

Knowledge and Practices on the Use of Misoprostol among Health Workers at Mpigi Health Center IV in Mpigi District

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ABSTRACT

In developing countries, post-partum hemorrhage (PPH) and complications related to unsafe abortions are direct causes of maternal death. Recent studies showed high levels of efficacy and acceptability of misoprostol for PPH. The objective of the study was to understand the knowledge and practices regarding obstetric use of misoprostol among health workers at Mpigi Health center IV. A descriptive cross-sectional survey was conducted among 20 health workers working at Mpigi Health center IV to gather information about misoprostol use. Data was collected on health workers' knowledge of misoprostol; and misoprostol provision practices. All health workers had heard about misoprostol but many could not classify it or even give its obstetric indication. Actual use was also very low. Obstetric use of misoprostol is undermined by limited knowledge especially among non-midwife obstetric care givers. The researcher therefore recommends training in form of a Continuous Medical Education (CME) on obstetric use of Misoprostol as well as regular internal and external support supervision with respect to misoprostol use.

Keywords: misoprostol, post-partum hemorrhage, abortions, obstetric.

INTRODUCTION

Misoprostol is a synthetic prostaglandin medicine which received approval for introduction in more than 85 countries since its appearance on the market in 1985 for the prevention and treatment of gastric ulcers. Because the medicine is an uterotonic, it causes the ripening of the cervix and uterine contractions. It is therefore widely used in the prevention and the treatment of PPH and for post-abortion care [1-2]. It is also used for the treatment of intrauterine fetal death and cervical ripening during certain surgeries. In 2011, misoprostol was included in the 17th edition of the WHO's List of Essential Medicines (LEM) for several gynecological and obstetric uses, including the prevention of PPH when oxytocin is not available or cannot be used safely, for labor induction and PAC [3]. Misoprostol is available in an oral tablet form, and the WHO recommends 600 micrograms orally for the prevention of postpartum hemorrhage, and permits 800 micrograms sublingually as the third line treatment for post-partum hemorrhage. Tablets contain 25 (for induction), 100, or 200 micrograms, and can be stored at room temperature if appropriately packaged in double-aluminum blister packs [4]. Use of misoprostol in preventing/managing PPH is one of the means by which the prospects of labor can be improved. Misoprostol was approved for preventing and treating PPH in Uganda in 2008 administered by health workers [5]. Thus, it is conceivable that any intervention aimed at preventing PPH will reduce maternal mortality by more than one quarter in sub-Saharan Africa. In low- and middle-income countries women continue to die each day during and immediately after childbirth mainly due

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to postpartum hemorrhaging (PPH). In fact, most maternal deaths in sub-Saharan Africa (440 every day) are caused by PPH [5].

In Uganda, maternal mortality appears to have declined over the past decade, measured at 505 deaths per 100,000 live births in 2000/01 and 435 deaths in 2006, and 343 deaths currently far than he targeted 131 deaths per 100,000 live births as per Health sector strategic plan II. Major complications that contribute to maternal deaths are severe bleeding, infections, hypertension and unsafe abortions. Maternal deaths most often occur during labor, delivery and during the immediate post-partum period, or following complications from an abortion. In 2006, a systematic review showed that postpartum hemorrhage (PPH) caused more than 30% of maternal deaths worldwide [6-8]. In Uganda, it is estimated that PPH causes 25% of maternal deaths [5]. Additionally, the knowledge and practices regarding misoprostol use are not well understood in Mpigi district. It is important to understand the motivation and context for current misoprostol use if programs to scale up its use for prevention of PPH are to succeed without exacerbating inappropriate practices. This exploratory study aims to address these evidence gaps, particularly to document health care providers' knowledge, practices regarding misoprostol use during labor and delivery in the district using Mpigi Health center IV as a case study.

METHODOLOGY

Study Design and Rationale

It was a descriptive, cross-sectional study applying both qualitative and quantitative data Collection techniques. This design is most appropriate because data was collected at a point in time and facts will be immediately discovered and applied. It is even cheap and affordable.

Study Settings

The study was conducted in Mpigi Health Centre IV, Mpigi district among health workers that participate in maternity service care.

Table 1: Staffing Levels of Mpigi Health center IV

Cadre	Number present
Medical officers	02
Clinical Officers	04
Nursing Officer	02
Public Health Dental Officer	01
Enrolled Midwives	06
Enrolled Nurses	10
Laboratory Technician	01
Laboratory Assistant	01
Stores Assistant	01
Anesthetic officers	01
Health Assistants	01
Porters	02
Askaris	02

Source: Health facility office

Study Population

The study populations were health workers serving in Mpigi Health Centre IV. These included doctors, midwives, clinical officers, nurses of all categories. The target will be the health workers that at least occasionally work in the maternity section of the health center. The study units were the individual health workers who at least occasionally work in the maternity department of Mpigi Health Centre IV.

Sample Size Determination

Kish and Leslie (1965) formula was used to determine the number of participants to be interviewed. Considering that there is no evidence of studies carried out on misoprostol use in the study area the researcher used prevalence of 50% to give maximum variability. From a total of 35 workers that have roles to play in obstetric care in the health facility, with a 95% confidence interval and 5% margin of error, a 384 minimum sample was got as follows;

$$n = \frac{Z^2 PQ}{d^2}$$

Where n = sample size

Z = Scope corresponding to 5% level of significance (1.96)

d= the error to be tolerated (0.05)

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P= Expected population proportion health workers using misoprostol in Obstetric care.

$$Q = (1-P) = 0.5$$

$$\text{Therefore, } n = (1.96)^2 \times (0.5^2) \\ (0.05)^2 \\ n=384$$

Since the target population is 34 meaning it is < 10,000

Therefore researcher used the following formula:

$$nf = n / 1+n/N$$

$$nf = 384 / (1 + 384/4) = 384 / 11.97$$

$$= 32$$

Minimum sample size = 32 Health workers

Therefore, the researcher targeted 34 health workers to cater non responsiveness

Sampling Procedure

The district and health facility for the study were purposely selected due to the observed underutilization of misoprostol for managing/preventing PPH. The health workers that at least serve in maternity departments were similarly purposely sampled since they are in a better position to answer misoprostol related issues. The health facility will be visited and self-administered questionnaires given to the selected respondents.

Inclusion Criteria

The inclusion criteria were be that the interviewees must be health workers at Mpigi Health Centre IV who at least once in a while work in maternity section (including midwives, clinical officers and nurses and doctors).

Data Analysis

Data was processed using a data master sheet; with the help of an electronic calculator and by use of Microsoft excel program, data was processed and presented in percentage frequency distribution tables, pie charts, bar graphs and lime graphs. Qualitative data was presented in form of statements.

Ethical Consideration

A letter of introduction from the school of Allied Health sciences introduced the researcher to the Health facility and the in charge granted the researcher permission to carry out research. Written consent was sought from each participant and one was at liberty to or not to participate in the study. Confidentiality was assured and ensured. The respondent's names were not asked or recorded.

RESULTS

Half of the health workers interviewed, 10(50 %) were nurses, 6(30.0 %) were midwives, 3(15.0%) were clinical officers while 1(5 %) was a doctor.

Table 2: Cadres of health care providers that participated in the study (N= 20)

Health workers	Frequency	Percentage (%)
Nurse	10	50%
Midwife	6	30.0
Clinical officer	3	15%
Doctor	1	5.0%
Total	20	100

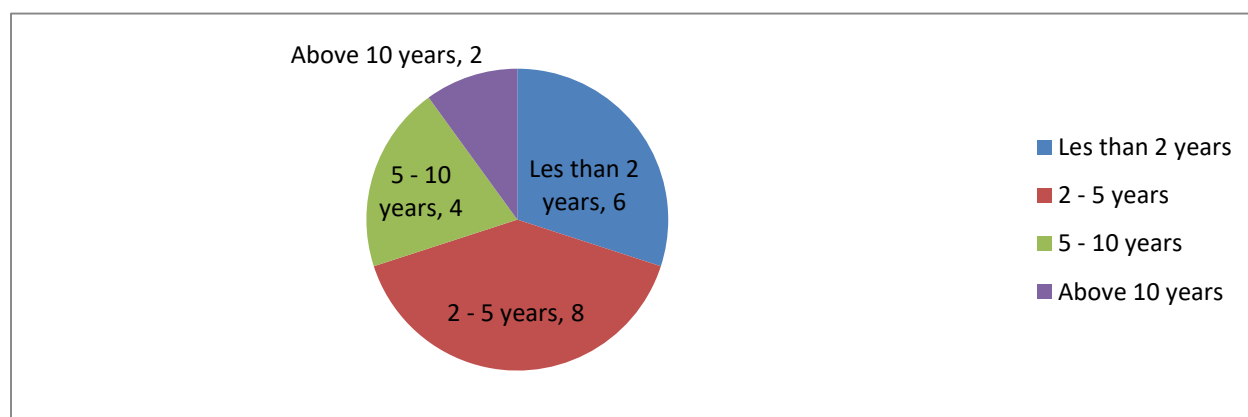


Fig 1: Duration of health workers in service (N=20)

Slightly more than one third of the respondents, 8(40.0 %) had, served for 2-5 years, 6(30.0%) had served for less than 2 years while 6(30.0%) had served for more than five years.

Table 3: Knowledge about misoprostol (N=20)

	Frequency	Percentage (%)
Ever heard about misoprostol		
Yes	16	80
No	4	20
Knows the indications of misoprostol		
Yes	14	70
No	6	30
Knows side effects of misoprostol		
Yes	10	50
No	10	50

Use of Misoprostol

Respondents were asked whether they have ever used misoprostol and the indications for which it was used. Only 4(20%) had ever used misoprostol. They had all used it for obstetric purposes to manage postpartum hemorrhage. Slightly more of than one half of the health workers, 11 (55.0%) had had some form of in-service training compared to 9 (45.0 %) who had not had any training.

Table 4: In service training for obstetric care givers by qualification (N=20)

Cadre	Had In service Trainings	Never had in service training
Midwife	5(83.3 %)	1(16.7 %)
Nurse	5(5.0 0%)	5(50.0 %)
Clinical officer	1(33.3 %)	2(66.7 %)
Doctor	0(0.0 %)	1(100.0%)
Totals	11(55.0 %)	9(45.0%)

Support Supervision

Obstetric care workers were asked whether they got internal/External support supervision with respect to misoprostol use in the third quarter 2016-17(Jan – March 2017) and the responses were as in the table below. There was reported limited support supervision from both within and external sources as in the table above.

Table 5: Support supervision of obstetric care givers (Jan-Mar 2016) N=20

Support Supervision	Internal			External		
	Yes	No	Not Sure	Yes	No	Not Sure
Number of Obstetric Care givers	3(15.0%)	15(75.0%)	2(10.0 %)	2(10.0 %)	17(85.0%)	1(5.0 %)

Table 6: Factors that negatively impact misoprostol use (N=20*)

Response	Frequency	Percentage (%)
Limited knowledge /skills	19	95%
Limited support supervision	15	75.0
lack of refresher trainings	8	40.0%
Poor motivation among health workers	6	30%
Poor attitude towards its use	2	10%

*Responses are not mutually exclusive

Table 5: Suggestions for improvement on misoprostol use in the health center (N=20*)

Response	Frequency	Percentage (%)
Provision of refresher training	20	100
More regular Support supervision	13	65
CMEs on Misoprostol use	10	50
Improvement of salary/working conditions Regular	7	35

DISCUSSION

Demographically, 6(30.0%) were midwives, while the rest were non midwife obstetric care providers (nurses, clinical officers and a doctor). Such non midwife cadres are likely to be less knowledgeable or skilled on misoprostol use. This could partly explain their limited knowledge on misoprostol as such cadres tend to be less pre occupied with obstetric care. However, in resource limited settings such as Mpigi Health center IV; such cadres are often required to provide obstetric care. It is therefore of profound importance that they are comfortable with misoprostol use. Regarding the duration of respondents in service, 14(70 %) of the health workers had served for 2 or more years, hence probably had enough experience on misoprostol use. However slightly less than one third, 6(30.0%) of the respondents had served for less than 2 years, hence were probably not experienced enough hence need further trainings and support supervision. Since misoprostol use is relatively new in Uganda, there is need for refresher trainings even for the more experienced health workers. All the health care providers had heard about misoprostol. However only 16(80 %) could classify it while only 14(70%) could list its uses. The study therefore expectedly confirms the significance of formal training. Even though all the participants had some knowledge about misoprostol, midwives were comparatively more knowledgeable about misoprostol. This brings into a sharp focus the need to introduce a form of training for other health cadres especially nurses and clinical officers who mainly practice in lower public health care facilities with fewer midwives. It also puts into perspective, the value and need for continued professional development. This limited knowledge and skills among the non-midwife cadres negatively impacts on use of misoprostol and calls for in-service training of such cadres.

CONCLUSION

About two thirds of the health care workers were predominantly non midwives while approximately one third were midwives. Midwives were more knowledgeable and skilled about misoprostol compared to other non-midwife obstetric care givers. Interesting to note was that 6(30%) of the non-midwife respondents were unable to mention the uses of misoprostol.

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