1%) were first time mothers. Reasons for choosing the facility included availability of modern facilities (15.4%), quality care (42.3%), convenience (11.5), and availability of good doctors (21.8%).

Mothers’ level of satisfaction

Satisfaction on the postnatal ward

Findings indicated that 36.5% of the mothers were not satisfied and 28.4% were fairly satisfied with the care received on admission after delivery. The majority (94%) of the women expressed satisfaction with routine vital signs monitoring and drug administration, but were not satisfied with the inadequate water and electricity, inadequate toilet and bathroom facilities, lack of individualized care (Table 5a). The analysis of variance revealed a significant difference (p<0.05) between the level of mothers’ satisfaction on the postnatal wards and the number of deliveries, the numbers of days they were on admission as well as the maternal age.

Satisfaction at the clinic

Majority (82.5%) of the mothers expressed good satisfaction with care received in the postnatal clinic. Specific areas of satisfaction were the attitude of the staff
Table 2. Assessment of postnatal care on the ward.

| Provision of postnatal care                                                                 | Done (%) | Not done (%) |
|---------------------------------------------------------------------------------------------|----------|--------------|
| After an uncomplicated vaginal birth in a health facility, healthy mothers receive care at the facility for at least 24 h after birth | 12 (100) | 0 (0)        |

**Assessment within the first 24 h after birth**

| Provision of postnatal care                                                                 | Done (%) | Not done (%) |
|---------------------------------------------------------------------------------------------|----------|--------------|
| Check for excessive bleeding                                                                 | 3 (25)   | 9 (75)       |
| Check uterine contraction                                                                    | 8 (66.6) | 4 (33.4)     |
| Check fundal height                                                                         | 8 (66.6) | 4 (33.4)     |
| Check temperature                                                                           | 12 (100) | 0 (0)        |
| Check blood pressure within 6 hours after birth                                            | 12 (100) | 0 (0)        |
| Check blood pressure after 6 h                                                              | 12 (100) | 0 (0)        |
| Check urine void in 6 h                                                                     | 0 (0)    | 12 (100)     |

**Physical assessment beyond 24 h after birth**

| Provision of postnatal care                                                                 | Done (%) | Not done (%) |
|---------------------------------------------------------------------------------------------|----------|--------------|
| Micturition and urinary continence                                                           | 3 (25)   | 9 (75)       |
| Bowel function                                                                               | 3 (25)   | 9 (75)       |
| Healing of perineal wound                                                                    | 3 (25)   | 9 (75)       |
| Headache                                                                                    | 0 (0)    | 12 (100)     |
| Fatigue                                                                                      | 0 (0)    | 12 (100)     |
| Back pain                                                                                    | 0 (0)    | 12 (100)     |
| Perineal hygiene                                                                             | 0 (0)    | 12 (100)     |
| Breast pain, swelling or tenderness                                                          | 4 (33.4) | 8 (66.6)     |
| Uterine tenderness                                                                           | 6 (50)   | 6 (50)       |
| Lochia                                                                                       | 3 (25)   | 9 (75)       |
| Use of prophylactic antibiotics in perineal tear to prevent infection                        | 12 (100) | 0 (0)        |

**Discharge counseling on**

| Provision of postnatal care                                                                 | Done (%) | Not done (%) |
|---------------------------------------------------------------------------------------------|----------|--------------|
| Physiology of pueperium                                                                     | 0 (0)    | 12 (100)     |
| Healthy timing and spacing of pregnancies                                                   | 3 (25)   | 9 (75)       |
| Family planning including LAM /transition                                                  | 4 (33.4) | 8 (66.6)     |
| Maternal nutrition                                                                          | 4 (33.4) | 8 (66.6)     |
| Breast care and personal hygiene                                                            | 3 (25)   | 9 (75)       |
| Danger signs                                                                                 | 0 (0)    | 12 (100)     |
| Follow up appointment                                                                       | 12 (100) | 0 (0)        |
| Emotional support                                                                           | 2 (16.7) | 10 (83.3)    |
| Documentation                                                                                | 12 (100) | 0 (0)        |
| **Total**                                                                                   | 141 (41.9) | 195 (58.1)        |
| **Average score**                                                                           | 12 (42.9) | 16 (57.1)       |

at the clinic, information provided and healthcare received. However, poor satisfaction was reported in the clinical environment (waiting area, toilet and bathroom) and cumbersome registration and payment procedures in the hospital (Table 5b). Additionally, the women in this study verbalized areas of dissatisfaction which include the following: bureaucracy, poor counseling, cumbersome registration and payment processes, inadequate provider-client relationship, admissions for days more than necessary, the assumption that patient knows everything, inadequate toilet and bathroom facilities, lack of regular water supply, waiting time, much cold at night on the wards, poor attention, lack of individualized care, lack of patient specific counseling and care by inexperienced doctors at the postnatal clinic. The analysis of variance revealed that there is a significant difference (p<0.05) between the mothers’ level of satisfaction with PNC at the clinic and the maternal age.

**DISCUSSION**

The findings of this study suggest that there is an insufficient human resources and infrastructure in
Table 3. Assessment of postnatal care in the clinic.

| Provision of postnatal care                                      | Done (%) | Not done (%) |
|------------------------------------------------------------------|----------|--------------|
| Postnatal visit on day 3 (48-72 h)                              | 0 (0)    | 4 (100)      |
| Between days 7–14 after birth                                    | 0 (0)    | 4 (100)      |
| Six weeks after birth                                           | 4 (100)  | 0 (0)        |
| Home visits within the first week of birth                       | 0 (0)    | 4 (100)      |
| History taking                                                  | 2 (50)   | 2 (50)       |
| **Physical examination**                                         |          |              |
| Blood pressure                                                  | 4 (100)  | 0 (0)        |
| Temperature                                                     | 1 (25)   | 3 (75)       |
| Pallor                                                          | 4 (100)  | 0 (0)        |
| Lochia                                                          | 4 (100)  | 0 (0)        |
| Perineum                                                        | 0 (0)    | 4 (100)      |
| Involution of the uterus                                        | 4 (100)  | 0 (0)        |
| Vaginal discharge                                               | 2 (50)   | 2 (50)       |
| Breasts                                                         | 0 (0)    | 4 (100)      |
| Assessment of emotional wellbeing (mood, social support and coping strategies) | 0 (0)    | 4 (100)      |
| Assessment of psychological wellbeing                           | 0 (0)    | 4 (100)      |
| Resumption of sexual intercourse and dispareunia                | 0 (0)    | 4 (100)      |
| **Counseling on/ Information given to client**                  |          |              |
| Physiology of pueperium                                         | 0 (0)    | 4 (100)      |
| Danger signs                                                    | 2(50)    | 2(50)        |
| Healthy timing and spacing of pregnancies                       | 2 (50)   | 2 (50)       |
| Family planning including LAM /transition                      | 4 (100)  | 0 (0)        |
| Maternal nutrition                                              | 2 (50)   | 2 (50)       |
| Breast care and personal hygiene                                | 2 (50)   | 2 (50)       |
| Assessment of client’s understanding                            | 2 (50)   | 2 (50)       |
| Emotional support                                               | 1 (25)   | 3 (75)       |
| Interpersonal care/rapport                                      | 1 (25)   | 3 (75)       |
| Documentation                                                   | 4 (100)  | 0 (0)        |
| **Total**                                                       | 45       | 59           |
| **Average score**                                               | **11 (42.3)** | **15 (56.7)** |

accordance with the recommendations of the WHO. As explained by Donabedian (1988), poor structural quality will affect the provision of postnatal services to mothers and eventual outcome of postnatal care in this facility. Lotto (2015) also linked inadequate postnatal facility for the quality postnatal care to eventual decrease in the quality of postnatal services.

The facility is deficient in the staffing of Midwives and Doctors who are central to the provision of postnatal care to mothers. The average midwife: patient ratio in this study setting is 1:8 on the postnatal wards which is below the recommended standards and what is peculiar in more developed economies. Adelani et al. (2015) also observed a nurse/midwife to patient ratio ranging from ratio1:9 in a general hospital in Osun state, Nigeria. The NICE postulated for the Australian Nursing and Midwifery Federation a midwife/nurse to patient ratio of 1:4 plus a charge nurse in the morning and afternoon shift and 1:6 on the night shift (ANMF, 2015). The British Columbia Nurses Union (2016) on the other hand, recommended a range of midwife to patient ratio of 1:4 to 1:6 in an inpatient unit.

There are 46 Obstetrics/Gynecology specialists in this facility which are insufficient as opined by Agboghoroma and Gharoro (2015) in their study. They submitted that the number of Obstetrics/Gynecologists in Nigeria is inadequate in view of the population size, when computed this suggest a ratio of 1:181458 patients. When compared with the WHO (2010) recommendation of a ratio of one obstetric/Gynecologist to one thousand patients (1:1000), this is a far cry and may contribute to the poor maternal care services. In line with this majority of the women in a study in Nigeria submitted that the health providers are burdened with heavy workloads in
Table 4. Socio-demographic Variables of Mothers.

| Variables                        | Frequency | Percentage (%) | Mean age = 31 year | SD = 1.58 |
|----------------------------------|-----------|----------------|--------------------|-----------|
| **Age (In years)**               |           |                |                    |           |
| 20-24                            | 5         | 8.8            |                    |           |
| 25-29                            | 14        | 24.6           |                    |           |
| 30-34                            | 31        | 54.4           |                    |           |
| 35-40                            | 7         | 12.2           |                    |           |
| **Marital status**               |           |                |                    |           |
| Single                           | 5         | 8.8            |                    |           |
| Married                          | 52        | 91.2           |                    |           |
| **State of origin**              |           |                |                    |           |
| Western state                    | 8         | 14.1           |                    |           |
| Eastern state                    | 4         | 7              |                    |           |
| Northern state                   | 14        | 0              |                    |           |
| Southern state                   | 14        | 0              |                    |           |
| **Level of education**           |           |                |                    |           |
| No formal education              | 14        | 0              |                    |           |
| Primary school                   | 6         | 10.5           |                    |           |
| Secondary school                 | 10        | 17.6           |                    |           |
| Diploma                          | 41        | 71.9           |                    |           |
| Degree                           | 14        | 0              |                    |           |
| Others                           | 24        | 42.1           |                    |           |
| **Occupation**                   |           |                |                    |           |
| Civil servant                    | 9         | 15.8           |                    |           |
| Private institution employee     | 9         | 15.8           |                    |           |
| Trading                          | 10        | 17.6           |                    |           |
| Self-employed                    | 5         | 8.8            |                    |           |
| Unemployed                       | 14        | 0              |                    |           |
| Others                           | 24        | 42.1           |                    |           |
| **Number of pregnancies**        |           |                |                    |           |
| 1                                | 19        | 33.3           |                    |           |
| 2                                | 9         | 15.8           |                    |           |
| 3                                | 3         | 5.3            |                    |           |
| 4                                | 2         | 3.5            |                    |           |
| >4                               | 28        | 49.1           |                    |           |
| **Number of deliveries**         |           |                |                    |           |
| 1                                | 16        | 28.1           |                    |           |
| 2                                | 9         | 15.8           |                    |           |
| 3                                | 2         | 3.5            |                    |           |
| 4                                | 2         | 3.5            |                    |           |
| >4                               | 39        | 68.4           |                    |           |
| **Number of deliveries in UCH?** |           |                |                    |           |
| 1                                | 12        | 21.1           |                    |           |
| 2                                | 2         | 3.5            |                    |           |
| 3                                | 2         | 3.5            |                    |           |
| 4                                | 2         | 3.5            |                    |           |
Table 4. Contd.

| Number of days spent on admission in the last delivery | | |
|---|---|---|
| 1 | 6 | 10.5 |
| 2 | 27 | 47.4 |
| 3 | 15 | 26.3 |
| 4 | 9 | 15.8 |
| >4 | 12 | 15.4 |

Reason for choosing UCH

| Reason for choosing UCH | | |
|---|---|---|
| Modern facilities | 33 | 42.3 |
| Quality care | 7 | 9 |
| Referral | 9 | 11.5 |
| Convenience | 17 | 21.8 |
| Availability of good doctors | 0 | 0 |
| Others | | |

Table 5. Mothers’ level of satisfaction.

| Variable | Fully satisfactory (%) | Fairly satisfactory (%) | Not satisfactory (%) |
|---|---|---|---|
| (a) On the ward | | | |
| Orientation to the hospital and ward | 14.2 (24.9) | 18.3 (32.2) | 24.5 (42.9) |
| Informed consent | 20 (35.1) | 23 (40.3) | 14 (24.6) |
| Attitude of care providers | 23 (40.3) | 21.7 (38.1) | 12.3 (21.6) |
| Quality of ward environment | 10 (17.5) | 20 (35.1) | 27 (47.4) |
| Postnatal care received | 20 (35.1) | 16.2 (28.4) | 20.8 (36.5) |
| Professionalism of care providers | 28 (49.1) | 21 (36.8) | 8 (14.1) |
| Health education and counseling | 7.5 (13.2) | 11.5 (20.2) | 38 (66.6) |
| Overall assessment of the ward | 18 (31.6) | 19 (33.3) | 20 (35.1) |
| (b) In the clinic | | | |
| Waiting time | 16 (28) | 20 (35.2) | 21 (36.8) |
| Registration process | 14 (24.6) | 19.5 (34.2) | 23.5 (41.2) |
| Attitude of clerical staff | 30 (52.6) | 13 (22.8) | 14 (24.6) |
| Quality of clinic environment | 10 (17.5) | 19 (33.3) | 28 (49.2) |
| Attitude of postnatal care providers | 26.7 (46.8) | 26 (45.7) | 4.3 (7.5) |
| Postnatal care received | 22 (38.6) | 20 (35.1) | 15 (26.3) |
| Overall assessment of the postnatal clinic | 24 (42.1) | 23 (40.4) | 10 (17.5) |

the provision of maternal health care and linked the burden to the low quality of care (Ogu et al., 2017).

The high patient ratio to each of the postnatal care providers may be a contributing factor to the suboptimal quality of postnatal care offered at this facility. Empirical evidences suggest the number of patients allocated to a health provider on a shift is directly related to patient safety, patient satisfaction, mortality and quality of care (ANMF 2015). It is therefore imperative for the Nursing and Midwifery Council of NIGERIA and the National Association of Nigerian Nurses to collaborate to design a standard nurse: patient ration that is suitable to Nigerian health need which should also apply to the Nigerian medical association.

Consequently, the legislation of standard ratio would serve as a baseline for employment in all government hospitals in the country, reduce waiting time, improve the quality of care, improve retention of health providers as a result of better and safer working environment, increase capability of hospitals to meet patient demands, and
improves the economic performance of hospitals. Inadequate in-service training was also observed in this study, as none of the 50 postnatal care providers who had continuous education in the last 2 years had any training on postnatal care. Continuous training and education is an essential pre-requisite for quality improvement in the provision of services and also contributes to quality of inpatient and outpatient care (Chaghari et al., 2017). Staff shortages and inadequate in-service training were also observed in China (Chen et al., 2014) while Chimtembo et al. (2013) in addition to inadequate facility, identified poor postnatal counseling in their study in Malawi.

There is non-availability of a guideline or protocol for the postnatal care of mothers in the study setting, as such there is no laid down standard for care givers in providing their services. Some healthcare providers in Tanzania also perceived that postnatal care was suboptimal in their facilities resulting from care being based on clinical experiences due to lack of guidelines and inadequate health personnel (Pallangyo et al., 2016). Kopp (2011) opined that use of clinical guidelines is an indispensable part of a professional quality system, and is an important tool to improve the knowledge, processes and outcomes in healthcare. They also provide a foundation for assessing and evaluating the effectiveness of healthcare.

The findings in this study suggest that the routine postnatal care provided in both the postnatal clinic and the wards of the facility are below the standard in accordance with WHO practice guidelines. This finding is supported by Chimtembo et al. (2013) whose study in Malawi revealed that the contents of postnatal services were below reproductive health standards. A substandard process component of postnatal care was also observed by Lotto (2015) in Tanzania. Luegmair et al. (2018) identified shortcomings in puerperal care and counseling in their study in Austria. Assessment is the second recommendation on the WHO (2014) practice guideline for postnatal care which was found to be poorly adhered to in this setting. Routine assessments are important for early identification of complications, prompt treatment or referral as needed. The majority of the assessment within the first 24 h after birth was done while the majority of the assessment beyond 24 h after birth was not done. Assessment of the psychological and emotional wellbeing of the mothers was not given much attention. Kanyunuzi et al. (2017) study in Uganda revealed that assessment of the mothers after admission to the postnatal ward was found to be low.

Poor adherence to practical guidelines identified in this study can be attributed to the non-availability of a standard guideline in this facility, inadequate human resources and infrastructure amongst others. To achieve this vision of “every pregnant woman receives quality care throughout pregnancy, childbirth and the postnatal period”, six strategic areas have been identified by the WHO (2016) for improving the quality of maternal care namely; clinical guidelines, standards of care, effective interventions, quality measures, and the relevant research and capability building. The results of the evaluation of this study revealed that mothers received postnatal services that were below the WHO standard of quality postnatal care an indication of poor compliance with the guideline. In this study, 36.5% of the mothers were not satisfied and 28.4% were fairly satisfied with the overall postnatal care received on the postnatal wards. This was also the findings of Okonufua et al. (2017) who evaluated 8 secondary and tertiary hospitals in Nigeria. Many of the mothers had areas of dissatisfaction, or were not satisfied at all with the quality of care in antenatal, intra-partum and postnatal period. Reasons for dissatisfaction with postnatal care included poor staff attitude, long waiting time, high cost of services, and sub-standard facilities.

Most of the participants in a Pakistan study verbalized low quality of maternity care, disrespect and impolite behavior of health professionals (Munawar et al., 2017). On the other hand, Sacks et al., (2017) submitted that a large proportion of their participants reported positive postnatal experiences with more satisfaction among the Zambian than the Ugandan women. The third hypothesis tested in this study found a relationship between maternal satisfaction on the wards and the age and parity of the mother out of all the other selected maternal socio-demographic characteristics tested. While the fourth hypothesis revealed the absence of a significant difference between maternal satisfaction on the ward and in the clinic. Therefore, it is important for postnatal care providers to provide individualized, age and parity appropriate care to mothers in order to be able to meet their various health needs and yield satisfaction.

It was observed that this facility does not have any system in place for measuring outcomes of postnatal care. Measuring the quality of health care provided is an important evaluation that leads to improved care and accountability among care providers. Patient satisfaction in one of the indicators of quality care and it requires the provision of patient-centered care (including health education and counseling). Patient-centered care is health care that is respectful of, and responsive to, the preferences, needs and values of patients and consumers. Therefore, the quality of PNC in this facility can be greatly improved by the provision of individualized care and regular evaluation of patients through various feedback mechanisms. There should be awareness of feedback mechanisms among patients followed by inquiry through feedback questionnaires and other platforms (interviews, group discussions, online reviews etc) for expressing their complaints, satisfaction and suggestions on exit from the facility. There should be record keeping and analysis of degree of patients’ satisfaction through which gaps in care can be identified and resolved. Regular feedback evaluation will also promote accountability among the health care givers.
Additionally, hospital managers should ensure availability and adherence to guidelines and protocols in all the hospital department and wards. The hospital should also have a unit in charge of formulating protocols from recent evidences, from research and guidelines. In-service training of health workers should be specific to their units and specialties within the hospital.

### Conclusion

The findings of this study have shown a poor adherence to the international practice guideline for postnatal care in the study setting in the structural, process and outcome aspects of postnatal care. Maternal satisfaction was good on exit from postnatal clinic and poor on exit from the postnatal wards. There is a need to strengthen the facility by availability of recommended resources and also need to have a standard guideline that will serve as a framework for provision of quality postnatal care.

### CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

### REFERENCES

Agboghoroma CO, Gharoro EP (2015). Coverage and Distribution of Obstetricians and Gynecologists in Nigeria. International Journal of Gynecology and Obstetrics 129(1):50-53.  
African Population and Health Research Center (APHRC) 2017. Maternal Health in Nigeria Facts and Figures. APHRC facts sheet June 2017. Available @ www.aphrc.org/wp. accessed June 23, 2018  
Australian Nursing & Midwifery Federation (2015). Nurse/Midwife: Patient Ratios. It’s a matter of saving lives publication. ANMF Victoria Branch.  
Blencowe H, Cousens S, Oesterzaard MZ, Chou D, Moller AB, Narwal R, Adler A, Vera Garcia C, Rhodes S, Say L, Lawn JE (2012). National, regional and worldwide estimates of preterm birth rates in the year 2010 with time trends since 1990 for selected countries: a systematic analysis and implications. The Lancet 379(9832):2162-2172.  
Carvajal-Aguirre L, Amouzou A, Mehra V, Ziqi M, Zaka N, Newby H (2017). Gap between contact and content in maternal and newborn care: An analysis of data from 20 countries in sub-Saharan Africa. Journal of Global Health 7(2).  
Chaghari M, Saffari M, Edabi A, Ameryoun A (2017). Empowering Educaiton: A new Model for In-service Training of Nursing Staff. Journal of Advances in Medical Education and Professionalism 5(1):28.  
Chen L, Qiong W, Veltkoven M, Yanfeng Z, Shuyi Z, Ye L, Wei W, Xiaohem D, Ting Z (2014). Coverage, quality of and barriers to postnatal care in rural Hebei, China: a mixed method study. BMC Pregnancy and Childbirth 14(1):31.  
Chintembo L, Maluwa V, Chimwaza A, Chirwa E, Pindani M (2013). Assessment of quality of postnatal care services offered to mothers in Dedza district, Malawi. Open Journal of Nursing 3(04):343.  
Donabedian A (1988). The quality of care. How can it be assessed? JAMA 260(12):174-1748  
Kanyunuzi AE, Ekong EN, Namukwaya RE, Namala AL, Mudondo L, Mwebaza E, Smyth R (2017). A criteria-based audit to improve early postnatal care in Jinja, Uganda. African Journal of Midwifery and Women's Health 11(2):78-83.  
Kears AD, Caglia JM, Hoope-Bender P, Langer A (2016). Antenatal and postnatal care: a review of innovative models for improving availability, accessibility, acceptability and quality of services in low-resource settings. BJOG: An International Journal of Obstetrics & Gynaecology 123(4):540-548.  
Khanal V, Adnikari M, Karkee R, Gavidia T (2014). Factors associated with the utilization of postnatal care services among the mothers of Nepal: analysis of Nepal Demographic and Health Survey 2011. BMC Women's Health 14(1):19.  
Kinney M, Kerber K, Black R, Cohen B, Nkrumah F, Coovadia H, Namata P, Lawn J, Axelsson H, Bergh A, Chopra M, Diab R, Friberg I, Odubanjo O, Walker N, Weissman E (2010). Sub-Saharan Africa's mothers, newborns, and children: where and why do they die? PLoS Medicine 7(6): e1000294.  
Kopp IB (2011). From Clinical Practice Guidelines towards Quality Assurance. Bundesgesundheitsblatt, Gesundheitsforschung, Gesundheitsschutz 54(2):160-165.  
Lotto TD (2015). Assessment of the quality of postnatal Care services (professional) in postnatal care hospital Karachi, Pakistan. Pakistan Journal of Public Health 7(2):109-112.  
Nigeria Demographic and Health Survey (NDHS) (2013). Nigeria Demographic and Health Survey by National Population Commission Federal Republic of Nigeria.  
Ogu RN, Ntoimo LFC, Okonofua FE (2017). Perceptions of women on workloads in health facilities and its effect on maternal health care: A multi-site qualitative study in Nigeria. Midwifery 55:1-6.  
Okonofua F, Ogu R, Agholor K, Okike O, Abdus-salam R, Randawa A, Abe E, Durodola A, Galadanci, The WHARC WHO FMOH MNCH Implementation Research Study Team (2017). Qualitative assessment of women’s satisfaction with maternal health care in referral hospitals in Nigeria. Reproductive Health 14(1):44.  
Pallangyo E, Mbekenga C, Olsson P, Källéstål C (2017). A baseline mixed-methods study on postpartum care among health professionals in Tanzania, Mzumbe University. African Journal of Midwifery and Women's Health 11(3):115-122.  
Pallangyo EN, Mbekenga C, Källéstål C, Robertson C, Olsson P (2016). Healthcare providers’ perceptions of postpartum care and its potential for improvement in low-income suburbs in Dar es Salaam, Tanzania. Sexual & Reproductive Health Care 11:7-12.  
Sacks E, Masawure TB, Aubyambe LM, Neema S, Macwan'gi M, Simbaya J, Kruk M (2011). Postnatal care experiences and barriers to care utilization for home and facility delivered newborns in Uganda and Zambia. Maternal and Child Health Journal 21(3):599-606.  
World Health Organization (2014). Trends in Maternal Mortality: 1990-2013. Estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nation’s Population Division, Geneva.  
World Health Organization (WHO) (2014). WHO recommendations on postnatal care of the mother and the newborn. WHO Library Cataloguing-in-Publication Data. ISBN 978 92 4 1506649.  
World Health Organization (WHO) (2010). WHO Technical Consultation on Postpartum and Postnatal Care. Geneva, Switzerland.  
World Health Organization (WHO) (2016). Standards for improving quality of maternal and newborn care in health facilities. ISBN: 9789241511216.
Prevalence of male attendance and associated factors at their partners’ antenatal visits among antenatal care attendees in Bale Zone, South East Ethiopia

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Male involvement in antenatal care helps to have safe delivery, especially in developing countries. The problem has been insufficiently studied in Ethiopia. Therefore, this study assessed male attendance and associated factors at their partners’ antenatal visits among antenatal care attendees in Bale Zone health facilities. Cross sectional study was conducted from May to June, 2017 among 609 pregnant mothers. Simple random sampling was used to select participants. Interviewer administered questionnaire was used to collect data. Data was entered into Epi-data version 3.1 and analyzed using statistical package for social sciences (SPSS version 21). Variables with p-values <0.05 were considered to declare statistical significance in multivariable logistic regression analysis. Male attendance at their partners’ antenatal visits was 41.4%. Having primary level of education (AOR=2.15, CI=1.12, 4.11), age ≥ 35 years (AOR=0.3, CI=0.1, 0.87), being farmer (AOR=0.23, CI=0.11, 0.51), having previous antenatal care visit (AOR=0.49, CI=0.26, 0.92) were factors associated with male partner involvement. Male attendance at their partners’ antenatal visits was low. Hence, health providers and other stakeholders shall create awareness and implement strategies to boost male partners’ involvement in antenatal care visit.

Key words: Antenatal visits, Bale-Zone.

INTRODUCTION

Antenatal care (ANC) is the pillars of safe motherhood and an essential elements of safe delivery (Kariuki and Seruwagi, 2016). The need for male involvement in reproductive health was one of the fore-front agenda during the International Conference on Population and Development (UNFPA, 1999). Male involvement is highly desirable in maternal health (Lowe, 2017). Because male attendance during ANC is an important strategies to reduce preventable maternal problems during pregnancy (Jennings et al., 2014). But, accessing maternal health...
care services seems females’ predominant responsibility and men often do not have access to participate in maternal health care services (Lowe, 2017; Kenneth et al., 2016; Bhatta, 2013). Many men do not believe that pregnancy requires their responsibility as compared to other competing social responsibilities (Jennings et al., 2014).

Although, there is reduction in maternal death and increased skilled birth attendants coverage, mothers still face unacceptable risks of death related to pregnancy, labor, and delivery (WHO, 2016). More than 50% of the global maternal deaths are due to pregnancy related complication (Kissoon et al., 2015). The World Health Organization (WHO) estimates that 303,000 women died during pregnancy and childbirth in 2015 and 99% of these maternal deaths occurred in developing countries (Kariuki and Seruwagi, 2016). An estimated 353 maternal deaths per 100,000 mothers occurred in Ethiopia where 85% of births took place at home. Evidence shows that ANC services in most developing countries to be under-utilized, median coverage rate of at least one ANC visit at 88% and four or more ANC visits at 55% (1,7,9). In Ethiopia, 57% of women attended at least one ANC visit, and 32% attended the recommended four visits (MOH, 2014).

Male participation in sexual and reproductive health is central component in empowering women (UNFPA, 1999), and different strategies have been tried to increase male attendance, mass media advertisements, incentives to women who attend ANC with their male partners, invitations to male partners to attend ANC (Osoti et al., 2014). For example in Malawi and Tanzania, providing invitation cards during pregnancy enhances male partner involvement by 50% (Nyondo et al., 2015; Jefferys et al., 2015).

Nevertheless, in most developing countries where patriarchist is dominant, it is uncommon to see male attendance during ANC(4). Men do not involve in antenatal and postnatal care, family planning and being encouraged (Sokoya et al., 2014; Mullick et al., 2005; Mullany et al., 2006; Kaye et al., 2014). This is true throughout sub-Saharan Africa, where pregnancy and childbirth is considered to be the responsibility of the woman (Kariuki and Seruwagi, 2016). In addition, to men reluctance to engage in maternal health service, health care providers like nurses have negative attitudes towards men (Ladur and Colvin, 2015).

Male attendance during ANC is important to find solutions to the main factors of maternal death: delay in decision-making to refer the mother to health facility; lack of transport in case of obstetric complications; and delay in receiving treatment within the health care facility (Kariuki and Seruwagi, 2016; Jennings et al., 2014; Ampt et al., 2015). In addition, it helps to reduce postpartum depression, improved utilization of maternal health services (Yargawa and Leonardi-bee, 2015), increases women willingness to recognize danger sign of pregnancy, attends the delivery, shortens labor, reduced need for oxytocin, anesthesia, and instrumental deliveries and reduces chance of cesarean section by 50% (Olayemi et al., 2009; Alva, 2012), increase antenatal care appointments and delivery services (Sokoya et al., 2014; Modarres, 2005). Male attendance also increases uptake of the uptake of maternal antiretroviral therapy among HIV-seropositive pregnant women (Takah et al., 2017).

Though male participation in maternal care is increasing, their attendance in providing general support is often limited (Meier, 2015), and their involvement during ANC varied from country to country. In developed countries, around 95% male attended at their partners ANC, but it is low in developing countries like Ethiopia (Asefa, 2014; Ganle and Dery, 2015; Vermeulen et al., 2016).

In Nepal, male partner helps the teens to attend ANC, but the women herself among adult women (Upadhyay et al., 2014). Another studies in Nepal, Malawi and Democratic republic of Congo (DRC) indicated women who received education with husbands and partner notification had more chance to have maternal care services (Mphonda et al., 2014; Mullany et al., 2006; Gill et al., 2017; Kuluulanga et al., 2011).

In rural and peri-urban area in Uganda, 42 to 66% of mothers have been accompanied by husbands during antenatal care (Tweheyo et al., 2010; Kakaire et al., 2011). In Nigeria, around 48% of women did not think it was their husbands’ place to attend antenatal clinic, 73% of husbands accompanied their wives to the hospital for their last delivery (Olayemi et al., 2009), 82.4% had desire to accompany during ANC clinic visits; 14.2% male partners attended previous delivery and 84.8% of the women were satisfied with the experience (Obiodun et al., 2015). Another study in Northern Nigeria, showed 62% of men believed that their presence was not needed (Zubairu et al., 2010).

In Johannesburg, South Africa, 92% of mothers preferred their husbands attendance at ANC and 14% reported that their husbands attended during the current pregnancy (Yende et al., 2016). In rural Rwanda, the level of men ANC attendance was 29.4%, while 22.3% women were accompanied to the labor ward (Richard, 2016). A study conducted in Ghana indicated that 35, 44, and 20% of men accompanied their partners to antenatal care, delivery, and postnatal care services, respectively (Craymah et al., 2017).

In Kenya, 72% of mothers felt that their male spouses should at least set aside while 54% indicated that they wanted their male partners to be accompanying them (Nanjala and Wamalwa, 2012). Another study in Kenya showed 63% of women consented to male participation, but male accompany during ANC is only 26.2% (Aluisio et al., 2016). In Burkina Faso, to make use of maternal care, they need consent of a member of the family particularly, the partner (Somé et al., 2013).
In Ethiopia, male attendance during ANC ranged from 20 to 60% (Asefa, 2014; Haile and Brah, 2014) and husband’s approval has a greater effect on maternal care utilization especially for women under the age of 20 years (Biratu and Lindstrom, 2006). This might be due to the traditional view that men are autonomous and have great control over social, economic and their partners.

Maternal age and parity less than four (Abiodun et al., 2015), residence, educational status, last delivery in health facility (Olayemi et al., 2009; Asefa, 2014; Abiodun et al., 2015; Tweheyo et al., 2010), male partner attended prenatal health education (Kariuki and Seruwagi, 2016; Mullany et al., 2006; Wai et al., 2015), long waiting time at the health unit, lack of transport, walking distance ≥ 1 h to health facility, fear of being tested for HIV, being polygamous, having a concurrent task or job demand, non-invitation by the wife, poor communication between men and female are factors associated with low male attendance during ANC (Tweheyo et al., 2010; Byamugisha et al., 2011).

Higher maternal education level and formal occupation of spouse are associated with male partner involvement (MPI) (Richard, 2016). In Ethiopian, occupation of women being a rural resident, age difference between a wife and their spouse (Asefa, 2014), and lower husband educational level (Addisalem, 2014) contributed for low male involvement while employed mother, living together and previous history of couple counselling increase the chance of male involvement during ANC (Haile and Brah, 2014; Addisalem, 2014).

Male attendance in maternal health is often ignored by health programs in developing countries. In Ethiopia, few researches were conducted regarding male partners’ attendance during ANC. Therefore, this study aimed to assess the level of male attendance and associated factors at their partners’ antenatal visits among antenatal care attendees in Bale Zone, South East, Ethiopia. Hence, findings of the study would help to inform policy makers to design appropriate programs that enhance males’ involvement in antenatal care and act on gaps identified. Furthermore, findings would be used as a resource to other researchers on these issues.

Operational definitions

Male partner

Is an individual with whom the pregnant woman was in intimate sexual relationship and was responsible for her pregnancy whether they were legally married or not.

Male partner involvement

Husband’s attendance at the time of antenatal checkup and husband’s participation in birth preparedness measured based on the women’s reports. The variable was coded as “Yes” if the woman attended ANC and her spouse accompanied her; "No" if the woman attended ANC but her spouse did not accompany her.

MATERIALS AND METHODS

Study design, period and setting

Institutional based cross-sectional study was conducted among 609 pregnant women who were attending antenatal care in selected health facilities of Bale zone from May to June, 2017.

Sample size, technique and procedures

Single proportion formula was used to calculate the sample size by assuming Z α/2 = 1.96 (standard score value for 95% confidence level of two sides normal distribution), p = 59.9%, d (tolerated margin of error) = 5%, non-response rate = 10%, and design effect = 1.5. Using simple random sampling technique, 20% (16 health centers) of health centers (HC) and all hospitals (4 hospitals) were selected based on the proposed sample fraction guideline for assessing the operation of District Health systems developed by WHO regional office for Africa (Sambo et al., 2003). The sample size was determined by proportionate allocation formula based on their average monthly intake of antenatal services provided by each health facilities.

Study variables

The main outcome variable was prevalence of male partners’ attendance during the current ANC while the independent variables were demographic information (age, marital status, level of education, occupation residence, religion, living status, number of live children, years living with husband, type of marriage (marriage, cohabiting, divorce, and/or separated), family size, age at first marriage, obstetrics characteristics (gravida, parity, intention of pregnancy and ANC follow up) and perception of women towards paternal involvement.

Data collection tools and procedures

The data was collected using pre-tested structured interviewer administered questionnaire. The questionnaire was designed by the researchers after reviewing literatures. All questionnaires were prepared in English language, and then translated to Afan Oromo and Amharic (local language) which were used for data collection and re-translated back to English to check for any inconsistencies. To keep quality of data, pretest was conducted; half day training was given to data collectors and supervisors and completed questionnaires were reviewed to check for its consistency and completeness.

Ethical approval

Ethical review committee of College of Medicine and Health Sciences, Madda Walabu University approved the study. Permission to conduct the study was obtained from Bale Zone administrative office and written informed consent was taken from each participant.

Data analysis

The completed questionnaires were checked for completeness,
Table 1. Socio-demographic characteristics of the respondents to assess prevalence of male attendance and associated factors at their partners’ antenatal visits among antenatal care attendees in Bale Zone, South East Ethiopia, 2017.

| Characteristic/Variable                  | Frequency | Percentage |
|-----------------------------------------|-----------|------------|
| **Age category in years**               |           |            |
| Mean ± SD                               | 26±5      | -          |
| 15-24                                   | 226       | 37.1       |
| 25-34                                   | 329       | 54.0       |
| ≥35                                     | 54        | 8.9        |
| **Residence category**                  |           |            |
| Urban                                   | 288       | 47.3       |
| Rural                                   | 321       | 52.7       |
| **Religion**                            |           |            |
| Muslim                                  | 236       | 38.8       |
| Orthodox                                | 333       | 54.7       |
| Protestant                              | 38        | 6.2        |
| Others *                                | 2         | 0.3        |
| **Respondents education**               |           |            |
| No formal education                     | 179       | 29.4       |
| Primary education                       | 199       | 32.7       |
| Secondary                               | 146       | 24.0       |
| College/University                      | 85        | 14.0       |
| **Husbands’ education**                 |           |            |
| No formal education                     | 151       | 24.8       |
| Primary education                       | 171       | 28.1       |
| Secondary                               | 139       | 22.8       |
| College/University                      | 148       | 24.3       |
| **Marriage**                            |           |            |
| Legally married                         | 576       | 94.6       |
| Another form of relationship**          | 33        | 5.4        |
| **Marriage order**                      |           |            |
| First wife for the husband              | 522       | 85.7       |
| Not first wife for the husband          | 87        | 14.3       |
| **Age at first marriage (years)**       |           |            |
| 10-14                                   | 15        | 2.5        |
| 15-20                                   | 482       | 79.1       |
| >20                                     | 112       | 18.4       |
| **Respondents occupation**              |           |            |
| Housewife                               | 387       | 63.5       |
| Employed                                | 87        | 14.3       |
| Merchant                                | 71        | 11.7       |
| Farming                                 | 48        | 7.9        |
| Other***                                | 16        | 2.6        |
| **Husbands’ age**                       |           |            |
| 15-24                                   | 27        | 4.4        |
Table 1. Contd.

| Length of living with husband | 25-34 | >=35 |
|------------------------------|-------|------|
| <5                           | 359   | 58.9 |
| 5-10                         | 223   | 36.6 |
| >10                          | 359   | 58.9 |

| Husband occupation            | Employed | Merchant | Farming | Other**** |
|------------------------------|----------|---------|---------|-----------|
| 161                          | 118      | 297     | 33      |
|的比例为26.4                  | 19.4     | 48.8    | 5.4     |

| Time to reach health facility| 155     | 206     | 248     |
|------------------------------|---------|---------|---------|
| <15                          | 272     | 44.7    |         |
| 16-30                        | 204     | 33.5    |         |
| >30                          | 133     | 21.8    |         |

| Means of transportation      | On foot | Cart/Animal | Car   |
|------------------------------|---------|-------------|-------|
| 315                          | 142     | 152         |
| 51.7                         | 23.3    | 25.0        |

*Seventh day Adventist, **Cohabit and divorced, ****Drivers, carpenters and tailors.

edited sorted and entered into Epi-Data version 3.1, and exported to version 21 of Statistical Package for the Social Sciences (SPSS) for analysis. The assumption of logistic regressions was checked. Then, binary logistic regression analysis was done to see the independent effect of predictors on the dependent variables and predictors with P-value ≤ 0.25 were entered in the multivariable logistic regression analysis model to identify final predictors of male involvement during ANC after controlling other independent variables. Odds ratio and 95% CI were calculated and P≤0.05 was considered statistically significant. Finally, the result was described in text form and summarized and presented in tables and graphs.

RESULTS

Socio-demographic characteristics of the study participants

All (609) study participants were interviewed that gave a response rate of 100%. The age of the participants ranged from 15 to 40 years (mean: 26±5 years). Three hundred and twenty one (52.7%) and 576 (94.6%) were from the rural area and legally married, respectively. Almost 200 (32.7%) of the participants had attended primary level of education. In terms of occupation, 387 (63.5%) were housewives, while 297 (48.8%) of their husband were farmers. Around 480 (79.1%) and 270 (44.7%) of the study participants were married in the age group of 15 to 20 years and have lived with their partners less than five years, respectively. To access health facility, 248 (40.7%) of the respondents traveled more than 30 min (Table 1).

Pregnant women’s expectation from their male partners in antenatal care involvement

The majority, 515 (84.6%) of the respondents responded “yes” to the question “should male attend ANC visit?” with their pregnant partner. Five hundred thirty-six (88.0%) of the respondents reported that male partners should be educated about pregnancy with their partner; of this 79.5% mentioned, a male whose wife is pregnant should be educated how to support the pregnant mother. Majority respondents agreed, there must be legitimate enforcement for a male to attained ANC visit (82.1%), and 90.5% on HIV testing at ANC visit (Table 2). Among 252 husbands came with their pregnant partners, only 36.0% were informed about the presence of HIV counseling and testing (Table 2). The vast majority of respondents (94.9%) liked someone with them during labor. Two hundred and eighty (48.4%) of the respondents, among those who needed someone during delivery (their husband); followed by those who needed their mother 43.4%. Five hundred and four (82.8%) respondents had believed that they had good
communication about ANC/pregnancy with their husband (Table 2).

Prevalence of male attendance at their partners’ antenatal visits

In this study, the prevalence of male partner involvement was 253 (41.4%). More than half of the respondents 357 (58.6%) were not accompanied by their partner during ANC (Figure 1). Reasons for not accompanied by their male partner were husband working in another town 138 (37.1%), not the custom 104 (28.6%) and it is women affair 83 (13.6%) (Figure 2).

Pregnancy and delivery history of the respondent

Around 219 (36%) of mothers attended their second visit in the current pregnancy. Their gravidity ranges from 2 to 12 pregnancies and 388 (63.7%) had <3 pregnancies. Around 480 (78.3%) of the respondents had ≤3 children. Almost 78% of recent last pregnancy was planned and 19% of them had no ANC follow up history. Among 352 (95.7%) respondents asked permission from their husband. Two hundred eighteen (35.8%) gave past birth at home before the current pregnancy and 27.3% faced delivery related problems, prolonged labor 57.8%, and excessive vaginal bleeding 41.0% (Table 3). During labor and delivery, 578 (94.9%) want company, 280 (48.4%) prefer the male partner with 501 (91.2%) who reported their partner supported them and 121 (22.2%) felt less pain as a result of being accompanied by male partner (Table 3). One hundred and ninety-seven (32.3%) of the respondents faced different pregnancy related problems of which a severe headache, that accounts for 47.7%, was the leading problem followed by blurred vision and vaginal bleeding, 36.5 and 34.5%, respectively (Figure 3).
Factors associated with male partner involvement

In the bivariate analysis, participant age ≥35 years, husband age ≥35 years, level of education, occupation, age difference, having good communication, believing male should attend ANC, husband accompanied in recent delivery, means of transport had association with male partners attendance during their ANC visits. The odds of women age ≥ 35 years were 0.3 times less likely to have their partner attendance during ANC as compared to those in the age group of 15 to 24 years (AOR: 0.3, 95% CI: 0.1, 0.87). The odds of having husband with primary level of education were 2.15 times more likely to have male attendance during ANC (AOR: 2.15, 95% CI: 1.12, 4.11). The odds of having age difference ≥ 5 years between a wife and husband were 1.78 times more likely to have male partners attendance during ANC (AOR: 1.78, 95% CI: 0.49, 0.26). The odds of being farmers were 0.23 more likely not to attend ANC (AOR: 0.23, 95 CI: 0.11, 0.51). The odds of having previous ANC attendance was 0.49 times more likely to have male attendance (AOR: 0.49, 95% CI: 0.26, 0.92).
Table 3. Pregnancy and delivery history of the respondents in Bale Zone health facilities, south east, Ethiopia, 2017.

| Variable                                | Category                | Frequency | Percentage |
|-----------------------------------------|-------------------------|-----------|------------|
| Number ANC of visit for current pregnancy | First visit            | 187       | 30.7       |
|                                         | Second visit            | 219       | 36.0       |
|                                         | Third visit             | 121       | 19.9       |
|                                         | Forth visit and above   | 82        | 13.4       |
|                                         | <3 pregnancy            | 388       | 63.7       |
| Number of gravida (pregnancy)           | 3-5 pregnancy           | 124       | 20.4       |
|                                         | >5 pregnancy            | 97        | 15.9       |
| Number of children                      | <3 children             | 477       | 78.3       |
|                                         | ≥3 children             | 132       | 21.7       |
| Last previous pregnancy planned         | Yes                     | 473       | 77.7       |
|                                         | No                      | 136       | 22.3       |
| Did you attend ANC in last pregnancy    | Yes                     | 494       | 81.1       |
|                                         | No                      | 115       | 18.9       |
| Ask any permission to attained ANC      | Yes                     | 366       | 60.1       |
|                                         | No                      | 243       | 39.9       |
| Whom did you ask permission             | Husband                 | 352       | 95.7       |
|                                         | Mother                  | 9         | 2.4        |
|                                         | Mother In-law           | 7         | 1.9        |
| Any obstetric problems with previous pregnancies | Yes               | 197       | 32.3       |
|                                         | No                      | 412       | 67.7       |
| Health measures were taken              | Taken to health institution | 160      | 81.2       |
|                                         | Taken to traditional healings | 8        | 4.1        |
|                                         | No measure was taken    | 29        | 14.7       |
| Place of delivery in previous pregnancy | At home                 | 218       | 35.8       |
|                                         | At health institution   | 391       | 64.2       |
| Male partner accompany during childbirth | Yes                    | 545       | 89.5       |
|                                         | No                      | 64        | 10.5       |
| Outcome of male partners presence       | I felt less pain        | 121       | 22.2       |
|                                         | He supported me         | 501       | 91.2       |
|                                         | He increased my anxiety | 22        | 4.0        |
| Any health problem during the last delivery | Yes                  | 166       | 27.3       |
|                                         | No                      | 443       | 72.7       |
| Types of the problem faced during recent and last delivery | Prolonged labor | 96        | 57.8       |
|                                         | Excessive vaginal bleeding | 68    | 41         |
|                                         | Retained placenta       | 36        | 20.4       |

Women who think the male should attend ANC were 11.04 times (AOR: 11.04, 95% CI: 4.82, 25.31) more likely to have more than male attendance during ANC. The odds of having good communication with their male partner were 2.97 times more likely to have their male attendance during ANC visits (AOR: 2.83, 95% CI: 1.45, 5.52) (Table 4).
DISCUSSION

This study generated information regarding male attendance and associated factors at their partners' antenatal visits among antenatal care attendees. Accordingly, the prevalence of male attendance at their partners' ANC visit was low (41.4%) which means fewer number of women reported that their partners attended during their ANC follow up. This finding is higher than studies conducted in Harari (19.7%), Tigray (24.7%), and Fentaly, Ethiopia (30.5%), and Wakiso, Uganda (6%) (Asefa, 2014; Kariuki and Seruwagi, 2016; Gebrehiwot et al., 2012). Since, ANC is government concern in the world; husbands might get information regarding their responsibility during ANC. The finding is lower than study findings in Inda and Gulu districts, Uganda, Ambo and Addis Ababa, Ethiopia (Tweheyo et al., 2010; Addisalem, 2014; Dereje, 2016; Abhisheke, 2009). This difference might be due to the difference in time and residence of the participants.

The participants reported husband working in another town (37.1%), not a custom (17.1%) and its women's affair (13.6%) were reasons of non-accompany. The findings are similarly to a study conducted in Harari where respondents stated that their partners were occupied with routine jobs (54.6%), males consider the ANC as the sole responsibility of the wife/women 13.6% (Asefa, 2014) and in Nigeria where husbands were working in another town (41.5%) and not a custom (9.2%) (Abiodun et al., 2015).

In this study, majority (95.7%) of the respondents asked their husband to have ANC. This finding is likely similar to a finding in Burkina Faso where pregnant mothers asked their male partners to consent to visiting health facility (Somé et al., 2013). This might be due to male are dominant in deciding the family issues in sub-Saharan Africa.

Most of the respondents reported that they want their male partners' participation during ANC. They stated that male partners' education regarding how to support the pregnant women, problems during pregnancy and sexual relation during pregnancy is necessary. These findings are almost similar to a study in Harari, Cameroon and Nigeria where women wanted their partner's involvement in ANC and male partners need to be educated on the care of pregnant women (Asefa, 2014; Abiodun et al., 2015; Nkuoh et al., 2013).

Being from rural residences, increased age difference (≥5 years) between women and their male partner increases the likelihood of non-attendance during ANC. The finding is supported by study conducted in Harari, Ethiopia (Asefa, 2014), and Fentaly district, Ethiopia where pregnant mothers living in urban were more likely to have male attendance.

Male partner who have educational level of primary and above are more likely to involve in their partners ANC visits. This finding is supported by studies conducted in India, Uganda and Nigeria where increased educational level was associated with more attendance in maternal care (Zubairu et al., 2010; Kariuki and Seruwagi, 2016).

But, maternal educational level has no association with male partner involvement during ANC which supports a study finding in Kinshasa (Gill et al., 2017). This might be explained by male partners with some basic level of
Table 4. Bi-variable and multivariable logistic regression of factors related to male attendance at their partners' antenatal visits among antenatal care attendees in Bale Zone, South East Ethiopia, 2017.

| Characteristic                      | Male partner Involvement | COR (95% CI) | AOR (95% CI) |
|-------------------------------------|--------------------------|--------------|--------------|
|                                     | Accompanied | Not-accompanied |                |              |
| **Age of respondents**              |             |               |              |
| 15-24                               | 104 (41.3)   | 122 (34.2)    | 1            | 1            |
| 25-34                               | 126 (50.0)   | 203 (56.9)    | 1.17 (0.90-1.52) | 0.58 (0.31-1.08) |
| ≥35                                 | 22 (8.7)     | 32 (9.0)      | 1.61 (1.29-2.01) | 0.30 (0.10-0.87) |
| **Husband age in year**             |             |               |              |
| 15-24                               | 15 (6.0)     | 12 (3.4)      | 1            | 1            |
| 25-34                               | 159 (63.1)   | 200 (56.0)    | 0.80 (0.37-1.71) | 1.66 (0.62-4.42) |
| ≥35                                 | 78 (31.0)    | 145 (40.6)    | 1.26 (1.02-1.55) | 1.61 (0.52-4.87) |
| **Husbands level of education**     |             |               |              |
| Not educated                        | 66 (26.2)    | 85 (23.8)     | 1            | 1            |
| Primary school                      | 54 (21.4)    | 117 (32.8)    | 1.68 (1.07-2.65) | 2.15 (1.12-4.11) |
| Secondary                           | 59 (23.4)    | 80 (22.4)     | 1.05 (0.66-1.68) | 1.38 (0.65-2.94) |
| Collage/University                  | 73 (29.0)    | 75 (21.0)     | 0.798 (0.506-1.258) | 1.40 (0.53-3.68) |
| **Age difference in years**         |             |               |              |
| < 5 years                           | 67 (26.6)    | 47 (12.6)     | 1            | 1            |
| ≥5 years                            | 185 (73.4)   | 312 (87.4)    | 0.41 (0.26-0.61) | 1.78 (0.49-.26) |
| **Residence**                       |             |               |              |
| Urban                               | 124 (49.2)   | 164 (45.9)    | 1            | 1            |
| Rural                               | 128 (50.8)   | 193 (54.1)    | 0.877 (0.635-1.212) | 1.20 (0.62-2.33) |
| **Should male attend ANC?**         |             |               |              |
| Yes                                 | 244 (47.4)   | 271 (52.6)    | 1            | 1            |
| No                                  | 8 (8.5)      | 86 (15.5)     | 9.62 (4.45-20.81) | 10.25 (4.47-22.3) |
| **Women’s occupation**              |             |               |              |
| House wife                          | 141 (56.0)   | 246 (68.9)    | 1            | 1            |
| Employed                            | 44 (17.5)    | 43 (12.0)     | 0.403 (0.113-1.437) | 0.62 (0.29-1.35) |
| Merchant                            | 34 (13.5)    | 37 (10.4)     | 0.226 (0.060-0.848) | 0.59 (0.31-1.14) |
| Farming                             | 30 (11.9)    | 18 (5.0)      | 0.251 (0.066-0.958) | 0.23 (0.11-0.51) |
| Others                              | 3 (11.9)     | 13 (5.0)      | 0.138 (0.04-0.55) | 1.78 (0.33-9.74) |
| **Means of transport**              |             |               |              |
| On Foot                             | 118 (46.8)   | 197 (55.2)    | 1            | 1            |
| Animal/Cart                         | 56 (22.2)    | 86 (24.1)     | 1.76 (1.19-2.60) | 1.06 (0.63-1.77) |
| Car                                 | 78 (31.0)    | 74 (20.7)     | 1.62 (1.02-2.57) | 0.75 (0.45-1.24) |
| **Previous ANC attendance**         |             |               |              |
| Yes                                 | 201 (79.8)   | 293 (82.1)    | 1            | 1            |
| No                                  | 51 (20.2)    | 64 (17.9)     | 0.86 (0.57-1.31) | 0.49 (0.26-0.92) |
| **Husband accompany in previous delivery** |         |               |              |
| Yes                                 | 235 (93.3)   | 310 (86.8)    | 1            | 1            |
| No                                  | 17 (6.7)     | 47 (13.2)     | 0.477 (0.27-0.85) | 1.84 (0.91-3.71) |

Education of better understanding of the complications associated with unskilled delivery. Education also enables men to discard the negative attitudes and cultural beliefs. The study has limitations since it relied on mothers self-
reporting of their male partners’ attendance during ANC which may be under- or over-reported. In addition, cross-sectional data was used and therefore causality and direction of results cannot be determined; longitudinal analysis may provide additional insight into male partner attendance during ANC and investigate all factors that may be associated with male partner involvement in ANC in future studies.

Implications for practice

As earlier shown and mentioned by different literatures understanding level and factors of male attendance during their partners’ ANC visits are important to fill gaps and set strategies to boost male participation in maternal health services. The result of the current study reflects the usefulness of promoting male partners participation during ANC and reducing factors that hinder them in the studied health care settings. As male attendances during ANC increases, women will be supported to have full ANC visits so that pregnancy related maternal morbidity and mortality can be reduced.

Conclusions

Despite the fact that male partners’ attendance in the maternal ANC service is increasing, it remains low in Ethiopia. Furthermore, being older, farmer, age difference of more than five years, previous ANC attendance, and husband attendance in previous delivery increase the likelihood of male partners non-attendance at their partners ANC visit. Health providers and other stakeholders need to focus on educating men on their shared responsibility in ANC. Educating women with their partners when they come to ANC could improve male attendance in future ANC visit.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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REFERENCES

Abhishek S, Ram (2009). Men’s involvement during pregnancy and childbirth: Evidence from rural Ahmadnagar, India. Population Review 48(1).

Abiodun S, Adeniran A, Aboyeji P, Adegbuyega A, Fawole OR, Balogun KT, Adesina PIA (2015). Male Partner’s Role during Pregnancy, Labour and Delivery: Expectations of Pregnant women in Nigeria. International Journal of Health Sciences 9(3):305.

Addisisa DA (2014). Assessment of Husband Involvement during Pregnancy and Child Birth in Akaki/Kaliti Sub-city, Addis Ababa, Ethiopia (Doctoral dissertation). Addis Ababa University.

Aliu AO, Bosire R, Betz B, Gatuguta A, Klare JN, Nduati R (2016). Male partner participation in antenatal clinic services is associated with improved HIV-free survival among infants in Nairobi, Kenya: a prospective cohort study. Journal of Acquired Immune Deficiency Syndromes 73(2):169.

Alva S (2012). Gender Attitudes and Male Involvement in Maternal Health Care in Rwanda. In: Annual meetings of the Population Association of America, San Francisco pp. 2-5.

Ampt F, Mon MM, Than KK, Khin MM, Agius PA, Morgan C (2015). Correlates of male involvement in maternal and newborn health: a cross-sectional study of men in a peri-urban region of Myanmar. BMC Pregnancy and Childbirth 15(1):122.

Asefa F (2014). Male Partners Involvement in Maternal ANC Care: The View of Women Attending ANC in Harar Public Health Institutions, Ethiopia. Science Journal of Public Health 2(3):182-188.

Bhatta DN (2013). Involvement of males in antenatal care, Birth preparedness, Exclusive breast feeding and immunizations for children in Kathmandu, Nepal. BMC Pregnancy and Childbirth 13(1):14.

Biratu BT, Lindstrom DP (2006). The influence of husbands’ approval on women’s use of prenatal care: Results from Yirgalem and Jimma towns, south west Ethiopia. Ethiopian Journal of Health Development 20(2):84-92.

Byamugisha R, Strom AN, Ndeze G, Karamagi CAS, Tylleskär T, Tumwine JK (2011). Male partner antenatal attendance and HIV testing in eastern Uganda: A randomized facility-based intervention trial. Journal of the International AIDS Society 14(1):43.

Craymah JP, Oppong RK, Tuoyire DA (2017). Male Involvement in Maternal Health Care at Anomabo, Central Region, Ghana. International Journal of Reproductive Medicine.

Dereje BD, Gizachew AB (2016). Involvement of male in antenatal care, birth preparedness and complication readiness and associated factors in Ambo Town, Ethiopia.

Ganie JK, Dery I (2015). “What men don’t know can hurt women’s health”: a qualitative study of the barriers to and opportunities for men’s involvement in maternal healthcare in Ghana. Reproductive Health 12(1):93.

Gill MM, Ditekemena J, Loando A, Ilunga V, Temmerman M, Fwamba F (2017). “The co-authors of pregnancy”: leveraging men’s sense of responsibility and other factors for male involvement in antenatal services in Kinshasa, DRC. BMC Pregnancy and Childbirth 17(1):409.

Gebrehiwot H, Gebregziabher W, Gidey G (2012). Assessment of husbands’ participation on birth preparedness and complication readiness in Enderta Woreda, Tigray Region, Ethiopia. J Women’s Heal Care 3(140):2167-0420.

Haile F, Brahn Y (2014). Male partner involvements in PMTCT: a cross sectional study. BMC Pregnancy and Childbirth 14(1):65.

Jefferys LF, Nchimbi P, Mbezi P, Sewangi J, Theuring S (2015). Official referral of pregnant women to Mulago Hospital, Uganda. J Women’s and Child Health Research 73(2):169.

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Jefferys LF, Nchimbi P, Mbezi P, Sewangi J, Theuring S (2015). Official referral of pregnant women to Mulago Hospital, Uganda. J Women’s and Child Health Research 73(2):169.

Kaye DK, Osinde MO, Mbaliindizi SN, Kakande N (2014). Men’s involvement during pregnancy and childbirth: Men’s perceptions, practices and experiences during the care for women who developed childbirth complications in Mulago Hospital, Uganda. BMC Pregnancy and Childbirth 14(1):54.

Kariuki K, Seruwagi G (2012). Determinants of male partner involvement in antenatal care in Wakisigo District, Uganda. British Journal of Medicine and Medical Research 7:18.

Kaye DK, Kaire O, Nakimuli A, Osinde MO, Mbaliindizi SN, Kakande N (2014). Men’s involvement during pregnancy and childbirth: Men’s perceptions, practices and experiences during the care for women who developed childbirth complications in Mulago Hospital, Uganda. BMC Pregnancy and Childbirth 14(1):54.
Kenneth N, Sonto M. Maputle HS (2016). Male partners’ views of involvement in maternal healthcare services at Makhado Municipality clinics, Limpopo Province, South Africa. African Journal of Primary Health Care & Family Medicine 8(4):1-5.

Kissoon N, Dugani S, Bhutta ZA (2015). 3 Maternal and child health: Gains, but a long journey ahead. Canadian Medical Association Journal 187(16):E471-E472.

Kulungula Li, Sundby J, Malata A, Chirwa E (2011). Striving to promote male involvement in maternal health care in rural and urban settings in Malawi - a qualitative study. Reproductive Health 8(1):36.

Ladur AN, Colvin CJ, Stinson K (2015). Perceptions of community members and healthcare workers on male involvement in prevention of mother-to-child transmission in Khayelitsha, Cape Town, South Africa. PLoS One 10(7):e0133239.

Lowe M (2017). Social and cultural barriers to husbands’ involvement in maternal health in rural Gambia. The Pan African Medical Journal 27.

Meier ME, Avillaneda L (2015). A Literature Review of Paternal Involvement in Prenatal Care. Journal of Family Strengths 15(1):10.

Mokwe NV (2005). Couples perception of the husband’s presence in the delivery room during childbirth. Eastern Mediterranean Health Journal 11(4):828-834.

Ministry of Health (MOH) (2014). Ethiopia Mini Demographic and Health Survey 2014. Central statistical agency 2014.

Mphonda SM, Rosenberg NE, Kamanga E, Mofolo I, Boa E, Mwale M (2014). Assessment of Peer-Based and Structural Strategies for Increasing Male Participation in Antenatal Setting in Lilongwe, Malawi. African Journal of Reproductive Health 18(2):97-104.

Mullany BC, Becker S, Hindin MJ (2006). The impact of including husbands in antenatal health education services on maternal health practices in urban Nepal: Results from a randomized controlled trial. Health Education Research 22(2):166-176.

Mullany BC, Becker S, Hindin MJ (2006). The impact of including husbands in antenatal health education services on maternal health practices in urban Nepal: Results from a randomized controlled trial. Health Education Research 22(2):166-176.

Mullick S, Kunene B, Wanjiru M (2005). Involving Men in Maternity Care: Health Service Delivery Issues. Agenda Special Focus 6:124-35.

Nanjala M, Wamalwa D (2012). Determinants of Male Partner Involvement in Promoting Deliveries by Skilled Attendants in Busia, Kenya. Global Journal of Health Science 4(2):60.

Nkuoh GN, Meyer DJ, Nshom EM (2013). Women’s attitudes toward their partners’ involvement in antenatal care and prevention of mother-to-child transmission of HIV in Cameroon, Africa. Journal of Midwifery and Women’s Health 58(1):83-91.

Nyondo AL, Choko AT, Chimwaza PF (2015). Invitation Cards during Pregnancy Enhance Male Partner Involvement in Prevention of Mother to Child Transmission ( PMTCT ) of Human Immunodeficiency Virus ( HIV ) in Blantyre, Malawi: A Randomized Controlled Open Label Trial. PLoS One 10(3):e0119273.

Olayemi O, Bello FA, Aimakhu CO, Obajimi GO AA (2009). Male participation in pregnancy and delivery in Nigeria: A survey of antenatal attendees. Journal of Biosocial Science 41(4):493-503.

Ossili A, Han H, Kinuthia J, Farquhar C (2014). Role of male partners in the prevention of mother-to-child HIV transmission. Research and Reports in Neonatology 4:131-138.

Richard K, Malande OO (2016). Involvement for obstetric emergencies in rural Rwanda. The Pan African Medical Journal 25 p.

Sambo L, Chatora R, Goosen E (2003). Tools for assessing the operationality of district health systems. World Health Organization, Regional Office for Africa.

Sokoya M, Farotimi A, Ojewole F (2014). Women’s perception of husbands’ support during pregnancy, labour and delivery. IOSR Journal of Nursing and Health Science 3(1):45-50.

Somé DT, Sombié I, Meda N (2013). How decision for seeking maternal care is made--a qualitative study in two rural medical districts of Burkina Faso. Reproductive Health 10(1):8.

Takah NF, Kennedy ITR, Johnman C (2017). The impact of approaches in improving male partner involvement in the prevention of mother-to-child transmission of HIV on the uptake of maternal antiretroviral therapy among HIV-seropositive pregnant women in sub-Saharan Africa: a systematic review and m. BMJ Open 7(11):e018207.

Tweheyo R, Konde-Lule J, Tumwesigye NM, Sekandi JN (2010). Male partner attendance of skilled antenatal care in peri-urban Gulu district, Northern Uganda. BMC Pregnancy and Childbirth 10(1):53.

Tweheyo R, Konde-Lule J, Tumwesigye NM, Sekandi JN (2010). Male partner attendance of skilled antenatal care in peri-urban Gulu district, Northern Uganda. BMC Pregnancy and Childbirth 10(1):53.

UNFPA (1999). 5 Programme of Action of the International Conference on Population and Development: 20th Anniversary Edition.

Upadhyay P, Liabsuetrakul T, Shrestha AB, Pradhan N (2014). Influence of family members on utilization of maternal health care services among teen and adult pregnant women in Kathmandu, Nepal: a cross sectional study. Reproductive Health 11(1):92.

Vermeulen E, Solines Miltenburg A, Barras J, Maselle N, van Elteren M, van Roosmalen J (2016). Opportunities for male involvement during pregnancy in Magu district, rural Tanzania. BMC Pregnancy and Childbirth 16(1):66.

Wai KM, Shibanuma A, Oo NN, Fillman TJ, Saw YM, Jimba M (2015). Are husbands involving in their spouses’ utilization of maternal care services?: A cross-sectional study in Yangon, Myanmar. PloS One 10(12):e0144135.

World Health Organization (WHO) (2016). Time to respond: A report on the global implementation of maternal death surveillance and response.

Yargawa J, Leonard-bee J (2015). Male involvement and maternal health outcomes: systematic review and meta-analysis. Journal of Epidemiolim Community Health jech-2014.

Yende N, Rie A Van, West NS, Bassett J, Schwartz SR (2017). Acceptability and preferences among men and women for male involvement in antenatal care. Hindawi Journal of Pregnancy 8 p https://doi.org/10.1155/2017/4758017

Zubairu I, Abubakar IS, Galadanci HS, Aliyu MH (2010). Birth preparedness, complication readiness and fathers’ participation in maternity care in a northern Nigerian community. African Journal of Reproductive Health 14(1).
