



September 16th, 2021 15:00 - 17:00

PARALLEL SESSION 11 - EPIDEMIOLOGY

ID 530. CHANGES IN PERINATAL ACTIVITY IN YORKSHIRE & HUMBER ASSOCIATED WITH THE SARS-COV-2 PANDEMIC IN 2020 COMPARED TO 2015-19

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Background: The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic led to implementation of public health measures worldwide. This may have impacted perinatal activity due to changes in obstetric care delivery or in attendance patterns to hospital. We investigated rates of stillbirth, extreme preterm birth (EPT, <27 weeks' gestational age (GA)), hypoxic ischaemic encephalopathy (HIE), meconium aspiration syndrome (MAS) and perinatal transfer in Yorkshire & Humber during the SARS-CoV-2 pandemic compared to the preceding 5 years.

Methods: Weekly totals (29th December 2014 to 28th December 2020) of: women delivering, births, live births and stillbirths were collected from hospitals in Yorkshire & Humber; antenatal transfers of women with threatened extreme preterm delivery (<27 weeks' GA), and neonatal admissions of infants born EPT or at 36+ weeks' GA with MAS (defined as requirement for nitric oxide within 5 days of birth) or HIE (treatment with active hypothermia following birth) were collected from the regional transport service and neonatal database. Outcome rates during a) the first lockdown (20th March to 15th June, 2020), and b) the entire period following implementation of public health measures (after 20th March 2020), were compared to the historical baseline using interrupted time series analysis, adjusted for population and time trends.

Results: The stillbirth rate dropped from 3.7 per 1000 deliveries before 20th March 2020 to 2.9 afterwards; EPT births decreased from 2.5 to 1.8 per 1000 live births. Following correction for historical trends and seasonal variation, during the first lockdown there were decreased antenatal transfers (relative risk (RR) 0.73, 95% confidence interval (CI) 0.57-0.94) with non-statistically significant increased stillbirth (RR, 95%CI 1.07, 0.77-1.49) and decreased EPT birth (0.88, 95%CI 0.60-1.29). When considering the entire period with public health measures during 2020, both antenatal transfer (RR 0.65, 95%CI 0.55-0.76) and EPT birth (RR 0.73, 95%CI 0.56-0.94) decreased significantly. No statistically significant changes were seen in HIE or MAS using either time period. Full results are in the table.

Conclusion: Following implementation of pandemic public health measures, there were fewer antenatal transfers, and fewer EPT births occurred. There was a non-statistically significant increase in stillbirths but no changes in HIE or MAS.

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Perinatal activity indicators 2015-2020: relative risks comparing post-implementation of public health measures for the SARS-CoV-2 pandemic in Yorkshire & Humber to previously, adjusted for historical trend and seasonality.

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Perinatal activity indicators 2015-2020: relative risks comparing post-implementation of public health measures for the SARS-CoV-2 pandemic in Yorkshire & Humber to previously, adjusted for historical trend and seasonality.

None declared



ID 282. ONE-YEAR SURVIVAL OF INFANTS BORN AT 22 AND 23 WEEKS' GESTATION: A COMPARISON OF 3 SWEDISH NATIONAL BIRTH EPOCHS, 2004-2007, 2014-16 AND 2017-2019

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Background. Data reported during the past 2 decades indicate that rates of survival have increased among infants born at the borderline of viability but data from most recent years are lacking.

Objective. We compared one-year survival, and rates of survival without major neonatal morbidities (namely, severe bronchopulmonary dysplasia, intraventricular-hemorrhage-grade 3-4, periventricular-leukomalacia, severe retinopathy of prematurity [stage 3-5], and necrotizing-enterocolitis) of infants born at 22 to 23 weeks of gestation - altogether 979 infants - across three birth epochs, 2004–2007 (epoch1), 2014–2016 (epoch2) and 2017–2019 (epoch3) after national recommendations and guidelines were implemented in whole of Sweden.

Methods. Prospective data collection was used during epoch1. During epoch2 and epoch3 data was obtained from Swedish medical birth and neonatal quality registers. Logistic regression analyses examined the associations with obstetric and neonatal interventions.

Results. During epoch1, 323 births (live births and stillbirths) occurred at 22-23 weeks' gestation compared with 345 births in Epoch2 and 312 births in Epoch3 (P=0.5). One-year survival among live-born infants at 22 weeks gestational age was significantly lower in Epoch1 [5/49 (9.8%)] compared with epoch2 ([29/74 (39%)], and epoch3 [31/80 (39%)], P=0.002). One-year survival at 23 weeks gestational age was not significantly different in the 3 epochs [epoch1, 53/101(52%); epoch2, 91/148 (61%) and epoch3, 76/115 (66%), P=0.08]. Survival without major neonatal morbidity at 22 weeks gestational age was 20%, 17%, and 19% in epochs 1, 2, and 3, respectively (P=0.9). The corresponding proportions in infants born at 23 weeks' gestation were 17%, 25%, and 25%, (P=0.5). Multivariable logistic regression analyses of all 569 live births at 22-23 weeks gestations revealed that centralization (born at tertiary center), antenatal corticosteroids (ANCS), and surfactant administration at < 2 hrs of life were associated with 1-year Survival (adjusted odds ratios, 1.7, 95% confidence interval [CI], 1.1 to 2.9; 2.5 [95% CI, 1.4 to 4.3] and 2.9 [95% CI, 1.9 to 4.5], respectively).

Conclusion. Survival among live births at 22 weeks increased by 4-fold in 2014-16 or 2017-2019 compared with 2004-2007. Survival without major neonatal morbidity did not differ in the three epochs. Centralization of all deliveries at 22-23 weeks, ANCS, and surfactant administration were associated with survival.

The authors have no conflict of interest.



ID 430. WELLBEING OF MOTHERS OF 5-YEAR-OLD CHILDREN BORN VERY PRETERM: PREVALANCE AND INFLUENTIAL FACTORS IN A EUROPEAN COHORT (SHIPS)

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BACKGROUND

Mothers of very preterm (VPT) children may experience psychological symptoms like depression or anxiety, especially during the early postnatal period. This stress may continue after discharge from the neonatal unit and compromise wellbeing. This study describes the emotional wellbeing of mothers of 5-year-old children born VPT in a European cohort. We assessed whether medical conditions during pregnancy, socioeconomic status and the child's health at 5 years influenced maternal wellbeing.

METHODS

Data come from the prospective European multiregional "Effective Perinatal Intensive Care in Europe" (EPICE) and subsequent "Screening for Health In very Preterm infantS in Europe" (SHIPS) projects which included all births <32 weeks of gestation from 19 regions in 11 countries (7,900 live births). Perinatal data on maternal characteristics, pregnancy complications, birth and neonatal course were abstracted from medical records in obstetric and neonatal units. Between five and six years of age, follow-up was based on a parent-report questionnaire, which included the Five Item Mental Health Inventory (MHI-5). MHI-5 scores range from a maximum at 100 (high wellbeing) and a minimum of 0. At 5 years of age 6,759 infants were eligible; 3,687 participated in the follow up. Descriptive statistics as well as a multi-level multivariate linear regression analysis with adjustment for country were used. Inverse probability weighting (IPW) was used to minimise attrition bias.

RESULTS

Among the 2,588 mothers who completed the MHI-5, the overall mean score was 70.8 (SD 17.1) with a variation among participating countries from 83.4 (SD 14.7; The Netherlands) to 63.5 (SD 16.9; Poland). MHI-5 scores were significantly lower for mothers with 2 or more previous births, with at least one parent unemployed, being retired or on sick leave and when the child suffered from any severe neonatal morbidity at discharge from NICU. At 5 years of age vision impairment was associated with lower maternal MHI-5 score.

CONCLUSIONS

Wellbeing of mothers of VPT children differs between European countries. Maternal socioeconomic characteristics as well as severe morbidity of VPT children affect maternal wellbeing. This study may help to identify groups of mothers who need special assistance to cope with VPT birth.

No conflict of interest.

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ID 522. DEVELOPMENTAL COORDINATION DISORDER AND QUALITY OF LIFE IN SCHOOL-AGE VERY PRETERM CHILDREN

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BACKGROUND. Developmental Coordination Disorder (DCD) is a motor disorder of unknown etiology that affects with higher frequency males and preterm children. Onset is in early childhood, with difficulties in the acquisition of motor skills such as riding a bicycle, use of common tools, drawing and handwriting, leading to disadvantage in several areas of the school curriculum, home tasks and leisure/recreational activities. We aimed at assessing quality of life (QoL), as reported by the children themselves, in a prospective very pre-term cohort.

METHODS. The data come from a area-based follow-up study (ACTION) carried out in three Italian regions. Overall, 804 (response rate 73.4%) children were assessed at school age (mean 9 years, range 8-11). We used the PedsQL™ 4.0, children version, to measure QoL, and the parent-report questionnaire (DCDQ-IT) as screening tool for motor problems. Consistently with the DCD definition, we excluded children with cognitive deficit (<70), cerebral palsy, blindness and other impairments affecting movement. As PedsQL was used in two regions only, 403 children were analyzed. Multiple linear regression was carried out to adjust for potential confounders.

RESULTS. Over half of the children (221, 54.8%) were males, and 78 (19.3%) were born <28 week of gestational age (GA). 27.0 % were multiples. 130 children (32.3%) had a DCDQ score <15th centile, indicating increased risk for DCD. The total PedsQL score (Table) was 75.6 for children at increased DCD risk and 80.2 for their peers ($p < 0.01$). Similar differences were observed for the other subscales except Emotional Functioning. The difference in QoL between children at risk and not at risk for DCD remained statistically significant ($p < 0.016$) after adjustment for gender, GA, small for GA, child cognition, neonatal morbidities and maternal socio-demographic factors.

CONCLUSIONS. DCD can significantly impair a child QoL, which may have long-term consequences into adulthood. Early diagnosis is important for timely interventions to improve educational and social outcomes including QoL.



PEDSQL scales	<i>Probably not DCD</i> <i>(n. 273)</i>	<i>Increased risk of DCD</i> <i>(n. 130)</i>
	Mean (sd)	Mean (sd)
Physical Health Score	81.2 (13.4)	75.0 (15.7)
Emotional Functioning scale	76.0 (19.1)	76.3 (19.0)
Social Functioning scale	85.3 (17.4)	80.8 (17.7)
School Functioning scale	77.7 (16.6)	70.5 (19.2)
Total Scale Score	80.2 (12.2)	75.6 (13.0)

Table. Mean (sd) scores at PedsQL by risk of DCD
None declared