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**Textbook of
PEDIATRICS**



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Preface

This University textbook fulfills the need and obligation of its editors to provide literature for the Pediatric course to students in the Integrated undergraduate and graduate University study of Dental Medicine, since such a textbook was not available in Croatia until now. In fact, this is a translation of the original work, 'Pedijatrija' published in 2022, and represents the first University textbook on integral pediatrics by Croatian authors written in English.

The symbolism of the moment in which the textbook will be published is hidden in the fact that this year is the 120th anniversary of the first pediatric department in Croatia. Therefore, this book is also a gift for the great celebration of the Pediatric Department, Sisters of Mercy University Hospital Center, the oldest pediatric institution in Croatia and affiliation of the editors and most textbook co-authors.

The editors and collaborators, due to the range of issues covered by the textbook, were faced with the difficult task of choosing the area and presentation scope that will satisfy users, offering a sufficient amount of recent information useful in everyday practice. Its primary purpose has encouraged some authors to extend their chapters to include issues that are especially important to dental medicine practitioners. Therefore, we thank everyone for their efforts.

Due to the comprehensiveness of the presented information that is valuable in practice, this textbook will

be useful for the wider population, students of medicine and other biomedical studies held in English, and all other experts involved in the process of prevention and treatment of children and adolescents whose native language is not Croatian. Those who wish to expand their knowledge can do so by using the sources listed in the bibliography.

We would like to thank the reviewers who contributed to the quality of this textbook with their remarks. We express our special gratitude to Mrs. Biserka Matešić, the director, and to Krunoslav Matešić PhD, editor-in-chief of Naklada Slap, who, with their team, patiently contributed to the graphics and illustrations as well as linguistic quality and design of this work.

Finally, we express our gratitude to our many teachers, the pediatric giants of our institution, who transcended their time and the hundred-year history that permanently ennobles us. Especially Prof. Vlado Oberiter, Prof. Magdalena Kadrnka-Lovrenčić and Prof. Zvonimir Jurčić, who, by selflessly passing on their knowledge and skills, significantly influenced the shaping of our professional personalities, our dedication to the profession and patients, and teaching young colleagues, with the ultimate goal of improving the quality of care and health of children.

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Indicators of natural population movement and the health status of mothers and children

Marija Požgaj Šepec



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1.1 VITAL STATISTICS

Vital statistics is a science (branch of statistics) that deals with monitoring and studying the movement of vital population processes.

1.1.1 Definition of childhood periods for vital statistics purposes

The neonatal period includes the period from birth to 28 days of life, and is divided into the early neonatal period, from birth to the seventh day of life, and the late neonatal period, from the seventh day of life to 28 days of life. The first day of life begins with birth and spans 24 hours. The infant period includes the period from birth to 365 days of life. The perinatal period is the period from the 22nd week of gestation to the 7th day of life (until the end of the early neonatal period). The duration of gestation or pregnancy is calculated from the first day of the last period to the day of birth. A child born at term is a child born after 37 weeks and before 42 weeks of gestation. Children born before the completion of 37 weeks are premature children, and children born after the completion of 42 weeks of pregnancy are postterm newborns. A live birth occurs when, after birth, the baby breathes or shows any other signs of life, such as a heartbeat, pulsation of the umbilical cord, or voluntary movement of muscles.

1.1.2 Definitions of vital statistics parameters

The most important vital statistics indicators for pediatrics are: birth rate, fertility, morbidity and mortality.

Having children is the basis of population renewal. *Birth rate* indicates the ratio of the number of births per 1,000 inhabitants of a given area in one year. An even more precise indicator of the possibility of population renewal is fertility.

Fertility determines the number of live births per 1,000 women of reproductive age in one year in a certain area. A woman's reproductive (fertile) age is the period in a woman's life when she has the ability to give birth (from 15 to 49 years of age).

General death rate/mortality is the number of deaths during one calendar year per 1000 inhabitants of a certain area. Specific mortality is the proportion of deaths in a certain population group with regard to age, sex, social or economic characteristics.

Perinatal mortality, infant mortality and child mortality are classified by age groups (1-4 years, 5-9 years, 10-14 years and 15-19 years).

Perinatal mortality is the number of stillborn children and the number of live-born newborns who died before reaching 7 days of life per 1,000 total births (live-born and still-born) in one year in a certain area. *Perinatal mortality* is the sum of fetal mortality and early neonatal mortality.

Fetal mortality is the number of stillborn children with a gestation period of at least 28 weeks, or a birth weight of at least 1,000 g or a body length of at least 35 cm from crown to heel, per 1,000 total births (live births and stillbirths) in one year, in a certain area.

Early neonatal mortality is the number of live-born children who died before reaching seven days of age per 1,000 live-born children in one year, in a certain area.

Infant mortality is the number of children who died in the first year of life per 1,000 live births in one year in a certain area.

Morbidity gives us insight into the prevalence of certain diseases in the population. Statistically, it is calculated as the number of patients per 100,000 inhabitants. The period of expression of morbidity can be any time interval, but it is most often a year. As part of morbidity research, the occurrence of new disease cases (disease incidence), the spread of a disease (prevalence), the etiology of a disease and the success of prevention are studied. When we talk about children, the health problems of children and young people and the causes of death differ by age group, requiring their separate monitoring.

Children and their mothers are biologically the most sensitive part of the human population, they are most strongly affected by environmental factors, and the future generation of adults depends on their overall health. Therefore, the rates of birth, mortality and the causes of mortality and morbidity differ greatly when comparing developed and industrialized nations and underdeveloped countries of the world.