



Analysis of Taiwan Childbirth Accident Reporting System

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Intro

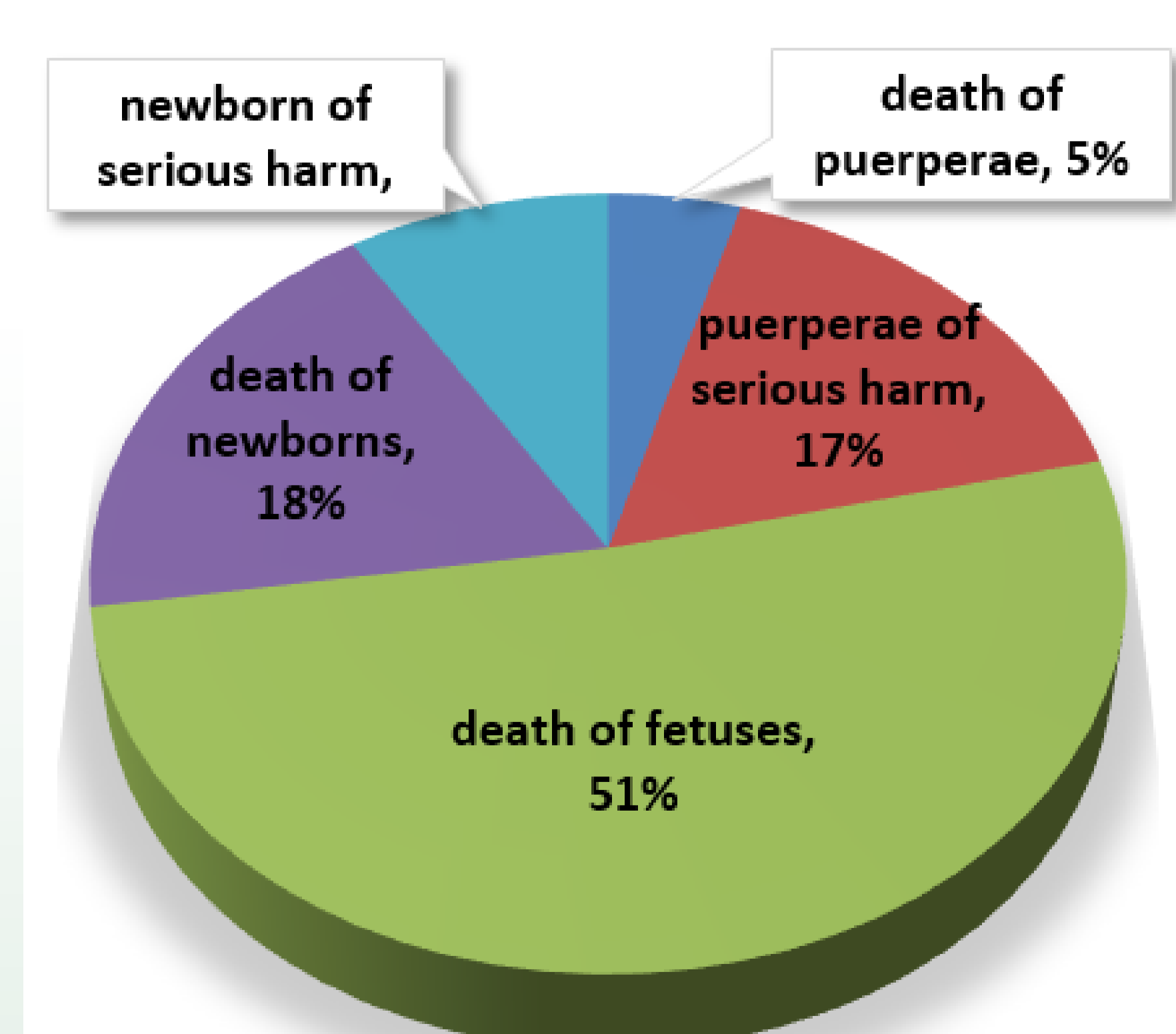
The birth rate in Taiwan has gradually declined in recent years. Because of the risks inherent in childbirth, the number of obstetrics and gynecology lawsuits filed accounts for 15% of all medical malpractice cases. This has had a negative effect on the obstetrics and gynecology practice environment and undermined willingness to invest for the specialty's development.

Taiwan implemented a pilot plan for childbirth accident between 2012 and 2016 to provide timely compensation in the event of accident. The institutions participating in the pilot plan were where 88.7% of births in the country occurred. Furthermore, the pilot program caused the number of obstetric medical disputes to fall by 72%. As a result of the trial program, the Childbirth Accident Emergency Relief Act was enacted in June 2016, extending coverage nationwide, and establishing a reporting system for childbirth accident. This study explored the types, causes, and effects of obstetrics and gynecology accidents in Taiwan by collecting such reports.

Methods

This study was a longitudinal study. Monthly childbirth accident reports were collected from June 2016 to December 2017 for maternal, fetal, and neonatal cases of major injury or death. These included the basic information, time of occurrence, object of influence, degree of injury, possible causes, referral situation, and preventative measures. Statistical analyses were conducted on the number of notifications, agency level, subject of the complication accident, degree of injury, and possible causes for each month.

Types of childbirth accident percentage (N=1062)



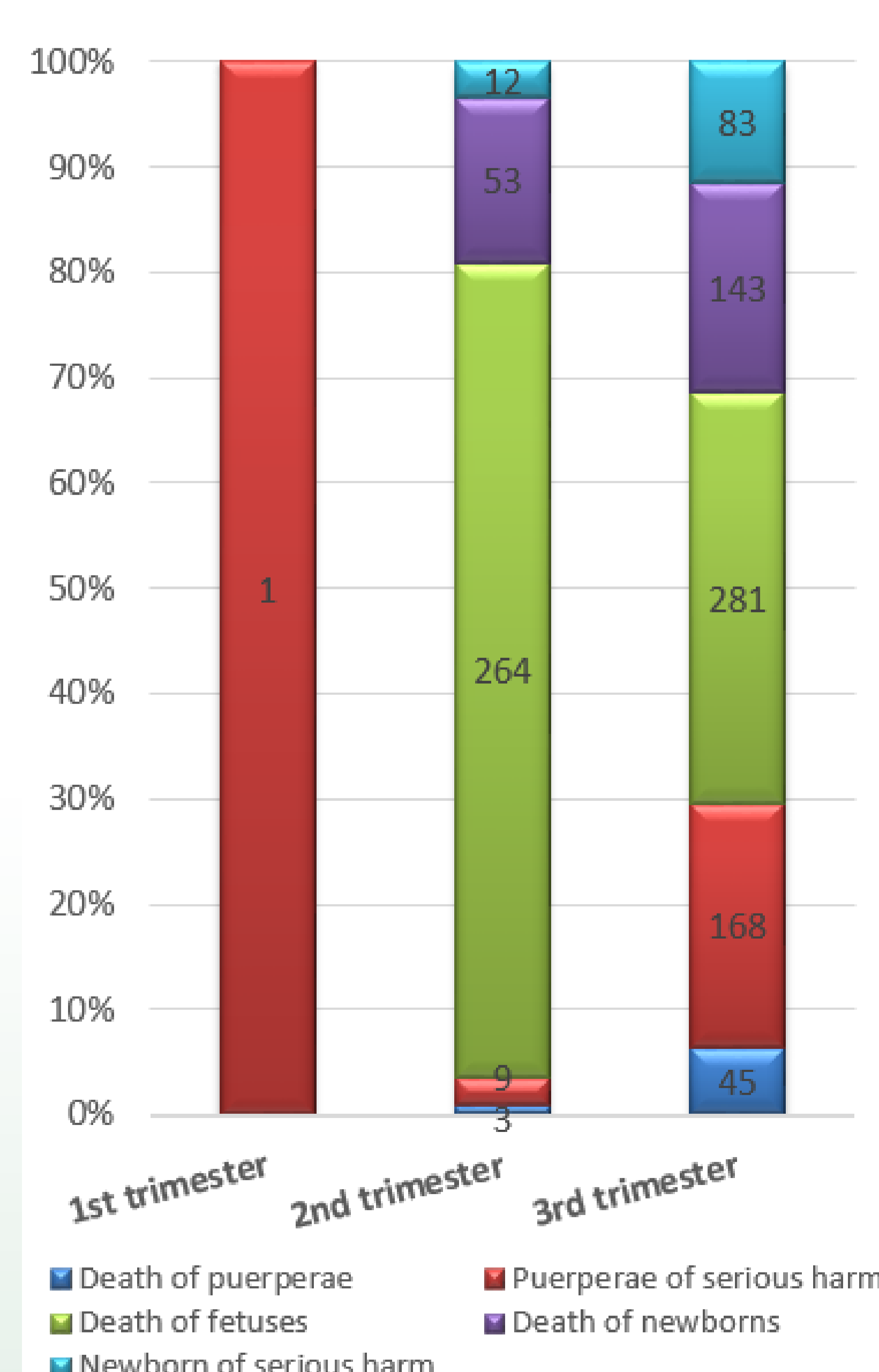
Results

A total of 1,184 notifications were collected from 157 institutions; 71.1% (n=842) were reported promptly, and 28.89% (n=342) were delayed. Maternal age at birth was 35–39 years old in 32.8% (n=388) cases, and 39.9% were high-risk pregnancies (n=181). In total, 63.3% (n=575) of the cases originated in medical centers, and 33.5% (n=327) of cases were referred from other hospitals.

Among all the death or injury cases (N=1,062), the rate of fetal death after 20 weeks is the highest for 51.3% (n=545). Of fetal death cases, the third trimester accounted for the largest percentage (51.2%, n=279), unexplained fetal death was the commonest type of fetal death (87.8%). Fetal deaths in the second trimester accounted with a plurality caused by genetic defects or dysplasia (40.1%). Secondly, neonatal deaths accounted for 18.5% (n=196) of the death or injury cases; of these, respiratory distress accounted for 27.9%. Thirdly, major maternal injury accounted for 16.8% (n=178) of the cases because of postpartum hemorrhage caused by hysterectomy or amniotic fluid embolism (72.2%).

Of these accidents, 48.8% institutions did not consider that the aforementioned factors were related to the treatment process, and 38.1% (n=518) were related to puerperae with chronic diseases, gestational diabetes, or other high-risk factors.

Types of childbirth accident during 1st to 3rd trimester



Conclusion

Childbirth accident in Taiwan mainly comprised fetal death, neonatal death, and maternal injury. To understand and prevent future cases, we propose the following suggestions:

1. Women with risk factors for fetal death should be identified as soon as possible. Fetal monitors or ultrasound should be increased frequency used to confirm fetus status. To investigate the risk factors for fetal death, information about fetal growth hysteresis, oligohydramnios, maternal blood pressure, weight, and chronic disease history should be recorded.
2. The number of newborns per week and their weights should be estimated to prepare emergency equipment. Newborns should be stable before transfer. Maternal and healthy women mostly exhibit a high blood-loss tolerance. Blood transfusion time should be controlled, and bleeding should be measured every 5–10 minutes.
3. The mean age at childbearing rate in Taiwan has gradually has increased year by year. 2017 mean age at childbearing in Taiwan were 32 years old. Many studies have confirmed that the physical and psychological conditions in the advanced maternal age compared to maternal-age in fertility are weak, and the risks of obstetric complications during pregnancy are higher.

The Childbirth Accident Emergency Relief Act is Taiwan's first non-fault, medical compensation program and the world's first that covers all childbirth accident and not aim at punishment or attribution of responsibility. Long-term trends should be monitored to reduce injuries and risk resulting from pregnancies or childbirth.

Acknowledgement

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