

MEDICAL SCIENCES

ASSESSMENT OF THE SITUATION OF NORMAL AND ABNORMAL BIRTHS

Dr. Albana Poloska

Faculty of Technical Medical Sciences, University of Medicine, Tirana

Dr. Brizida Refatllari

Faculty of Technical Medical Sciences, University of Medicine, Tirana

Dr. Risida Gjonej

Faculty of Technical Medical Sciences, University of Medicine, Tirana

Dr. Albana Shahini

Faculty of Technical Medical Sciences, University of Medicine, Tirana

<https://doi.org/10.5281/zenodo.14003929>

Abstract

Introduction: According to the WHO, normal birth begins spontaneously, occurs only by physiological processes, and the child is born spontaneously with cephalic presentation between weeks 37 - 42 of pregnancy. Approximately 15% of pregnancies for maternal-fetal life-threatening complications. These pregnancies require careful observation by medical personnel (doctor and midwife) to bring a healthy mother and baby. **The aim** of this study was to assess the situation of normal births and complications in the Queen Geraldine University Hospital of Obstetrics & Gynecology, Tirana Albania. **Methodology:** was retrospective observational study, we collected the data through the maternity cards for the years 2021-2022. Data gathered on November-December 2023. Data was coded and elaborated using IBM SPSS Statistics 26 software. **Results:** There were (n=12256) births for both years and the highest number was in 2022 with 51.46% of the total number of births. The age group with the highest number of births was 25-34 years old with 66.42%. For two years, 30.5% are normal births and 69.5% are births with maternal and fetal risk. Among the most frequent complications were post-section births, pelvic injuries with 18.05% of births, followed by premature rupture of membranes, unspecified with 13.18%. **Conclusion:** Our findings reflect the situation of births in the maternity hospital by identifying high-risk births that require timely identification, evaluation, and treatment. Midwives are the ones who stay for the longest time at any moment before, during, and after the birth activity with the patients and can identify and catch all the problems of the mother and the baby in time. A qualified midwife identifies and manages every problem of the mother and the baby. Policymakers should focus on continuous training of midwives so that every complication is identified and managed in time, this will lead to good access to care and reduction of maternal and fetal morbidity and mortality.

Keywords: normal birth, complicated birth, midwife, mother, newborn

1. Introduction

The World Health Organization (WHO) reports that approximately 140 million births occur each year around the globe in which the likelihood of having maternal or fetal complications throughout the labor is very small. However, the risk of morbidity and mortality increases if complications occur in the mother or baby. According to the WHO, normal birth begins spontaneously, occurs only by physiological processes, and the child is born spontaneously with cephalic presentation between weeks 37 - 42 of pregnancy.[1] The WHO emphasizes at every moment that the birth process is physiological and should be observed using as little intervention as possible only when deemed reasonable by the medical staff to provide efficient care for the mother and baby with good results for both parties.[2] The World Health Organization (WHO) reports that approximately 140 million births occur each year around the globe in which the likelihood of having maternal or fetal complications throughout the labor is very small. However, the risk of morbidity and mortality increases if complications occur in the mother or baby. According to the WHO, normal birth begins spontaneously, occurs only by physiological processes, and the child is born spontaneously with cephalic presentation between weeks 37 - 42 of pregnancy.[1] The WHO emphasizes at every moment that the birth

process is physiological and should be observed using as little intervention as possible only when deemed reasonable by the medical staff to provide efficient care for the mother and baby with good results for both parties.[2] The literature reports that there is a risk of approximately 15% of pregnancies for maternal-fetal, life-threatening complications. The literature reported that it is precisely these pregnancies that require careful observation by medical personnel (Doctor and Midwife) to have a healthy mother and baby. The Global Strategies for Women, and Child and Adolescent Health (2016–2030) are increasingly focusing on ensuring and preventing complications for both mother and baby at all times. There has been a great increase in recent years towards better practices in the follow-up of a pregnancy, labor activity, and postpartum care by observing, identifying, and managing any complications that may be detected by medical personnel throughout this journey to improve maternal-fetal outcomes. [1] In recent decades, an increase in the use of medical technology in childbirth has been observed (especially the application of Caesarean Section) and more often in births with complications, it is reported by various literature [3] with a significant increase currently from 2009 was 29%, in 2019 reaching 31.7% [4] in 2020 (31.8%) and 2021 (32.1%). [5],[6] These literatures report that a trend is being observed in the intervention of

the physiological process of birth, which often brings risks for both the mother and the child. More and more women require intervention during childbirth.[3] According to the WHO, approximately 121 conditions are observed that cause complications that occur during pregnancy and childbirth [7], and the CDC (Centers for Disease Control and Prevention) reports that 21 indicators are used to identify maternal morbidity from various problems such as (hemorrhage, cerebrovascular accidents, shock, and heart complications).[8] Most frequent complications are pelvic defects[9] in which forceps and vacuum delivery were used[10], as well as a high percentage of labor and premature rupture of the membranes reported from literature.[11] Some literature reports that most of these complications encountered before, during, and after birth can be prevented if medical personnel (doctors and midwives) understand and identify the warning signs of these complications, [12] by informing and controlling the patient at all times[13-14] The most frequent complications can be identified and managed promptly by the doctor and midwife following the protocols updated by the WHO[15].

The situation in our country

The birth of a child at an age older than 35 and in adolescence from the mother has been seen as a factor that can complicate the birth by increasing the morbidity and mortality of both the mother and the child, reports a study in 2021 in our country [16]. According to a report of the Albanian-Health-Report 2015 in our country, which includes data from 2001-2013, according to data collected by INSTAT and the Ministry of Health, a decrease in infant and neonatal mortality and morbidity was reported from 14.5 to 17.9 per 1000 births, as a result of this and with the early identifica-

tion of problems in pregnancy but also efficient interventions at the right time and the best hospital conditions, there is also a positive impact and the level of education of mothers on the importance of periodic follow-ups and controls for a healthy good. In this report, the fact that maternal mortality has decreased by 21 per 100,000 births, in the country, but among the most frequent causes of maternal mortality are mentioned: hemorrhage, postpartum infections, pre-eclampsia, and eclampsia during pregnancy, and unsafe abortion.[17] The aim of this study is to evaluate the situation of normal and complicated births in the "Queen Geraldine" maternity hospital.

2. Methodology

Our study is a retrospective study with two components: descriptive and analytical. We collected data through maternity records for the years 2021-2022. The study was carried out in the period November-December 2023. Sociodemographic data were collected such as age, education level, and place of residence. Data related to the duration of pregnancy and delivery, mode of delivery (normal, instrumental with S/C), diagnoses according to ICD-10, days of hospital stay of the mother, and days of the baby's stay. Data were coded and processed using IBM SPSS Statistics 26 software. We have considered significant the P value <0.05.

3. Results

This study included a total number (n=12256) births for both years 2021-2022 in the "Queen Geraldine" maternity hospital in Tirana. The year 2022 had the highest number with 51.46% of the total number of births. The age group with the highest number of births was 25-34 years old with 66.42%. Socio-demographic characteristics of the patient that have delivery in the "Queen Geraldine" maternity hospital in Tirana we have presented in following with chart and table

Table 1

Age group of patient and birth diagnosis

Age group 2021					Age group 2022		
	14-24	25-34	35-44		14-24	25-34	35-44
Diabetes	0	9(0.14)	1(0.01)	Abnormal products of conception	5(0.08)	22(0.36)	7(0.11)
Anemia	0	4(0.06)	1(0.01)	Spontaneous abortion	7(0.11)	7(0.11)	1(0.01)
Fetus dead in utero over 22 weeks	6(0.09)	17(0.26)	6(0.09)	Pre-eclampsia	21(0.35)	27(0.45)	8(0.13)
Abortion delayed	7(0.11)	11(0.17)	2(0.03)	Unspecified maternal hypertension	5(0.08)	9(0.15)	3(0.05)
Placenta previa	6(0.09)	35(0.55)	3(0.04)	Diabetes mellitus in pregnancy	1(0.01)	5(0.08)	4(0.06)
Preeclampsia, nephropathy	30(0.47)	70(1.10)	21(0.33)	complication that occur mainly	65(1.09)	195(3.27)	64(1.07)

				during pregnancy			
Premature birth	53(0.84)	162(2.56)	36(0.57)	Maternal care for cervical incompetence	1(0.01)	14(0.23)	1(0.01)
Serotine	75(1.18)	136(2.15)	18(0.28)	Other disorders of amniotic fluid and membranes	9(0.15)	16(0.26)	4(0.06)
Other burdens	1(0.01)	7(0.11)	1(0.01)	Premature rupture of membranes, unspecified	207(3.48)	583(9.8)	87(1.46)
Semi-classified in other rubrics	66(1.04)	181(2.86)	52(0.8)	Premature separation of the placenta [abruptio placentae]	4(0.06)	11(0.18)	5(0.08)
Normal birth	615(9.74)	1587(25.15)	157(2.48)	Extended burden	53(0.89)	101(1.69)	15(0.26)
Multiple birth	15(0.23)	60(0.95)	15(0.23)	Premature birth (pre-term delivery)	49(0.82)	109(1.83)	37(0.65)
Malpresentation fetal	33(0.52)	128(2.02)	10(0.15)	Obstructed labor due to fetopelvic disproportion,	56(0.94)	131(2.2)	4(0.06)
Pelvic anomaly	52(0.82)	131(2.07)	11(0.17)	Fetal distress macrosomia	1(0.01)	9(0.15)	1(0.01)
Born fetal distress and macrosomia	91(1.44)	234(3.70)	18(0.28)	Labor and delivery complicated	75(1.26)	199(3.34)	37(0.69)
Membrane problems	169(2.67)	495(7.84)	75(1.18)	Postpartum hemorrhage	9(0.15)	31(0.52)	7(0.11)
Birth by elective caesarean section	104(1.64)	829(13.14)	176(2.79)	Remaining parts of placenta and membranes	1(0.01)	12(0.2)	3(0.05)
Prolapse of fetus cord	0	1(0.01)	0	Birth by elective S/C	107(1.79)	790(13.28)	207(3.48)
Manual removal of the placenta	1(0.01)	12(0.19)	1(0.01)	Spontaneous multiple births	12(0.20)	13(0.21)	2(0.03)
Endometritis	0	2(0.03)	1(0.01)	Baby breast infections	0	2(0.03)	0
Other complications after birth	18(0.38)	48(0.76)	12(0.19)	Totally	1350(22.16)	3867(64.91)	731(12.49)

Arrival baby + mom post-partum	54(0.85)	115(1.85)	21(0.45)				
Totally	1396(22.13)	4274(67.77)	638(10.12)				

Table 1 shows the age group of patients with birth diagnosis. Were age group 25-34 years old patient that have the large number of births nearly 67.77% in 2021 and 64.91 in 2022 year. We have seen a high significance between age group 15-24 years old $p < 0.005$ and

35-44 years old that have the high risk for complicated pregnancy, $p = 0.003$

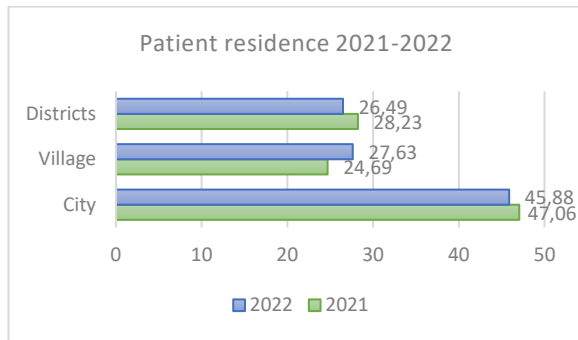


Chart no. 1 Residence place of patients

Chart no 1 shows the place of residence from the city approximate 31.81% for both years 2021-2022 of the total birth. We don't have any association between variables $p = 0.459$

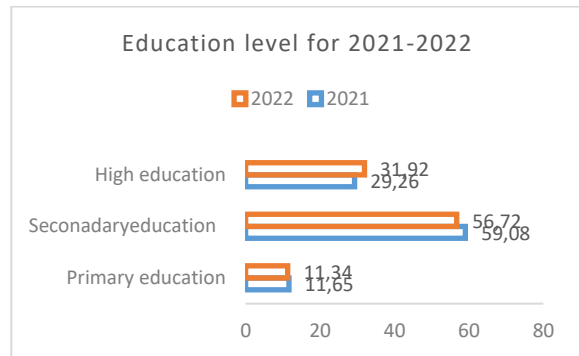


Chart no. 2 Educational level of patient

Chart no 2 shows the educational level was dominated by secondary education with 57.93% for both years, an increase in women with higher education is observed a significance between education level and $p = 0.002$.

Table no. 2

Maternal-fetal diagnoses in 2021- 2022 year

Diagnosis	Year 2021	Diagnosis	Year 2022
Diabetes mellitus	10(0.15)	Other abnormal products of conception	34(0.57)
Anemia	5(0.007)	Spontaneous abortion	15(0.25)
Fetus dead in utero over 22 weeks	29(0.48)	Pre-eclampsia	56(0.94)
Delayed abortion	20(0.35)	Unspecified maternal hypertension	17(0.28)
Placenta previa	44(0.69)	Diabetes mellitus in pregnancy	10(0.16)
Preeclampsia, nephropathy	121(1.99)	Maternal care for other conditions that occur mainly during pregnancy	324(5.46)
Premature birth	251(3.97)	Maternal care for cervical incompetence	16(0.26)
Serotine	229(3.68)	Other disorders of amniotic fluid and membranes	29(0.48)
Other burden changes	9(0.14)	Premature rupture of membranes, unspecified	877(14.76)
Diseases classified in other categories	299(4.47)	Placenta praevia	33(0.55)
Normal birth	2359(37.39)	Premature separation of the placenta [abruptio placentae]	20(0.33)
Multiple births	90(1.48)	Extended burden	169(2.84)
Birth with viscose presentation of the fetus	171(2.73)	Premature birth (preterm delivery)	195(3.27)
Abnormalities of the pelvis (pelvic defects)	194(3.07)	Obstructed labor due to feto -pelvic disproportion, unspecified	191(3.22)
Fetal suffering and macrosomia are born	343(5.48)	Obstructed labor from extremely large fetus	11(0.18)
Membrane problems	739(11.71)	Labor and delivery complicated by fetal distress, unspecified	311(5.22)
Birth posst -sexio cesarean, viciature	1109(17.58)	Complicated delivery and release with other cord placements, with compression	4(0.06)
Cord prolapse	1(0.001)	Postpartum hemorrhage	47(0.79)
Manual schooling of placenta	14(0.22)	Remaining parts of placenta and membranes, no hemorrhage	16(0.26)
Endometritis	3(0.04)	Simple spontaneous birth	1383(23.26)

Other changes after birth	78(1.29)	Birth by elective caesarean section	1104(18.59)
Welcome mother & born baby	190(3.01)	Foot extraction	141(2.37)
Total	6308(100)	Other simple assisted birth, specified	588(9.89)
		Totally spontaneous multiple births	27(0.45)
		Multiple births entirely by cesarean section	58(0.97)
		Puerperal sepsis	31(0.52)
		Breast infections accompanying childbirth	2(0.03)
		Other diseases of the blood and hematopoietic organs, and other disorders affecting the immune system, complicating pregnancy, childbirth and the postpartum period	10(0.16)
		Arrived born / returned baby	229(3.38)
		Total	5948(100)

The study showed that for the two years 2021 and 2022, approximately 30.5% are normal births and 69.5% are births with maternal and fetal risk. Among the most frequent complications are post-section births, which in 2021 accounted for 17.58% of all births and in 2022 accounted for 18.59%, pelvic defects with 18.05% of births, followed by premature rupture of membranes in 2021 accounted for 11.71% of births and in 2022 they were 14.76%.

4. Discussions

Our study highlights the situation of normal births and complications in the "Queen Geraldine" maternity hospital. An increasing trend of births with complications for both mother and baby is observed, only 30.53% of the total for both years are normal births. Some data present an increase in birth complications but also in cesarean births which have influenced a decrease in vaginal births and which is accompanied by a decrease in obstetrical skills. [6] Our study revealed that there is a year-over-year increase in C-section births which is in line with other studies from the CDC reporting an increasing trend in the US in S/C births where in 2021, 32.1% of the total births were reported.[18] A frequent complication in childbirth is pelvic defects where it is reported that the prevalence increases significantly with age: 10% of women aged 20-39 compared to our study which showed that these complications are on the rise, which shows that the interventions and the care for these women by the medical personnel is greater. [9] It is more established that in those women who have used instrumental delivery (forceps and vacuum), pelvic injuries are likely to occur. [10] The study showed that a significant percentage of complications and premature rupture of the membranes, where the literature has also highlighted this important factor that can complicate a birth, occurs in 0.4-0.7% of pregnancies and increases the likelihood of neonatal mortality in 40% of cases.[11],[18] The literature reports that despite the scientific advances in recent years in medicine for the management of health complications for both the mother and the baby, every complication presented in maternity remains a challenge for the medical staff. Of course, this is a global problem where the practices followed are not based on evidence-based scientific data, leaving room for problems to increase.[15],[19] It is necessary that obstetricians and midwives who provide maternity care during the activity of ensure that intrapartum care is evidence-

based clinical practice bringing about a positive approach for the woman and good outcomes for mother and baby.[19] Emphasis in recent years has been placed on data that support practices that promote and protect practices of a normal birth and the importance of the nursing role at every moment. The literature reports that there is a large expenditure of time on the management of technology that nurses follow in their practice. of work where they had to provide support and comfort at every moment of the woman.[3] Childbirth is a life-changing event, and the care from medical personnel, especially midwifery, that a woman receives during labor has the potential to affect a woman's physical status and emotional status in the short and long term.[19] All over the world, efforts are made to ensure that every intervention applied to women is based on evidence to bring adequate care and good health outcomes for mother and baby[15],[19] A very positive impact would be the focus on patient education, prenatal and 6-week postpartum check-up, adequate monitoring and immediate management of complications are essential to reduce morbidity and mortality.[13-15]

5. Conclusions

Our findings reflect the situation of births in maternity hospitals by identifying high-risk births that require timely identification, assessment, and treatment by medical personnel. Midwives are the ones who stay for the longest time at any moment before, during, and after the birth activity with the patients and can identify and catch all the problems of the mother and the baby in time. A qualified midwife identifies and manages every problem of the mother and the baby. Policymakers should focus on continuous training of midwives so that every complication is identified and managed in time, this will bring good access to care and decrease morbidity and mortality for both the mother and the child.

References:

- 1.WHO recommendation Intrapartum care for positive childbirth experience <https://iris.who.int/bitstream/handle/10665/260178/9789241550215-eng.pdf>
2. World Health Organization Department of Reproductive Health and Research. (2019). Care in normal birth: A practical guide. Geneva, Switzerland: World Health Organization

3. Romano AM, Lothian JA. Promoting, protecting, and supporting normal birth: a look at the evidence. *J Obstet Gynecol Neonatal Nurs*. 2008 Jan-Feb;37(1):94-104; quiz 104-5. doi: 10.1111/j.1552-6909.2007.00210.x. PMID: 18226163.
4. Osterman MJK, Hamilton BE, Martin JA, Driscoll AK, Valenzuela CP. Births: Final data for 2020. *National Vital Statistics Reports*; vol 70 no 17. Hyattsville, MD: National Center for Health Statistics. 2022. DOI: <https://dx.doi.org/10.15620/cdc:112078>. Hamilton BE, Martin JA,
5. Osterman MJK. Births: Provisional data for 2021. *Vital Statistics Rapid Release*; no 20. Hyattsville, MD: National Center for Health Statistics. May 2022. DOI: <https://dx.doi.org/10.15620/cdc:116027>.
6. Chawanpaiboon S., Titapant V. & Pooliam J. Maternal complications and risk factors associated with assisted vaginal delivery. *BMC Pregnancy Childbirth* 23, 756 (2023). <https://doi.org/10.1186/s12884-023-06080-9>
7. Chen J, Cox S, Kuklina EV, Ferre C, Barfield W, Li R. Assessment of incidence and factors associated with severe maternal morbidity after delivery discharge among women in the US. *JAMA Netw Open* 2021;4:e2036148.
8. Chou D, Tunçalp Ö, Firoz T, Barreix M, Filippi V, von Dadelszen P, et al. Constructing maternal morbidity – towards a standard tool to measure and monitor maternal health beyond mortality. *BMC Pregnancy Childbirth* 2016;16:45.
9. Memon HU, Handa VL. Vaginal childbirth and pelvic floor disorders. *Womens Health (Lond)*. 2013 May;9(3):265-77; quiz 276-7. doi: 10.2217/whe.13.17. PMID: 23638782; PMCID: PMC3877300.
10. Hallock JL, Handa VL. The Epidemiology of Pelvic Floor Disorders and Childbirth: An Update. *Obstet Gynecol Clin North Am*. 2016 Mar;43(1):1-13. doi: 10.1016/j.ogc.2015.10.008. PMID: 26880504; PMCID: PMC4757815
11. Kim MS, Kim S, Seo Y, Oh MY, Yum SK. Impact of preterm premature rupture of membranes and oligohydramnios on in-hospital outcomes of very-low-birthweight infants. *J Matern Fetal Neonatal Med*. 2023 Dec;36(1):2195523. doi: 10.1080/14767058.2023.2195523. PMID: 36997167.
12. Pregnancy Mortality Surveillance System. Maternal and infant health [internet]. CDC; 2019 <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-mortality-surveillance-system.htm>.
13. Walker KC, Arbour MW, Wika JC. Consolidation of guidelines of postpartum care recommendations to address maternal morbidity and mortality. *Nurs Womens Health* 2019;23:508–517.
14. George RB, Bone J, Seligman KM, Coombs M, Chau A, Saville L, Gibbs RS, Sultan P. Incidence, prevalence, and timing of postpartum complications and mortality in Canada and the United States: a systematic review and meta-analysis protocol. *JBIM Evid Synth*. 2022 Sep 1;20(9):2344-2353. doi: 10.11124/JBIES-21-00437. PMID: 35975310.
15. World Health Organization, United Nations Population Fund & United Nations Children's Fund (UNICEF). (2017). Managing complications in pregnancy and childbirth: a guide for midwives and doctors, 2nd ed.. World Health Organization. <https://apps.who.int/iris/handle/10665/255760>.
16. Talukder, A., Khan, Z.I., Khatun, F., & Tahmida, S. (2021). Factors associated with age of mother at first birth in Albania: application of quantile regression model. *Heliyon*, 7.
17. Buraceri G, Arjan Bregu, Gentiana Qirjako et.al National Health Report. Health status of the Albanian population. Institute of Public Health (Albania), UNICEF, January 2015
18. Martin JA, Hamilton BE, Osterman MJK. Births in the United States, 2022. *NCHS Data Brief*, no 477. Hyattsville, MD: National Center for Health Statistics. 2023. DOI: <https://dx.doi.org/10.15620/cdc:131354>.
19. Iravani M, Janghorbani M, Zarean E, Bahrami M. An overview of systematic reviews of normal labor and delivery management. *Iran J Nurs Midwifery Res*. 2015 May-Jun;20(3):293-303. PMID: 26120327; PMCID: PMC4462052.