# THE COMPARISON OF MEDICAL AND OBSTETRICAL COMPLICATIONS IN PREGNANT WOMEN OVER AGE 35 WITH YOUNGER PREGNANT WOMEN

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*Abstract — In an analytical, cohort type study, medical and obstetrical complications of 500 pregnant women over age 35 were compared with 500 younger pregnant women during 3 past years (1994-1997). The incidence of complications were significantly increased in pregnant women over age 35 (P<0.01). Acta Medica Iranica 35 (1 & 2): 49-51; 1997*

*Key words: Age of pregnancy, medical complications, obstetrical complications*

## INTRODUCTION

During the past decade, as older and well-educated women made up for previous delays in chi-bearing, the proportion of women giving birth over age 35 is significantly increased, from 5% in 1982 to about 9% by 2000 in USA (1). The medical and obsterical complications are reported to be increased in pregnant women over age 35 in several studies. In order to assess the role of age on medical and obstetrical complications of pregnancy in Iran, we studied the pregnancy out come in pregnant women over age 35 and compared it with a control group of younger pregnant women (20 to 30 years old) in our Hospital between March 1st 1994-March 1st 1997.

## MATERIALS AND METHODS

An analytical study, cohort type was done on 500 pregnant women over age 35 (case) and 500 pregnant women of age 20 to 30 years old (control) which had come to our hospital between March 1st 1994 and March 1st 1997. The case and control groups were matched for parity and socioeconomic status. Medical complications (hypertension, diabetes) and obstetrical complications (abortion, LBW, preterm delivery, macrosomia, obstetrical hemorrhage) were recorded in both groups. The Chi-square test was used to analyse the data and the relative risk of each complication in both groups and $p < 0.05$ was considered significant.

## RESULTS

The data obtained from our patients is summarized in Figure 1. There were 240 nullipara (48%) and 260 multipara (52%) in study group and 290 nullipara (58%) and 210 multipara (42%) in control group (Table 1). Hypertension complicated 75 cases (16%) in study group and 50 (10%) cases in control group (P<0.01 relative risk 50%) (Table 2). Gestational diabetes complicated 77 (15.4%) cases in study group and 50 (10%) in controls (P<0.01 relative risk > 4) (Table 3). Preterm delivery complicated 30 (6%) cases in study group and 17 (3.4%) in controls (P<0.01 relative risk: 80%). (Table 4). 30 (6%) infants in the study group and 20 (4%) in the control group were categorized as macrosomes (P<0.01 relative risk: 50%) (Table 5). LBW was seen in 50 (10%) patients in study group and in 45 (8.9%) in control group (P<0.01 relative risk: 10%) (Table 6). Abortion was seen in 36 (10%) patients in study group and in 10 (2%) patients in control group (P>0.01 relative risk: 3) (Table 7). Obstetrical hemorrhages were seen in 16 (3.2%) in study group and in 5 (0.1%) control group (P<0.01 relative risk: 3) (Table 8).

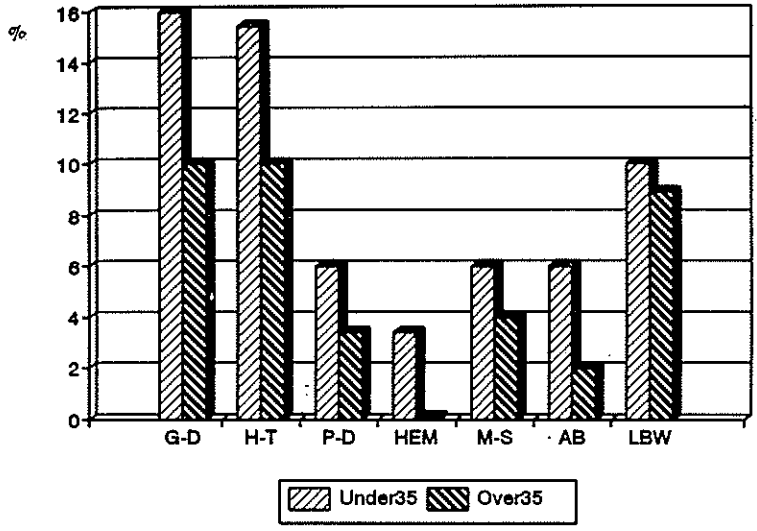


**Fig. 1.** Comparison of complications in pregnant women over and under age 35.
GD = Gestational diabetes; HT = Hypertension; PD = Preterm delivery; Hem = Obstetrical hemorrhage; MS = Macrosomia; AB = Abortion; LBW = Low birth weight.

**Table 1:** Parity of pregnant women in study and control group

| age / parity | > 35 | < 35 |
|---|---|---|
| Nulliparous | 240 | 290 |
| | (48%) | (58%) |
| Multipara | 260 | 210 |
| | (52%) | (42%) |

**Table 2.** Distribution of hypertensive disorders in pregnant women over age 35 and control group

| HT / Groups | Absent | Present | Total |
|---|---|---|---|
| Control | 450 | 50 | 500 |
| | (90) | (10) | |
| Case | 425 | 75 | 500 |
| | (15) | (85) | |

$X^2$ test; P<0.01; Relative risk: 50%; Attributed risk: 50

**Table 3.** Distribution of gestational diabetes in pregnant women over age 35 and control group

| GD / Groups | Absent | Present | Total |
|---|---|---|---|
| Control | 484 | 16 | 500 |
| | (96.5) | (3.5) | |
| Case | 430 | 70 | 500 |
| | (84.6) | (15.4) | |

$X^2$ test; P<0.01; Relative risk: 3; Attributed risk: 22

**Table 4.** Distribution of preterm delivery in pregnant women over age 35 and control group

| PD / Groups | Absent | Present | Total |
|---|---|---|---|
| Control | 483 | 17 | 500 |
| | (96.6) | (3.4) | |
| Case | 470 | 30 | 500 |
| | (94) | (6) | |

$X^2$ test; P<0.01; Relative risk: 80%; Attributed risk: 26

**Table 5.** Distribution of macrosomia in pregnant women over age 35 and control group

| MS / Groups | Absent | Present | Total |
|---|---|---|---|
| Control | 480 | 20 | 500 |
| | (96) | (4) | |
| Case | 470 | 30 | 500 |
| | (96) | (4) | |

$X^2$ test; P<0.01; Relative Risk: 50%; Attributed risk: 20

**Table 6.** Distribution of low body weight in pregnant women over age 35 and control group

| LBW / Groups | Absent | Present | Total |
|---|---|---|---|
| Control | 455 | 4.5 | 500 |
| | (92.1) | (8.9) | |
| Case | 450 | 50 | 500 |
| | (90) | (10) | |

$X^2$ test; P<0.01; Relative risk: 10%; Attributed risk: 10

**Table 7.** Distribution of abortion in pregnant women over age 35 and control group

| AB / Groups | Absent | Present | Total |
|---|---|---|---|
| Control | 490 | 10 | 500 |
| | (98) | (2) | |
| Case | 470 | 30 | 500 |
| | (98) | (2) | |
| Case | 470 | 30 | 500 |
| | (2) | (6) | |

$X^2$ test; P<0.01; Relative risk: 3; Attributed risk: 40

**Table 8.** Distribution of Obstetrical Hemorrhage in pregnant women over age 35 and control group

| HEM / Groups | Absent | Present | Total |
|---|---|---|---|
| Control | 495 | 5 | 500 |
| | (99.1) | (0.1) | |
| Case | 484 | 10 | 500 |
| | (96.5) | (3.5) | |

$X^2$ test; P<0.01; Relative risk: 3; Attributed risk: 22

# DISCUSSION

According to other studies, there are numerous complications of pregnancy affecting both the mother and the fetus and neonate among women over age 35. Although there is no precise age beyond which a women becomes more susceptible to these complications, the age of 35 is frequently used as a cut-off (2).

Because the incidence of most chronic illness accures as a function of age, it's not surprising that both medical and obstetrical complications are encountered more frequently in older pregnant women. Indeed age is a much more important risk factor than is partiy alone (3). since the severity of many medical complications increases along with their duration, it's likely that older pregnant women to have more advanced chronic disorders.

In this study hypertension was 1.6 times more common in pregnant women over age 35 than younger women (16% Vs 10%). Several studies has been shown 10 to 20% incidence of hypertension in pregnant women over age 35. Gestational diabetes were 5.5 times more common in pregnant women over age 35 than younger pregnant women (15.4% versus 3.2%)). According to Kirz and Mestman, diabetes is 2 to 5 times more common in older pregnant women (7,8). Preterm delivery is about 2 times more common in pregnant women over age 35 than younger ones (6% versus 3.2%). Tuck have reported, it is five times more common (6.1% vs 1.5%) (5). For LBW, there was not a significant difference between two groups (10% vs 8.4%) but Hansen has reported a two fold increase in pregnant women over age 35 in comparsion with younger pregnant patients (9). In our study macrosomic births were 1.5 times more common in pregnant women over age 35 than younger pregnant patients (6% versus 4%). Lehmann and Grimes have reported a two fold increase. (4,10). The incidence of abortion in our study had 3 fold increase in pregnant women over age 35 in comparison with younger pregnant women (6% versus 2%). An increase of 2 to 4 fold (11) and also an increase of 3.5 fold have been reported (4.3% versus 1.3%) (9). The obstetrical hemorrhage (bleeding from both placenta previa and abruptio placenta) was seen in 3.2% of pregnant women over age 35 vs 0.1% in youngers. Lehman has also reported the similar increase (4). In conclusion, in our study the incidence of hypertension, diabetes, obstetrical hemorrhage and preterm delivery and abortion are more common in pregnant women over age 35 than younger pregnant women and the numbers are in accord with other reports. The incidence of macrosomia and LBW is also increased in study, but is not as much as other reports.

Due to higher number of complications in pregnant women over age 35, it's better to consult women to become pregnant in younger ages and also to have suitable prenatal care to reduce the rate of complications.

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