



MATERNITY UNITS OF THE CYPRUS GOVERNMENT CONTROLLED AREAS

IMPORTANT PERINATAL HEALTH INDICATORS FOR THE YEARS 2015 - 2021

HEALTH MONITORING UNIT

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Definitions of the indicators¹

Total births: a birth is defined as the start of life when a child emerges from the body of its mother. The total number of births includes both live births and stillbirths in a given year or period of time. A **live birth** is the birth of a child who showed any sign of life; the number of live births refers to the number of births excluding stillbirths. **Stillbirth** means fetal death, namely death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. Death is indicated by the fact that after such separation from its mother the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles (*Eurostat Commission Regulation*).

Hospital district: is the distribution of births by hospital/maternity unit district according to the five districts of Cyprus Government Controlled Areas (Nicosia, Limassol, Larnaca, Paphos, Ammochostos).

Sector: is the distribution of births by private hospitals (provide medical care that is managed and/or funded independently of the government or any other public entity) and public hospitals (funded and operated solely by the government). Since the 1st of January of 2019 the public hospitals are under the operation of the State Health Services Organisation (OKYPY) which is the largest Healthcare provider in Cyprus, with 9 hospitals and 38 health centers in all cities and provinces.

General Healthcare System (GeSY): is the distribution of births by hospital's participation in the General Healthcare System. Cyprus's General Healthcare System launched on June 1, 2019.

Distribution of mother's country of origin: is the distribution of the countries of mother's country of birth (*Euro-Peristat Indicator Definitions, R11*).

Distribution of maternal age at delivery: is defined as the distribution of age in years at delivery for women delivering a live or stillborn baby. Data in this report is presented as follows: less than 20 years old, between 20-24 years, between 25-34 years and 35 years old or more (*Euro-Peristat Indicator Definitions, C8*).

Distribution of mother's educational level: is the distribution of education level of women delivering liveborn or stillborn babies, expressed as highest level of education of the

All definitions and the glossary are from the sources below:

a. Eurostat. Statistics explained; glossary: birth http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Birth

b. European Commission. COMMISSION REGULATION (EU) No 328/2011 of 5 April 2011 implementing Regulation (EC) No 1338/2008 of the European Parliament and of the Council on Community statistics on public health and health and safety at work, as regards statistics on causes of death https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:090:0022:0024:EN:PDF

c. Euro-Peristat. Indicators of perinatal health. https://www.europeristat.com/index.php/our-indicators/indicators-of-perinatal-health.html



mother: no education (primary not complete or none), primary complete, lower secondary (up to 3 or 4 years), upper secondary (up to 6 or 7 years), post-secondary (non-tertiary [6 months to 2 years], first stage of tertiary education [Bachelor], second stage of tertiary education [Master, Doctorate or more]) (Euro-Peristat Indicator Definitions, R9).

Percentage of women who smoked during pregnancy:² is the number of women who smoke during the first trimester or/and the third trimester of pregnancy expressed as a proportion of all women delivering liveborn or stillborn babies. When data are not available for the first trimester or/and third trimester of pregnancy, data are requested for another time point during pregnancy (Euro-Peristat Indicator Definitions, R8).

Alcohol use during pregnancy: is the number of women who used alcohol during the whole period of pregnancy expressed as a proportion of all women delivering liveborn or stillborn babies. The alcohol use is scored by the assessment tool AUDIT-C (Alcohol Use Disorders Identification Test – Consumption).³ (Euro-Peristat Indicator does not exist).

Psychoprophylaxis: is a method of preparing women for childbirth without anesthetic, by means of education, psychological and physical conditioning, and breathing exercises, also called Lamaze technique (*Euro-Peristat Indicator does not exist*).

Mode of subfertility treatment:⁴ is the number of women delivering liveborn or stillborn babies after the following fertility treatments: ovulation induction (OI), intrauterine insemination (IUI) with or without ovulation induction, in vitro fertilisation (IVF), intracytoplasmic sperm injection (ICSI), in vitro maturation (IVM) which may include frozen embryo transfers (Euro-Peristat Indicator Definitions, R13).

Mode of delivery: for a population of women and year: the number of live births or stillbirths associated with each of the following modes: vaginal non instrumental, vaginal forceps, vaginal ventouse, vaginal (other, Thierry's spatula, etc.), caesarean before or at onset of labour/elective, caesarean during labour/emergency, as a proportion of all still and live births (Euro-Peristat Indicator Definitions, C10).

Multiple birth rate: is the number of women in a multiple gestation pregnancy at delivery as a proportion of all women delivering live births or stillbirths by number of fetuses (*Euro-Peristat Indicator Definitions, C7*).

In this report, we present the number of births of women who smoke during the total duration of pregnancy expressed as a proportion of all births of women delivering liveborn or stillborn babies.

World Health Organization. The alcohol use disorders identification test; guidelines for use in primary care, 2nd edition. Geneva 2001. page 17 (Box 4), page 31 (Box 10) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/11131 77/Alcohol-use-disorders-identification-test-for-consumption-AUDIT-C_for-print.pdf http://apps.who.int/iris/bitstream/handle/10665/67205/WHO_MSD_MSB_01.6a.pdf;jsessionid=D6279314 E6A7F3E6330316A31258EA5B?sequence=1

⁴ In this report we present only the following categories: In vitro fertilization (IVF), other treatment.



Gestational age (GA) distribution: is the number of live births (starting from any week) and stillbirths (fetal deaths) at each completed week of gestation (starting from 22 weeks) expressed as a proportion of all live births and stillbirths. Gestational age is defined as the best obstetrical estimate. This distribution is presented, as follows: less than 37 weeks of gestation (preterm births), 37-41 weeks (term births) and 41+ weeks (post-term births). Preterm births can be subdivided as: 22-27 weeks (extremely preterm), 28-31 weeks (very preterm) and 32-36 weeks (moderately preterm) (*Euro-Peristat Indicator Definitions, C5*).

Birthweight (BW) distribution: is the number of births within each 500g weight interval expressed as a proportion of all live births and stillbirths. Birthweight distribution is presented as follows: less than 2500g (low BW), 2500g or more (normal BW). Low BW can be subdivided as: less than 1500g (very low BW) and 1500-2499g (moderately low BW) (*Euro-Peristat Indicator Definitions, C4*).

Admission to Neonatal Intensive Care Unit (NICU⁵): is the number of live births admitted in NICU (*Euro-Peristat Indicator Definitions, R17*).

Breast feeding during the first 48 hours after birth: is the number of babies who are partially breastfed (infant receives breast milk and the infant is allowed any food or liquid including non-human milk) and the number who are exclusively breastfed (infant receives breast milk and is allowed to receive drops and syrups) throughout the first 48 hrs (Euro-Peristat Indicator Definitions, R20).

Previous Caesarean Section: the number of the caesarean sections a woman had prior the present delivery (*Euro-Peristat Indicator Definitions, C10*).

Fetal mortality rate:⁶ is the number of fetal deaths (stillbirths) at or after 22 completed weeks of gestation in a given year, expressed per 1000 live births and stillbirths in the same year (Euro-Peristat Indicator Definitions, C1).

Neonatal mortality rate: is the number of neonatal deaths (day 0 through 27) after live birth in a given year, expressed per 1000 live births that year. This rate is presented for all live births and it is sub-divided by timing of death into early neonatal deaths (0-6 days of life) and late neonatal deaths (7-27 days of life) (Euro-Peristat Indicator Definitions, C2).

Infant mortality rate: is defined as the number of infant deaths (days 0-364) after live birth in a given year, expressed per 1000 live births that same year (*Euro-Peristat Indicator Definitions, C3*).

In Cyprus, there are two NICU, at the Makarios Hospital in Nicosia and at the General Hospital of Limassol.

⁶ Fetal deaths in this report are not differentiated by whether they are spontaneous fetal deaths or result from a termination of pregnancy.



Birth distribution - Important indicators

Total births in this report are all births occurred in all the maternity units in the Cyprus Government controlled areas, regardless mother's residency. Data for live births and stillbirths were collected by the midwifery staff of the maternity units. They were entered into an electronic database and analysed by the Health Monitoring Unit (HMU) of the Ministry of Health. The majority of the indicators presented in this report are according to the definitions of the European Perinatal Health Project, Euro-Peristat⁷. This report presents Important perinatal indicators for the years 2015-2021. Most of the indicators are presented in correlation with the mode of delivery indicator, specifically with the caesarean sections. For comparability reasons, the mortality indicators are measured with the number of births by mothers with permanent residency in the Cyprus Government controlled areas.

Birth distribution

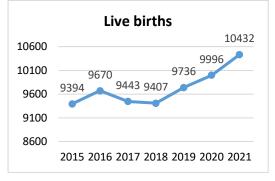
Total births in the year 2021 have increased by 4.5%, compared to the average of the last 3 years. Live births were 10432, while in the year 2020 were 9996. The stillbirths for the year 2021 were 61, much higher than the year 2020, giving a high mortality rate of 5.81 per 1000 total births compared to the other years.

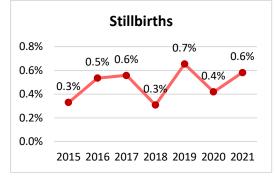
Table 1: Birth distribution by year and by vital status, Cyprus 2015-2021

Birth distribution by year and by vital status	2015	2016	2017	2018	2019	2020	2021
Live births	9394	9670	9443	9407	9736	9996	10432
Stillbirths	31	52	53	29	64	42	61
Total births	9425	9722	9496	9436	9800	10038	10493

Birth distribution by year and by vital status	2015	2016	2017	2018	2019	2020	2021
Live births	99.7%	99.5%	99.4%	99.7%	99.3%	99.6%	99.4%
Stillbirths	0.3%	0.5%	0.6%	0.3%	0.7%	0.4%	0.6%
% of total births	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 1: Percentage distribution by year and by vital status, Cyprus 2015-2021





⁷ Euro-Peristat. Indicators of perinatal health. https://www.europeristat.com/index.php/our-indicators/indicators-of-perinatal-health.html



Sector

The percentage of the public sector before the General Healthcare System (GeSY) was the 30% of the total births. After the year 2020, the percentage is getting lower.

Table 2: Birth distribution by year and by sector, Cyprus 2015-2021

Birth distribution by year and by sector	2015	2016	2017	2018	2019	2020	2021
Private	6145	6556	6258	6224	6487	7931	9069
Public	3280	3166	3238	3212	3313	2107	1424
Total births	9425	9722	9496	9436	9800	10038	10493

Birth distribution by year and by sector	2015	2016	2017	2018	2019	2020	2021
Private	65.2%	67.4%	65.9%	66.0%	66.2%	79.0%	86.4%
Public	34.8%	32.6%	34.1%	34.0%	33.8%	21.0%	13.6%
% of total births	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 2: Percentage distribution by year and by sector, Cyprus 2015-2021 100.0% 86.4% 90.0% 79.0% 80.0% 67.4% 65.2% 65.9% 66.0% 66.2% 70.0% 60.0% 50.0% 34.8% 34.1% 34.0% 33.8% 40.0% 32.6% 30.0% 21.0% 13.6% 20.0% 10.0% 0.0% 2015 2016 2017 2018 2019 2020 2021 ---- Private Public



District

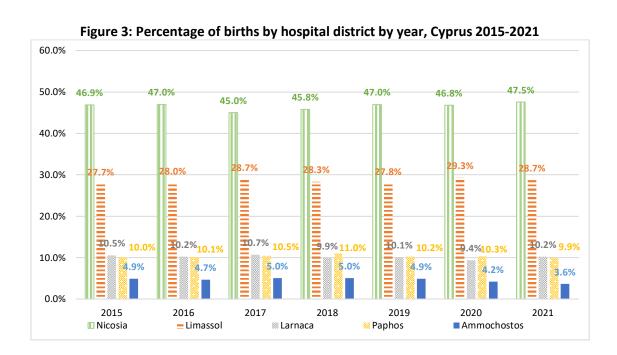
The highest percentage of total births, almost the 50%, for all the years was at Nicosia district. Limassol was next in the rank with almost the 30% of the total births. Larnaca and Paphos had an average of 10% each, while Ammochostos had the lowest percentage.

Table 3: Total births by hospital district by year, Cyprus 2015-2021

Hospital district by year	2015	2016	2017	2018	2019	2020	2021
Nicosia	4416	4568	4274	4321	4604	4698	4989
Limassol	2608	2719	2730	2671	2729	2941	3009
Larnaca	991	994	1019	933	986	945	1071
Paphos	947	984	996	1035	1004	1034	1044
Ammochostos	463	457	477	475	477	420	380
Not stated	0	0	0	1	0	0	0
Total births	9425	9722	9496	9436	9800	10038	10493

Hospital district by year	2015	2016	2017	2018	2019	2020	2021
Nicosia	46.9%	47.0%	45.0%	45.8%	47.0%	46.8%	47.5%
Limassol	27.7%	28.0%	28.7%	28.3%	27.8%	29.3%	28.7%
Larnaca	10.5%	10.2%	10.7%	9.9%	10.1%	9.4%	10.2%
Paphos	10.0%	10.1%	10.5%	11.0%	10.2%	10.3%	9.9%
Ammochostos	4.9%	4.7%	5.0%	5.0%	4.9%	4.2%	3.6%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

 $[\]ensuremath{^{*}}$ "Not stated" cases are distributed in each category by a weighting factor





Mother's age

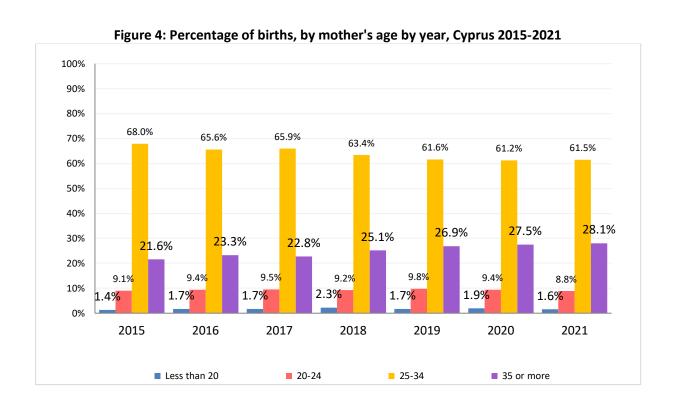
The percentage of total births of mothers aged younger than 20 was 1.4% in 2015 and increased to 1.6% in 2021. The percentage of total births of older mothers, of women giving birth at 35 years or older, was 21.6% in 2015 and increased to 28.1% in 2021. Total births of the group of women aged between 20 and 34 years had 77.1% in 2015 and decreased to 70.3% in 2021.

Table 4: Total births by mother's age by year, Cyprus 2015-2021

				, ,,			
Mother's age by year	2015	2016	2017	2018	2019	2020	2021
Less than 20	130	162	166	214	171	193	167
20-24	855	914	906	871	959	940	928
25-34	6404	6381	6261	5979	6038	6142	6453
35 or more	2034	2264	2163	2371	2632	2763	2944
Not stated	2	1	0	1	0	0	1
Total births	9425	9722	9496	9436	9800	10038	10493

Mother's age by year	2015	2016	2017	2018	2019	2020	2021
Less than 20	1.4%	1.7%	1.7%	2.3%	1.7%	1.9%	1.6%
20-24	9.1%	9.4%	9.5%	9.2%	9.8%	9.4%	8.8%
25-34	68.0%	65.6%	65.9%	63.4%	61.6%	61.2%	61.5%
35 or more	21.6%	23.3%	22.8%	25.1%	26.9%	27.5%	28.1%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor





Mother's educational level

The percentage of total births of mothers with a post-secondary education is increasing over time and in 2021 was 78.3% in compared to 2015 which it was 74.3%.

Table 5: Total births by mother's education by year, Cyprus 2015-2021

Table 5: Total bil	,			, , - , -			
Mother's education by year	2015	2016	2017	2018	2019	2020	2021
No education	26	31	50	52	89	92	83
Primary/lower secondary	528	606	646	757	737	662	669
Upper secondary	1782	1725	1835	1848	1782	1805	1520
Postsecondary	6744	7261	6950	6773	7183	7464	8208
Not stated	345	99	15	6	9	15	13
Total births	9425	9722	9496	9436	9800	10038	10493

Mother's education by year	2015	2016	2017	2018	2019	2020	2021
No education	0.3%	0.3%	0.5%	0.6%	0.9%	0.9%	0.8%
Primary/lower secondary	5.8%	6.3%	6.8%	8.0%	7.5%	6.6%	6.4%
Upper secondary	19.6%	17.9%	19.4%	19.6%	18.2%	18.0%	14.5%
Post-secondary	74.3%	75.5%	73.3%	71.8%	73.4%	74.5%	78.3%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor

Figure 5: Percentage of births, by mother's education by year, Cyprus 2015-2021 100% 90% 78.3% 75.5% 74.3% 74.5% 80% 73.3% 73.4% 71.8% 70% 60% 50% 40% 30% 19.6% 19.4% 19.6% 17.9% 18.2% 18.0% 20% 14.5% 8.0% 7.5% 6.3% 6.8% 6.6% 6.4% 5.8% 10% 0.9% 0.9% 0.5% 0.6% 0.8% 0.3% 0.3% 0% 2015 2016 2017 2018 2019 2020 2021 No education Primary/lower secondary Upper secondary Post-secondary



Smoking

The percentage of the mothers who smoke during pregnancy is decreasing over time. In 2015 was 6.2% and in 021 was 4.8%.

Table 6: Total births by mothers who smoked during pregnancy by year, Cyprus 2015-2021

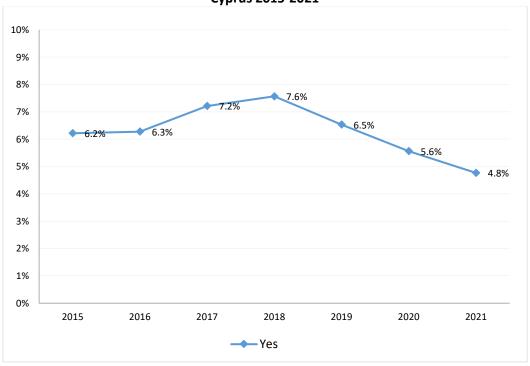
Smoking during pregnancy by year	2015	2016	2017	2018	2019	2020	2021
Yes	566	609	685	714	640	558	500
No	8545	9094	8808	8719	9158	9477	9993
Not stated	314	19	3	3	2	3	0
Total births	9425	9722	9496	9436	9800	10038	10493

Smoking during pregnancy by year	2015	2016	2017	2018	2019	2020	2021
Yes	6.2%	6.3%	7.2%	7.6%	6.5%	5.6%	4.8%
No	93.8%	93.7%	92.8%	92.4%	93.5%	94.4%	95.2%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

 $[\]ensuremath{^{*}}$ "Not stated" cases are distributed in each category by a weighting factor

Figure 6: Percentage of births by mothers who smoked during pregnancy by year,

Cyprus 2015-2021





Alcohol use

The monitoring of alcohol consumption during pregnancy has been monitored by the Health Monitoring Unit since 2017. For the year 2017, it has been recorded that in 5.4% of total births, the mothers consumed alcohol during pregnancy. Correspondingly, for the year 2018 the percentage has decreased to 1.0%. Possibly, the efforts made in 2018 to inform pregnant women and new parents may have influenced the low rates recorded. In 2019 through 2021, the picture is even better. In 2019 the percentage was 0.6%, in 2020 the percentage was 0.4% and in 2021 the same percentage was 0.2%. Based on the questions in the questionnaire, the score for alcohol consumption during pregnancy is obtained. Although there is no safe level of alcohol use at any stage of pregnancy, the percentages below give us an indication of the risk a woman takes by consuming alcohol during pregnancy.

Table 7: Total births by mother's alcohol use during pregnancy by year, Cyprus 2017-2021

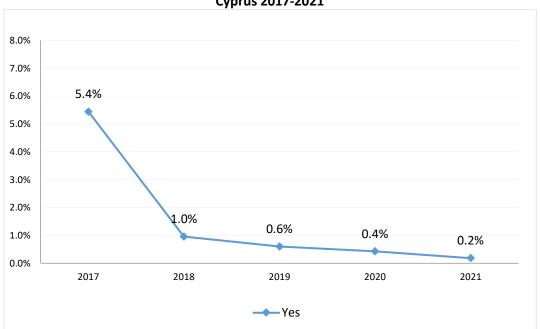
Alcohol use during pregnancy by year	2017	2018	2019	2020	2021
Yes	501	90	59	43	19
No	8704	9344	9740	9995	10474
Not stated	291	2	1	0	0
Total births	9496	9436	9800	10038	10493

Alcohol use during pregnancy by year	2017	2018	2019	2020	2021
Yes	5.4%	1.0%	0.6%	0.4%	0.2%
No	94.6%	99.0%	99.4%	99.6%	99.8%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%

st "Not stated" cases are distributed in each category by a weighting factor

Figure 7: Percentage of total births by mother's alcohol use during pregnancy by year,

Cyprus 2017-2021





0.03%

0.00%

100.00%

Table 8: Total births by mother's alcohol use score during pregnancy by year, Cyprus 2017-2021

Alcohol use score during pregnancy by year	2017	2018	2019	2020	2021
No use of alcohol during pregnancy	8704	9344	9740	9995	10474
Use of alcohol during pregnancy	501	90	59	43	19
0-3: Low-risk drinking (advise no use)	478	84	55	42	16
4-5: Moderate-risk drinking (advise no use and use professional judgement to con-sider referral to a specialist addiction service)	18	3	2	0	0
≥6: High-risk drinking (definite referral to a specialist addiction service)		3	2	1	3
Not stated	291	2	1	0	0
Total births	9496	9436	9800	10038	10493
Alcohol use score during pregnancy by year	2017	2018	2019	2020	2021
No use of alcohol during pregnancy	91.66%	99.03%	99.39%	99.57%	99.82%
Use of alcohol during pregnancy	5.28%	0.95%	0.60%	0.43%	0.18%
0-3: Low-risk drinking (advise no use)	5.03%	0.89%	0.56%	0.42%	0.15%
,	3.0370				

Figure 8: Percentage of total births by mother's alcohol use during pregnancy by year,

Cyprus 2017-2021

0.05%

3.06%

96.94%

0.03%

0.02%

99.98%

0.02%

0.01%

99.99%

0.01%

0.00%

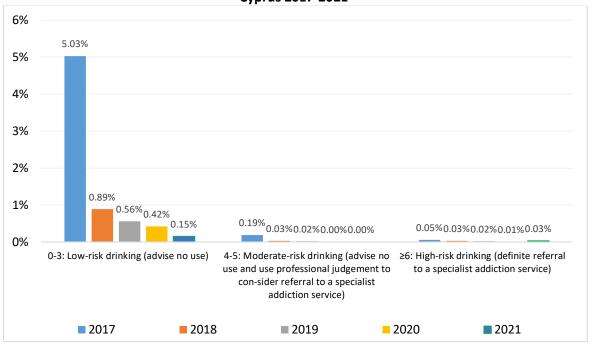
100.00%

≥6: High-risk drinking (definite referral to a

specialist addiction service)

Not stated

% of total births





Psychoprophylaxis

The percentage of total births of women who used psychoprophylaxis during pregnancy was 20.1% in year 2015 and decreased to 16.4% in year 2020 and to 12.7% in year 2021. Possible reason for the decrease in the years 2020 and 2021, was the COVID-19 pandemic resulting to lockdowns and movement limitation.

Table 9: Total births by mother's use of psychoprophylaxis during pregnancy by year,

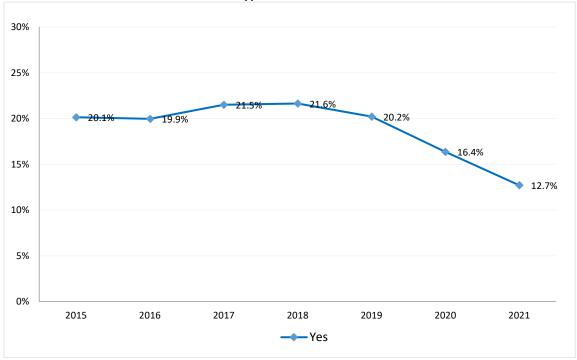
Cyprus 2015-2021

Psychoprophylaxis during pregnancy by year	2015	2016	2017	2018	2019	2020	2021
Yes	1896	1938	2042	2041	1980	1643	1333
No	7526	7778	7452	7394	7818	8394	9160
Not stated	3	6	2	1	2	1	0
Total births	9425	9722	9496	9436	9800	10038	10493

Psychoprophylaxis during pregnancy by year	2015	2016	2017	2018	2019	2020	2021
Yes	20.1%	19.9%	21.5%	21.6%	20.2%	16.4%	12.7%
No	79.9%	80.1%	78.5%	78.4%	79.8%	83.6%	87.3%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Psychoprophylaxis" is a method of preparing women for natural childbirth by means of special breathing and relaxation

Figure 9: Percentage of births by mother's use of psychoprophylaxis during pregnancy by year, Cyprus 2015-2021



^{* &}quot;Not stated" cases are distributed in each category by a weighting factor



Subfertility treatment (assisted fertilization)

On average in the years 2015-2021, 5.4% of the total births are of women that became pregnant after some form of assisted reproductive technique. In total in the year 2021, 6.9% of the total births are of women that became pregnant after some form of assisted reproductive technique. Particularly, the percentage of women that became pregnant after in vitro fertilization (IVF) was 6.2%, higher than the respectively in year 2020. The older the mother is, the more the possibility for an assisted reproductive technique.

Table 10: Total births by mother's mode of subfertility treatment by year, Cyprus 2015-2021

Subfertility treatment by year	2015	2016	2017	2018	2019	2020	2021
None	9005	9186	9020	8937	9247	9506	9767
In vitro fertilization (IVF)	363	459	398	446	500	481	654
Intrauterine insemination	17	14	17	40	29	31	41
Ovulation induction	30	31	50	5	16	7	25
Unspecified treatment	7	25	9	7	5	13	6
Not stated	3	7	2	1	3	0	0
Total births	9425	9722	9496	9436	9800	10038	10493

Subfertility treatment by year	2015	2016	2017	2018	2019	2020	2021
None	95.6%	94.6%	95.0%	94.7%	94.4%	94.7%	93.1%
In vitro fertilization	3.9%	4.7%	4.2%	4.7%	5.1%	4.8%	6.2%
Other or unspecified	0.6%	0.7%	0.8%	0.6%	0.5%	0.5%	0.7%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor

Figure 10: Percentage of births by mother's mode of subfertility treatment by year,

Ourses 2015-2021

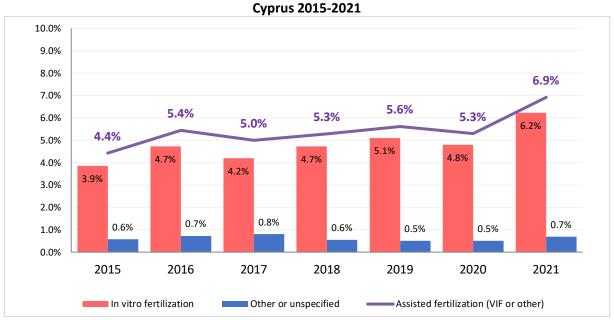


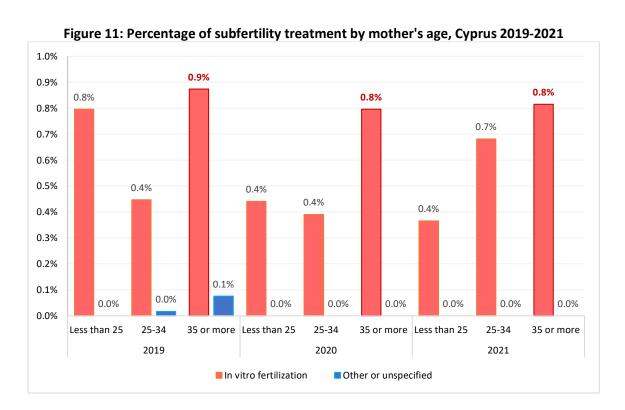


Table 11: Total births by subfertility treatment by mother's age, Cyprus 2019-2021

Subfertility treatment by	2019			2020			2021		
mother's age	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more
None	1121	5821	2305	1126	5907	2473	1083	6145	2539
In vitro fertilization	0	189	302	2	211	268	8	265	381
Other or unspecified	9	27	23	5	24	22	4	44	24
Not stated	0	1	2	0	0	0	0	0	0
Total births	1130	6038	2632	1133	6142	2763	1095	6454	2944

Subfertility treatment by		2019			2020			2021	
mother's age	Less than	25-34	35 or	Less than	25-34	35 or	Less than	25-34	35 or
	25		more	25		more	25		more
None	99.2%	96.4%	87.6%	99.4%	96.2%	89.5%	98.9%	95.2%	86.2%
In vitro fertilization	0.0%	3.1%	11.5%	0.2%	3.4%	9.7%	0.7%	4.1%	12.9%
Other or unspecified	0.8%	0.4%	0.9%	0.4%	0.4%	0.8%	0.4%	0.7%	0.8%
% of total births	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor





Multiple births (plurality)

During years 2015 and 2021, about 5% of live births or stillbirths were multiple births. The percentage, for both twins and triplets, for the year 2021 is higher than the previous year. The older the mother is the more the possibility for a multiple pregnancy.

Table 12: Total births by plurality (number of fetuses) by year, Cyprus 2015-2021

					<u> </u>		
Plurality by year	2015	2016	2017	2018	2019	2020	2021
Single	8925	9238	9030	9038	9342	9591	9948
Twins	476	468	451	392	452	432	520
Triplets or more	24	16	15	6	6	15	25
Total births	9425	9722	9496	9436	9800	10038	10493

Plurality by year	2015	2016	2017	2018	2019	2020	2021
Single	94.7%	95.0%	95.1%	95.8%	95.3%	95.5%	94.8%
Twins	5.1%	4.8%	4.7%	4.2%	4.6%	4.3%	5.0%
Triplets or more	0.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.2%
% of total births	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 12: Percentage of multiple births (number of fetuses) by year, Cyprus 2015-2021

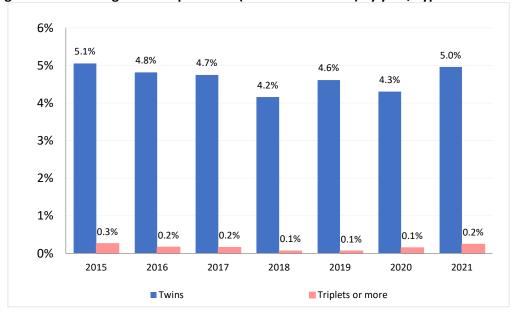


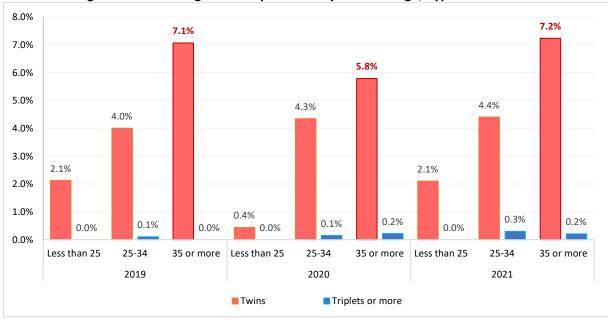


Table 13: Total births by plurality by mother's age and by year, Cyprus 2019-2021

		2019	2020				2021		
Plurality by mother's age	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more
Single	1106	5790	2446	1128	5866	2597	1072	6151	2725
Twins	24	242	186	5	267	160	23	284	213
Triplets or more	0	6	0	0	9	6	0	19	6
Total births	1130	6038	2632	1133	6142	2763	1095	6454	2944

		2019			2020			2021	
Plurality by mother's age	Less	25-34	35 or	Less	25-34	35 or	Less	25-34	35 or
	than 25	25-54	more	than 25	25-54	more	than 25	25-54	more
Single	97.9%	95.9%	92.9%	99.6%	95.5%	94.0%	97.9%	95.3%	92.6%
Twins	2.1%	4.0%	7.1%	0.4%	4.3%	5.8%	2.1%	4.4%	7.2%
Triplets or more	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%	0.0%	0.3%	0.2%
% of total births	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 13: Percentage of multiple births by mother's age, Cyprus 2019-2021





Birth weight

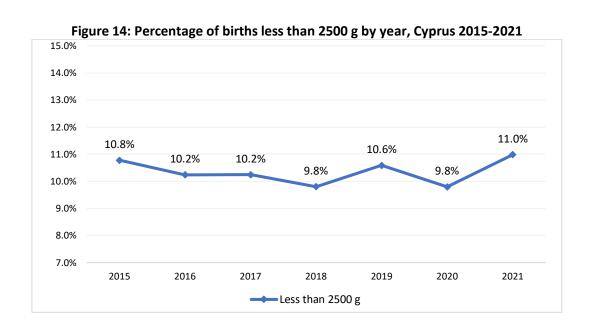
The percentage of total births with weight less than 2500 g was 11% in the year 2021. This percentage is considering very high. The last European Perinatal Health Report of Euro-Peristat (2015-2019), ranks Cyprus first among 32 countries with a percentage of 10.1% of live births with weight less than 2500 g for the year 2019.⁸

Table 14: Birth distribution by birthweight by year, Cyprus 2015-2021

Birth distribution by birthweight in grams (g) by year	2015	2016	2017	2018	2019	2020	2021
Under 1500 g	124	134	140	129	155	124	169
1500-2499 g	887	858	832	795	882	858	982
2500 g or more	8369	8696	8516	8504	8754	9041	9329
Not stated	45	34	8	8	9	15	13
Total births	9425	9722	9496	9436	9800	10038	10493

Birth distribution by birthweight in grams (g) by year	2015	2016	2017	2018	2019	2020	2021
Under 1500 g	1.3%	1.4%	1.5%	1.4%	1.6%	1.2%	1.6%
1500-2499 g	9.5%	8.9%	8.8%	8.4%	9.0%	8.6%	9.4%
2500 g or more	89.2%	89.8%	89.8%	90.2%	89.4%	90.2%	89.0%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Less than 2500 g	10.8%	10.2%	10.2%	9.8%	10.6%	9.8%	11.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor



Euro-Peristat. European perinatal health report; Core indicators of the health and care of pregnant women and babies in Europe from 2015 to 2019. Page 54 (Figure C4.1) https://www.europeristat.com/images/Euro-Peristat_Fact_sheets_2022_for_upload.pdf



Gestational age

The percentages of preterm births were high in all years, on average around 11.6%. This percentage for 2021 was 11.7%. In the last European Perinatal Health Report of Euro-Peristat (2015-2019), Cyprus among 32 countries has the highest percentage of preterm live births in Europe. In the year 2021, a percentage of 16.4% of preterm births were from mothers who smoked during pregnancy, compared with a percentage of 11.5% of preterm births were from mothers who did not smoke during pregnancy. Even more, in 2021, a percentage of 15.8% of preterm births were from mothers who consumed alcohol during pregnancy. The percentage of preterm births from mothers that became pregnant with IVF in the year 2021, was 33.1%.

Table 15: Birth distribution by gestational age by year, Cyprus 2015-2021

Birth distribution by gestational age by year (complete weeks)	2015	2016	2017	2018	2019	2020	2021
< 32 weeks (very preterm)	118	143	144	135	180	138	177
32-36 weeks (preterm)	1015	971	970	911	983	944	1050
37 weeks or more	8130	8536	8366	8381	8614	8940	9249
Not stated	162	72	16	9	23	16	17
Total births	9425	9722	9496	9436	9800	10038	10493

Birth distribution by gestational age by year (complete weeks)	2015	2016	2017	2018	2019	2020	2021
< 32 weeks (very preterm)	1.3%	1.5%	1.5%	1.4%	1.8%	1.4%	1.7%
32-36 weeks (preterm)	11.0%	10.1%	10.2%	9.7%	10.1%	9.4%	10.0%
37 weeks or more	87.8%	88.5%	88.2%	88.9%	88.1%	89.2%	88.3%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Preterm less than 37 weeks	12.2%	11.5%	11.8%	11.1%	11.9%	10.8%	11.7%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor

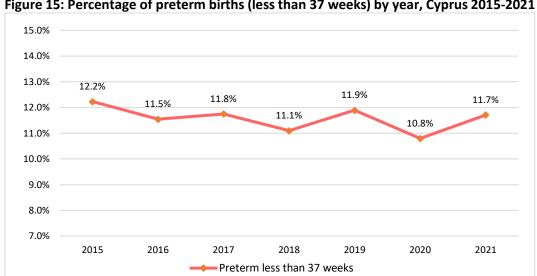


Figure 15: Percentage of preterm births (less than 37 weeks) by year, Cyprus 2015-2021

Euro-Peristat. European perinatal health report; Core indicators of the health and care of pregnant women and babies in Europe from 2015 to 2019. Page 64 (Figure C5.1) https://www.europeristat.com/images/Euro-Peristat_Fact_sheets_2022_for_upload.pdf



Table 16: Total births by gestational age by mothers who smoke during pregnancy,

Cyprus 2019-2021

Gestational age by mothers who	2019		20	20	2021	
smoke during pregnancy	Yes	No	Yes	No	Yes	No
Less than 37 weeks	94	1069	88	994	82	1145
37 weeks or more	538	8076	468	8472	417	8832
Not stated	8	15	2	14	1	16
Total births	640	9160	558	9480	500	9993

Gestational age by mothers who	20	19	20	20	2021		
smoke during pregnancy	Yes	No	Yes	No	Yes	No	
Less than 37 weeks	14.9%	11.7%	15.8%	10.5%	16.4%	11.5%	
37 weeks or more	85.1%	88.3%	84.2%	89.5%	83.6%	88.5%	
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor

Figure 16: Percentage of preterm births (less than 37 weeks) by year, Cyprus 2015-2021 100% 89.5% 88.5% 88.3% 90% 85.1% 84.2% 83.6% 80% 70% 60% 50% 40% 30% 16.4% 15.8% 20% 14.9% 11.7% 11.5% 10.5% 10% 0% Yes No 2019 2020 2021 Less than 37 weeks ■37 weeks or more

22 | Page



Table 17: Total births by gestational age, by mother's alcohol consumption during pregnancy,
Cyprus 2019-2021

Gestational age by mother's alcohol	20)19	20)20	2021		
consumption during pregnancy	Yes	No	Yes	No	Yes	No	
Less than 37 weeks	4	1159	2	1080	3	1224	
37 weeks or more	54	8560	41	8899	16	9233	
Not stated	1	22	0	16	0	17	
Total births	59	9741	43	9995	19	10474	

Gestational age by mother's alcohol	2019		20	20	2021		
consumption during pregnancy	Yes	No	Yes	No	Yes	No	
Less than 37 weeks	6.9%	11.9%	4.7%	10.8%	15.8%	11.7%	
37 weeks or more	93.1%	88.1%	95.3%	89.2%	84.2%	88.3%	
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

 $[\]ensuremath{^*}$ "Not stated" cases are distributed in each category by a weighting factor

Figure 17: Percentage of births by gestational age, by mother's alcohol consumption during pregnancy, Cyprus 2019-2021

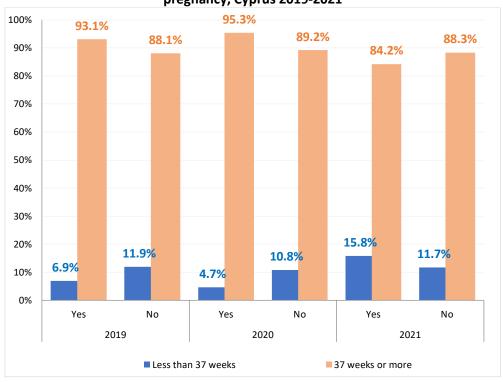




Table 18: Total births by gestational age, by mother's mode of subfertility treatment,

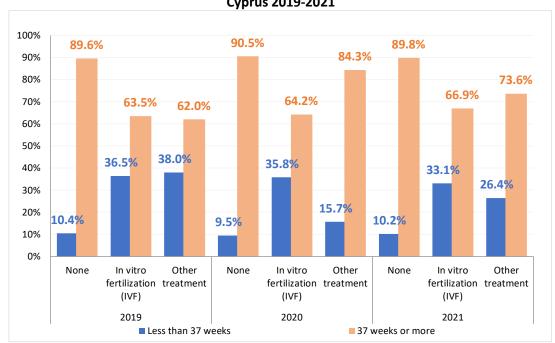
Cyprus 2019-2021

Gestational		2019		71	2020			2021	
age by subfertility treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment
Less than 37 weeks	962	183	19	902	172	8	992	216	19
37 weeks or more	8265	318	31	8588	309	43	8759	437	53
Not stated	23	0	0	16	0	0	16	1	0
Total births	9250	501	50	9506	481	51	9767	654	72

Gestational		2019		2020 2021					
age by subfertility treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment
Less than	10.4%	36.5%	38.0%	9.5%	35.8%	15.7%	10.2%	33.1%	26.4%
37 weeks									
37 weeks	89.6%	63.5%	62.0%	90.5%	64.2%	84.3%	89.8%	66.9%	73.6%
or more	05.070	03.370	02.070	30.370	04.270	04.570	05.070	00.570	75.070
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor

Figure 18: Percentage of births by gestational age by mother's mode of subfertility treatment, Cyprus 2019-2021





Admission to Neonatal Intensive Care Unit (NICU)

The percentage of live births admitted to NICU in the year 2015 was 7.5%, while the corresponding percentage in the year 2021 was 7.6%.

Table 19: Live births by admission to Neonatal Intensive Care Unit (NICU*) by year,

Cyprus 2015-2021

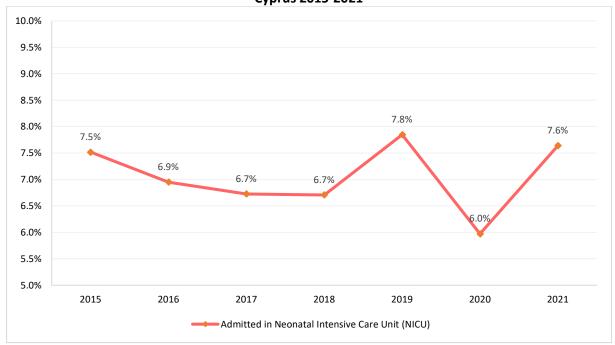
Neonatal Intensive Care Unit (NICU) admission by year	2015	2016	2017	2018	2019	2020	2021
No admission in Neonatal Intensive Care Unit (NICU)	8688	8998	8807	8775	8972	9399	9635
Admitted in Neonatal Intensive Care Unit (NICU)	706	672	635	631	764	597	797
Not stated	0	0	1	1	0	0	0
Live births	9394	9670	9443	9407	9736	9996	10432

Neonatal Intensive Care Unit (NICU) admission by year	2015	2016	2017	2018	2019	2020	2021
No admission in Neonatal Intensive Care Unit (NICU)	92.5%	93.1%	93.3%	93.3%	92.2%	94.0%	92.4%
Admitted in Neonatal Intensive Care Unit (NICU)	7.5%	6.9%	6.7%	6.7%	7.8%	6.0%	7.6%
Percentage of <u>live births</u> **	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Denominator: Live births

Figure 19: Percentage of live births admitted in Neonatal Intensive Care Unit (NICU) by year,

Cyprus 2015-2021



^{*} NICU is available at Makarios Hospital (Nicosia District) for all the years and from 2018 at Limassol General Hospital as well

^{** &}quot;Not stated" cases are distributed in each category by a weighting factor



Breastfeeding

More than 90% of live babies each year were breastfed (exclusively or mixed food) during the 48 hours after birth. The percentage of exclusive breastfeeding for the year 2019 was 44.6%, for the year 2020 was 37.6% and for the year 2021 was 28.0%.

Table 20: Live births by mode of breastfeeding during the first 48 hours after birth by year,

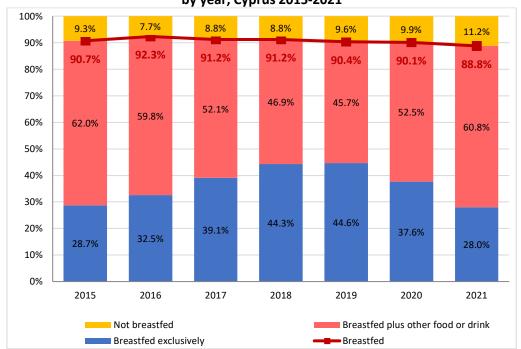
Cyprus 2015-2021

		7 P: 0:0 = 0 = 0					
Breastfeeding during the first 48 hours after birth by year	2015	2016	2017	2018	2019	2020	2021
Breastfed exclusively	2638	3143	3696	4166	4345	3761	2922
Breastfed plus other food or drink	5687	5773	4918	4413	4451	5248	6340
Not breastfed	851	741	828	825	936	985	1170
Not stated	218	13	1	3	4	2	0
Live births	9394	9670	9443	9407	9736	9996	10432

Breastfeeding during the first 48 hours after birth by year	2015	2016	2017	2018	2019	2020	2021
Breastfed exclusively	28.7%	32.5%	39.1%	44.3%	44.6%	37.6%	28.0%
Breastfed plus other food or drink	62.0%	59.8%	52.1%	46.9%	45.7%	52.5%	60.8%
Not breastfed	9.3%	7.7%	8.8%	8.8%	9.6%	9.9%	11.2%
% of live births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Breastfed	90.7%	92.3%	91.2%	91.2%	90.4%	90.1%	88.8%

Denominator: Live births

Figure 20: Percentage of live births by mode of breastfeeding during the first 48 hours after birth by year, Cyprus 2015-2021



st "Not stated" cases are distributed in each category by a weighting factor



Correlation of important perinatal indicators with caesarean section

The tables and graphs that follow in this report, show the correlation of important perinatal indicators for the years 2015-2021 with the mode of delivery indicator, specifically with the caesarean sections.

Mode of delivery

The graph below shows the percentages of normal delivery, with or without vaginal instruments, and the percentages of caesarean sections, elective or emergency for the years 2015-2021. The percentage of caesarean sections in Cyprus in the year 2021 is among the highest in the world, almost 60%. From 53.1% in 2019 became 55.9% in 2020 and 58.9% in 2021. The percentage of babies delivered with a planned/elective caesarean section or because the onset of labor failed to progress was 40.4%, while the one of an emergency caesarean section was 18.6%. In general, the percentage of caesarean sections is very high in relation to the percentage of the European Countries, as well as in comparison with the rates of the World. The World Health Organization (WHO), on its website, states that the "ideal rate" for caesarean section is between 10% and 15%, and that caesarean section should only be made when it is medically necessary, that is, when vaginal (normal) is risky to the mother or baby. 10 Euro-Peristat ranks Cyprus for the year 2019 first with a caesarean section percentage of 53.1% (36.3% elective and 16.8% emergency). 11 The Organization for Economic Co-operation and Development (OECD)¹² ranks Turkey first with 544 per 1000 live births, while Cyprus in 2019 has a rate of 532 per 1000 live births (we are not a member of this organization). In 2020 Cyprus reaches a rate of 559 per 1000 live births and in 2021 Cyprus reaches a rate of 590 per 1000 live births.

WHO. Statement on Caesarean Section Rates. 14 April 2015 https://www.who.int/publications/i/item/WHO-RHR-15.02

¹¹ Euro-Peristat. European perinatal health report; Core indicators of the health and care of pregnant women and babies in Europe from 2015 to 2019. page 102 (Figure C10.1) and page 104 (Figure C10.2) https://www.europeristat.com/images/Euro-Peristat Fact sheets 2022 for upload.pdf

Statista. Cesarean section rates in OECD countries in 2019 (per 1,000 live births) https://www.statista.com/statistics/283123/cesarean-sections-in-oecd-countries

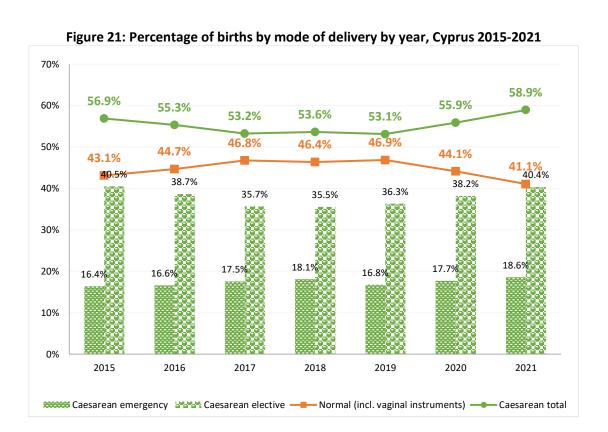


Table 21: Total births by mode of delivery by year, Cyprus 2015-2021

Mode of delivery by year	2015	2016	2017	2018	2019	2020	2021
Normal (without vaginal instruments)	3714	3990	4035	3881	4075	3861	3704
Normal (with vaginal instruments)	350	353	406	495	518	566	605
Forceps assisted vaginal	50	45	61	61	52	68	57
Ventouse assisted vaginal	300	308	329	425	462	488	535
Thierry's or other instrument	0	0	16	9	4	10	13
Caesarean sections	5358	5377	5055	5059	5207	5610	6184
Caesarean after onset (emergency)	1542	1618	1665	1708	1646	1776	1950
Caesarean before onset (elective)	3816	3759	3390	3351	3561	3834	4234
Unknown mode of delivery	3	2	0	1	0	1	0
Total births	9425	9722	9496	9436	9800	10038	10493

Mode of delivery	2015	2016	2017	2018	2019	2020	2021
Normal (incl. vaginal instruments)	43.1%	44.7%	46.8%	46.4%	46.9%	44.1%	41.1%
Caesarean emergency	16.4%	16.6%	17.5%	18.1%	16.8%	17.7%	18.6%
Caesarean elective	40.5%	38.7%	35.7%	35.5%	36.3%	38.2%	40.4%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Caesarean total	56.9%	55.3%	53.2%	53.6%	53.1%	55.9%	58.9%

 $[\]ensuremath{^{*}}$ "Not stated" cases are distributed in each category by a weighting factor





Mode of delivery by sector

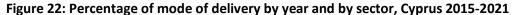
The percentage of caesarean sections in the public sector is higher than the one in the Private sector for the year 2021.

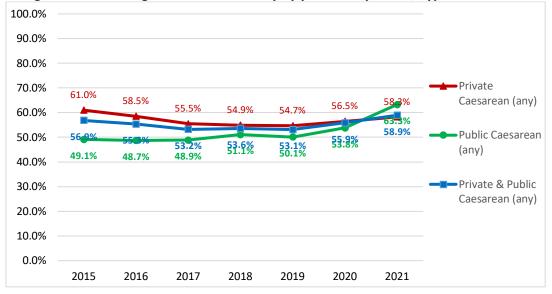
Table 22: Mode of delivery by year and by sector, Cyprus 2015-2021

	Table 22. House of delivery by year and by sector, eypras 2025									
Mode of deliv	ery by year and by sector	2015	2016	2017	2018	2019	2020	2021		
Private		6145	6556	6258	6224	6487	7931	9069		
	Normal (incl. vaginal instrumental)	2397	2720	2785	2805	2940	3453	3786		
	Caesarean (any)	3748	3836	3473	3419	3547	4478	5283		
Public		3280	3166	3238	3212	3313	2107	1424		
	Normal (incl. vaginal instrumental)	1668	1624	1656	1571	1653	974	523		
	Caesarean (any)	1612	1542	1582	1641	1660	1133	901		
Private & Public		9425	9722	9496	9436	9800	10038	10493		
	Normal (incl. vaginal instrumental)	4065	4344	4441	4376	4593	4427	4309		
	Caesarean (any)	5360	5378	5055	5060	5207	5611	6184		

Mode of deliv	ery by year and by sector	2015	2016	2017	2018	2019	2020	2021
Private	Normal (incl. vaginal instrumental)	39.0%	41.5%	44.5%	45.1%	45.3%	43.5%	41.7%
	Caesarean (any)	61.0%	58.5%	55.5%	54.9%	54.7%	56.5%	58.3%
Public	Normal (incl. vaginal instrumental)	50.9%	51.3%	51.1%	48.9%	49.9%	46.2%	36.7%
	Caesarean (any)	49.1%	48.7%	48.9%	51.1%	50.1%	53.8%	63.3%
Private & Public	Normal (incl. vaginal instrumental)	43.1%	44.7%	46.8%	46.4%	46.9%	44.1%	41.1%
	Caesarean (any)	56.9%	55.3%	53.2%	53.6%	53.1%	55.9%	58.9%

[&]quot;Not stated" cases are distributed in each category by a weighting factor







Mode of delivery by hospital's participation in the General Healthcare System (GeSY)

In the year 2021, the percentage of caesarean sections in the hospitals participating in the GeSY is higher than the one from the hospitals that are not participating in the GeSY.

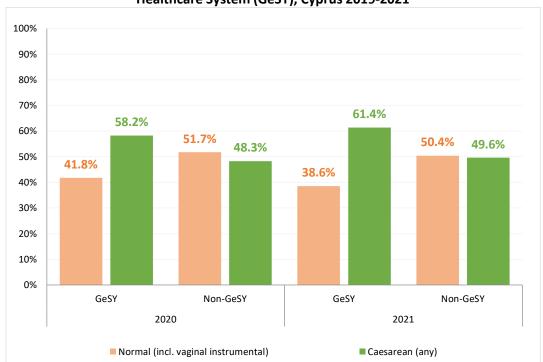
Table 23: Mode of delivery by year and by hospital's participation in the General Healthcare System (GeSY), Cyprus 2015-2021

Mode of delivery by year and by	20	20	2021		
hospital's participation in GeSY	GeSY Non-GeSY		GeSY	Non-GeSY	
Normal (incl. vaginal instrumental)	3211	1216	3190	1119	
Caesarean (any)	4475	1135	5083	1101	
Not stated	2	14	3	14	
Total births	7688	2365	8276	2234	

Mode of delivery by year and by	20	20	2021		
hospital's participation in GeSY	GeSY	Non-GeSY	GeSY	Non-GeSY	
Normal (incl. vaginal instrumental)	41.8%	51.7%	38.6%	50.4%	
Caesarean (any)	58.2%	48.3%	61.4%	49.6%	
% of total births*	100.0%	100.0%	100.0%	100.0%	

 $[\]ensuremath{^*}$ "Not stated" cases are distributed in each category by a weighting factor

Figure 23: Percentage of births by mode of delivery, by hospital's participation in the General Healthcare System (GeSY), Cyprus 2019-2021





Mode of delivery by hospital district

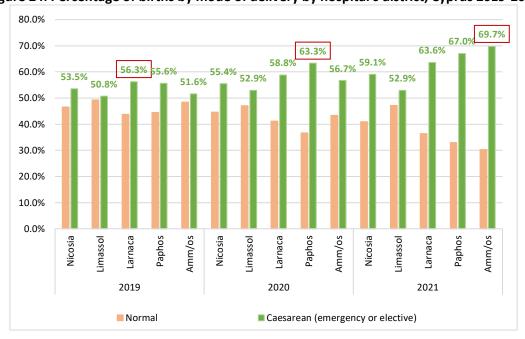
The highest percentage of caesarean sections in the year 2019 was for the maternity units of Larnaca district. In the year 2020 the highest percentage of caesarean sections was for the maternity units of Paphos district. In the year 2021 the highest percentage of caesarean sections was for the maternity units of Ammochostos district.

Table 24: Total births by mode of delivery by hospital's district, Cyprus 2019-2021

Mode of delivery by	2019	9	2020	0	202	1
year and hospital district	Normal (incl. vaginal instrumental)	Caesarean (any)	Normal (incl. vaginal instrumental)	Caesarean (any)	Normal (incl. vaginal instrumental)	Caesarean (any)
Nicosia	2141	2463	2093	2605	2042	2947
Limassol	1344	1385	1385	1557	1418	1591
Larnaca	431	555	389	556	390	681
Paphos	446	558	379	655	344	700
Ammochostos	231	246	182	238	115	265
Total births	4593	5207	4428	5611	4309	6184

Mode of delivery by	2019	9	202	0	2021		
year and hospital district	Normal (incl. vaginal instrumental)	Caesarean (any)	Normal (incl. vaginal instrumental)	Caesarean (any)	Normal (incl. vaginal instrumental)	Caesarean (any)	
Nicosia	46.5%	53.5%	44.6%	55.4%	40.9%	59.1%	
Limassol	49.2%	50.8%	47.1%	52.9%	47.1%	52.9%	
Larnaca	43.7%	56.3%	41.2%	58.8%	36.4%	63.6%	
Paphos	44.4%	55.6%	36.7%	63.3%	33.0%	67.0%	
Ammochostos	48.4%	51.6%	43.3%	56.7%	30.3%	69.7%	

Figure 24: Percentage of births by mode of delivery by hospital's district, Cyprus 2019-2021





Mode of delivery by mother's country of origin

The percentage of births of women with country of origin the Cyprus Government Controlled Areas delivering babies in Cyprus maternity units in the year 2021 was 67.2%, while the percentage of births of women from the European Union (EU) or other foreign country delivering babies in Cyprus maternity units in the year 2021 was 32.8% (percentage of row). The percentage of normal vaginal delivery, among the total births of mothers with country of origin the Cyprus Government Controlled Areas, in the year 2021 was 39.7%. The corresponding percentage for caesarean sections was 60.3%, while for the mothers of other countries other than the Cyprus Government Controlled Areas was 56.2%.

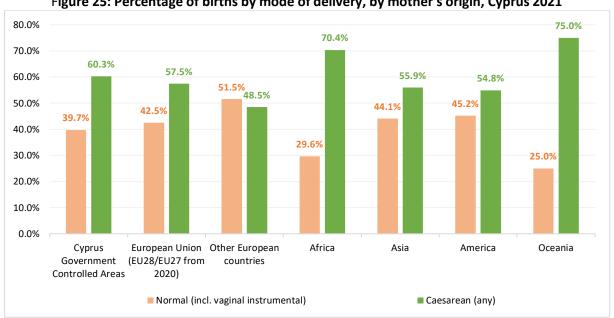
Table 25: Total births by mode of delivery by mother's origin, Cyprus 2021

		Count	ries other t	han Cypr	us Goveri	nment Cor	ntrolled A	reas
Mode of delivery by mother's origin	Cyprus Government Controlled Areas	European Union (EU28/EU27 from 2020)	Other European countries	Africa	Asia	America	Oceania	Total other countries
Normal (incl. vaginal instrumental)	2801 (65.0%)	535	388	91	478	14	2	1508 (35.0%)
Caesarean (any)	4250 (68.7%)	723	365	216	607	17	6	1934 (31.3%)
Total births	7051 (67.2%)	1258	753	307	1085	31	8	3442 (32.8%)

Mode of delivery by mother's origin	Cyprus Government Controlled Areas	European Union (EU28/EU27 from 2020)	Other European countries	Africa	Asia	America	Oceania	Total other countries
Normal (incl. vaginal instrumental)	39.7%	42.5%	51.5%	29.6%	44.1%	45.2%	25.0%	43.8%
Caesarean (any)	60.3%	57.5%	48.5%	70.4%	55.9%	54.8%	75.0%	56.2%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor







Mode of delivery by mother's age

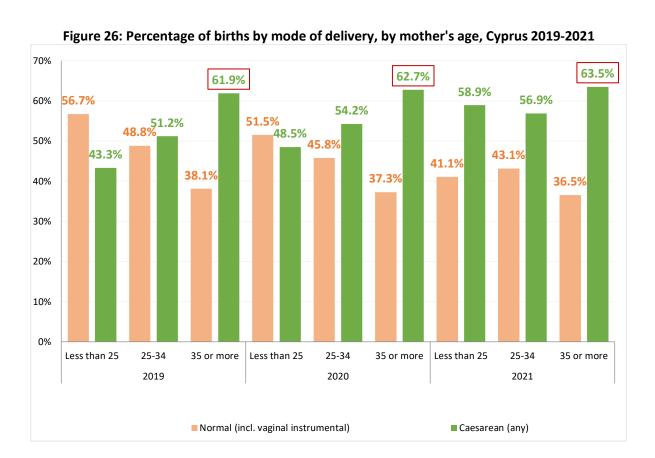
The percentage of total births of mothers aged less than 25 years old and had a caesarean section in the year 2019 was 43.3%, while the corresponding percentage of mothers aged 35 years old or more was 61.9%. In the year 2020, the corresponding percentages were 48.5% and 62.7%, respectively. In the year 2021, both percentages were increased, 58.9% and 63.5%, respectively. The older the mother is, the more the possibility for a caesarean section.

Table 26: Total births by mode of delivery, by mother's age, Cyprus 2019-2021

	2019				2020			2021		
Mode of delivery by mother's age	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more	
Normal (incl. vaginal instrumental)	641	2949	1003	584	2813	1030	450	2784	1075	
Caesarean (any)	489	3089	1629	549	3328	1733	645	3670	1869	
Not stated	0	0	0	0	1	0	0	0	0	
Total births	1130	6038	2632	1133	6142	2763	1095	6454	2944	

	2019				2020			2021		
Mode of delivery by mother's age	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more	Less than 25	25-34	35 or more	
Normal (incl. vaginal instrumental)	56.7%	48.8%	38.1%	51.5%	45.8%	37.3%	41.1%	43.1%	36.5%	
Caesarean (any)	43.3%	51.2%	61.9%	48.5%	54.2%	62.7%	58.9%	56.9%	63.5%	
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor





Mode of delivery by mother's education

The percentage of caesarean section of total births is increasing over time for all the mother's educational levels.

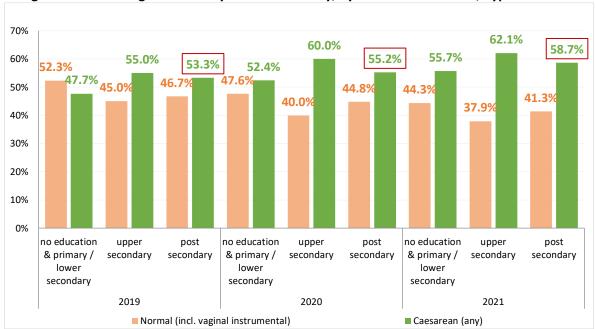
Table 27: Total births by mode of delivery, by mother's education, Cyprus 2019-2021

		2019	•		2020			2021	
Mode of delivery by mother's education	no education & primary / lower secondary	upper secondary	post secondary	no education & primary / lower secondary	upper secondary	post secondary	no education & primary / lower secondary	upper secondary	post secondary
Normal (incl. vaginal instrumental)	433	803	3357	360	722	3345	334	577	3398
Caesarean (any)	394	981	3832	395	1085	4129	419	945	4820
Not stated	0	0	0	0	0	1	0	0	0
Total births	827	1784	7190	755	1808	7475	753	1522	8218

		2019			2020			2021	
Mode of delivery by mother's education	no education & primary / lower secondary	upper secondary	post secondary	no education & primary / lower secondary	upper secondary	post secondary	no education & primary / lower secondary	upper secondary	post secondary
Normal (incl. vaginal instrumental)	52.3%	45.0%	46.7%	47.6%	40.0%	44.8%	44.3%	37.9%	41.3%
Caesarean (any)	47.7%	55.0%	53.3%	52.4%	60.0%	55.2%	55.7%	62.1%	58.7%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

 $[\]ensuremath{^*}$ "Not stated" cases are distributed in each category by a weighting factor

Figure 27: Percentage of births by mode of delivery, by mother's education, Cyprus 2019-2021





Mode of delivery by psychoprophylaxis

For the years 2019 - 2021, the percentage of caesarean section of total births of women who used psychoprophylaxis during pregnancy was less than the one of births of women who did not use psychoprophylaxis during pregnancy. However, compared with the previous years, in the year 2021, the percentage of caesarean section of total births of women who used psychoprophylaxis during pregnancy was higher than the percentage of normal delivery of women who also used psychoprophylaxis during pregnancy.

Table 28: Total births by mode of delivery, by mother's use of psychoprophylaxis during pregnancy,

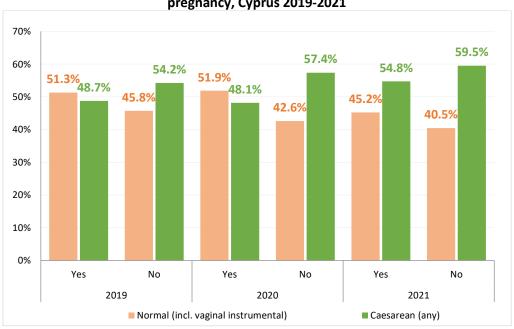
Cyprus 2019-2021

Made of delivery by payabonyon by layin	20	19	20	20	2021	
Mode of delivery by psychoprophylaxis	Yes	No	Yes	No	Yes	No
Normal (incl. vaginal instrumental)	1015	3578	852	3575	603	3706
Caesarean (any)	965	4242	791	4819	730	5454
Not stated	0	0	0	1	0	0
Total births	1980	7820	1643	8395	1333	9160

Made of delivery by payaboures bylavia	20	19	20	20	2021	
Mode of delivery by psychoprophylaxis	Yes	No	Yes	No	Yes	No
Normal (incl. vaginal instrumental)	51.3%	45.8%	51.9%	42.6%	45.2%	40.5%
Caesarean (any)	48.7%	54.2%	48.1%	57.4%	54.8%	59.5%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor

Figure 28: Percentage of births by mode of delivery, by mother's use of psychoprophylaxis during pregnancy, Cyprus 2019-2021





Mode of delivery by subfertility treatment

The percentage of caesarean section of births of women that became pregnant after some form of assisted reproductive technique was higher than the one of births of women who did not have any reproductive assistance, for all the years 2019, 2020 and 2021. The percentage of caesarean section of births of women that became pregnant after IVF was 76.2% in the year 2019, 79.2% in the year 2020 and 81.3% in the year 2021. The percentage of caesarean section of births of women that became pregnant after other treatment was 74.0% in the year 2019, 58.8% in the year 2020 and 75.0% in the year 2021.

Table 29: Total births by mode of delivery, by mother's mode of subfertility treatment,

Cyprus 2019-2021

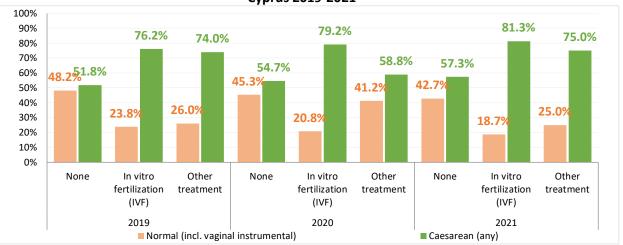
				, p: 0:0 = 0 =					
Mode of delivery		2019			2020			2021	
by subfertility treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment
Normal (incl. vaginal instrumental)	4461	119	13	4306	100	21	4169	122	18
Caesarean (any)	4789	381	37	5199	381	30	5598	532	54
Not stated	0	0	0	1	0	0	0	0	0
Total births	9250	500	50	9506	481	51	9767	654	72

Mode of delivery		2019			2020			2021			
by subfertility treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment	None	In vitro fertilization (IVF)	Other treatment		
Normal (incl. vaginal instrumental)	48.2%	23.8%	26.0%	45.3%	20.8%	41.2%	42.7%	18.7%	25.0%		
Caesarean (any)	51.8%	76.2%	74.0%	54.7%	79.2%	58.8%	57.3%	81.3%	75.0%		
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

^{* &}quot;Not stated" cases are distributed in each category by a weighting factor

Figure 29: Percentage of births by mode of delivery by mother's mode of subfertility treatment,

Cyprus 2019-2021





Mode of delivery by gestational age

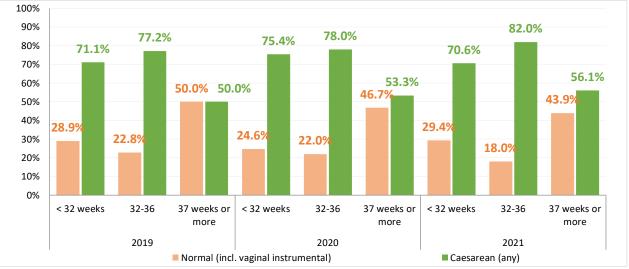
The percentage of caesarean section was higher in the case of preterm births for all the years 2019-2021. In fact, according to the World Health Organization (WHO), induction or caesarean birth should not be planned before 39 completed weeks unless medically indicated 13. Unfortunately, this is not the case for Cyprus. A very high percentage of planned caesareans, 76.8%, concerned births less than 39 weeks of gestation (42.9% concerned births of 38 weeks of gestation).

Table 30: Total births by mode of delivery, by gestational age, Cyprus 2019–2021

		2019			2020	<u> </u>		2021	
Mode of delivery by gestational age	< 32 weeks	32-36	37 weeks or more	< 32 weeks	32-36	37 weeks or more	< 32 weeks	32-36	37 weeks or more
Normal (not incl. vaginal instruments)	52	200	3823	34	180	3647	52	172	3480
Normal (incl. vaginal instruments)	0	25	493	0	28	538	0	17	588
Caesarean emergency	84	262	1299	61	272	1441	86	307	1557
Caesarean elective	44	498	3019	43	465	3328	39	556	3639
Not stated	0	0	0	0	1	0	0	0	0
Total births	180	985	8635	138	947	8953	177	1052	9264

	2019				2020		2021		
Mode of delivery by gestational age	< 32 weeks	32-36	37 weeks or more	< 32 weeks	32-36	37 weeks or more	< 32 weeks	32-36	37 weeks or more
Normal (incl. vaginal instrumental)	28.9%	22.8%	50.0%	24.6%	22.0%	46.7%	29.4%	18.0%	43.9%
Caesarean (any)	71.1%	77.2%	50.0%	75.4%	78.0%	53.3%	70.6%	82.0%	56.1%
% of total births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 30: Percentage of births by mode of delivery, by gestational age, Cyprus 2019-2021



¹³ WHO. Preterm birth. http://www.who.int/news-room/fact-sheets/detail/preterm-birth



Table 31: Total births by mode of delivery by gestational age, Cyprus 2021

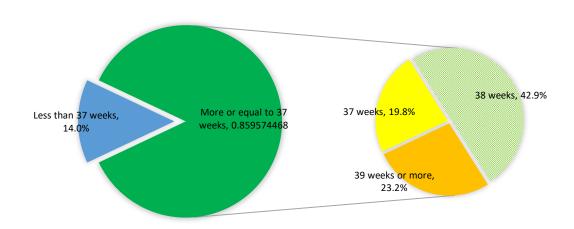
Mode of delivery by gestational age	Caesarean Elective	Caesarean Emergency	Normal (incl. instruments)	2021
Less than 37 weeks	594	392	241	1227
More or equal to 37 weeks				
37 weeks	839	251	419	1509
38 weeks	1816	412	1020	3248
39 weeks or more	981	891	2620	4492
Not stated	4	4	9	17
Total births (live and stillbirths)	4234	1950	4309	10493

Mode of delivery by gestational age	Caesarean Elective	Caesarean Emergency	Normal (incl. instrumental)	2021
Less than 37 weeks	14.0%	20.1%	5.6%	11.7%
More or equal to 37 weeks				
37 weeks	19.8%	12.9%	9.7%	14.4%
38 weeks	42.9%	21.2%	23.7%	31.0%
39 weeks or more	23.2%	45.8%	60.9%	42.9%
% of total births (live and stillbirths) *	100.0%	100.0%	100.0%	100.0%

 $[\]ensuremath{^{*}}$ "Not stated" cases are distributed in each category by a weighting factor

Figure 31: Percentage distribution of total births by caesarean before onset/elective by gestational age, Cyprus 2021

CAESAREAN ELECTIVE, CYPRUS 2021





Mode of delivery by admission to NICU

It is more likely for births after caesarean section to be admitted in Neonatal Intensive Care Unit (NICU), compared with births after normal vaginal delivery.

Table 32: Live births by mode of delivery by admission to Neonatal Intensive Care Unit (NICU),

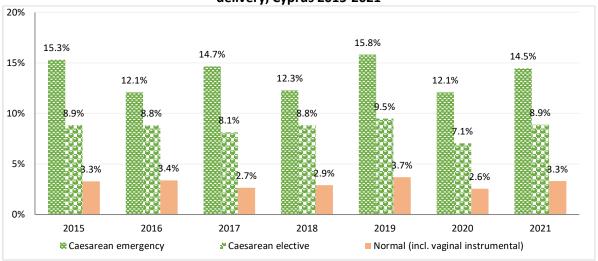
Cyprus 2015-2021

		C) p. a.s = c.					
Mode of delivery by admission to NICU	2015	2016	2017	2018	2019	2020	2021
Caesarean emergency	1539	1612	1664	1702	1636	1768	1944
Admitted in NICU	236	195	244	209	259	214	281
No NICU admission	1303	1417	1420	1493	1377	1554	1663
Caesarean elective	3807	3745	3373	3347	3543	3820	4216
Admitted in NICU	337	331	274	296	336	270	375
No NICU admission	3470	3414	3099	3051	3207	3550	3841
Normal (incl. vaginal instrumental)	4048	4313	4406	4358	4557	4408	4272
Admitted in NICU	133	146	117	126	169	113	141
No NICU admission	3915	4167	4289	4232	4388	4295	4131
Live births*	9394	9670	9443	9407	9736	9996	10432

Mode of delivery by admission to NICU	2015	2016	2017	2018	2019	2020	2021
Caesarean emergency	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Admitted in NICU	15.3%	12.1%	14.7%	12.3%	15.8%	12.1%	14.5%
No NICU admission	84.7%	87.9%	85.3%	87.7%	84.2%	87.9%	85.5%
Caesarean elective	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Admitted in NICU	8.9%	8.8%	8.1%	8.8%	9.5%	7.1%	8.9%
No NICU admission	91.1%	91.2%	91.9%	91.2%	90.5%	92.9%	91.1%
Normal (incl. vaginal instrumental)	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Admitted in NICU	3.3%	3.4%	2.7%	2.9%	3.7%	2.6%	3.3%
No NICU admission	96.7%	96.6%	97.3%	97.1%	96.3%	97.4%	96.7%

Denominator: Live births

Figure 32: Percentage of live births admitted to Neonatal Intensive Care Unit (NICU) by mode of delivery, Cyprus 2015-2021



^{* &}quot;Not stated" cases are distributed in each category by a weighting factor



Mode of delivery by breastfeeding

The percentage of exclusive breastfeeding after caesarean section was less than the one after normal delivery, for all years 2019-2021 and the percentage of mixed breastfeeding after caesarean section was two times more than the one after normal delivery. Even more, the percentage of not breastfeeding after caesarean section was three times more than the one after normal delivery, for all years, as well.

Table 33: Live births by mode of delivering, by breastfeeding during the first 48 hours after birth,

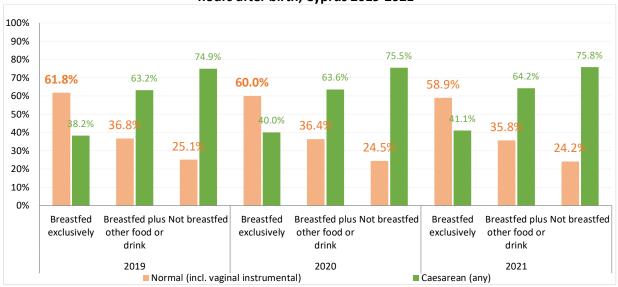
Cyprus 2019-2021

		2019			2020				
Mode of delivery by breastfeeding	Breastfed exclusively	Breastfed plus other food or drink	Not breastfed	Breastfed exclusively	Breastfed plus other food or drink	Not breastfed	Breastfed exclusively	Breastfed plus other food or drink	Not breastfed
Normal (incl. vaginal instrumental)	2685	1637	235	2256	1910	241	1722	2267	283
Caesarean (any)	1662	2816	701	1506	3338	744	1200	4073	887
Not stated	0	0	0	0	1	0	0	0	0
Live births	4347	4453	936	3762	5249	985	2922	6340	1170

		2019			2020		2021			
Mode of delivery by breastfeeding	Breastfed exclusively	Breastfed plus other food or drink	Not breastfed	Breastfed exclusively	Breastfed plus other food or drink	Not breastfed	Breastfed exclusively	Breastfed plus other food or drink	Not breastfed	
Normal (incl. vaginal instrumental)	61.8%	36.8%	25.1%	60.0%	36.4%	24.5%	58.9%	35.8%	24.2%	
Caesarean (any)	38.2%	63.2%	74.9%	40.0%	63.6%	75.5%	41.1%	64.2%	75.8%	
% of live births*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Denominator: Live births

Figure 33: Percentage of live births by mode of delivering, by breastfeeding during the first 48 hours after birth, Cyprus 2019-2021



^{* &}quot;Not stated" cases are distributed in each category by a weighting factor



Mode of delivery and previous caesarean sections

It is very likely for women who had previous caesareans to deliver their next birth with the mode of caesarean section again. However, the percentage of normal vaginal delivery after a previous caesarean section was increased from 4.7% in the year 2015 to 6.2% in the year 2021.

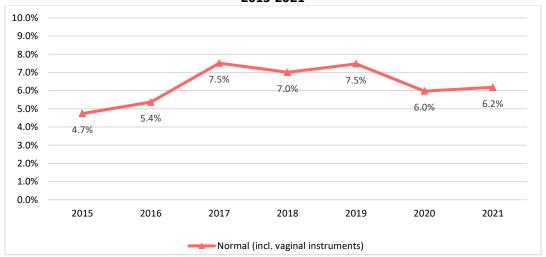
Table 34: Total births by mode of delivery and previous caesarean section, Cyprus 2015-2021

Mode of delivery and previous caesarean section	2015	2016	2017	2018	2019	2020	2021
No previous caesarean section	7294	7451	7286	7210	7473	7778	8196
Normal (incl. vaginal instruments)	3965	4221	4275	4221	4419	4293	4167
Caesarean (any)	3329	3230	3011	2990	3054	3485	4029
Previous caesarean section	2131	2271	2210	2226	2327	2260	2297
Normal (incl. vaginal instruments)	101	122	166	156	174	135	142
Caesarean (any)	2030	2149	2044	2070	2153	2125	2155
Total births (live and stillbirths)	9425	9722	9496	9436	9800	10038	10493

Mode of delivery and previous caesarean section	2015	2016	2017	2018	2019	2020	2021
No previous caesarean section	77.4%	76.6%	76.7%	76.4%	76.3%	77.5%	78.1%
Normal (incl. vaginal instruments)	54.4%	56.7%	58.7%	58.5%	59.1%	55.2%	50.8%
Caesarean (any)	45.6%	43.3%	41.3%	41.5%	40.9%	44.8%	49.2%
Previous caesarean section	22.6%	23.4%	23.3%	23.6%	23.7%	22.5%	21.9%
Normal (incl. vaginal instruments)	4.7%	5.4%	7.5%	7.0%	7.5%	6.0%	6.2%
Caesarean (any)	95.3%	94.6%	92.5%	93.0%	92.5%	94.0%	93.8%
% of total births (live and stillbirths)*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

st "Not stated" cases are distributed in each category by a weighting factor

Figure 34: Percentage of vaginal delivery (normal mode) by previous caesarean section, Cyprus 2015-2021





Mortality rates

In 2021, only for the births occurred by mothers with permanent residency in the Cyprus Government controlled areas, the fetal mortality rate was around 6 per 1000 total births equal or more than 22 weeks of gestation (6 out of 1000 total births were stillbirth). The neonatal mortality rate was 1.5 per 1000 live births (only early neonatal deaths). The infant mortality rates for 2015-2021 on average was 2.1 per 1000 live births (for the year 2021 was 1.6 per 1000 live births).

Table 35: Total births, live births, stillbirths, neonatal deaths, infant deaths and mortality rates,

Cyprus Government Controlled Areas 2015-2021

Year	2015	2016	2017	2018	2019	2020	2021
Total births (live births & stillbirths)	9228	9549	9337	9290	9652	9905	10372
Number of live births (≥ 22 w of GA)	9198	9499	9285	9262	9589	9863	10312
Number of stillbirths (≥ 22 w of GA)	30	50	52	28	63	42	60
Number of stillbirths (≥ 24 w of GA)	24	37	32	24	46	38	41
Number of neonatal deaths (day 0 to 27 after live birth)	20	19	8	18	19	13	15
Early (day 0 to 6 after live birth)	18	15	7	15	14	9	15
Late (day 7 to 27 after live birth)	2	4	1	3	5	4	0
Number of infant deaths (day 0 to 364 after live birth)	21	27	12	24	24	18	16
Stillbirth rate per 1000 total births (≥ 22 w of GA)	3.3	5.2	5.6	3.0	6.5	4.2	5.8
Stillbirth rate per 1000 total births (≥ 24 w of GA)	2.6	3.9	3.4	2.6	4.8	3.8	4.0
Neonatal mortality rate per 1000 live births (≥ 22 w of GA)	2.2	2.0	0.9	1.9	2.0	1.3	1.5
Early neonatal mortality rate (≥ 22 w of GA)	2.0	1.6	0.8	1.6	1.5	0.9	1.5
Late neonatal mortality rate (≥ 22 w of GA)	0.2	0.4	0.1	0.3	0.5	0.4	0.0
Infant mortality rate per 1000 live births (≥ 22 w of GA)	2.3	2.8	1.3	2.6	2.5	1.8	1.6

Figure 35: Stillbirth rate per 1000 total births, neonatal mortality rate per 1000 live births, infant mortality rate per 1000 live births, Cyprus Government Controlled Areas 2015-2021

