OPEN ACCESS
https://doi.org/10.47811/bhj.157

Clinico-Demographic profile of incomplete miscarriage at National Referral Hospital, Bhutan

Karma Lhaden[1], Sonam Gyamtsho[2]

[1]*Faculty of Postgraduate Medicine, Khesar Gyalpo University of Medical Sciences of Bhutan, Thimphu, Bhutan*
[2]*Department of Obstetrics and Gynecology, Jigme Dorji Wangchuck National Referral Hospital, Thimphu, Bhutan*

ABSTRACT

Introduction: Miscarriage is a leading health concern that causes maternal morbidity and mortality. According to the World Health Organization (WHO), the incidence of miscarriage is 39 per 1000 women aged between 15-49 years. There is no reliable information regarding miscarriage in Bhutan. This investigation attempts to study the clinical and demographic profile of incomplete miscarriages and their outcome at the Jigme Dorji Wangchuck National Referral Hospital (JDWNRH), Bhutan. **Methods:** An observational study was carried out from February 2020 to February 2021 including 132 women with incomplete miscarriage at JDWNRH. Purposive sampling was done and patient with incomplete miscarriage presenting to the JDWNRH was interviewed using structured questionnaire after diagnosis or before they were discharged from hospital. **Results:** The study found that the proportion of incomplete miscarriage was 25.4 per 1000 pregnant women at JDWNRH. The common age group was 21-30 years with a mean age of 29.9 years. Of them, 65.91% were married, 55.3% had a stable job and 90% were gravida 2 and above. Nearly 80% reported that it was an unplanned pregnancy and 73.5% due to lack of awareness of contraceptive use. Nearly 92% required hospital admission and 88.64% received surgical management. **Conclusions:** Women with incomplete miscarriages had mostly unintended pregnancies. The majority had surgical management with no mortality.

Keywords: Early pregnancy loss; Contraceptive; Incomplete pregnancy loss.

INTRODUCTION

Miscarriage, also referred to as pregnancy loss, is defined as a nonviable intrauterine pregnancy up to 20 weeks of gestation[1]. Most early pregnancy losses occur in the first trimester. Miscarriage is the most adverse outcome of pregnancy[2]. The morbidity and mortality due to miscarriage remains underestimated worldwide[2].

Miscarriage is a leading but preventable cause of maternal mortality and morbidity[3]. Furthermore, the incidence of unsafe abortion accounts for 14 per 1000 women of age group 15-49 years contributing to 7.9% of maternal mortality globally[4]. Miscarriage, be it spontaneous or induced, is generally seen more in developing countries compared to the developed countries.

Bhutan, with a population of 727,145, provides free health care services. Bhutan has made remarkable progress in bringing down the maternal mortality rate in the country achieving the Millennium Goal Development (MGD)[5]. Induced miscarriage is not legal in Bhutan and medical termination of pregnancy is legal only under three circumstances; when the pregnancy is the consequence of a rape or incest, when the pregnancy is life-threatening to the mother's life and when the woman is mentally unsound[6]. In 2019, 1271 miscarriages were reported with 3 resulting in maternal mortality[7]. JDWNRH, the apex health center in the country reports evacuation and curettage for miscarriage as being the most common minor procedure performed. In 2019 alone, of the 761 minor procedures performed, 338 were evacuation and curettage for miscarriages[8].

This research aims to study the clinical, social and demographic profile of incomplete miscarriages among the women of reproductive age group in JDWNRH.

METHODS

Study design and duration

This is an observational study carried out over a one-year period (February 2020 – February 2021) at the JDWNRH.

Sampling method

Women with a positive gravindex test within 20 weeks of gestation and ultrasound evidence of retained products of conception were

Corresponding author:
Karma Lhaden
karmalhaden3410@gmail.com

eligible for inclusion in the study. Once diagnosis was confirmed and the patient was stabilized, they were approach for inclusion into the study. It was explicitly stated that refusal to participate in the study would not compromise their medical treatment. The same was detailed in the information sheet and informed consent form, along with their right to privacy and confidentiality. Data was collected via an interview using a structured questionnaire.

Ethical clearance

Ethical clearance was granted via Ref. No. REBH/Approval/2019/057 by the Research Ethics Board of Health (REBH), under Ministry of Health, Thimphu.

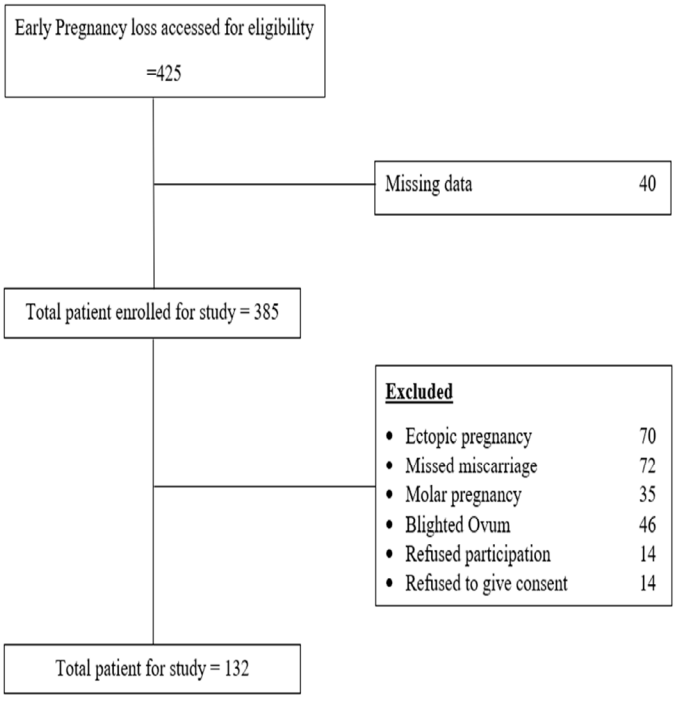

Figure 1. Study Flowchart

RESULTS

A total of 132 patients were enrolled in this study. The proportion of incomplete miscarriage in JDWNRH was found to be 25.4 per 1000 among the pregnant women (Table 1).

The mean age was 29.9 years with the youngest patient being 19 years and the oldest 46 years old. The age group of 21-30 years had the highest number of incomplete miscarriages accounting for 54.5% (Table 1). Of the 132 patients enrolled, 94 (71.21%) patients had secondary or more education while 21 (15.9%) patients had no education.

Pregnancy was confirmed (patient knew about their pregnancy status) in 54.55% of patients while 9.09% said they were unaware of their pregnancy. The most common presenting symptom was per vaginal bleeding (100%) followed by abdominal pain (96.55%).

Table 1. Clinical and demographic profile of incomplete miscarriage

Characteristics	Frequency (Percentage)
Age	
15 – 20 Years	5 (3.79%)
21 – 30 Years	72 (54.55%)
31 – 40 Years	47 (35.61%)
>41 Years	8 (6.06%)
Marital status	
Married	87 (65.91%)
Unmarried	22 (16.67%)
Living Together	15 (11.36%)
Others [divorced, widow]	8 (6.06%)
Occupation	
Employed	73 (55.30%)
Unemployed	59 (44.70%)
Education level	
No Education	21 (15.91%)
Primary	17 (12.88%)
Secondary	56 (42.42%)
Tertiary	38 (28.79%)
Past obstetric history	
Primi Mothers	42 (31.82%)
Gravida 2 or More	90 (68.18%)
Current Pregnancy	
Planned	27 (20.45%)
Unplanned	105 (79.55%)
Current contraception	
None	97 (73.48%)
Barrier	21 (15.91%)
DMPA	1 (0.76%)
ECP	13 (9.85%)
History of using abortifacient	
Yes	54 (40.91%)
No	78 (59.09%)
Medical condition	
Yes	10 (7.58%)
No	122 (92.42%)
Any recent infection	
Yes	0 (0%)
No	132 (100%)
History of trauma	
Yes	0 (0%)
No	132 (100%)

Eighty seven out of hundred thirty-two (65.91%) patients were married, 22(16.67%) were unmarried and 15(11.36%) were living together. 38.2% of the women were primi gravida and 73(55.30%) had a stable job (Table 1).

Out of 132 patients, only 10(7%) had underlying medical conditions out of which 2 had endocrine disorder. None of the patients had a history of trauma or any features of infection (Table 1).

The majority of patients 105(79.55%) reported that this pregnancy was unplanned or unintended. Ninety-seven (73.48%) had no contraception usage and said they were not aware of contraceptive methods (Figure 2). Of the 132 patients, 78(59.09%) patients had a spontaneous miscarriage while the remaining 54(40.91%) gave a history of taking abortifacient as they were not ready to start family or their family was complete (Figure 3).

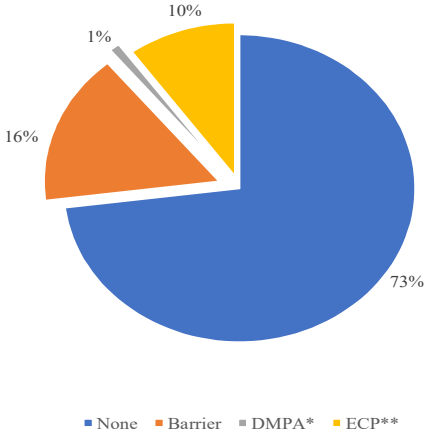

Figure 2. Contraceptive usage among the women with miscarriage

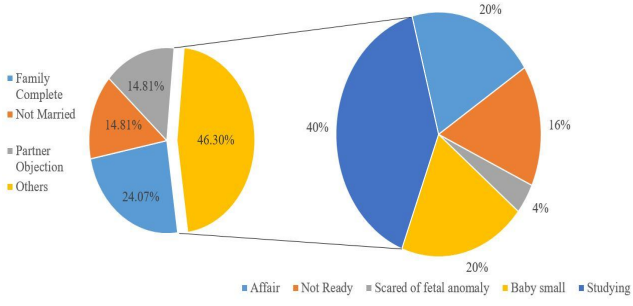

Figure 3. Reason for using abortifacients

Of the 132 patients, 122(92.42%) required hospital admission. Surgical management was given to 117(88.64%) while 15(11.36%) received medical management. Although there were no cases of mortality due to the miscarriage, morbidity following miscarriage was seen as follows; 4.10% presented with shock, 3.28% with sepsis requiring IV antibiotics, 14.7% of patients had received blood transfusion and 1.63% patients required ICU admission (Figure 4).

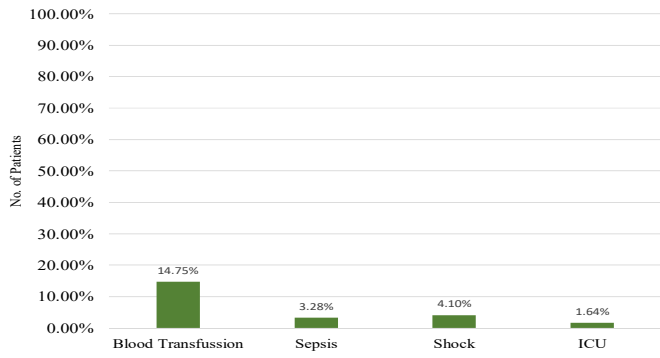

Figure 4. Clinical outcome following miscarriage

DISCUSSION

The study found that the rate of incomplete miscarriage in JDWNRH was 25.4 per 1000 women aged 15-49 years. Similar studies in neighboring countries have reported incidence rates of 37 per 1000, 50 per 1000, 42 per 1000 and 47 per 1000 women aged 15-49 years in Bangladesh[9], Pakistan[10], Nepal[11] and India[12] respectively. The proportionate rate of miscarriage in this study is lower compared to some of the studies done in our region because this report has included only incomplete miscarriage and excluded other early pregnancy losses.

This study observed that 72(54.55%) out of 132 patients with incomplete miscarriage were between 21-30 years of age with a mean age of 29.9 years. This finding is similar to some of the studies done in our region. Mehata et al in Nepal reported that miscarriage was seen commonly in women aged 20-34 years[13]. Similarly, Dhingra et al also stated that most miscarriages were reported in the age group of 20-29 years[14]. This could be due to the high fertility rate in this age group as well as the fact that women in this age group would be at the peak of their careers and hence, not ready for a family or pregnancy.

In this study it was observed that 87(65.91%) were married, 16.67% were unmarried and 11.36% were in a live-in-relationship. Chae et al in 2017 did a systematic study from 14 countries and concluded that unmarried women went for induced miscarriage because they were either too young or due to partner's objection. In the case of married women, they wanted to postpone or wanted spacing between children[15]. There is a need of strengthening contraception services and providing sexual health education among the group of unmarried and live-in-relation women and contraceptive counseling for the married couples.

In this study, 71.21% of the women had secondary education and above. Seventy-three percent of women who had a miscarriage were employed A study in Brazil observed that 55.8% had more than 8 years of schooling but 55.8% were unemployed. Women with more education may be motivated to invest more time in their career and do not want unplanned

pregnancies[16]. This could also be the same reason for women who had miscarriages in this study.

Majority (68.18%) of patients in this study was gravida 2 or more while 31.82% were primi gravida. A similar finding was reported in Nepal where 54.55% had para one and above while 45.45% were nulliparous[13]. Shipra et al also reported a similar finding wherein 84.21% of women with more than 2 living children had sought medical termination of pregnancy in India[17]. However, our findings contradict a study in Brazil where it was observed that 75.4% were nulliparous women[16]. Women with one or more living children had more miscarriages since their family is complete and they prefer the average size family.
A chronic medical condition is a risk factor for miscarriages but in our study, majority (92.42%) did not have any underlying medical condition. There was no history of trauma or features of infection in any of the patient who presented with incomplete miscarriage. A retrospective study done in South Africa found that patients with underlying medical conditions had a heightened risk for miscarriage. They reported that 38% of women with miscarriage had an associated endocrine disorder18. However, in our study, only 2 of the 10 women with an underlying medical condition had an endocrine disorder (thyroid disorder). Increased rate of fetal loss is seen in women with high serum thyroid antibody concentration (thyroid peroxidase or thyroglobulin), including those who are euthyroid[19].

Among the women who had miscarriages, 59.09% had a spontaneous miscarriage and 40.91% had induced miscarriage following the intake of the abortifacient drug. This finding was similar to an observational study done in India which reported that 58.44% were spontaneous miscarriage and 41.55% were induced miscarriages[14]. A study in Pakistan reported an induced abortion rate of 54% in 2014[12]. The rate was high as these pregnancies were unplanned or unintended, these women had completed their family, were not ready to start family or were not ready for the next baby[10].

Our study also found that 73.48% of the women have not used any contraception and 40.91% had induced miscarriage due to unplanned or unintended pregnancies by using abortifacient drugs which is similar to a study done in Bangladesh where unintended pregnancy was 48% in 2014[9]. In Pakistan, the rate of unintended pregnancy was 46% in 2014[10]. Both the studies said that unintended or unplanned pregnancies were due to an unmet need for contraception and high level of unwanted childbearing. There is a need to create awareness on the availability of emergency contraception or other methods of contraception in our country to prevent unwanted or unintended pregnancy

In our study, 100% of our patients with incomplete miscarriage had received ultrasound scan, 65.91% had moderate retained product of conception (RPOC) following which they had received (88.64%) surgical management and the remaining 11.36% patients had received medical management. Similar findings have been reportedin India with 84.4% receiving surgical management and 12.99% receiving medical management[12]. They also reported that 90% of their patients required hospital admission which is similar to our finding (92.42% requiring hospital admission).

Moderate to severe anemia was seen in 37.2% and 14.7% has received blood transfusion following an incomplete miscarriage. 3.28% and 1.6% of the patients have received IV antibiotics and ICU admission respectively. Similar events were reported in India though the rate was higher compare to our study; 53.24% have received a blood transfusion, 18.1% have received IV antibiotics and 1.3% required ICU admission[14]. A study in Brazil states that 15.6% required blood transfusion, 8.3% had sepsis, 12.3% required ICU admission and 4.9% died[16]. Although morbidity was observed following an incomplete miscarriage, no mortality was seen at the JDWNRH during the study period.

LIMITATIONS

This study has certain limitations. Firstly, this is a single-center study and the study population is small. Secondly, we had only focused on incomplete miscarriages and excluded other forms of miscarriages like molar pregnancies and failed pregnancies. Thirdly, as induced miscarriage is not legal in our country, taking history, especially about the use of abortifacients was difficult and might have led to social desirability bias.

CONCLUSIONS

The proportion of incomplete miscarriage in this study is 25.4 per 1000 pregnant women. 79.55% of incomplete miscarriage are due to unplanned/unintended pregnancy and 73.48% are due to unmet need of contraception. 40.91% had induced miscarriage, 24% said that their family are complete. The majority (88.64%) had surgical management with no mortality. However, morbidities like blood transfusion (13.64%), sepsis (2.27%), requiring intravenous antibiotics and ICU admission (1.51%) was seen during this study period.

RECOMMENDATIONS

Based on the limitations of this study, following are the proposed recommendations. The policymaker should prioritize strengthening contraceptive services if we want to avoid unintended/unplanned pregnancies, which leads to morbidity and mortality in women of reproductive age group. Pre-conception counseling services[20] must be strengthened if we want more planned pregnancies[21].

REFERENCES

1. Ottesen BS. Medical abortion. Vol. 161, Ugeskrift for laeger. 2020. 3263 p. [PubMed]

2. World Health Organization. Safe abortion Clinical practice handbook for. Who [Internet]. 2012;64. [Full Text]
3. Say L, Chou D, Gemmill A, Tunçalp Ö, Moller A beth, Daniels J, et al. Global causes of maternal death: a WHO systematic analysis. 2006;323–33. [PubMed | Full Text | DOI]
4. WHO. Safe abortion. Who [Internet]. 2012;64. [Full Text]
5. Ministry of Health RG of B. Annual health bulletin 2014. Annual Health Bulletin 2014. 1–122. [Full Text]
6. RGOB. Penal Code of Bhutan, Royal Court of Justice. 2004;1–66. [Full Text]
7. Ministry of Health RG of B. Annual health bulletin 2019. Annual Health Bulletin 2019. [Full Text]
8. JDWNRH. Annual Report. 2020; [Full Text]
9. Singh S, Hossain A, Maddow-Zimet I, Vlassoff M, Bhuiyan HU, Ingerick M. The incidence of menstrual regulation procedures and abortion in Bangladesh, 2014. Int Perspect Sex Reprod Health. 2017;43(1):1–11. [PubMed | Full Text | DOI]
10. Sathar Z, Singh S, Rashida G, Shah Z, Niazi R. Induced Abortions and Unintended Pregnancies in Pakistan. Stud Fam Plann. 2014;45(4):471–91. [PubMed | Full Text | DOI]
11. Puri M, Singh S, Sundaram A, Hussain R, Tamang A, Crowell M. Abortion incidence and unintended pregnancy in Nepal. Int Perspect Sex Reprod Health. 2016;42(4):197–209. [PubMed | Full Text | DOI]
12. Singh S, Shekhar C, Acharya R, Moore AM, Stillman M, Pradhan MR, et al. The incidence of abortion and unintended pregnancy in India, 2015. Lancet Glob Health [Internet]. 2018;6(1):e111–20. [Full Text | DOI]
13. Mehata S, Menzel J, Bhattarai N, Sharma SK, Shah M, Pearson E, et al. Retraction Note: Factors associated with induced abortion in Nepal: data from a nationally representative population-based cross-sectional survey. Reprod Health. 2020;17(1):1–8. [PubMed | DOI]
14. Dhingra D, Bharti R, Suri J, Batra S. Clinico-demographic profile of patients admitted with abortion related complications in a tertiary hospital. 2018;(January):31–4.
15. Chae S, Desai S, Crowell M, Sedgh G, Asia S. Reasons why women have induced abortions: a synthesis of findings from 14 countries. 2017;96(4):233–41. [DOI]
16. de Brito RC, Ferreira ALCG, Ferreira ECG, do Bu SMA, de Souza AI. Sociodemographic and reproductive profile of women with abortion complications in hospital in recife. Vol. 17. 2013. [Full Text | DOI]
17. Gupta Shipra, Dave Viral, Sochaliya Kishor, Yadav Sudha. A Study on socio-demographic and obstetric profile of MTP seekers at Guru Govind Singh Hospital, Jamnagar . healthline. 2012 Jan;3(1):1–5. [Full Text]
18. Matjila MJ, Hoffman A, van der Spuy ZM. Medical conditions associated with recurrent miscarriage—Is BMI the tip of the iceberg? European Journal of Obstetrics and Gynecology and Reproductive Biology [Internet]. 2017;214:91–6. [Full Text | DOI]
19. Zhang Y, Wang H, Pan X, Teng W, Shan Z. Patients with subclinical hypothyroidism before 20 weeks of pregnancy have a higher risk of miscarriage: A systematic review and meta-analysis. PLoS One. 2017;12(4):1–13. [PubMed | Full Text | DOI]

AUTHORS CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

KL: Concept, design, data collection and analysis, manuscript writing and review.

SG: Concept, manuscript editing and review

Author agree to be accountable for all respects of the work in ensuring that questions related to the accuracy and integrity of any part of the work are appropriately investigated and resolved.

CONFLICT OF INTEREST

None

GRANT SUPPORT AND FINANCIAL DISCLOSURE

None