

## ORIGINAL ARTICLE

# Spontaneous Miscarriage in Women Having More Than Three Miscarriages and Advanced Maternal Age

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## ABSTRACT

**Background:** Miscarriages are negative outcomes of a pregnancy. Their ratio increases in women with recurrent miscarriages.

**Objective:** To identify the role of age and recurrent miscarriages in spontaneous abortions.

**Study Design:** Comparative analytical study

**Place and Duration of Study:** Department of Obstetrics & Gynecology, Mohtarma Benazir Bhutto Medical College Mir Pur, Azad Kashmir from 1<sup>st</sup> October 2020 to 31<sup>st</sup> March 2021.

**Methodology:** One hundred and twenty pregnant women between the age group of 19-40 years. The clinical history of recurrent miscarriages and demography was noted.

**Results:** The mean age was 29.85±4.71 years with 42% of previous miscarriage occurred in pregnant women at their first trimester. The highest number of recurrent miscarriages (>4) was noted in 36-40 years of age group.

**Conclusion:** The rate spontaneous miscarriages increases with increasing age and recurrent history of miscarriages

**Key words:** Spontaneous miscarriage, Advanced maternal age, Recurrent

## INTRODUCTION

The most advent complication seen in pregnancy is miscarriage. The average percentage loss of pregnancy reported as 12-24%. Global data suggests that around 25-50% of women experiences miscarriage at least once in their reproductive life.<sup>1</sup> In United States of America, the average miscarriage rate is 125,000 whereas it is more than 50,000 annually in United Kingdom.<sup>2</sup>

Pregnancy at early or advanced age has a negative impact on outcomes. Younger age is defined as age lesser than 19 years where as older age is considered as above 35 years in terms of age at pregnancy. The perinatal outcomes can be anything ranging from post-partum haemorrhages, disproportioned cephalopelvic, eclampsia as well as negative outcomes related to neonate as preterm delivery, decreased birth weight and even mortality.<sup>2-9</sup> However, other confounding variables such as malnourishment, poverty, inadequate weight of pregnant mother also plays major role in above mentioned complications.<sup>10-14</sup>

A study reported 43% women to be affected by 1 or greater than one percent experience of spontaneous miscarriage. Out of the total statistic data confirms that almost 50-60% of miscarriages are a result of genetic abnormalities of fetus. Ascending age of conceived mother had been strongly associated with the risk of miscarriages. Women between 35-45 years of age had been highly reported for a chance increase in miscarriage as 40-50%. Whereas maternal age greater than 45 years has a risk above 75% for miscarriage than among females of 19-30-years of age.<sup>15-16</sup>

Miscarriages are either caused sporadic or are recurrent.<sup>17-18</sup> The definition of recurrent miscarriages is loss of three or more pregnancies in accordance to guidelines available by "American Society of Reproductive Medicine".<sup>19</sup> In present study an association of risk of women having more than three miscarriages with further

spontaneous miscarriages was estimated especially in those with advanced maternal age. The present study was designed for better treatment and management of highly prone maternal group and its better pregnancy related outcomes.

## MATERIALS AND METHODS

This comparative analytical study was enrolling married women between 19-40 years of age and visiting Gynaecology OPD of Mir Pur Hospital Azad Kashmir as well Shaikh Zayed Medical Complex Lahore from 1<sup>st</sup> October 2020 to 31<sup>st</sup> March 2021. The women included in the study were having vaginal blood loss until 20 weeks gestational age. Women with known clinical disease history which might hinder their conceiving were excluded. Moreover, pregnant women above 45 years were also not included as study participant. A total of 120 women were enrolled in the study. After gaining informed consent from each patient the history of miscarriages, complications, gravida and parity were recorded. Data was analyzed through Chi square test for frequencies estimation while t test for quantitative assessment by using SPSS statistical tool version 23.0. P<0.05 was considered significant.

## RESULTS

The mean age was 29.85±4.71 years. The gravida:parity (number of time a woman conceived: number of life births) ratio was highest in women between 36-40 years of age with a mean age of 38.1±1.9 year showing multiple abortions (Table 1).

Similarly, the frequency of miscarriages in second trimester was also highest among women between age groups of 36-40 followed by 31-35 years. The age group 36-40 years was most prone for miscarriages especially in second trimester (Table 2).

The number of miscarriages increased with

advancement in maternal age group and was reported highest between 36-40 years of group. The difference among groups was significant with  $P < 0.05$  (Table 3).

The results of present study also confirmed that 32.35% of pregnant women enrolled between 36-40 years could not complete their gestational age and unfortunately miscarried their recent pregnancy. The number of miscarriage decreased within defined age groups such as between 19-35 years (Fig 1).

Table 1: Comparison of gravida and parity with age of pregnant women

| Age (years) | Gravida | Parity   |
|-------------|---------|----------|
| 19-25       | 2.1±1.2 | 1.5±0.96 |
| 26-30       | 2.8±1.3 | 1.2±1.0  |
| 31-35       | 3.2±1.9 | 1.8±1.3  |
| 36-40       | 5.2±2.0 | 2.28±1.9 |

$P < 0.05$

Table 2: History of previous miscarriages among women of different age groups

| Age (years) | Previous Miscarriage      |                           |            | Total |
|-------------|---------------------------|---------------------------|------------|-------|
|             | 1 <sup>st</sup> trimester | 2 <sup>nd</sup> trimester | None       |       |
| 19-25       | 6 (21.4%)                 | 1 (4.76%)                 | 21 (75%)   | 28    |
| 26-30       | 8 (28.6%)                 | 1 (3.57%)                 | 19 (67.9%) | 28    |
| 31-35       | 14 (46.6%)                | 10 (33.3%)                | 6 (20%)    | 30    |
| 36-40       | 14(41.2%)                 | 15 (44.1%)                | 5(14.7%)   | 34    |

Table 3: Distribution of age with number of miscarriages in pregnant women

| Age (years) | History of miscarriage |     |    |
|-------------|------------------------|-----|----|
|             | 1-2                    | 3-4 | >4 |
| 19-25       | 5                      | 2   | -  |
| 26-30       | 6                      | 3   | -  |
| 31-35       | 12                     | 10  | 2  |
| 36-40       | 3                      | 17  | 9  |

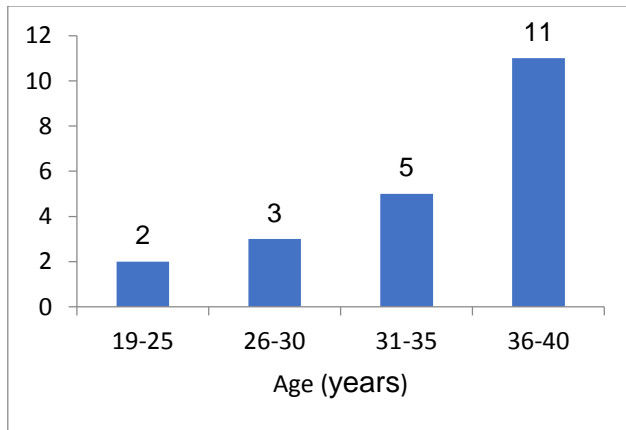


Fig. 1: Frequency of recent miscarriage with age

## DISCUSSION

Miscarriages are unfortunate but still highly prevalent with almost 13-15% of women suffering from it every year within their first 20 weeks of gestation.<sup>20-22</sup> The present study focused on association of miscarriages with increased maternal age and number of previous miscarriages. The mean age of enrolled participants was 29.85±4.71 years which is similar to previously reported studies.<sup>23</sup> Various studies<sup>24-25</sup> reports that the rate of miscarriages in 10%

among women between 19-29 years and increases rapidly above 30 years. The increase in risk of pregnancy loss moderately ascend in women in their 20s such by 15.4%, however it reaches up to 53% in women having age above 45 years.<sup>23</sup> The current study reported similar findings with 29 women out of total 34 of the age >35 years have experienced recurrent miscarriage in their life.

Researchers have elaborated that women having recurrent miscarriages have a higher risk index for preterm birth, intra uterine deaths and other complications in their successful pregnancy.<sup>26-27</sup>

Similar findings were reported in this study with an increased number of recent miscarriages in pregnant women enrolled. Moreover this number also increased with the increase of age as reported elsewhere.<sup>23</sup>

## CONCLUSION

The number of spontaneous miscarriages increases with advanced maternal age as well as in those women having increased number of previous miscarriages.

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