

THE PREVALENCE OF PRENATAL NEURODEVELOPMENTAL RISK FACTORS IN PREMATURE INFANTS IN CROATIA

Ureljia Rodin*, Željka Draušnik, Aida Mujkić, Ivan Cerovečki. *Hrvatski zavod za javno zdravstvo*

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Objective To determine the prevalence of selected prenatal neurodevelopmental risk factors in premature infants in Croatia.

Methods The medical records used in this study were collected via the National Medical Birth Record Database of the Croatian Institute of Public Health and pertained to all live-born children delivered before 37 weeks of gestation in 2018. The data were subsequently extracted from the said records in order to analyse the prevalence of the following prenatal neurodevelopmental risk factors as defined in the International Classification of Diseases, 10th revision: chorioamnionitis (O41.1), placental or umbilical cord disorders (O43 – O45, O69), hypertensive disorders during pregnancy (O10 – O16), gestational diabetes (O24) and smoking during pregnancy. When applicable, causes of early neonatal death among premature infants were analysed as well.

Results 2,232 premature infants were recorded in Croatia in 2018, i.e. 6% of all live-born children. 116 (5.2% of all premature infants) were delivered between 22 and 27 weeks of gestation, 232 (10.4%) between 28 and 31 weeks of gestation and 1,884 (84.4%) between 32 and 36 weeks of gestation. The selected neurodevelopmental risk factors were recorded in 574 (25.7%) premature infants. The prevalence rates of selected pregnancy-related complications/disorders were as follows: placental or umbilical cord disorders in 169 (7.6%) premature infants, hypertensive disorders in 160 (7.2%), smoking during pregnancy in 128 (5.7%), gestational diabetes in 120 (5.4%), chorioamnionitis in 77 (3.5%). Multiple risk factors were recorded in 74 (12.9%) premature infants at neurodevelopmental risk. Neurodevelopmental risk factors were recorded in 74 infants delivered prior to 27 weeks of gestations (prevalence rate: 637.9/1,000), 95 infants delivered between 28 and 31 weeks (409.5/1,000), and 485 infants delivered between 32 and 36 weeks (257.4/1,000). The risk of neurodevelopmental disorders was thus 1.6 and 2.5 times higher among infants delivered between 22 and 27 weeks of gestation compared with infants delivered between 28 and 31 weeks of gestation and between 32 and 36 weeks of gestation, respectively. The most frequently recorded neurodevelopmental risk factors by gestational age groups were chorioamnionitis in infants delivered before 27 weeks of gestation (44.6%), placental or umbilical cord disorders among infants delivered between 28 and 31 weeks of gestation (32.6%), and hypertensive disorders in infants delivered between 32 and 36 weeks of gestation (27.2%). 78 early neonatal death were recorded in the studied group (mortality rate: 35.0/1,000); mortality rates by gestational age groups were 431.0/1,000 among infants delivered between 22 and 27 weeks of gestation, 77.6/1,000 among infants delivered between 28 and 31 weeks of gestation and 5.3/1,000 among infants delivered between 32 and 36 weeks of gestation. Chorioamnionitis was the leading cause of death among infants delivered between 22 and 27 weeks of gestation (specific mortality rate: 146.6/1,000); other significant causes of mortality in this age group were prematurity-related disorders (respirational distress disorder, pulmonary atelectasis, pulmonary haemorrhage, intraventricular bleeding (112,1/

1.000). Conversely, congenital malformations were the leading cause of death in infants delivered between 28 and 31 weeks of gestation (30.2/1,000) and infants delivered between 32 and 36 weeks of gestation (3.7/1,000).

Conclusion The negative association between the duration of pregnancy and the prevalence of neurodevelopmental risk factors in infants has been confirmed by this study. The prevalence of particular risk factors, however, differed among different gestational age groups. Chorioamnionitis was the most prevalent neurodevelopmental risk factor and most frequent cause of death among infants delivered between 22 and 27 weeks of gestation. Placental and umbilical cord disorders were the most prevalent risk factor among infants delivered between 28 and 31 weeks of gestation, whereas hypertensive disorders most prevalent risk factor among infants delivered between 32 and 36 weeks of gestation. Both groups of disorders are associated with hypoxia and neurodevelopmental disabilities. The Perinatal Health Care Service Programme, recently adopted in Croatia, defines various health care procedures allowing for early diagnosis of pregnancy-related infectious and hypertensive disorders, as well as ultrasound screening for placental circulation disorders. These procedures may contribute to early detection of neurodevelopmental risk factors and prevention of neurodevelopmental disorders.

PREVENTIVE HEALTH CARE OF INFANTS AND PRESCHOOL CHILDREN IN PRIMARY HEALTH CARE PRACTICES IN CROATIA IN 2018

Željka Draušnik*, Ureljia Rodin, Ivan Cerovečki, Aida Mujkić. *Croatian Institute of Public Health; University of Zagreb School of Medicine, Andrija Štampar School of Public Health*

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Objective To present prevention activities in primary health care of infants and preschool children in Croatia during 2018, based on data from Central Health Information System of the Republic of Croatia (CEZIH).

Methods Health care of infants (up to one year of age) and preschool children (1-6 years of age) is in Croatia provided within the pre-school children's health service and the family (general) medicine service. More than 90% of children is in care of primary pediatricians and the rest of them in the care of general practitioners. Practices which are contracted by Croatian Health Insurance Fund routinely send electronic messages with information about the patient and individual visit through CEZIH. As of 2018, Croatian Institute of Public Health also has partial access to those data, for the purpose of analyzing preventive and curative work of primary health care services. In this paper, based on CEZIH data, preventive visits of infants and preschool children in both pre-school children's health service and family (general) medicine service in 2018 are analyzed. The term 'preventive visit' refers to any contact with primary health-care providers: visit, examination, telephone counselling and other contacts for preventive procedures. Each of these procedures has its own code in the list of diagnostic and therapeutic procedures.

Results During 2018, total number of health care users aged 0 to 6 was 272,043, with 2,611,939 visits. Among them, there were 37,619 infants with 533,880 visits, an average of 14.2 visits per infant, while preschool children had an average of 8.9 visits. Among the total visits, 504,469 preventive visits were recorded (19.3% of all visits), of which 327,637 were

examinations, and 176,832 were counselling sessions. Out of total number of preventive examinations, there were 281,029 check-up examinations (85.8%), of which 166,240 in infants (4.4 per infant) and 114,789 in preschool children (0.5 examinations per child). During preventive visits, a total of 107,483 referrals were issued (17.6% of all issued referrals), of which 57.3% for infants. Most referrals from preventive visits of infants were for diagnostic purposes (40.1%), and from preventive visits of preschool children for the examination by consultant physician (52.2%).

Conclusion According to CEZIH data, preventive activities account for a fifth of the total activities in children's health care on a primary level. The plan and program of health care measures sets four check-up examinations in infants, which, according to CEZIH data, has been achieved. However, in the period after the first year of life, three systematic examinations per preschool child were not performed or data on this were not recorded in the CEZIH. On average, every fifth preventive visit results in the discovery of a pathological condition due to which the infant or young child is referred for further treatment. Monitoring the growth and development of children by conducting regular check-up examinations is an important measure in the prevention and early detection of developmental disorders and the preservation of children's health.

21 CASE REPORT: THE MULTIDISCIPLINARY TREATMENT OF SOMATIC SYMPTOM DISORDER IN A SCHOOL-AGED BOY

Ivan Begovac*, Lena Santrić, Silvana Pleština, Veronika Nives Zorić, Irena Bambulović. *Department for psychiatry and psychological medicine, School of Medicine, University of Zagreb, Clinical hospital center Zagreb*

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Somatic Symptom Disorder (SSD), formally known as somatoform disorder, can be found in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) in the category titled: Somatic Symptom and Related Disorders. In the 10th revision of the International Classification of Diseases (ICD-10), somatoform disorder can be found under the code F45, with the more specific F45.4 being: persistent somatoform pain disorder. A multidisciplinary approach is often used in the treatment of this disorder. Medical professionals involved in the team include: pediatricians, child and adolescent psychiatrists, psychotherapists, psychologists, nurses, and other collaborating professionals. In this case report we present the case of a boy who had an unfavorable course of illness with recurring abdominal pain, loss of functionality, and inability to attend school for months. The patient was treated multiple times, both as an inpatient and outpatient, by pediatricians, child and adolescent psychiatrists, as well as the other members of the multidisciplinary team. Unfavorable prognostic factors in this case were: resistance and recurrence of symptoms, tension, and high emotional sensitivity. On the other hand, favorable prognostic factors were: motivation for treatment and an appropriate level of development of mental structure. During the patient's last treatment in the hospital on the Department of Child and Adolescent psychiatry, an improvement in symptoms was achieved with a reduction of pain, as well as the reestablishment of school attendance at the hospital. In a

number of cases, SSD has a chronic course, which poses a great challenge for treatment in practice today.

22 BENEFITS OF TRAINED DOGS FOR MENTAL AND PHYSICAL HEALTH ACCORDING TO THE HOLISTIC APPROACH (AAI, AAT)

Romana Misir*, Adrijana Hnojčik, Renata Fridrih, Anica Persoglia Petrac. *Centar za socijalnu skrb Bjelovar, Podružnica Obiteljski centar*

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Over the last 30 years, there has been a rise in interventions and therapies with the help of animals (AAI, AAT). Within each of the mentioned procedures, there is an emphasis on the potential benefits of active use of dogs with both children and adults. In Croatia, there has also been a rise in various associations which do their activities with the help of animals, especially dogs. Since 2012, the Our Children Society of Sisak (Društvo Naša djeca Sisak), through the partnership with healthcare, educational and social care institutions along with judiciary preparations is actively implementing an innovative project of direct work with trained dogs and guides according to the holistic approach (AAI, AAT) within activities with the vulnerable user groups. The necessity of a multidisciplinary approach for the benefit of users and patients has achieved an unbreakable synergy between man and dog. Generally speaking, there are not that many healthcare institutions associated with the project using therapy dogs. For example, the pediatric clinic, and the Polyclinic for the protection of children and the young in Zagreb (Poliklinika za zaštitu djece i mladih Grada Zagreb), the Family Center Bjelovar (Obiteljski centar Bjelovar) are one of the first institutions that use trained guides and dogs according to this method, and every user and patient is happy with it. Incorporating therapy dogs in working with children results in an interaction between the child and the trained dog, guided by a trained dog expert, with the goal of improving psychophysical abilities. The activities are devised and directed towards the specific needs and difficulties depending on the individual (these can be language, emotional, and motor system difficulties). The guide dog expert is responsible for ensuring optimal conditions and a pleasant environment which are, in turn, to benefit the child so it can be able to use all of the advantages of animal-assisted therapy within the therapy process. The innovative method and research results suggest that active incorporation of trained dogs in therapies and interventions with children according to the holistic approach makes reaching certain therapy goals much more easy, and it also benefits the child in terms of developing contact and trust between the child and the experts more easily. Also, it gives the child a sense of security in the therapy setting, makes communicating unwanted emotions much easier, and it also increases confidence and empathy in children. In addition to this, it also reduces stress, anxiety and feelings of loneliness and reduces the sensation of physical pain. Most of these effects can be explained through the influence of the hormone oxytocin whose levels rise while petting or talking with the dogs, and since it also has an anti-stress effect it also reduces the stress levels in people. The poster will show the perspective of everyday work of guide dog experts with children, and, in more detail, it will present the work of dogs trained according to the holistic approach (AAI, AAT) with the goal of protecting the mental and