Effect of women's age on the maternal and fetal outcomes among primigravidae

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Abstract
Back ground: Pregnancy at advanced maternal age is associated with adverse fetal outcomes & complicated by instrumental delivery or Caesarean section, prematurity, stillbirth and low birth weight compared to mothers aged 20 to 34 years. **Aim:** Assessment of maternal and fetal outcomes among elderly and younger primiparous women. **Design:** A case control retrospective design. **Sample**: Convenient sample of 829 women were recruited for this study divided into three groups on 3 different age levels. Group (I): "study group" all women delivering before the age of 20 years was 211. Group (II): "control group" all women delivering at age of 20 to 34 years was 539. Group (III): "study group" all women delivering at the age of 35 years and above was 79 from 1st. July 2017 to 31thDecember 2017 in women health hospital at Assiut University. **Tool: Tool I:** Sociodemographic and reproductive history structure interview sheet, including Personal data &Obstetrical data. **Tool II:** maternal and fetal outcome. **Results:** The complications during labour were (18.95%) had PROM in group "1". Compared to (14.95%) in group "2". And (10.12%) had preterm labour and PROM in group "3" with significance difference (P<0.05). Complication of post labour in study groups, there were (0.47%) in group "1" had post-partum hemorrhage and perineal tear in group "1" vs. no complication in both group control study with significance difference (P<0.05). **Conclusion:** maternal age, baseline, primiparity, educational level and residence with adverse pregnancy outcomes represented the need to control these modifiable risk factors from a public health perspective. **Recommendation:** awareness teaching programs about pregnancy outcomes on elderly primigravida. And orientation program through mass media regarding the benfits of early marriage.

Key words: AMA, Maternal & Fetal Outcomes, Primigravidae.

Introduction

Mothers and children are the vulnerable group in any population. Pregnancy and child birth are normal physiological process . but one such risk factors is elderly pregnancy that leads to many complications during pregnancy, labor and also for the baby. **(Rao, & Gulani, 2015).**

The term "elderly primigravida" was first used in 1950. Some studies revealed that primiparity was more likely to be related to adverse maternal outcomes. But others found a united effect of both age and parity (**Ben-David, et al., 2016**) Like other fast-developing countries, obesity is an important public health issue in China. Studies found that obesity was more common in aging women and was associated with several adverse pregnancy outcomes such as preeclampsia, gestational diabetes mellitus (GDM) and stillbirths (**Aune, et al., 2014 & Rahman, et al., 2015**) In some rural areas in China, patients are at low educational level. Lack of antenatal care and ignorance of pregnancy complication related symptoms may pose great threat to maternal and fetal health. With the advent of "universal two-child policy", their strong fertility desire of older women may make the existing problems even worse in this population. **(Rayanagoudar, et al., 2016)**

Pregnancy at advanced maternal age has become more common in both developed and developing countries over the last decades .Advanced maternal age is commonly considered to be 35 years or older, whereas very advanced maternal age is defined as older than 40 or 45 years . Widespread use of family planning measures, postponing pregnancy because of career goals, and advances in assisted reproductive techniques contribute to this increment.(**Wennberg, et al., 2016**)

Delayed childbearing has become increasingly common in the past decades. Recent years have seen significant growth in mean maternal age at first childbirth as well as in number of pregnancies at advanced maternal age (AMA). In Poland, the percentage of live births to women aged 35 and over increased almost twice - from 9.1% in 2005 to 16.3% in 2016. At the same time, the rates of deliveries among patients over 40 rose by nearly 50% - from 1.8% in 2005 to 2.6% in 2016. Similar trends have been observed worldwide, in both high- and low-income countries. **(Ogawa, et al., 2017)**

Delayed childbearing is believed to be associated with an increased rate of obstetrical and perinatal complications as well as adverse pregnancy outcomes. When compared to younger patients, women in advanced maternal age are reported to be at greater risk of congenital disorders, placenta previa, ectopic pregnancy, spontaneous abortion, stillbirth, preterm birth, induction of labour, caesarean delivery and small for gestational age (SGA). Also, the prevalence of chronic medical conditions (e.g. diabetes mellitus, hypertension) and other diseases with a possible influence on a course of pregnancy (such as cancer) are higher among older patients . Multiple studies suggest that the incidence rate of perinatal complications only begins to increase after the age of 35, but the most significant growth can be observed after the age of 40. (**Wielgos, et al**., **2015**)

A woman who is pregnant at AMA is associated with adverse pregnancy outcomes which can further divided into maternal, delivery and fetal outcomes. As for maternal diseases, AMA mothers are at higher risk of developing pregnancy-induced hypertension and gestational diabetes mellitus (**Ahmed et al., 2015**).

AMA associated with increased instrumental delivery and Caesarean section. Also increased in the rate of emergency Caesarean section compared to mothers aged 24 to 27 years (**Schimmel et al., 2014**).

Neonatal mortality varies with maternal age, being higher than the general maternity population in younger (< 25 years old) and older (≥ 40 years old) mothers. In the UK, women ≥ 40 years old were 1.3 (1.1–1.6) times more likely to have a neonatal death compared to women aged 25–29 years old (**Adashek, et al., 2013**).

Many of the reasons why women are choosing to postpone child-bearing reflect the availability of safe, effective, and reversible contraception, which has allowed women the reproductive autonomy to decide if and when they will have children. Biologically, the optimum period for childbearing is between 20 and 35Years of age. The fecundity after 35 years of age is decreases, and the chance of adverse pregnancy outcomes is increases, (**Rcog, 2011**).

Adolescence is the period between the onset of puberty and full maturity youth. Adolescents are defined by **WHO** as individuals between the age of 10 and 19 years, adolescents make up approximately 20% of the world's population. Nearly one in four (22%) Egyptians is an adolescent (**Abdelsatar, 2016**).

Egypt has a high birth rate, which is nearly constant at 2.7%, and the rate of adolescent pregnancy ranges from 4.1% in urban societies to 11.3% in rural areas (**Rasheed et al., 2011**) Upper Egypt had the highest level of teenage childbearing, especially in the rural areas (14 %). Reasons of increased teenage pregnancy rate are multifactorial including: behavioral, traditional, social, cultural or religious foundation. Most important factors are; poverty, low socioeconomic status and limited education

Significance of the study
The modern pattern of life is associated with increase in marriage age due to several factors including social, educational and economic aspects and the tendency of married couple to seek employment, postpone childbearing until the fourth or fifth decades of life. (**Mahmoud Edessy, et al., 2014**), in Egypt at Banha teaching hospital at Al-azahr University in Egypt found that the present of elderly primigravidae (35-40 years) was 26% and above 40 years was 4%.

The past several decades have witnessed a remarkable shift in the demographic changes of childbearing age worldwide. In the United States, the birth rate for women aged 35–39 was 51.0 births per 1,000 women in 2014, up 3% from 2013 (49.3%). But the birth rate in women of 20–24 age group declined from 80.7% in 2013 to 79.0% in 2014, considering this rate was as high as 115.1% in 1980. (**Hamilton, et al., 2015**).

In Japan, the rate of birth to women aged 35 above elevated from 8.6% in 1990 to 25.9% in 2012. Similar trends have been found in other developed countries. (**Kenny, et al., 2013**).

In China, the shifting demographic change of delaying child birth is as well on the trend. The birth rate in women aged 35 to 39 increased from 8.65% in 2004 to 17.04% in 2014, and in the 40–44 age groups, the rate raised from 1.77% to 3.96%. In contrast to that, birth rate in women of 25–29 age groups decreased from 102.44% to 93.62%. The ratio for advanced pregnancies was about 31% of the total pregnancies in 2016. (**Schimmel, M. S.** *et al*. **2015**)

Research Questions
1- There is a significant relation between maternal age and it's outcomes?
2- There is no a significant relation between maternal age and it's outcomes?

Aim of the study
This study aimed to assess the effect of women's age on the maternal and fetal outcomes among primigravidae in woman Health Hospital.

Subjects & Methods
The methodology followed in carrying out study is presented under four designs, namely: technical

design, operational, administrative and statistical design.

I:Technical design

Research design:
A case control retrospective design**.**

Setting
This study was conducted in women health hospital at Assiut University. (Data was collected from hospital medical records of women at conservation office).

Sample
Convenient sample of 829 women were recruited for this study divided into three groups on 3 different age levels. Group (I): "study group" all women delivering before the age of 20 years. Group (II): "control group" all women delivering at age of 20 to 34 years. Group (III): "study group" all women delivering at the age of 35 years and above from 1st. July 2017 to 31th December 2017.Their total number was with the following:

Inclusion criteria
*   **Group (I): (study group):** consisted of 211 women delivering before the age of 20 years (Younger primigravidae).
*   **Group (II): (control group):** consisted of 539 women delivering at the age of 20 to 34 years (Normal age of primigravidae).
*   **Group (II): (study group):** consisted of 79 women delivering at the age of 35 years and above (elderly primigravidae).

Tool of the study
Tool used for data collection

Tool I: Sociodemographic and reproductive history structure interview sheet.
This questionnaire medical record consists of the following parts.

Part (1): Personal data
Personal data included: name, age, address, level of education, occupation, residence, chronic disease and previous operation or complication.

Part (2): Obstetrical data
• This part included data related to current pregnancy as, gestional age, gravidity, parity and any complications during pregnancy included ; gestational diabetes, gestational hypertension, postdate, IUGR, preeclampsia, eclampsia, congenital anomalies, oligohydraminous, polyhydramirous, placenta previa, anemia, and IUFD.

Tool II: maternal and fetal outcome
Part (1):
*   Data during labour including mode of delivery (SVD, SVD + Induction and Cesarean section) , indication and type of Cesarean section(elective

or emergency, full term or preterm, SVD with instrumental "vacuum &forceps") .
*   Data related to Complication during labour such as; mal presentation, preterm labor, PROM, antepartum hemorrhage and cord prolapse.
*   Data related to postpartum complication such as; postpartum hemorrhage, retained placenta or part of it and perineal tear.

Part (2): Neonatal outcomes
This part includes neonate's history such as sex, weight, Apgar score and fetal complications.

II: Operational design:
This design involves a description of the preparatory phase, the pilot study and then field work.

Phase (I): preparation phase
The researcher reviewed related literature (local & international), using textbooks, web articles and scientific magazines. The tool were then prepared.

Validity
The tools were reviewed for validity by 3 experts in Obstetrics and Gynecology.

Pilot study:
A pilot study was carried out before starting data collection in 10 % from patients medical records included in main study to test clarity and applicability of included question and statement, content, feasibility and consistency of the tool to detect and ambiguity of this study tools. The pilot study has also served to estimate the time required to fill the form. It was included in the sample.

Field work
The study was carried out during the period from 1st. July 2017 to 31th December 2017, as a retrospective study, data was collected from medical records of women at conservation office at women health hospital in Assiut University within a period of 6 months, 2 days a week, 4 hours a day, total administrative women in hospital within a period of study (6 months) was 8100 women ,(means 8100 medical records), was browsing 200 medical records every time to extract medical records of target study cases from them (average 20 medical records) every time.

Ethical consideration
The investigator explained the nature and the aim of the study, and then Institutional approval was obtained from the Dean of the Faculty of Nursing directed to the head of the department of Obstetrics & Gynecology in Women's Health Hospital, before conducting this study. The researcher also concurrently obtained permission to carry out the study from the hospital management team and written consent was taken from director of the place. Data was collected from medical records of women at conservation office a code number will be used for

every record to maintain confidentiality and the anonymity of the records has been guaranteed and used only for the purpose of the study. Study subject privacy was considered during collection of data.

Administrative design

Before conducting the study explained the nature and the aim of the study then an official approval was obtained from the Dean of the Faculty of Nursing directed to the head of the department of Obstetrics & Gynecology in Women's Health Hospital.

Statistical analysis

Data entry and data analysis were done using SPSS version (23) "Statistical Package for social science" data were presented as number, percentage, mean, standard deviations Ch-Square test was used to compare qualitative variables , Independent samples T-test was used to compare quantitate variables between groups and ANOVA test was used for more than two groups , Paired samples T-test done to compare quantitive data between pretest and posttest, P-value consider statistically significant when P<0.05.

Results

Table (1): Distribution of Personal characteristic data among study groups.

Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
• Age "years" • Residence: • Urban • Rural	19.00±0.00 0 211(100%)	23.80±3.56 85(15.8%) 454(84.2%)	36.89±1.52 23(29.1%) 56(70.9%)	P<0.000*** P<0.000***
3-Working: • Work • House wife	31(14.7%) 180(85.3%)	66(12.2%) 473(87.8%)	20(25.3%) 59(74.7%)	P<0.007**

Table (2): Distribution of Complication during pregnancy among study groups.

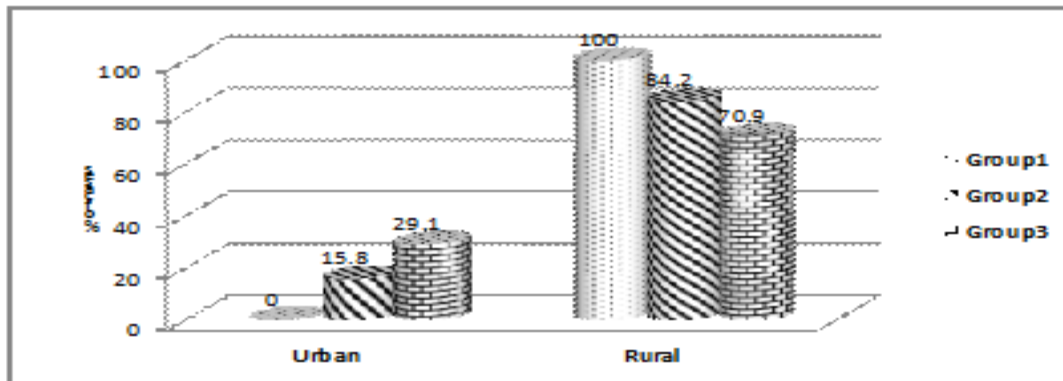| Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
1-Non	86(40.75)	387(71.79%)	29(36.7%)	
2-Abortion	**31(14.69%)**	28(5.19%)	9(11.39%)	
3-Gestational diabetes	1(0.47%)	13(2.41%)	3(3.79%)	
4-Gestational Hypertension	6(2.84%)	18(3.33%)	7(8.86%)	
5-Post date	13(6.16%)	**23(4.26%)**	1(1.26%)	
6-IUGR	7(3.31%)	13(2.41%)	1(1.26%)	
7-Preeclampsia	**24(11.37%)**	1(0.18%)	**15(18.98%)**	
8-Eclampsia	7(3.31%)	4(0.74%)	4(5.06%)	
9-Congenital anomalies	6(2.84%)	9(1.67%)	1(1.26%)	
10-Oligohydraminous	**10(4.73%)**	1(0.18%)	6(7.59%)	P<0.000***
11-Polyhydramirous	0	1(0.18%)	0	
12-Placenta previa	7(3.31%)	6(1.11%)	2(2.53%)	
13-Anemia	3(1.42%)	10(1.85%)	0	
14-IUFD	8(3.79%)	25(4.63%)	1(1.26%)	

Fig (1): Distribution of the studied groups according to their residence.
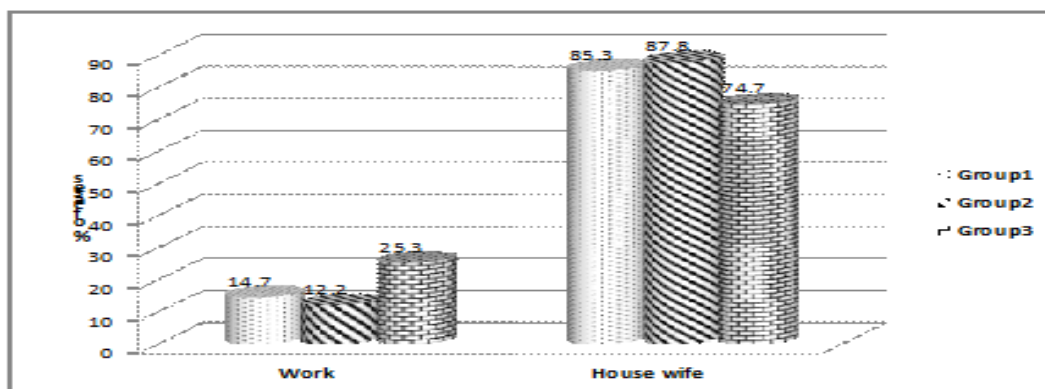

Fig (2): Distribution of the studied groups according to their work.

Table (3): Distribution of the studied groups according to their chronic diseases.

Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
1-Non	206(97.63%)	521(96.66%)	71(89.87%)	
2-Diabetes Mellitus	0	10(1.9%)	2(2.53%)	
3-Hypertension	0	0	4(5.06%)	P<0.000***
4-Heart disease	0	4(0.74 %)	2(2.53%)	
5-Renal disease	2(0.95%)	1(0.18%)	0	
6-Respiratory disease	1(0.47%)	1(0.18%)	0	
7-Blood disease	2(0.95%)	2(0.37%)	0	

Table (4): Distribution of Complication during labour among study groups.

Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
1-Mal presentation	14(6.63%)	19(3.52%)	4(5.06%)	
2-Preterm labor	27(12.79%)	11(2.04%)	**8(10.12%)**	
3-PROM	**40(18.95%)**	**79(14.65%)**	**8(10.12%)**	P<0.02*
4-EROM"early rupture of membrane"	8(3.79%)	3(0.55%)	1(1.26%)	
5-Cord prolapse	2(0.94%)	13(2.41%)	0	
6-Non	120(56.87%)	427(79.22%)	58(73.41%)	

Table (5): Distribution of Postpartum Complication among study groups.

Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
1-Postpartum hemorrhage:	1(0.47%)	0	0	
2-Perineal Tear	1(0.47%)	0	0	P<0.02*
• Non	209(99.05%)	539(100%)	79(100%)	

Table (6): Relation between maternal age and fetal mortality among study groups.

Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
1-Fetus:				
• Living	203(96.20%)	514(95.36%)	78(98.73%)	P<000***
• Dead	8(3.94%)	25(4.63%)	1 (1.26%)	

Table (7): Relation between maternal age and low birth weight among study groups.

Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
1-Low Birth Weight	2.98±0.61	2.76±0.59	2.11±1.08	P<0.000***

Table (8): Relation between maternal age and admission to NICU among study groups

Item	Group 1 "<20yrs." "n=211"	Group 2 "20-34yrs." "n=539"	Group 3 ">35yrs." "n=79"	P-value
NICU admission				
• Yes	8(3.79%)	11(2.04%)	10(12.65%)	P<0.000***
• No	203(96.20%)	528(97.95%)	69(87.34%)	

Table (1): Shows distribution of personal characteristic data among study groups, with mean age of group "1" 19.0years and 23.80 years in group "2" and were 36.89 years in group "3". Also there were higher percentage of cases from rural with highly significance difference (P<0.000). As regard there were higher in percentage of cases were house wife and low percentage were work with highly significance difference (P<0.000).

Table (2): Shows distribution of complication during pregnancy among study groups, the higher percentage of complication were (14.69%) abortion and (11.37%) IUGR in group "1", as regard there were (4.26%) had hypertension in group "2". As regard there were (18.98%) had IUGR in group "3" with highly significance difference (P<0.000).

Table (3): Shows distribution of the studied groups according to their chronic diseases, with higher in percentage of chronic diseases in group "3" than other groups 2.53% had diabetes mellitus, 5.06% had

hypertension and 2.53% of cases had heart diseases with highly significance difference (P<0.000).

Table (4): Shows distribution of complication during labour among study groups, there were higher percentage of complication during labour were (18.95%) had PROM in group "1". And there were (14.95%) of cases had PROM in group "2". As regard there were (10.12%) of cases had preterm labour and PROM in group "3" with significance difference (P<0.05).

Table (5): Shows distribution of postpartum complication among study groups. There were (0.47%) of cases in group "1" had postpartum hemorrhage and perineal tear in group "1" vs. no complication in both group "2&3" with significance difference (P<0.05).

Table (6): Shows relation between maternal age and fetal mortality among study groups, there were higher percentage in dead neonates in group"2" (4.63%) and were (3.94%) dead in neonates in group "1" vs.

(1.26%) in group "3" with highly significance difference (P<0.000).

Table (7): Shows relation between maternal age and low birth weight among study groups, there were highly significance difference (P<0.0000 between groups of study with weight of neonates "low birth weight".

Table (8): Shows relation between maternal age and admission to NICU among study groups, there were (3.79%) of neonates in group "1" admission NICU vs. (2.04%) in group "2" and (12.65%) in group "3" with highly significance difference (P<0.000).

Discussion

Pregnancy at advanced maternal age has become more common in both developed and developing countries over the last decades .Advanced maternal age is commonly considered to be 35 years or older, whereas very advanced maternal age is defined as older than 40 or 45 years . Widespread use of family planning measures, postponing pregnancy because of career goals, and advances in assisted reproductive techniques contribute to this increment. (**Wennberg, et al., 2016**)

In China, the shifting demographic change of delaying child birth is as well on the trend. The birth rate in women aged 35 to 39 increased from 8.65% in 2004 to 17.04% in 2014, and in the 40–44 age groups, the rate raised from 1.77% to 3.96%. In contrast to that, birth rate in women of 25–29 age groups decreased from 102.44% to 93.62%. The ratio for advanced pregnancies was about 31% of the total pregnancies in 2016 (**Ali, & Adam, 2011**).

The present study is a case control retrospective design aimed to assessment of maternal and fetal outcomes among elderly and younger primiparous women in woman Health Hospital at Assiut University was collected from medical records of women at conservation office.

The results of the present study demonstrate the hypothesis as advanced maternal age is a significant risk factor for a wide range of adverse pregnancy outcomes, including miscarriage, pre-eclampsia, SGA, GDM and Cesarean section, but not stillbirth, gestational hypertension, spontaneous preterm delivery.

According to the present study inputs, the vast majority of them were living in rural than urban area with highly significance difference (P<0.000).

These findings are agreed with the results of (**Shan, et al., 2018**) who studied pregnancy outcomes in women of advanced maternal age (AMA).This study was conducted at West China Second University Hospital of Sichuan University, who reported compared with patients living in metropolitan,

residents of rural area had higher incidence of preeclampsia, preterm birth, low Apgar score and Neonatal Intensive Care Unit admission. Patients with insurance were less likely to have preeclampsia and gestational diabetes mellitus (GDM) (**Shan, et al., 2018**).

Regarding the complication during pregnancy in study groups. The present study shows that more than one the tenth of them were had abortion and more than one the tenth of them were had intrauterine growth retardation (IUGR) in group "1", while few of them had hypertension in group "2". Also few of them of group >35years had gestational diabetes mellitus with higher in percentage than other groups, also slightly less than one fifth had IUGR in group "3" with highly significance difference (P<0.000).

These findings are agreed with the results of (**Hoque, 2012**), who studied Advanced maternal age and outcomes of pregnancy. This study was conducted at Dr. George Mukhari Hospital (DGMH), where the pregnancy outcomes of females who were more than 34 years old (advanced age women) were compared with adult women (aged between 20 and 34 years), who reported that had significantly higher rate of LBW compared to adult women.

On the other hand many studies are agreed with the results of, Hoffman and his colleagues have shown significant relationship between the increasing rate of LBW and very LBW in aged women. They considered the mother`s high age as an indirect factor for low birth weight. (**Hoffman, et. al., 2012**) In another study concluded no significant difference in birth weight of babies comparing between aged and young women (**Karatas, et. al., 2012**)

The present study showed Advanced maternal age was found there was significant difference between the complication during pregnancy including, gestational diabetes mellitus, Abortion, Gestational Hypertension, Postdate, IUGR, Preeclampsia, Eclampsia, Congenital anomalies, Oligohydraminous, Polyhydramirous, Placenta previa, Anemia and IUFD in aged women. This is in agreement with all previous reports there are a lot of reasons, which explain the increase of gestational diabetes with an increase in age of women. Destruction of the inter blood vessels of cells is one of them (**Clearly-Goldman, et al., 2013, Rajaee et al.., 2010, Yogev et al., 2010, Aghamohammadi & Nooritajer, 2011**).

These results are agreed with the results of (**Khalil, et al., 2013**) who studied Maternal age and adverse pregnancy outcome. This study was conducted at King's College Hospital, London; University. The results of this study demonstrate that advanced maternal age, after adjustment for other maternal

characteristics and obstetric history, is associated with increased risk for a wide range of adverse pregnancy outcomes, including miscarriage, pre-eclampsia, small fetus for gestational age (SGA), GDM and Cesarean section, but not stillbirth, gestational hypertension, spontaneous preterm delivery .

On the other hand, there were some studies suggesting that advanced maternal age may not be associated with a statistically significant increased risk for hypertensive complications; these reports were limited with small number of women, especially those over 45 years of age where chronic hypertension is more common (**Cleary-Goldman et al., 2013**).

The present study showed that fewer of studied case were in group "3" had cesarean section, vs. about slightly half of women of in group "1&2" respectively with highly significance difference. This findings was agree with (**Dan Shan, et al., 2018**) who reported In agreement with previous studies, this study demonstrated that older women are at increased risk of cesarean delivery (**Cleary-Goldman et al., 2013**).

The present study results are in agreement with, (**Kristensen, et al., 2017**), that were found the most common medical problems complicating pregnancy are hypertension (pre-existing and gestational) and diabetes mellitus (pre-gestational and gestational), and the risk of both of these complications increases with maternal age. The prevalence of medical and surgical illnesses, such as cancer and cardiovascular, renal, and autoimmune disease, increases with advancing age. As a result, pregnant women ≥35 years of age have 2 to 3-fold higher rates of hospitalization, Caesarean section, and pregnancy-related complications than younger women.

The present study showed that there was significance difference between maternal age and fetal mortality in study groups, that found fewer of studied case were dead neonates in all groups, with highly significance difference (P<0.000).

The present study results are in agreement with (**Fretts, et al., 2018**) who reported the rate of stillbirth among the all the studied groups was 7% and increase to 12.3% at age group between 35-40 years and 19.5 % at age group above 40 years. Due to increased morbidity in older women.

Regarding the relation between maternal age and admission Neonatal Intensive Care Unit in study groups. The present study shows that about more than one tenth in group "3" there were admission Neonatal Intensive Care Unit, while fewer of them in group "1&2" there were admission Neonatal Intensive Care Unit, with highly significance difference (P<0.000).

The present study results are in agreement with (**Rajput, et al., 2018**) this study conducted in the Department of Obstetrics and Gynaecology, Kamla Raja Hospital, G.R. Medical College, Gwalior (M.P.). That Perinatal outcome was Congenital anomaly was seen in 2.8% of babies, 13.19% of neonates were Low Birth Weight baby, 6.94% required NICU admissions, Intrauterine Death was seen in 2.77%, and Intra Uterine Growth Retardation were 3.81%

The present study results are in agreement with (**Franz, et al., 2010**) who reported the rate of neonatal ICU admission among the all the studied groups was 5% and increase to 9.3% at age group between 35 -40 years and 13 % at age group above 40 years. Although, in previous studies infants born to mothers over the age of 40 years currently are about 3% of total births, they represent 5% of those requiring neonatal intensive care (**Battin et al., 2012**).

Conclusion
In conclusion, the present study findings showed an association between maternal age, baseline, primiparity, educational level and residence with adverse pregnancy outcomes as including miscarriage, pre-eclampsia, SGA, GDM and Cesarean section, stillbirth, gestational hypertension, spontaneous preterm delivery represented the need to control these modifiable risk factors from a public health perspective.

Recommendation
Further efforts are needed through awareness teaching programs as:-
1- Awareness teaching programs about pregnancy outcomes on elderly primigravidae and orientation program through mass media regarding the benefits of early marriage.
2- Knowledge about the risks associated with advancing age can be helpful for couples in their decisions regarding childbearing.
3- Preventative strategies or public education are needed. In rural areas, improvement in public awareness of pregnancy related complications and better implementation of antenatal care service are also necessary

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