

## **Investigating the causes of prematurity and death of babies hospitalized in Bu-Ali and Alavi Hospital of Ardabil city from October 2022 to October 2023**

### **Abstract**

**Background:** Premature delivery is the delivery of a baby before the completion of 37 weeks of pregnancy. Premature birth is the main cause of infant mortality. Several risk factors and causes for preterm delivery and its mortality have been stated, some of which are related to the mother and the period of pregnancy, and some are related to the fetus and placenta.

**Aim:** The present study was designed and carried out with the aim of investigating the causes of prematurity and death of babies hospitalized in Bu Ali and Alavi Hospital in Ardabil city.

**Materials and methods:** In this cross-sectional and descriptive study, 500 premature births less than 37 weeks registered in Alavi and Bu Ali Hospital in Ardabil in 2022-2023 were evaluated. The required information, including the demographic characteristics of the baby and parents, birth weight, cause of preterm delivery and related factors, and the cause of infant death, were collected by examining the patient files in the hospital archive. Relevant information was evaluated by inserting it into SPSS software version 22 based on the objectives of the study.

**Results:** Among the 500 babies studied, 273 babies (55.6%) were boys, and the average age at birth was 33 weeks with a quartile interval of 4 weeks, and the average weight was 2071.1 grams. 25% of babies were the result of multiple pregnancies. Preeclampsia and high blood pressure (21.8%), followed by gestational diabetes (10.6%) and overt diabetes (6.2%) were the most common underlying diseases in mothers. PPROM with a frequency of 33.6% was the most common underlying cause of preterm delivery. Among the preterm infants studied, 95 births (19%) resulted in infant death. Pulmonary-respiratory causes have been the most common causes involved in the death of preterm infants studied. Among the pulmonary-respiratory causes, RDS has the first place in terms of prevalence with a frequency of 75.4%. The difference in the final outcome of death or life in babies born with different indications and etiologies of preterm delivery was significant according to the results of the chi square test ( $P < 0.001$ ). In addition, the difference in the etiologies of preterm delivery in babies who died due to various causes was also significant ( $P = 0.009$ ).

**Conclusion:** Pulmonary-respiratory causes were the most common causes involved in the death of preterm infants studied. The etiology of preterm delivery was significantly related to the outcome of mortality in the studied preterm infants and its causes. Relying on the importance of managing the birth and death of premature babies, the results of this study show the need to take special measures to care for these babies in the first days of life and control and manage factors related to the mother and the pregnancy process

**Keywords:** mortality, newborns, premature birth, premature birth.