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Statistics

IMPACT OF ADVANCED MATERNAL AGE ON PREGNANCY AND ITS OUTCOME

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ABSTRACT According to World Health Organization (WHO), 99% of all maternal deaths occur in developing countries. Everyday in the year 2015, nearly 7400 new-borns died in the WHO South-East Asia Region. The same organization reported that every day, approximately 830 women die from preventable causes related to pregnancy and childbirth. In this paper numerous Studies concerning with Advanced Maternal Age (AMA) were taken into account. In the last section, discussion is made.

Discussion: On the basis of studies considered, it seems that AMA increases the risk of maternal adverse outcomes. Different factors e.g. contraceptive methods, prolonged studies, economic conditions etc. may be responsible for AMA. Research to improve maternal health even in advanced age, should be undertaken.

KEYWORDS : Advanced maternal age, Advanced pregnancy

INTRODUCTION

General Register office for Scotland, 1996, reported that the number of babies born to women in their late 30s increased over the past decades. As older women are more likely to have pre-existing medical disorders like diabetes mellitus or hypertension (Hanson,1986;M.Jolly et al,2000).Various studies witnessed an noticeable shift in the demographic changes of childbearing age worldwide. It was reported that in the United States, the birth rate for women aged 35–39 was 51.0 births per 1,000 women in 2014 as compared to 49.3% in 2013.Whereas the birth rate in women of 20–24 age group was found declined from 80.7‰ in 2013 to 79.0‰ in 2014.(Hamilton, B. E., 2015; Dan S,2018). In case of Japan, this rate to women aged 35 above was observed elevated from 8.6% in 1990 to 25.9% in 2012(Ministry of Health, Labor and Welfare, Japan,2013).The trends similar to above case have also been found in other developed countries(Kenny, L. C. et al. ,2013; Khalil, A., Syngelaki, A.et al,2013; Laopaiboon, M. et al.,2014; Ludford, I. et al,2012). In 2016, the ratio for advanced pregnancies reported was 31% of the total pregnancies (National Bureau of Statistics of China, 2016). Advanced maternal age is defined as age ≥ 35 years old at the time of delivery (Fuson J,2009).In present paper we put our concentration on the studies that have their concern with advanced maternal age on pregnancy and its outcome.

In various studies, advanced maternal age was found associated with an increased risk of sundry adverse pregnancy outcomes when compared with younger (post-adolescent) women (O'Reilly-Green C, Cohen WR,1993; Johnson JA, Tough S,2012; WR Cohen,2014).Whereas in some of the studies operative deliveries among older gravidas were found observed having a very high rate. (Cohen WR et al,1980; Nelson SM et al,2013).

We came across a retrospective study evaluating the maternal and prenatal outcomes and effects between 35 years and older pregnancies and younger pregnancies. This study considered pregnant women who gave birth in Vakif Gureba Training and Research Hospital, Clinic of Obstetrics and Gynecology in 2006. Study took the age range of 30 - 34 years of pregnant women for the control group. According to this study pregnancy rate was found observed as 7.1% in 35 years and older women in all the deliveries, cesarean delivery rate reported was 46.1% in this group at 1 year period. If we put our concentration on cesarean delivery rate, it was reported as 40.9% in the control group. Study revealed that the most common cause of cesarean section indication was fetal distress in advanced maternal age which was figured as11.7 %(A.R. Benlia, N.C. Benlib et al,2015).

In one of the cohort retrospective study, pregnancy complications and adverse pregnancy outcomes in women of advanced maternal age were observed after considering the data of 2800 patients from West China Second University Hospital of Sichuan University in the duration January 2013 to July 2016 by the study. This study resulted that 10 out of 27 patients aged 45 and above were primiparous mothers. It was also found reported that increasing maternal age was showing association with increasing gravidity times and rates of assisted reproductive technology pregnancies. If we talk about association between AMA and adverse pregnancy outcomes, the study was observed including preeclampsia and gestational diabetes mellitus as confounding factors into the analysis and resulted, advanced maternal age as a protective factor for preterm birth and neonatal intensive care unit (NICU) admission (For preterm birth, adjusted OR 0.61, 95% CI 0.42–0.88 in 30-34 years aged women; adjusted OR 0.60, 95% CI 0.42–0.87 in 35-39 years aged women; adjusted OR 0.62, 95% CI 0.42–0.91 in ≥40 years aged women. For NICU admission, adjusted OR 0.57, 95% CI 0.34–0.94 in 30-34 years aged women; adjusted OR 0.60, 95% CI 0.37–0.98 in 35-39 years aged women; adjusted OR 0.53, 95% CI 0.31–0.88 in ≥40 years aged women).In all the study revealed that AMA, primiparity, maternal overweight or obesity, lower educational level and residence in rural area extended pregnancy complications and adverse fetal outcomes.(Shan D et al,2018)

In one of the retrospective studies,76 158 singleton pregnancies with a live fetus at 11 + 0 to 13 + 6 weeks were considered to examine the association between maternal age and a wide range of adverse pregnancy outcomes after adjustment for confounding factors in obstetric history and maternal characteristics. According to the study considered, advanced maternal age (defined as ≥ 40 years) was found associated with increased risk of miscarriage (odds ratio (OR), 2.32 (95% CI, 1.83–2.93); P < 0.001), pre-eclampsia (OR, 1.49 (95% CI, 1.22–1.82); P < 0.001), gestational diabetes mellitus (OR, 1.88 (95% CI, 1.55–2.29); P < 0.001), small-for-gestational age (OR, 1.46 (95% CI, 1.27–1.69); P < 0.001) and Cesarean section (OR, 1.95 (95% CI, 1.77–2.14); P < 0.001), but the same was not observed associated with stillbirth, gestational hypertension, spontaneous preterm delivery or large-for-gestational age(Khalil A. et al,2013).

A cross sectional study used the national multicenter Japan Society of Obstetrics and Gynecology perinatal database, that included 365,417 women aged 30 years or older who delivered a singleton between 2005 and 2011. Results of the study showed that women aged 45 or older had higher risk of emergency cesarean delivery as compared to compared with women aged 30–34 years [adjusted risk ratio (aRR): 1.77, 95% confidence interval (95% CI): 1.58–1.99], preeclampsia (aRR: 1.86, 95% CI: 1.43–2.42), severe preeclampsia (aRR: 2.03, 95% CI: 1.31–3.13), placenta previa (aRR: 2.17, 95% CI: 1.60–2.95), and preterm birth (aRR: 1.20, 95% CI: 1.04–1.39). Study considered, pinpointed that the effect of older age on risk of emergency cesarean section, preeclampsia, and preterm birth were significantly greater among those who conceived naturally compared to those who conceived by assisted reproductive technology. The effect on emergency cesarean section was found stronger among primiparous women, whereas the risk of preeclampsia associated with older age was reported significantly greater among multiparous women (Kohei O,2017).

Laopaiboon M. et al assessed the association between advanced maternal age and adverse pregnancy outcomes by cross-sectional data of the WHO Multicountry Survey on Maternal and Newborn Health. This study considered a total of 308 149 singleton pregnant women admitted to the participating health facilities in 29 countries in Africa, Asia, Latin America, and the Middle East. According to results of the study the prevalence of pregnant women with AMA was 12.3% (Laopaiboon M. et al, 2014).

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