

Characteristics of post-term pregnancy in Klungkung Regional Hospital, Bali-Indonesia

Abstract

Introduction. Post-term pregnancy is a pregnancy that has lasted 42 weeks (294 days) or more, in the regular menstrual cycle an average of 28 days and the first day of the last menstruation is known with certainty. According to World Health Organization in 2010, every year around the world 358,000 mothers die during pregnancy or during labor where 355,000 (99%) coming from developing countries. Statistical data showed that the mortality rate in post-term pregnancies was higher than in term pregnancies, where the post-term pregnancy mortality reaches 5-7%. In Indonesia there are 3.5 until 14% births with post-term pregnancies from the total first pregnancy. In this case, there is an increase in mortality in advanced pregnancy. **Methods.** This study used a descriptive cross-sectional design that provided an overview of the characteristics of 163 patients with post-term pregnancies at Klungkung General Hospital, Bali-Indonesia in the period from 1st January till 31st December 2017. The patients were divided into 58 primigravida and 105 multigravida. **Results** Most age groups who experienced post-term pregnancies in the multigravida group tend to have older age. Based on the vaginal delivery method, primigravida groups tend to require more induction. Based on the mode of delivery through caesarian section, the primigravida group tends to be more due to fetal distress. Primigravida groups tend to give birth to children with birth weight <3500 grams. **Conclusions.** The post-term pregnancy rate in Klungkung Hospital is still quite high at 163 cases in 2017.

Keywords: pregnancy, post-term, health service, characteristics

Introduction

In an effort to improve the health status and long-term development plan of the health sector in 2005-2025, there are several challenges faced, including low quality of population health as seen from the still high maternal mortality rate (MMR) and infant mortality rate^(1,2).

According to the World Health Organization in 2010, asserted that every year throughout the world 358,000 mothers die during pregnancy or childbirth where 355,000 mothers (99%) which comes from developing countries. MMR in Indonesia is still high in the Association of Southeast Asian Nations when compared to neighbor countries such as Malaysia which is 31 per 100,000 live births, Brunei which is 21 per 100,000 live births, Vietnam which is 56 per 100,000 births life, Thailand is 48 per 100,000 live births, Singapore 9 per 100,000 live births, and Philippines 94 per 100,000 live births. While based on the Indonesian Demographic and Health Survey in 2007 MMR in Indonesia amounted to 228 per 100,000 live births (Ministry of Health, 2011). The cause of maternal death in Indonesia is 25% bleeding, 17% prolong labor, 13% infection, 13% unsafe abortion, 12% eclampsia, and others 20%⁽³⁾.

Post-term pregnancy (or over-time pregnancy) is a pregnancy that has lasted 42 weeks (294 days) or more, in the regular menstrual cycle an average of 28 days or

when the first day of last menstruation is known with certainty⁽⁴⁾. Causes of post-term birth is still unknown, but there are some risk factors in the form of parity, previous post-term pregnancies, male fetuses, genetic factors, and hormonal factors⁽⁵⁾.

In 95% of mothers with first pregnancies, the myometrial smooth muscle is made unresponsive to natural stimuli. This causes no contractions to begin laboring so that labor is reversed, which is called post-term pregnancy. In pregnancy there is a delay in decreasing oxytocin receptors in the myometrium⁽⁶⁾. In primiparous women, the possibility of abnormalities and complications is quite large both in the power (strength), birth (passage), and fetal conditions (passager) which can cause post-term pregnancy^(7,8).

Statistical data shows the mortality rate in post-term pregnancies is higher than in term pregnancies, where the post-term pregnancy mortality reaches 5-7%. Post-term incident variations ranged from 2-31.37%⁽⁹⁾. In this case, there is an increase in mortality in advanced pregnancy. The study aimed to find out the characteristics of post-term pregnancy patients in Klungkung Regional Hospital, Bali-Indonesia in 2017.

Methods

This study used a descriptive cross-sectional design in the period from 1st January till 31st December 2017

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at Klungkung General Hospital, Bali-Indonesia. The inclusion criteria from this study sample were patients with post-term pregnancies of more than 41 weeks who underwent both vaginal delivery and caesarian section. Exclusion criteria from this study were patients with comorbidities of heart disease, malignancy, kidney disorders, and other systemic diseases. The characteristics variables in this study were age, infant birth weight, and mode of delivery. Data analysis is descriptively presented.

Results

This study involved 163 post-term pregnancy patients at the Klungkung Regional General Hospital, Bali-Indonesia in the period of 2017, characteristics based on age, type of labor, and birth weight can be seen in Table 1.

The most age group that experienced post-term pregnancy in the multigravida group was the age of 35-39 years with a proportion of 100%, whereas in the primigravida group it was more in the age group 15-19 years. Based on the vaginal delivery method, the primigravida group tended to require more series 1st induction (31.8%), whereas in the multigravida group there were more with induction-free labor (68.6%). Based on the mode of delivery through caesarian section, the primigravida group

tended to be more due to fetal distress (50%), whereas in the multigravida group there were more cases of failure of labor induction (61.1%). Based on infant birth weight, the primigravida group tends to give birth to children with birth weight <3500 grams (38.6%), whereas in the primigravida group it tends to give birth to children with birth weight of 3500 grams (80.8%) (Table 1).

Discussion

Post-term pregnancy is a pregnancy that has lasted 42 weeks (294 days) or more, in the regular menstrual cycle an average of 28 days^(4,5). Post-term pregnancy and childbirth with first-child risk increase mainly because the mother has never experienced pregnancy and childbirth. In multipara the risk of post-term pregnancy and childbirth is increasing because women who give birth too often experience a decrease in sensitivity for uterine contractions which causes uterine inertia which is one of the trigger factors for post-term pregnancy⁽¹⁰⁾.

Pregnancy characteristics based on age

The results of this study are consistent with the research conducted by Yulistiani et al. which shows that as many as 92.50% of patients with post-term pregnancies are aged 20-35 years⁽¹¹⁾. A similar result was found by Widayati et al. that as many as 90% of mothers with

Table 1 Characteristics of post-term pregnancy patients at Klungkung General Hospital, Bali-Indonesia

Characteristics	Gravida	
	Primigravida (n=58)	Multigravida (n=105)
Age		
15-19	11 (78%)	3 (22%)
20-24	37 (62.7%)	22 (37.3%)
25-29	8 (24%)	25 (76%)
30-34	2 (6.8%)	27 (93.2%)
35-39	0 (0%)	22 (100%)
40-44	0 (0%)	6 (100%)
Vaginal labor		
Without induction	11 (31.4%)	24 (68.6%)
Induction phase 1	14 (31.8%)	30 (68.2%)
Induction phase 2	2 (22.2%)	7 (77.8%)
Caesarian section		
Induction failure	23 (38.9%)	36 (61.1%)
Fetal distress	8 (50%)	8 (50%)
Birth weight		
<3500 g	53 (38.6%)	84 (61.4%)
≥3500 g	5 (19.2%)	21 (80.8%)

post-term pregnancies occur in healthy reproductive age (20-35 years)⁽³⁾.

A woman is at risk of having a post-term pregnancy at the age over 35 years or between 20-35 years old. This is due to the immaturity of the reproductive organs of mothers at the age of <20 years and the age of >35 years, the reproductive organs have experienced a decline in reproductive ability, in addition, at the age of risk mothers tend to experience moderate to severe anxiety that can affect the post-term labor⁽¹²⁾. The differences in the results of these studies can be caused by almost all respondents studied were in the age range of healthy reproduction.

Characteristics of pregnancy based on labor

Current findings show post-term pregnancies based on labor mostly occur in vaginal delivery. The post-term pregnancies with vaginal delivery were higher in labor with series I induction as much and in post-term pregnancies with more frequent labor in labor with induction failure.

If conservative therapy does not provide results, the pregnancy must be ended for the sake of maternal and child health. When the cervix is mature, induction can be done with oxytocin drip. The termination of pregnancy chosen should be vaginal. Cesarean section is performed only on general obstetric indications or if induction of labor is not expected to succeed⁽⁹⁾.

This post-term delivery is quite risky because it can cause complications both in the mother and in the baby. Several studies have shown that post-term labor can increase the risk of endometritis, postpartum hemorrhage, and thromboembolic disease in maternity⁽¹³⁾.

Characteristics of pregnancy based on the baby's birth weight

In some post-term labor cases, post-maturity babies appear small, malnourished and with asphyxia as a result of decreased age and nutritional function in the placenta. The incidence of fetal postmaturity was shown to be about 20%. This is because starting at 42 weeks of gestation the placental aging process is evidenced by a decrease in lactogen estriol and placental levels. Low placental function results in decreased supply of food and oxygen so that the spinal artery spasms occur and the fetus will experience stunted growth and severe decline⁽¹¹⁾.

Other studies conducted at Khyber Teaching Hospital, Peshawar, Pakistan showed that of 205 mothers who had serotine pregnancies, 33.70% of infants had intrauterine growth restriction, 19% of infants experienced asphyxia and 20% of fetal distress at birth and 18 % of babies experience meconium aspiration syndrome and the remaining 4.90% experience death⁽¹⁴⁾.

Conclusions

Based on the present study, the majority of post-term pregnancies apperas at primigravida between 20-24 years old (62.7%), and from the cesarean section point of view at multigravida (61.1%) with birth weight less then 3500 g (61.4%). ■

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