JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue

JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Is There a Relation Between Maternal Age and Preferred Mode of Delivery?

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Abstract

Background: The aim of this study is investigate how pregnant women feel about caesarean section and natural birth and whether a relation between maternal ages and preferred mode of delivery exists.

Methods: The consecutive sampling consisted of 534 pregnant women presenting themselves for prenatal diagnosis at the Clinic of Obstetrics and Gynecology of the University Hospital Schleswig Holstein, Campus Lueck (Germany). The pregnant women mark their wishes in a questionnaire on birth expectations in a five point Likert scale in a standardized questionnaire. Socio-demographic data were collected separately. Besides the descriptive statistics, an inferential (t-test) statistics method was implemented to assess the age groups, using. The level of significance was5%.

Keywords: Mode of delivery; vaginal delivery; Caesarean section; maternal age.

Introduction

The population trend in delaying child birth has various influences on obstetric practice and pregnancy outcome. Many studies have demonstrated correlation between advanced maternal age and specific obstetric risks. Perinatal outcomes differ with maternal age concerning gestational age, birth weight, prematurity, low birth weight, small-for-gestation-age infants, fetal distress and perinatal morbidity and mortality. Increasing maternal age is independently associated with specific adverse

outcomes. For women over 35 years with their first pregnancy and for women with two pregnancies at the age of 40 maternal ages is risk factor for gestational diabetes, hypertension and ketosis. In an Austrian study 10765 women aged 17 to 49 years were analyzed. Form others older than 35 years the highest rate flow weight new born (3.7%) and the highest rate of macrocosmic new-born (> 4.000 g) were found.

Changes in maternal age and specific obstetric risk factors, as well as changes indecision-making concerning mode of delivery, play important roles in actual development of medicalization in child birth practice. Rise in primary caesarean rates coincides with a trend of increasing average maternal age. Various studies illustrate increased likely hood of caesarean birth among women of advanced maternal age. An American study shows that caesarean delivery rates increased with advancing maternal age (<25years11.6%; > 40 years 43.1%). Older women were more likely have caesarean delivery without labor (< 25 years 3.6%; > 40years 21.1%). Advances maternal age higher risk for caesarean delivery in part because they are more likely to have caesarean delivery without labor. Regarding the mode of delivery in a German investigation 77.1%(>22years) and 53.1%(>32years) experienced spontaneous delivery,14.5 %(<22years) and 32.3%(>32years) had a caesarean section.

Table1. Questionnaire on Birth Expectations Item Characterizing

Argument in favor of vaginal delivery	**Argument in favour of caesarean**
Birth experience	Delivery at desired date
Natural event	“Aesthetics” during childbirth
Mother-child bonding	Pain control
Presence of supporting person	Safety for the mother
Safety for the mother	Safety for the baby
Maintaining body functions intact	

Argument against vaginal delivery	Argument against caesarean
Uncontrollable pain	Surgery
Somatic late effects	Post-operative pain
Negative influence on sexuality	Loss of control
Impairment of baby's health	Impairment of baby's health
Loss of control	Late effects due surgery
"Un-aesthetics" during childbirth	Reduced mother-child bonding

A British study shows that increasing maternal age was associated with alonged duration of labor (0.49h longer for a five years increase in age) and an increased risk of operative vaginal birth. Over the period from 1980 to 2005 caesarean delivery rate among multiparous women more than double and proportion of women aged 30 - 34years increased threefold, proportion aged 35 - 39 years in-creased sevenfold and proportion aged > 40 years increased tenfold. Similar associations were observed in multiparous women. Authorsdiscussedreducedspontaneousactivityandincreasedlikelihoodofmultiphasics pontaneousmyometrialcontractions in vitro as contributing reasons for problematic vaginal birth ad advanced maternal age.

Across the developed countries the average maternal age continues to rise. The development of caesarean section rate is parallel to increasing rate of pregnancy at advanced maternal age. Many reviews have evaluated influence of advanced maternal age on pregnancy and birth risks. In the case of pregnant women with advanced age often performed a cesarean section. Although many reasons as mentioned above contribute to assumption that women of advance d age might benefit from caesarean delivery, there is a lack of information concerning women's personal preferences. The aim of the study is to investigate how pregnant women feel about caesarean section and vaginal birth and whether a relation between maternal ages and preferred mode of delivery exists.

Methods

Sample

The consecutive sampling was consisted 534 pregnant women presenting themselves for prenatal diagnosis at the Clinic of Obstetrics and Gynaecology of the University Hospital.

Item	Mean Values		Significance (P values)
	Group1(<35 ys)	Group2(≥35ys)	
Negativevaginalbirth Impairment baby	1.89	1.43	0.001*
Negativevaginalbirth Un-aesthetics	0.92	0.65	0.017*

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Schleswig Holstein, Campus Lubeck, Germany. The pregnant women make their wishes in an investigator-developed standardized Questionnaire on Birth Expectations. Socio-demographic data were collected separately.

Material

The two-part questionnaire includes demographic information, details of previous births and current pregnancy. Part one asked about age, material status, and level of education, occupation and antenatal care. Furthermore, information about the participant previous childbirths, including parity, obstetric history and mode of delivery was gathered.

The Questionnaire on Birth Expectations formed the second part. It contained possible advantages and disadvantages of the two modes of delivery, vaginal birth and caesarean section. All items are shown in Table1. Pregnant women were asked to rate how agree with itemized arguments on a five point Likert scale, ranging from (0) "doesn't apply to meal all" to (4) complete.

Statistical Analyses

All data were initially collected in a patient's data file and analyzed by the Statistical Package for the Social Science (release 15.0 SPSS Inc., Chicago, Il, USA). Variables were summarized by their mean value and median. Standard deviation, mean rage as well as minimal and maximal values were evaluated. Besides descriptive demonstration of the results inferential statistics were used to compare results between the two age groups. The homogeneity of variance of the normally distributed data was analyzed by the Levene-Test. Subsequently, the Student test hom or het was used in order to compare the mean ranges depending on the level of variance. The typical level of significance of 5% was implemented for statistical tests.

Results

Women's views on vaginal birth and caesarean section:

Table3. Positive Items with no Significant Difference Between the Age Groups(t-test) Questionnaire on Birth Expectations

Item	Mean Values Group1(<35 ys)	Group2(≥35ys)	Significance (P-Value)
Positivevaginalbirth Birth experience	3.10	3.02	0.427
Positivevaginalbirth Naturalevent	3.43	3.34	0.360
Positivevaginalbirth Supportingperson	3.31	3.21	0.396
Positivevaginalbirth Safetymother	2.75	2.58	0.137
PositiveCaesarean Aesthetics	0.77	0.67	0.330
PositiveCaesarean Paincontrol	1.76	1.68	0.082
PositiveCaesarean Safetymother	2.28	2.46	0.333
PositiveCaesarean Safetybaby	2.47	2.55	0.538
PositiveCaesarean Supportingperson	1.89	1.50	0.096
PositiveCaesarean Body function	1.27	1.05	0.089

women favor vaginal birth and place high importance on the criteria physiology, active birth experience and personal assistance. Characteristics of the caesarean section viewed negatively include surgery and pain.

Preferred type of birth among women of advanced age: the pregnant women included in our study are between 16and 44-year-old the average age is 32.8 years. 55.8% (n =298) are less than 35 years old, 43.8% (n=234) are 35 years or older. In order to estimate, the 35 years or older women's views on the different modes of delivery, two age groups are created. Group one included women aged <35 years, group two women of ≥ 35 years. The association between birth mode preference and maternal age is compared by analyzing the coincidences and differences in judging the characterizing items of the types of birth. The following six of 44 items (13.6%) show significantly different judgment between women<35 years and women ≥35 years: impairment of the baby is an argument against caesarean section, safety for the baby is an argument in favor of vaginal delivery, mother-child bonding is an argument for vaginal delivery, "aesthetics" during childbirth is an argument for caesarean section. The two-groups´ difference in establishing priorities when judging the mode of delivery is assessed by the difference in the items mean values. The maximal difference of 0.46 is found for "impairment of baby's health": group one women aged<35 years' expression of the item are 1.89; groups two women ≥ 35 years expression of the item are 1.43. The difference value for the criterion of "mother child bond" and "safety of the child" between thegroupsare0.32. The minimal difference between the two groups is

0.26 for positive caesarean: desired date. Table2 contains the complete data of significantly differently assessed items in relation to maternal age. The complete data of items which do not show relevant evaluation differences are given in Tables 3 and 4.

Table4. Negative Items with no Significant Difference Between the Age Groups (t-test) Questionnaire on Birth Expectations

Item	Mean Values		Significance (P-Value)
	Group1(< 35ys)	Group2 (≥35ys)	
Negative vaginal birth			
Pain	1.93	2.02	0.57
Negative			

vaginal birth			
Late effects mother	1.69	1.74	0.69
Negative vaginal birth			
Sexuality	1.36	1.24	0.36
Negative vaginal birth			
Late effects baby	1.76	1.86	0.46
Negative vaginal birth			
Loss of control	1.89	1.81	0.58
Negative Caesarean			
Surgery	2.68	2.68	0.89
Negative Caesarean			
Postoperative pain	2.44	2.47	0.87
Negative Caesarean			
Loss of control	2.08	1.99	0.579
Negative Caesarean			
Late effects	2.11	1.92	0.184

Discussion

We found that women of advanced maternal age place significantly higher importance on the criteria safety on the bay and the mother child bonding than younger pregnant women. This might show women's ≥ 35 years' additional fears caused by their special obstetric risks. An American study showed that among advances maternal age, there are higher incidence of previous abdominal operations, caesarean sections, previous perinatal death, infertility and alcohol abuse but relatively few have suffered from comorbid conditions or obesity. Most are higher socioeconomic status and have private physicians. Women ≥ 35 years tend to prenatal care and early prenatal diagnosis with an implementation of an amniocenteses. The

have a higher risk of gestational glucose intolerance, hypertension and hospitalization duringtheirpregnancy,45%have a caesarean delivery and their hospital stays are longer. Their rates of vertex presentation, pre maturity, post maturity, macrosomia induced or augmented laborer similar to those of younger women. Perinatal mortality was lower for women aged ≥ 35 years. This study demon-states that women over 35 years are not at greater risk of adverse pregnancy outcomes if there are for early and are-fully. It seems, however that more intensive care and preparation my lead to more concerns about the safety of mode of delivery.

Nevertheless, out of 44 items only four shows significantly differently preferences. The major part consisted in items describing the women´s preferred type of birth which are not significantly associated with different judgment in relation to maternal age. This leads to the assumption that women prefer to have vaginal delivery regardless of their age. The higher rate of caesarean sections among women age ≥ 35 year is not linked with more caesarean sections on demand. The reasons seem rather to be found by analyzing the medical complications during pregnancy and giving birth, but this work shows that they can cope with it.

Limitations of the study

There are, however, significant methodological limitations to the study. As stated in the question was aimed to investigate aim to provide an inventory of aspects that are being presumed that they are closely related with the wishes of the mode of delivery. The reliability and validity of Questionnaire on birth expectations should be reviewed. Our data al-lowed a hypothesis-like integration of the data obtained material. More hypothesis-driven studies to ensure the results are inferential statistics necessary.

Conclusion

The rise in caesarean section rates cannot be attributed to the patient’s wishes. Although special risks were found in various studies for mothers of 35 years or older, they still prefer vaginal delivery. In terms of patient autonomy, obstetricians should respect the women`s choice for vaginal delivery, avoiding medical intervention if clinically possible. Especially while counselling pregnant women ≥ 35 years, special effort should be made to reduce their concerns and fears caused by a higher obstetric risk level. Further investigation is needed to evaluate the relationship between advanced maternal age and mode of delivery as some contributing rising remain unclear.

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