ON UNREGULATED USAGE OF OXYTOCIN TO AUGMENT LABOUR: AN YEAR IN REVIEW

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ABSTRACT

Objective: The objective of this study was to determine the after effect of misuse of oxytocin by Birth Attendants to augment labour during home deliveries and to assess the adverse effects on mother and child.

METHADOLOGY: Thisstudy was conducted in Mardan Medical Complex Hospital,Mardan fromJanuary, 2017 till December, 2017 in Obstetrics and Gynecology A unit. All Patients who presented to OPD and had given birth at home during last 6 months were interviewed for the use of injections by birth attendants.Alsowomen who presented to labour room as handled caseswere included in the study for the misuse of oxytocin at home.

Results: Among 500 Patients, 80 % reported use of oxytocin (70%) or some other treatments (30%) for augmentation of labour. We recorded 494 live births and 06 still births. Among maternal associated morbidity, 100 women who had a history of oxytocin use at home were referred to hospital. According to these women reasons for referral were prolonged or obstructed labour (60), Convulsions (6), premature rupture of membranes (20), and (14) were others 2 cases were of rupture uterus. Conclusions: In 90% of women oxytocin was used to augment labour outside the hospital settings,due to this misuse, cases of adverse maternal and neonatal complications are received daily in emergency in the labour room. To avoid this, tighter regulatory control of labour inducing drugs along with regular training of health care workers is required.

Keywords: Oxytocin, Home Delivery, Unqualified Medical Practitioner, Traditional Birth Attendants

To reduce maternal mortality and morbidity is a major challenge worldwide especially in developing countries(1). There are multiple factors involved in this high mortality like poor health system weaktened by chronic and manmade disaster ,deficient health care workers and inefficient training of existing health care personnel. Pakistan is a country with a second highest maternal mortality ratio(401/100000) live birth in south Asia and seventh highest neonatal mortality 42/1000 live birth in 2013 in the world(2).

INTRODUCTION

The leading cause of maternal death in Pakistan is hemorrhage, hypertension, infection, obstructed labour and unsafe abortion(3,4) .For neonates this include infection ,asphyxia as well as prematurity with low birth weight(5,6). 0ne of the major contributing factors towards increased maternal and neonatal mortality is shortage of trained health workers, added to this, poor training of health workers and unregulated andover the counter availability of labour inducing medications may lead to injudicious use which are responsible for adverse maternal and neonatal effects(7–11).

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Oxytocic is commonly used labour inducing drug. It is used in all stages of labour, however, their misuse result in serious complications for both mother and child. Maternal complications include hyper stimulation of the uterus, leading to precipitate labour, perineal tears, serum electrolytes imbalance, and post-partum hemorrhage, increased risk of instrumental and operative delivery, amniotic fluid embolism, uterine rupture and maternal death. Fetal complications are Low Apgar score of less than 7and subsequent critical care; and low O2 Stats, fetal distress and asphyxia, intrapartum fetal death and neonatal death. The world health organization has recommended to use oxytocic in a facility which is equipped to closely monitor mother and child and where facility for caesarean section is available(12).

In most of the medico legal disputes that arise from complicated labour outcomes, the primary causative is almost invariably the inappropriate use of oxytocin(12)

The objective of our study was to highlight the misuse of oxytocin in home deliveries and its adverse effects on maternal and neonatal health so that preventable measures could be taken.

METHODOLOGY:

This cross-sectional study was conducted in Mardan medical complex hospital Obstetrics and Gynecology A unit in 2017 to know about the behavior of married women about the intrapartum practices of Oxytocin.Married women including primary gravida and multigravida, aged 15-49 years, who had birthed at home during the last 6 months before the commencement of the study, who came to OPD as well as women with history of injections at home who presented to labour room were included in the study. All births which had happened in a controlled environment, hospital or outpatient clinic were excluded.

The results from the discussions with the patients were incorporated into the questionnaire. The questionnaire

had information about age, education, parity, previous birth history with obstetric complications, pain management during labour, including oxytocin, maternal and neonatal complications, and specific attitudes focusing on labour augmentation. Women were also asked about who attended their delivery. A total of 500 interviews were included in the study.

RESULTS:

A total of 500 women were included in the study. Out of these 500 women, 400 women gave birth at home however 100 patients were referred patients to labour room with some complication and history of injections at home. We recorded 494 live births and 06 still births, low Apgar score babies who needed neonatal ICU Carewere recorded10.

Regarding the attitudes of women towards medicine during delivery, about 70% (350) were satisfied about the use of medicine. According to them it speeded up their delivery and reduced their suffering. As well as it prevented them from hospital delivery. Out of these 400 home deliveries 90%(360) women gave history of oxytocin use by some TBA at home by infusion or by intramuscular injection.

Among women who has given history of the use of oxytocin to augment labour. The reasons for the use of were oxytocin were to augment labour pain 100, to deliver the baby more easily 65 and to increase the women pushes 27 and to prevent hospital delivery were 200. 420 (84%) of these women received one dose of oxytocin. 69 women (13.7%) received 2 doses of oxytocin however only 11 women (2.2%) reported receiving of three doses. 80% of the patient had a been given oxytocin as an intravenous infusion while 20% had been given intramuscular injection.

According to all these women TBA performed an examination before oxytocinadministration. This examination included Per vaginal assessment of cervical dilation and station and per abdomen fetal position and movements were also assessed. Those TBA also checked the women's blood pressure however in a singular instance one patient reported that the TBA check for fetal heart beat also.At the first onset of labour pain the first dose of oxytocin was given in the initial 12 hours (75%), and the dose was repeated if the labour did not progress within the first hour (50%), and s it usually happened 50% of the births occurred with administration of the initial dose.

100 women who have given history of oxytocin at home were referred to hospital. According to these women reasons for referral were prolonged or obstructed labour (60),Convulsions (6), premature rupture of membranes (20),and (14) were others 2 cases were of rupture uterus.

DISCUSSION:

Most commonly used drug in labour is oxytocin. It can be used in all stages of labour, in induction as well as augmentation and prevention of postpartum hemorrhage. In a study by Arul kumara et al,almost 80% of nulliparous and 90% parous women were delivered vaginaly after augmentation with oxytocin. Side effects of oxytocin are very few if properly controlled dose is given, however serious complications in both mother and baby can occur with injudicious use of oxytocin. Recently oxytocin is added to the list of medications designated as high alert by the institute for safe medication, USA. Such drugs are defined as those bearing a high risk of harm when they are used injudiciously(13,14).

According to our study in Mardan Medical Complex Hospital about 1 in 3 women receiveoxytocin at home for a trail of labour and as an effort to accelerate delivery. This high usage of laboring inducing medicine is due to the misconception that it is used to accelerate obstructed labour which is commonly associated with cephalopelvic disproportion and abnormal presentation leading to further complications(15–17).Our results are similar to those of other studies in Pakistan, and other Asian Countries in which the injudicious use of oxytocin ranged from 15 to 69%(18–20).

Patients who had a prior history of extended labour >12 hours and had a prior experience of oxytocin use were more comfortable with the repeat use of oxytocin in their births.Among these patients 100 were referred to a tertiary care center, of whom there were 6 stillbirths(18).

In our study we found that women who had good wealth quintiles were more likely to use oxytocin for labour augmentation. Also women who had some knowledge of oxytocin were more likely to have it. However, from our study we cannotclearly say that this knowledge was gained before or after the use of oxytocin. Another limitation of our study was recall bias because the women may not be able to recall the type of medicine given to them at home(21–23).

To augment recall bias, we curtailed the study period to six months. Incidentally there was selection bias due to the fact that some of the study subjects were more educated than others to correctly recall the type of medicine given to them. We excluded maternal deaths from the study sample and mortality assessment could not be made after the fact(22).

The 6 stillbirths reported in this study are less than that expected. There are also many limitations to accurately capture stillbirth rates as well as this study was not designed to measure associations between oxytocin use and adverse health outcomes(23).

The results from this study shows that oxytocin is commonly administered at home to augment labour pain. A literature review of home-based birth has also demonstrated that it is very common to use oxytocin to augment labour insouth Asia. The willingness of women, TBAs and VDs to openly discuss oxytocin use to augment labour suggests that there is no awareness that the use of oxytocin is a discouraged practice in home settings. This may be because of the limited knowledge about the potential adverse outcomes of this practice(24–26).

Our study outcomes have the potential to change attitudes and practices by TBA's and VD, and among the women about the probable harmful adverse outcomes of oxytocin use in home births and shape behaviors regarding practice of use(18,26). Further research is needed to comprehensively outline decision making protocol regarding when and if oxytocin is to be used to augment labour, and in case of adverse outcomes and complication, how can the complications be prevented and managed afterwards(22,23). The important parameter of maternal and neonatal outcomes post oxytocin use needs to particularly researched in large population studies(24). This parameter takes on a significant importance in Urban Slums where the maternal and neonatal mortality is on the rise(14). Lastly the oxytocin as drug needs to be handled and stored properly as improper

storage leads to reduced efficacy of the drug.
For cases of postpartum hemorrhage Oxytocin and other uterotonics are most effective medicine which can be used at home (Misoprostol) or in a tertiary care center as intravenous Oxytocin or Ergometrine.However, there is no final verdict to conclusively support the use of oxytocin in labour augmentation, but there is clear evidence that oxytocin does accelerate the second stage of labor and can be used to hasten it or use by UAP's in home births (24). Therefore, use of oxytocin in non-controlled environment needs to be strongly discouraged and public awareness campaign to that effect needs to be undertaken.
There are plans underway by the government to encourage use of misoprostol at community level for prevention of postpartum hemorrhage, and follow studies needs to be under taken whether or not the practice of misoprostol for labour augmentation is being used or not.

Percentage of patients who used oxytocin in labour

Total	Patients who used	Patients who did not

Distribution of patients according to age

Age in year	Percentage
15-19	25%
20-24	47%
25-29	26%
30-34	15%
35+	8%

Education status

	None	Any Education
Womens	39%	51%
Husbands	35%	8%

Distribution according to parity

Parity	percentage
1	29%
2-3	42%
4+	29%

Reasons for referral to hospital

Reasons	percentage
Obstructed labour	60%
Conversion	6%
Pre mature rapture of membrans	20%
others	14%

Other demographic

Demographics	Yes	No
Antenatal care	75%	25%
Prolong labour	33%	67%
Knowledge of the oxytocine	90%	10%

Reasons for ruse of oxytocin

Reasons	No of pt	percentage
To augment labour pain	100	20%
To Deliver baby	65	13%
To increase wome pushes	135	27%
	200	40%

No of patients who reported long labour of 12 hurs with use of oxytocine

Report	No of pt	Percentage
yes	165	33%
No	335	67%

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