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Planned home birth in low-risk pregnancies



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ABSTRACT

Introduction: Planned home births are often a safe option for low-risk pregnancies, according to prior studies. This study aims to ascertain the characteristics of planned home deliveries with skilled medical staff in low-risk pregnancies as well as the outcomes on mother and infant health in Denpasar, Bali.

Methods: The planned home births from 2010 to 2019 were examined in this study using a retrospective descriptive design. The study included all intended home deliveries, including those that required hospital transfers owing to difficulties. As many as 168 planned home births with private doctor assistance made up the study's sample. Sociodemographic and clinical variables were both examined in this analysis.

Results: The mean age of the sample in this study was 32 years. The findings indicate that women planning a home delivery with a licensed doctor in low-risk pregnancies have a better likelihood of spontaneous vaginal birth and favorable outcomes for maternal health. Additionally, there is a reduced likelihood of hospital transfer (10%). Furthermore, evidence demonstrates that planned home births are typically linked to fetal wellbeing.

Conclusion: The majority of women gave birth between 38 and 40 weeks gestation. The majority of samples were deliveries were normal vaginal births. The main reasons for transfer were due to the arrested cervical dilation or the arrested progress of the fetal head.

Keywords: low-risk pregnancy, maternal outcomes, planned home birth.

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INTRODUCTION

The process of giving birth is one of the precious moments that women look forward to. A pregnant woman will make an effort to keep her body and mind as prepared as possible for labor. Vaginal birth is defined by the World Health Organization (WHO) as "spontaneous, low risk from the outset of labor, maintaining that way until delivery." Between 37 and 42 weeks, newborns spontaneously give birth with their heads up. Mother and child must be in sound health and condition following delivery. Additionally, based on current information and supplied by a skilled practitioner, the choice of the child's birthplace should be left up to both

parents. The mother's psychological state during labor is said to be significantly influenced by the place of delivery. The mother's home and the health service unit are the two birthing locations.¹⁻³

By giving the pregnant woman complete authority over the delivery partner of her choice and being personalized throughout labor, home births meet the psychological and social needs of the expectant mother. Because more women throughout the world are choosing to give birth at home, the hazards and advantages of giving birth in a non-clinical setting have recently been the focus of extensive discussion and controversy.^{4,5}

Women who wish to give birth at home had a lower risk of cesarean

section and instrumental delivery and a higher possibility of spontaneous delivery compared to those who prefer to give birth in a hospital, according to the "Birthplace in England" study and other studies.⁶ According to several studies, In low-risk pregnant women, home births are associated with a decreased risk of maternal intervention compared to scheduled hospital deliveries. Furthermore, mothers who give birth at home have better chances to breastfeed their babies.⁷

This study's goal was to characterize planned home deliveries with certified medical personnel during low-risk pregnancies and to determine how they affected mother and infant health

from 2010 to 2019 in Denpasar. The particular goals were to examine the sociodemographic traits of women who opt for this type of delivery and to identify the characteristics of home birth, the style of delivery, and how these factors relate to the requirement for hospital referral.

METHODS

Study Design

The research involved gathering information from preplanned home births in Denpasar, Bali, between 2010 and 2019. The study included all intended home deliveries, including those that required hospital transfers owing to difficulties. As many as 168 planned home births with private doctor assistance made up the study's sample.

Sample Criteria

The study investigators offered several inclusion and exclusion criteria in order to choose a suitable sample.

The Guide to Home Birth Assistance's inclusion criteria for this study are deliveries recorded using a standardized data collection form; women who intended to give birth at home and who complied with the criteria to accept the request for the accompaniment of home delivery, which included the following: the women must provide all ultrasound, analytical control, and other required complementary test findings, and the home birth plan must be created before 28 weeks of pregnancy. There must also be a minimum of four clinic visits prior to delivery, pregnancy at low risk, according to the Guide to Clinical Practice for Childbirth Assistance," which was updated in 2018, the following criteria must be met: the mother's body mass index (BMI) was below 30 kg/m² at the start of her pregnancy; her clinical history was uncomplicated (she had no prior cesarean sections); there were no relevant symptoms or signs of pregnancy complications.^{8,9}

Multiple pregnancies, beginning deliveries before week 37 or after week 42, non-cephalic births, and travel times of more than 30 minutes by automobile between the desired delivery location and the reference hospital are all considered exclusion criteria for this study.

Variables

The variables studied in this investigation were sociodemographic variables and clinical variables. Sociodemographic variables were Maternal age, Parity, Gestation weeks, Maternal education. Clinical variables were Characteristics of home birth (mode of birth) and maternal outcomes (transfer to hospital)

Data Analysis

The results were analyzed by using the SPSS computer program. The data were analyzed using descriptive analysis to determine the frequency distribution of each research variable.

RESULTS

Results of Sociodemographic Variables

As many as 68 scheduled home births made up the sample. Mothers who intend to give birth at home typically range in age from 19 to 40. As much as 95% of women gave birth between 38-40 weeks gestation, whereas only 5% of participants gave birth between 40 and 41 weeks gestation. A

whopping 56% of women are now parents, and 44% of those are first-time mothers. In addition, 15% of the study's female participants had previously given birth at home. As much as 84% of participants had graduated from college when it came to maternal education. Concerning maternal education level, 84% of participants had finished their university education (see **Table 1**).

Results of Clinical Variables

As many as 90% (n = 152) of the births were natural vaginal births, 8% (n = 13) were cesarean sections, and 2% (n = 3) were births with instruments (with the use of a suction cup or forceps). A total of 10% of the women were admitted to the hospital, the majority of them (n = 16) were admitted during the early stages of labor. The primary causes of transfer were fetal issues during the initial stage of labor caused by arrested cervical dilation or the arrested progress of the fetal head with followed by pain, amniotic fluid broken for more than 12 hours, and fetal problems during the first stage of labor due to fetal bradycardia (see **Table 2**).

Table 1. Descriptive statistics of the sociodemographic variables of the sample

Variables	N	%
Maternal age		
20–24	3	2
25–29	41	24%
30–34	74	44%
35–39	47	28%
>40	3	2%
Mother's education level		
Primary studies	0	0%
Secondaries studies	8	5%
University studies	160	95%
Parity		
Nulliparity	74	44%
Multiparity	94	56%
Previous home birth	31	19%
Gestation weeks		
37–38 weeks	8	5%
38–39 + 6	131	79%
40–40 + 6	25	15%
41–41 + 6	2	1%

Table 2. Descriptive statistics of the clinical variables

	Nulliparous Women (n = 74)		Multiparous Women (n = 94)		Total (n = 168)	
	N	%	N	%	N	%
Mode of birth						
Normal vaginal birth	60	80%	93	99%	152	90%
Instrumental birth	3	4%	0	0%	3	2%
Cesarean section	12	16%	1	1%	13	8%
Transfer to hospital	15	20%	1	1%	16	10%

DISCUSSION

Home births give complete autonomy over a woman's chosen partner during labor and relate to a pregnant woman's psychological and social requirements in a personalized approach. Recently, mothers who were carrying low-risk pregnancies began to show more interest in home deliveries. The ability to roam about during fetal monitoring, fewer vaginal examinations, management of the third trimester, and delayed umbilical cord clamping are all benefits of home delivery.¹⁰ As more women worldwide choose to give birth at home, the hazards and advantages of giving birth in non-clinical settings have recently been the subject of extensive research and discussion.¹¹ However, not many studies have evaluated this topic.

Based on the study's findings, it was determined that the sample's average age was 32 years. The results of this study are in line with the study of Galera-Barbero et al using 820 samples which reported the mean age of the sample was 32.4 years.¹² This outcome differs slightly from that of the research of Campiotti et al which stated that the average age of the sample was 34 years.¹³ Based on the variable of mother's education level, as many as 84% of participants have graduated from college. This is in line with the previous study, where 84% of the sample had graduated from university.¹²

Based on the study's findings, it was determined that the majority of women gave birth between 38 and 40 weeks of gestation. The study by Campiotti et al, which used a sample of 1099 healthy low-risk women who gave birth outside of the hospital in 2014-2018, is consistent with these findings. The study found that

women's gestational ages range from 37 to 42 weeks.¹³ Additionally, the results of this study are in line with those of a study by Hutton et al, which employed 986 samples, 97.5% of which had gestational ages between 37 and 41 weeks.¹⁴ The study by Galera-Barbero et al with a sample size of 820 women sought to know the characteristics of planned home births in Balearic Islands low-risk pregnancies with competent medical professionals and evaluate the effects on maternal and infant health. These results, however, differ slightly from that study. The majority of women who gave birth (59%) had gestations between 38 and 39 weeks, according to the study.¹²

Based on the study's findings, it was determined that the majority of samples were deliveries were normal vaginal births. These study's results are in line with studies by Galera-Barbero et al. that found that 97.1% of deliveries occurred vaginally, 2.4% included cesarean sections, and only 0.5% involved forceps or suction cups.¹² The study also discovered that women with low-risk pregnancies who planned their home delivery with a licensed midwife were more likely to experience spontaneous birth.¹² According to the study of Campiotti et al, of the 694 multiparas, up to 95.7% gave birth vaginally, and as many as 68% did so in a hospital. Up to 69% of multiparas known to have given birth in a hospital were known to have also given birth at home, whereas 5.6% of those who gave birth in an independent midwife had previously given birth at home.¹³

Based on the results of this study, it was found that the main reasons for transfer were due to the arrested cervical dilation or the arrested progress of the fetal head. The

findings of this study are consistent with those of a prior study by Galera-Barbero et al., which found that 10.7% of women were referred to hospitals for various reasons, with cessation of fetal head progress or cessation of cervical dilatation accounting for 47% of referrals and pain accounting for 39% of referrals. The study found that prolonged breastfeeding for more than a year had a very high rate of 99% and that the risk of transfer to the hospital was only 10.7%.¹² According to Campiotti et al study's with a sample size of 1099, the proportion of transfers from home to hospital following planned out-of-hospital births produced results that were noticeably worse than those of earlier studies.¹³

Lindgren et al. claim that the majority of studies looking at planned home deliveries in various nations have not found an increase in newborn morbidity and mortality. Furthermore, planned home births consistently result in improved maternal outcomes, including less problematic pregnancies and less intervention during delivery. Mothers who choose to give birth at home report feeling comfortable and satisfied.⁴ Additionally, several research have demonstrated a connection between planned home births and fetal wellbeing. The report also notes that midwifery intervention is uncommon and that the results have been good for both mother and baby health.¹²

Numerous factors affect the level of security of the mother's home delivery process.

The laws and requirements for home births also change depending on where in the nation you are.

Previous research found that the infrastructure and quality of assistance

available to assist with home deliveries, as well as the comfort level and expertise of midwives in offering home delivery services, differed.¹⁵ The provision of home birth services is additionally determined by licensing, actual experience, education levels that can also differ greatly, and regulation in some nations. The International Confederation of Midwives suggests that midwifery training become the standard around the globe at least 3 years following high school at an approved institution based on the certification aspect. This is done to guarantee the degree of readiness for giving birth at home and as a type of general education requirements to set the minimum level of readiness that is necessary.⁴

The limitation of this study is the limited number of samples so it is less representative of the research population. In addition, this study is only limited to descriptive studies that do not continue to analyze the relationship to determine the correlation between each variable and do not control for confounding variables.

CONCLUSION

The sample in this study was 32 years old on average. The majority of women gave birth between 38 and 40 weeks gestation. The majority of samples were deliveries were normal vaginal births. The primary causes of transfer were the fetal head's or cervical dilation's halted development. Also, further research with a bigger sample size and additional research are required to determine the factors influencing intended home delivery in low-risk pregnancies.

AUTHOR CONTRIBUTION

The study's conceptualization and design, data analysis and interpretation, article writing, article revision, final approval,

and data collecting were all done by all of the authors.

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CONFLICT OF INTEREST

The authors report no conflict of interest.

ETHICAL CONSIDERATION

This study protocol has been approved by the Human Research Ethic Committees, Faculty of Medicine Universitas Udayana, and Sanglah General Hospital Denpasar, Bali.

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