South-East Asia Network for Newborn & Birth Defects

Monthly E-blast

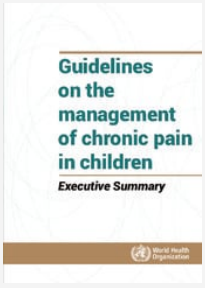
WHO Collaborating Centre for Training and Research in Newborn Care
Collaborating Centre for Training in Clinical Laboratory Genetics in Developing Countries Department of Pediatrics
AIIMS, New Delhi, India

Supported by World Health Organization, Regional Office for South East Asia &
National Center on Birth Defects & Developmental Disabilities, CDC, USA

Volume 8, Issue 5, 2021

This Month...

Media centre



Guidelines on the management of chronic pain in children: executive summary

In these guidelines, the World Health Organization (WHO) provides evidence-informed recommendations for the management of chronic pain in children. The recommendations are based on the most current, high-quality scientific evidence, and were formulated following processes and using methods that meet the highest international standards for guideline development. The recommendations in this guideline are based on systematic reviews of the evidence on benefits, harms, acceptability and feasibility, as well as

on equity and resource considerations. The recommendations were formulated by the Guideline Development Group, consisting of individuals with diverse expertise and experiences and with global representation

Read full information

Birth Defects

Global birth defects app: An innovative tool for describing and coding congenital anomalies at birth in low resource settings

Helen Dolk, Aminkeng Zawuo Leke, Phil Whitfield, Rebecca Moore, Katy Karnell, Ingeborg Barišić, Linda Barlow-Mosha, Lorenzo D Botto, Ester Garne, Pilar Guatibonza, Shana Godfred-Cato, Christine M Halleux, Lewis B Holmes, Cynthia A Moore, Ieda Orioli, Neena Raina, Diana Valencia

PubMed: May 2021

Abstract

BACKGROUND

Surveillance programs in low- and middle-income countries (LMICs) have difficulty in obtaining accurate information about congenital anomalies.

METHODS

As part of the ZikaPLAN project, an International Committee developed an app for the description and coding of congenital anomalies that are externally visible at birth, for use in low resource settings. The "basic" version of the app was designed for a basic clinical setting and to overcome language and terminology barriers by providing diagrams and photos, sourced mainly from international Birth Defects Atlases. The "surveillance" version additionally allows recording of limited pseudonymized data relevant to diagnosis, which can be uploaded to a secure server, and downloaded by the surveillance program data center.

RESULTS

The app contains 98 (88 major and 10 minor) externally visible anomalies and 12 syndromes (including congenital Zika syndrome), with definitions and International Classification of Disease v10 -based code. It also contains newborn examination videos and links to further resources. The user taps a region of the body, then selects among a range of images to choose the congenital anomaly that best resembles what they observe, with guidance regarding similar congenital anomalies. The "basic" version of the app has been reviewed by experts and made available on the Apple and Google Play stores. Since its launch in November 2019, it has been downloaded in 39 countries. The "surveillance" version is currently being field-tested.

CONCLUSION

The global birth defects app is a mHealth tool that can help in developing congenital anomaly surveillance in low resource settings to support prevention and care.

A Preparedness Model for Mother-Baby Linked Longitudinal Surveillance for Emerging Threats

Kate R Woodworth, Megan R Reynolds, Veronica Burkel, Cymone Gates, Valorie Eckert, Catherine McDermott, Jerusha Barton, Amanda Wilburn, Umme-Aiman Halai, Catherine M Brown, Angelica Bocour, Nicole Longcore, Lauren Orkis, Camille Delgado Lopez , Lindsey Sizemore, Esther M Ellis, Sarah Schillie, Neil Gupta, Virginia B Bowen, Elizabeth Torrone, Sascha R Ellington, Augustina Delaney, Samantha M Olson, Nicole M Roth, Florence Whitehill, Laura D Zambrano, Dana Meaney-Delman, S Nicole Fehrenbach, Margaret A Honein, Van T Tong, Suzanne M Gilboa

PubMed: Feb 2021

Abstract

INTRODUCTION

Public health responses often lack the infrastructure to capture the impact of public health emergencies on pregnant women and infants, with limited mechanisms for linking pregnant women with their infants nationally to monitor long-term effects. In 2019, the Centers for Disease Control and Prevention (CDC), in close collaboration with state, local, and territorial health departments,

began a 5-year initiative to establish population-based mother-baby linked longitudinal surveillance, the Surveillance for Emerging Threats to Mothers and Babies Network (SET-NET).

OBJECTIVES

The objective of this report is to describe an expanded surveillance approach that leverages and modernizes existing surveillance systems to address the impact of emerging health threats during pregnancy on pregnant women and their infants.

METHODS

Mother-baby pairs are identified through prospective identification during pregnancy and/or identification of an infant with retrospective linking to maternal information. All data are obtained from existing data sources (e.g., electronic medical records, vital statistics, laboratory reports, and health department investigations and case reporting).

RESULTS

Variables were selected for inclusion to address key surveillance questions proposed by CDC and health department subject matter experts. General variables include maternal demographics and health history, pregnancy and infant outcomes, maternal and infant laboratory results, and child health outcomes up to the second birthday. Exposure-specific modular variables are included for hepatitis C, syphilis, and Coronavirus Disease 2019 (COVID-19). The system is structured into four relational datasets (maternal, pregnancy outcomes and birth, infant/child follow-up, and laboratory testing).

DISCUSSION

SET-NET provides a population-based mother-baby linked longitudinal surveillance approach and has already demonstrated rapid adaptation to COVID-19. This innovative approach leverages existing data sources and rapidly collects data and informs clinical guidance and practice. These data can help to reduce exposure risk and adverse outcomes among pregnant women and their infants, direct public health action, and strengthen public health systems.

Stillbirth

Third trimester stillbirth during the first wave of the SARS-CoV-2 pandemic: Similar rates with increase in placental vasculopathic pathology

Megan E. Bunnell, Kathleen J. Koenigs, Drucilla J. Roberts, Bradley J. Quade, Jason L. Hornick, Ilona T. Goldfarb

ScienceDirect: April 2021

Abstract

Whether early SARS-CoV-2 definitively increases the risk of stillbirth is unknown, though studies have suggested possible trends of stillbirth increase during the pandemic. This study of third trimester stillbirth does not identify an increase in rates during the first wave of the pandemic period, however investigation of the placental pathology demonstrates trends towards more vascular placental abnormalities.

Read full article

Effects of the COVID pandemic on pregnancy outcomes

Maab Elsaddig, Asma Khalil

ScienceDirect: March 2021

Abstract

Pregnant women and neonates are often categorised as being at high risk during the coronavirus disease-2019 (COVID-19) pandemic. Numerous studies have demonstrated that the characteristics of COVID-19 disease in pregnant women and non-pregnant women are very similar. However, pregnant women with COVID-19 in the third trimester are more likely than their non-pregnant counterparts to require intensive care, though this may reflect a lower threshold for intervention in pregnant women rather than more serious disease. Compared with pregnant women without COVID-19, pregnant women with symptomatic COVID-19 requiring admission to hospital have worse maternal outcomes, including death, although the absolute risk remains very low. Outcomes of neonates born to women positive for COVID-19 are generally very good, though iatrogenic preterm birth is more common. Findings from these studies highlight the need for further monitoring of the outcomes of pregnant and post-partum women according to trimester during this pandemic.

Newborn

Italian neonatologists and SARS-CoV-2: lessons learned to face coming new waves

Maria Elena Cavicchiolo, Daniele Trevisanuto, Elena Priante, Laura Moschino, Fabio Mosca & Eugenio Baraldi

Pediatric Research: April 2021

Abstract

The aim of this review was threefold: (a) to retrieve all SARS-CoV-2 evidences published by Italian neonatologists working in maternity centers and NICUs during the pandemic; (b) to summarize current evidence for the management of term and preterm infants with a SARS-CoV-2-related illness; and (c) to provide an update for dealing with the second wave of COVID-19 and discuss open questions. A review was conducted using MEDLINE/PubMed and the national COVID-19 registry of the Italian Society of Neonatology including citations from December 1, 2019 to October 28, 2020. Sixty-three articles were included. Collected data were divided into the following topics: (a) antenatal management, (b) management in delivery room, (c) postnatal management, (d) mother–baby dyad and breastfeeding management, (e) neonatal emergency transport system reorganization, (f) parents' management and perspective during SARS-CoV-2 pandemic, and (g) future perspective. Evidences have evolved over the pandemic period and the current review can be useful in the management of the mother–neonate dyad during SARS-CoV-2 future waves. Italian neonatologists have played an active role in producing official guidelines and reporting data that have contributed to improve the care of neonates. A joint European action plan is mandatory to face COVID-19 in neonates with more awareness.

Read full Article

The association of fluoride in drinking water with serum calcium, vitamin D and parathyroid hormone in pregnant women and newborn infants

H. M. Thippeswamy, D. Devananda, M. Nanditha Kumar, Meridith Mario Wormald & S. N. Prashanth

EJCN: August 2020

Abstract

BACKGROUND

Chronic exposure to fluoride in drinking water causes an increase in plasma fluoride levels that is related to a reduction in calcium transport across the renal tubule endoplasmic reticulum and plasma membrane. In the present study, it was hypothesised that varying levels of fluoride present in drinking water are associated with serum levels of calcium and the related hormones vitamin D and parathyroid hormone in pregnant women and newborn infants.

METHOD

This cross-sectional study included two groups based on the fluoride concentration in drinking water. One group was considered low/optimum in which the fluoride concentration in drinking water was <1 ppm, and the other group was considered a high fluoride group with ≥1 ppm fluoride in drinking

water. In each group, 90 pregnant women were recruited at the hospital during delivery. The participants were given a questionnaire regarding their medical history, sunshine exposure duration, and supplement use and a food frequency questionnaire (FFQ). Fluoride was measured in drinking water, urine, maternal serum and cord blood. Serum calcium, vitamin D, and parathyroid hormone were measured in a fully automated analyser.

RESULTS

In pregnant women, drinking water that contained fluoride was significantly positively correlated with urine and blood serum. Low mean concentrations of vitamin D and deficient (<10 ng/ml) vitamin D were more prevalent among the high fluoride group irrespective of diet, sunshine exposure and supplementation. Serum calcium and parathyroid hormone (PTH) levels were significantly lower in the high fluoride group than in the low/optimum fluoride group in both pregnant mothers' blood and cord blood.

CONCLUSIONS

Drinking water with high fluoride levels was significantly associated with calcium and the related hormones vitamin D and parathyroid hormone.

Quality Improvement

Quality improvement initiative to improve the duration of kangaroo mother care for twin preterm neonates born at a tertiary care hospital in resource-limited settings

Pihu Arora, Anitha Kommalur, Sahana Devadas, Mallesh Kariyappa, Suman P N Rao

PubMed: February 2021

Abstract

AIM

Kangaroo mother care (KMC) can be challenging in multiple births and more so in resource-limited settings. This study aims at increasing the mean duration of KMC with early initiation in twin preterm neonates born at a tertiary care hospital using a quality improvement (QI) initiative.

METHODS

Barriers for poor KMC practice in twin preterm neonates born at the tertiary care hospital were analysed and baseline data were collected over a period of 4 months using a predesigned proforma. A QI team was formed and suggested solutions were prioritised through focus group discussions in the form of Plan-Do-Study-Act (P-D-S-A) cycles. Each cycle was of one-month duration and three cycles were implemented, followed by the sustenance phase studied at 1-month post-implementation.

RESULTS

There were a total of 238 twin deliveries in the study period, of which 169 twin pairs were included in the study. At the end of implementation, the average day of initiation of KMC improved from 8th to 3rd day of life and the duration of KMC increased significantly from an average of 2.70 h/infant/day to 7.88 h/infant/day.

CONCLUSION

This QI project focused on the improvement of KMC practice in twin preterm neonates in a tertiary care hospital where results were achieved with maximal utilisation of available hospital resources and low-cost interventions. This study design is generalizable to other hospitals in resource-limited settings where family participatory care can be strengthened to overcome the challenges of KMC in multiple births.

Addressing Quality of Care in Pediatric Units using a Digital Tool: Implementation Experience from 18 SNCU of India

Prasant Kumar Saboth MD, Enisha Sarin PhD, Varun Alwadhi MD, Avinash Jaiswal MPH, Jaya Swarup Mohanty MD, Nidhi Choudhary DCH, Nitin Bisht MBBS, Anil Gupta MBBS, Arvind Kumar BSc, Sachin Gupta MD, Harish Kumar MD

Journal of Tropical Pediatrics: February 2021

Abstract

Lack of quality care is associated with newborn mortality and stillbirth. India launched the Special newborn care unit (SNCU) Quality of Care Index (SQCI) for measuring quality indicators in SNCU. The USAID Vriddhi project provided support to the use of SQCI in 19 SNCU across aspirational districts of Jharkhand, Uttarakhand, Himachal Pradesh, Punjab and Haryana. The objective was to provide holistic support to quality care processes by generating analyzed quarterly reports for action with the goal toward sustainability by capacitating SNCU personnel and program officers to use SQCI, over a 1period from April 2019 to June 2020. The composite index has seven indicators and converts them into indices, each having a range from 0.1 to 1, to measure performance of SNCU.7 of the 18 SNCU improved their composite scores from the first to the last quarter. Rational use of antibiotics showed improvement in 12 SNCU. Survival in newborns >2500 g and <2500, low birth weight admission and optimal bed utilization had the most variations between and within facilities. Based on quarterly data analysis, all facilities introduced KMC, 10 facilities improved equipment and drug supply, 9 facilities launched in-house capacity building to improve asphyxia management. The SQCI implementation helped to show a process of using SQCI data for identifying bottlenecks and addressing quality concerns. The project has transitioned to complete responsibility of SQCI usage by the district and facility teams. Use of an existing mechanism of quality monitoring without any major external support makes the SQCI usable and doable.

Read full article