THE COMPARATIVE STUDY OF PREGNANCY OUTCOMES IN PRIMIPAROUS AND MULTIPAROUS WOMEN WITH INCREASING AGE

Maryam Nooritajer¹, Azar Aghamohammadi²

ABSTRACT

Objective: To compare the pregnancy outcomes in primiparous women and multiparous (more suitable word for our population) women over 35 and below 35 years.

Methodology: This is a descriptive comparative study which enrolled 1021 pregnant women and pregnancy outcomes were compared in 4 groups of primiparous and multifarious women over and below 35. To analyze the inputs using SPSS software, the ÷2 test, Fisher, Odds-Ratio and logistic regression with forward method were used.

Results: In primiparous women, there is a statistically significant relation between the age over 35 and preeclampsia, gestational diabetes, preterm labor, cesarean section and low birth weight. In multiparous women, there is a significant relation between age of over 35, preeclampsia and low birth weight. In the women over 35 years parity is effective on the measure of preeclampsia and cesarean delivery.

Conclusion: Mother’s increased age can be an independent factor for pregnancy outcomes. The primiparous women are more likely to be affected by age. As a matter of fact the aged women can have a natural vaginal delivery with a term infant and the over age mustn’t be a contraindication for pregnancy.

KEY WORDS: Primiparous, Multiparous, Pregnancy Outcome.

INTRODUCTION

Mother’s increasing age is always considered as a risk factor for pregnancy outcome.¹ The reflex of a woman to pregnancy is influenced by various factors through which the women’s age at the pregnancy time can be known as the most important factor that has undeniable effect on pregnancy process and labor.² Nowadays, Women delay their pregnancy up to 4th or even 5th decades of their life because of different reasons such as delay in marriage, educational and professional reasons.³ Many of them experience pregnancy unwillingly and because of failed contraception, almost 10 percents of pregnancies occur at the age of over 35.⁴
According to report of Iran statistic center, the average age of first marriage has increased 4.7 years from 1972-1996 and paying attention to this, the average age of first pregnancy has also increased.\(^5\) The primary studies claim that the midwifery events and prenatal death is increased in the women over 35 years.\(^6\) In aged women, who are suffering from chronic diseases or have weak physical position, the probability of these risks is more. The result of Yusuf study has shown that in primiparous women over 35 years, the cesarean rate is two times more than multifarous women above 35 years.\(^7\)

Camille has shown the relation between the increasing rates of prenatal death risk, low birth weight and very low birth weight in aged women. They have discussed the high age as an independent risk factor with prenatal death.\(^8\) Pasupathy Diamentra concluded that the prenatal death rate is two times more in aged women at the time of birth.\(^9\)

According to available contradictory statistics, there are a lot of ambiguous issues as to which pregnancy outcome is under the effect of mother’s increasing age and how parity can have an effect on this matter. The present study was done with the aim of comparing the pregnancy outcome in primiparous and multiparous women over 35 and below 35 years.

**METHODOLOGY**

This study was retrospective descriptive one that was done after getting the permission from ethical committee of Iran nursing and Midwifery University. The available files in archive were studied. When the sample volume was completed in each group, the sample taking was given up. According to the available information in files, the arranged registration card was filled which included pregnancy outcomes like cesarean, gestational diabetic, preterm labor, preeclampsia, and placenta prevail and low birth weight. Then the information collected was entered into SPSS software and the measurement of these outcomes compared in the groups of primiparous over 35year with primiparous under 35years, multiparous over 35 with multiparous over 35 years. The omission measures of the sample was included in these cases: all the woman under 20 years, cesarean records, the record about suffering from urinary and genital infections in the present pregnancy, smoking and addicted women, multigravida in present pregnancy, suffering from known physical and mental ailments including heart, kidney and immune diseases, all kinds of cancers and etc.

The number of required samples was estimated in each group with the certainty measure of 45 percent and evaluation power of 80 percent and 1000 people of required samples were estimated.

**RESULTS**

Among these files, there were 250 primiparous women over 35, 254 primiparous under 35, 257 multiparous over 35 and 255 multiparous under 35 years. The age group of 20-24 had the greatest number in the primiparous group under 35 and their average age was 24.02±3.385 years. The age group of 25-29 had the greatest number in multiparous group under 35 and their average age is 26.71±3.761. The age group of 35-39 had the greatest number in multiparous group over 35 and their average age was 36.81±2.319.

About 28.2% in multiparous women were under 35 years, Despite increase of cesarean in aged multifarious women, \(^x^2\) test has shown this increase isn’t statistically significant, low birth weight in primiparous women above 35 was 23.2 % versus 11.6 % in primiparous under 35 years. The \(^+2\) test showed that there was statistically significant relation between low birth weight and the age over 35 in primiparous women (p=0.001) and measure of OR showed pregnancy in the ages over 35 would increase the risk of low birth weight for 2.306 times. About 16.8% of multiparous women over 35 would have low birth weight infants, although this number is 9 % in multifarious women over 35. \(^x^2\) test showed there would be statistically significant relationship between mother’s over age and low birth weight in multifarious women (p=0.009). The measure of OR
Maryam Nooritajer et al.

(OR=2.046) showed that pregnancy in the ages over 35 would increase the risk of low birth weight for 2.046 in multiparous women.

It also showed that the number of pregnancy is effective only on the rate of preeclampsia (p=0.001) and caesarian. As a matter of fact primiparous labor increases the rate of preeclampsia 2.227 times and cesarean 3.771 times in aged women.

As a result, mother’s high age can be an independent factor for pregnancy outcomes, although most women with over age can have a normal labor with a term infant and without pregnancy outcomes. Overage mustn’t be contraindication for pregnancy.

*DISCUSSION*

The research findings show that 20.8 percents of primiparous women over 35 had preeclampsia while this number is estimated 5.8 percent in the people under 35. \( \chi^2 \) test showed that there would be a meaning full relation between the age over 35 and suffering from preeclampsia in primiparous women. The measure of odd ratio (OR) showed the pregnancy in the ages over 35 increases the risk of preeclampsia in primiparous women for 4.272. Jacobson has shown that severe preeclampsia increased with increase in the age but the measure of mild preeclampsia decreased.10 The reason for this contradiction was unknown.

Table-I: Comparison of prevalence of pregnancy outcome in primiparous women in under and over 35 years.

<table>
<thead>
<tr>
<th>Group/Pregnancy Outcome</th>
<th>Primiparous</th>
<th>Multiparous</th>
<th>Odds-Ratio (95%CI)</th>
<th>P-Value</th>
<th>( \chi^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>35&gt; NO %</td>
<td>20-34 NO %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preeclampsia</td>
<td>52 20.8</td>
<td>15 5.8</td>
<td>2.335, (7.817-4.272), CI%95</td>
<td>25.69</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Gestational diabetes</td>
<td>16 6.4</td>
<td>7 2.7</td>
<td>0.995, (6.090-2.462), CI%95</td>
<td>4.031</td>
<td>0.045</td>
</tr>
<tr>
<td>Placenta prevail</td>
<td>4 1.6</td>
<td>1 0.4</td>
<td>37.795, (4.195-0.466), CI%95</td>
<td>*</td>
<td>0.209</td>
</tr>
<tr>
<td>Preterm labor</td>
<td>53 21.2</td>
<td>36 13.9</td>
<td>1.047, (2.652-1.677), CI%95</td>
<td>4.699</td>
<td>0.030</td>
</tr>
<tr>
<td>Mal presentation</td>
<td>20 8</td>
<td>7 2.8</td>
<td>1.206, (6.997-2.905), CI%95</td>
<td>6.135</td>
<td>2.905</td>
</tr>
<tr>
<td>Cesarean</td>
<td>161 64.4</td>
<td>123 47.5</td>
<td>2.000, (2.855-2.855), CI%95</td>
<td>14.74</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>58 23.2</td>
<td>30 11.6</td>
<td>1.426, (3.729-2.306), CI%95</td>
<td>12.005</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Table-II: Comparative prevalence of pregnancy outcome in primiparous and multiparous women in over 35 years.

<table>
<thead>
<tr>
<th>Group/Pregnancy Outcome</th>
<th>Primiparous NO %</th>
<th>Multiparous NO %</th>
<th>P-Value</th>
<th>Odds-Ratio (95%CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preeclampsia</td>
<td>52 20.8</td>
<td>27 10.5</td>
<td>0.001</td>
<td>2.218(1.342,3.665)</td>
</tr>
<tr>
<td>Gestational diabetes</td>
<td>16 6.4</td>
<td>13 5.1</td>
<td>0.522</td>
<td>1.273(0.599,2.704)</td>
</tr>
<tr>
<td>Placenta prevail</td>
<td>4 1.6</td>
<td>5 2</td>
<td>1.000</td>
<td>0.813(0.217,3.076)</td>
</tr>
<tr>
<td>Preterm labor</td>
<td>53 21.2</td>
<td>44 17.2</td>
<td>0.252</td>
<td>1.290(0.827,2.012)</td>
</tr>
<tr>
<td>Malpresentation</td>
<td>20 8</td>
<td>13 5.1</td>
<td>0.189</td>
<td>0.536(0.211,1.367)</td>
</tr>
<tr>
<td>Cesarean</td>
<td>161 64.4</td>
<td>123 47.5</td>
<td>&lt;0.0001</td>
<td>3.771(2.609,5.448)</td>
</tr>
<tr>
<td>Low birth weight</td>
<td>58 23.2</td>
<td>43 16.8</td>
<td>0.072</td>
<td>1.489(0.959,2.313)</td>
</tr>
</tbody>
</table>

*Fisher test*
Shiner has shown that 6.4 percents of primiparous women over 35 years, suffer from diabetes, although this number is 2.7 in primiparous less than 35 years. The findings of this research show that primiparous women over 35 year 1.6% had placenta previa, where as it is 0.4% for women under 35 years of age. In our study, Fisher test has shown that there isn’t any meaningful relation between the age over 35 and placenta previa in primiparous women. This has also been shown in another study. Michael has shown that there is no meaningful relation between the measure of placenta previa and the over age. The findings of this study show that the measure of placenta previa in multiparous women above 35 was 20 percent while this number was zero in multifarious women under 35 year.

The findings of our research shows 17.2 percents of multiparous women over 35 have had the pre-term labors since this measure was 9 % in multiparous women under 35 years old. +2 test showed there is a statistically meaningful relation between the age above 35 and pre-term labor. The volume of OR showed the pregnancy in the ages under 35, increases the risk of pre-term labor for 2.103 times. Temmerman also showed, there is a meaningful relation between mother’s age increasing and pre-term labor.

In this study has shown that the rate of malpresentation in primiparous women over 35 years is 8% versus 2.8% in women less than 35 year, 5.1% of multiparous women over 35 had malpresentation which was 2.7% in women under 35 years. Statistically, this was not found significant and the measure of cesarean in primiparous women over 35 has been 64.4% versus 47.5% in primiparous women under 35 this was found statistically significant (quote values at both places).

Using the measure of OR has shown that pregnancy would increase the risk of caesarian in primiparous women over 35 years. As a matter of fact the aged women can have a natural vaginal delivery with a term infant and the over age mustn’t be a contraindication for pregnancy.

REFERENCES