# ABSTRACT

The thesis is focused on premature newborn thermomanagement. It is focused particularly on very premature and extremely premature newborns which suffer the highest level of thermolability. The theoretical part deals with the particularities of premature newborn thermoregulation, newborns´ reactions to thermal stress, thermomanagement in the delivery room and providing a thermoneutral environment in the incubator. The thesis describes a method of servo-control mode of body temperature, which has not been utilised for premature newborns in Czech Republic.

The aim of the thesis is to start using this method and compare it with the method of manual control. Based on the total time not meeting the standard, number of failures and other parameters to assess which method is more suitable for body temperature regulation. The research sample consists of 47 newborsn who were born between the 24th and 32nd gestational week. Quantitative data collection at one-minute intervals was conducted in the 72 hours after birth. The method choice was random. Statistically important differences between the two methods were measured regarding the total time not meeting the standards. The incidence of hyperthemia was higher during manual method, hypothermia when servo-control. Total failure amount was 19%. However, the failure percentage when using the manual method was higher. The research shows that both methods are equal in general but it is better to use a particular method for specific action. The research outcome suggests that to establish continuous monitoring of body temperature, skin temperarture sensor, individualized care taking into newborn's thermolability, prompt reaction to temperature fluctuation and temperature increase is needed before planning any action to use the manual method.

***Keywords*:**
Preterm newborn
Thermal management
Neonatal thermoregulation
Prevention of hypothermia
Servo-control mode