

Delivery Mode On Myopic Women (Literature Review)

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Abstract

Hormonal changes and hemodynamic changes in pregnancy cause an increase in blood volume and water retention which causes a thickening of the cornea of the eye and affects blood flow in the eye. This condition is thought to trigger temporary myopia or worsen myopia that occurred before pregnancy. This will have an impact on the choice of delivery method because pushing in the second stage of labor can increase the risk of retinal detachment. The aim of the study was to determine the method of delivery in patients with myopia, using a meta-analysis. The results showed that obstetrics and gynecology specialists, as well as ophthalmologists, recommended instrumental delivery or cesarean section for women with myopia citing concerns that vaginal delivery would increase the risk of detachment. In addition, the impact of labor on the ocular system was found to be not so significant. While the method of delivery in women with myopia, it was found that most of the vaginal deliveries were spot-on.

Keywords : mode of delivery; myopic; women;

Introduction

During pregnancy, there are several physiological changes, one of which is in the eyes. These changes are caused by hormonal changes and hemodynamic changes. The increase in blood volume and the presence of water retention causes a thickening of the cornea of the eye, thereby triggering temporary myopia or exacerbating myopia that occurred before pregnancy. This phenomenon most often occurs in the third trimester of pregnancy and disappears after delivery (Iancu et al., 2013). During pregnancy, there are several changes in the cardiovascular system such as hemodynamic changes, increased cardiac output, and decreased blood pressure and the occurrence of peripheral vascular resistance. Vascular blood flow is affected by perfusion pressure (PP), and mean ocular perfusion pressure (MOPP) affects blood flow in the eye (Chen et al., 2018). Pregnancy is associated as a risk factor for myopia, although there is no evidence for this, there is a classical belief that pregnancy can increase the risk of refractive errors (Fernández-Montero et al., 2017).

Prior to 1990, myopia was a contraindication to spontaneous vaginal delivery. This is due to concerns about rhegmatogenous retinal detachment during the second stage of labor (Sapu a-Grabowska et al., 2019). Approximately 14% of pregnant women experience some changes in visual acuity such as an increase in the degree of myopia. However, these changes will return to normal a few months after delivery (Iancu et al., 2013). Ocular pathologists have long considered the method of delivery in women with myopia. It is estimated that straining during the second stage of labor can increase the risk of retinal detachment (Iancu et al., 2013).

Research Result

According to a study conducted by Chiu et al., (2015), the study population consisted of 92 ophthalmologists, 185 obstetricians and gynecologists who were given a questionnaire about recommendations for childbirth in women with risk factors for RRD Rhegmatogenous retinal detachment. With high degree of myopia, it was found that 34% of obstetricians and gynecologists recommend caesarean section and 58% of ophthalmologists recommend spontaneous vaginal delivery. This is influenced by how long the doctor has practiced and where the doctor practices. Doctors who practice longer tend to recommend caesarean section. The research displays clear results in the form of diagrams so that they are easy to understand. The study used several literatures from various databases such as PubMed, Science Direct and others. This research may be a consideration for health workers, especially midwives in choosing a method of delivery for women with myopia, but this research cannot be directly implemented with the population in Indonesia because there may be differences in standards of care and local guidelines, as well as medicolegal in each country..

Research conducted by Chiu et al., (2015) is in line with research conducted by Mohammadi et al., (2017) from participants consisting of 29 ophthalmologists and 19 obstetrics and gynecology specialists, it was found that 73% of ophthalmologists and 0.6 % of obstetrics and gynecology specialists recommend spontaneous vaginal delivery in

women with high myopic and retinal detachment. There is a stark difference between the opinions of ophthalmologists and obstetricians and gynecologists. The researcher explained that this striking difference could occur due to the limited number of populations used in the study. Based on a retrospective study conducted in Poland that analyzed the prevalence of caesarean section with ophthalmic from 2000-2008, the prevalence of caesarean section was 2.04%, and 57% of them were indicated for myopia (Iancu et al., 2013). Based on research conducted by Papamichael et al., (2011) of 74 participants who were ob-gyn specialists who were given a questionnaire about recommendations for delivery methods in patients who have eye disorders such as high-grade myopia and a history of retinal detachment, 76% recommended instrumental delivery or caesarean section, while 24% recommended delivery. spontaneous vaginal discharge. As many as 58% of respondents made these decisions based on standards of care, 18% based on local guidelines, 18% based on the obstetrics literature read, and 6% stated that medicolegal reasons influenced their decisions.

The majority of the respondents' reasons for recommending a caesarean section were that spontaneous vaginal delivery could increase the risk detachment due to an increase in the ocular pressure when the mother strained in the second stage of labor. However, there is no evidence to suggest that increased abdominal pressure also affects ocular pressure (Papamichael et al., 2011). This is in line with the study of Moneta-Wielgos et al., (2018) which stated that there were no ophthalmological or the presence of new eye lesions after normal vaginal delivery. This is also in line with research conducted by Mackensen *et al.*, (2014) who stated that there was no decrease in ocular perfusion during labor and only a slight increase in intraocular pressure that occurred during the Valsalva maneuver second stage of labor with an average increase of 4 mmHg and a maximum of 12 mmHg.

Based on the results of a study conducted by Loncarek, Petrovic and Brajac (2004), of 380 women with low myopic as many as 324 (85.26%) with spontaneous vaginal delivery, as many as 14 (3.68%) by vacuum extraction and as many as 42 (11.05%) women with caesarean section. Meanwhile, in 148 women with intermediate myopic, 118 (79.73%) women had spontaneous vaginal delivery, 19 (12%) underwent vacuum extraction and 11 (7.43%) underwent caesarean section. In women with high myopic as many as 43 (41.74%) with spontaneous vaginal delivery, 22 (21.36%) with vacuum extraction and as many as 38 (36.84%) women with caesarean section.

From this study, it was found that myopia is not a contraindication for spontaneous vaginal delivery. This is in line with a study conducted by Neri et al., (1985) which stated that during the second stage of labor there was an increase in intraocular pressure due to the Valsalva maneuver. It is assumed that there is pressure that spreads evenly in all directions including the eyeball. The pressure can not cause retraction movement in a certain direction which can cause retinal detachment. Based on these findings, the researchers concluded that women with myopia or even women with retinal degeneration can perform spontaneous vaginal delivery.

Conclusion

From 3 studies that examined the recommendations of obstetricians and ophthalmologists about the right delivery method for women with myopia, it was found that the majority of ophthalmologists and obstetricians recommended instrumental delivery or caesarean section. The majority of the reasons were concerns about spontaneous vaginal delivery which would increase the risk detachment due to the ocular enhancement that occurs during the second stage of labour. From 2 studies examining the impact of labor on the ocular system, it was found that both studies stated that there was no significant impact. The study described no ophthalmologic or new lesions after delivery, and no decrease in ocular perfusion during labor. From one study that analyzed the method of delivery in women with myopia, it was found that the majority of women with myopia had vaginal spot delivery.

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