

# Preliminary results of a running Survey on Currently applied Interventions in Neonatal resuscitation (SCIN)

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transition

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## Introduction

The postnatal transition to extra-uterine life is the most complex physiological adaptation in life, involving major cardiorespiratory, hemodynamic and metabolic changes. [1] It is estimated, that up to 15% of neonates require supportive interventions during this transition. [2,3]

With about 140 million births per year, neonatal resuscitation can be assumed as one of the most frequently performed medical procedures. [4,5]

However, detailed data on the frequency of applied interventions is scarce and either obtained locally, described independently of possible influencing factors like gestational age or mode of birth or not reflecting current practice. [2,6,7]

To provide current data on these interventions and possible influencing factors and enable comparisons between different levels of neonatal care and health care systems, an international collaboration was established to survey neonatal resuscitation in hospitals of different levels of care in different countries.

## Methods

Eligible for participation are hospitals providing perinatal care regardless of location, size or level of neonatal care. Over a period of 6 months, each hospital prospectively collects data on the performed supportive interventions during neonatal resuscitation.

Every neonate requiring more support than basic drying and tactile stimulation in the first 30 minutes of life is included. Besides the supportive interventions, further data is collected on the time period of birth, completed week of gestation and mode of birth. All data is collected via a short checklist and later transferred anonymously into a common database.

Based on the total number of births during collection period intervention frequencies are determined. Descriptive and statistical analysis are planned for different subgroups stratified by gestational age, level of neonatal care (according to the definition of the American Academy of Pediatrics) [8], hospital size, time of delivery and country.

## Results

Data collection started in March 2022. By end of June a total of 45 hospitals from 10 countries participated in the survey. All levels of neonatal care are represented and hospital size ranges from 400 to >7000 births per year. During the first 4 months so far 12896 infants were reported to have been born in the participating hospitals. Of these, 1867 neonates (14.5%) received supportive interventions. The distribution of these neonates by completed week of gestation is shown in *Figure 1*.

Additionally, the number of neonates receiving interventions stratified by level of neonatal care is presented in *Figure 2*.

Intervention frequency for neonates born via C-section was considerably higher at 27.5%. Frequencies of different interventions varied considerably, with CPAP and oxygen supplementation being the most common (11.7% and 11% of all neonates respectively) and laryngeal mask and intraosseous access being the least common (0.06% and 0.02% of all neonates respectively).

## Conclusions

This international and multicenter survey addresses a lack of data on currently applied interventions in neonatal resuscitation. Furthermore, it will elucidate the influence of different factors on the application of these supportive interventions.

In order to strengthen the database for the development of future guidelines and clinical recommendations, to reduce bias and to enable meaningful comparisons across different health care systems, we aim to obtain data from at least 20 different countries and 100 hospitals. Preferably, we could include one hospital of each level of neonatal care per country.

So far, this goal is achieved about halfway. However, especially international hospitals of lower levels of neonatal care are underrepresented.

**Therefore, we want to convince congress participants to join the survey and collect data in their individual hospitals or refer other hospitals who might be interested in partaking.**

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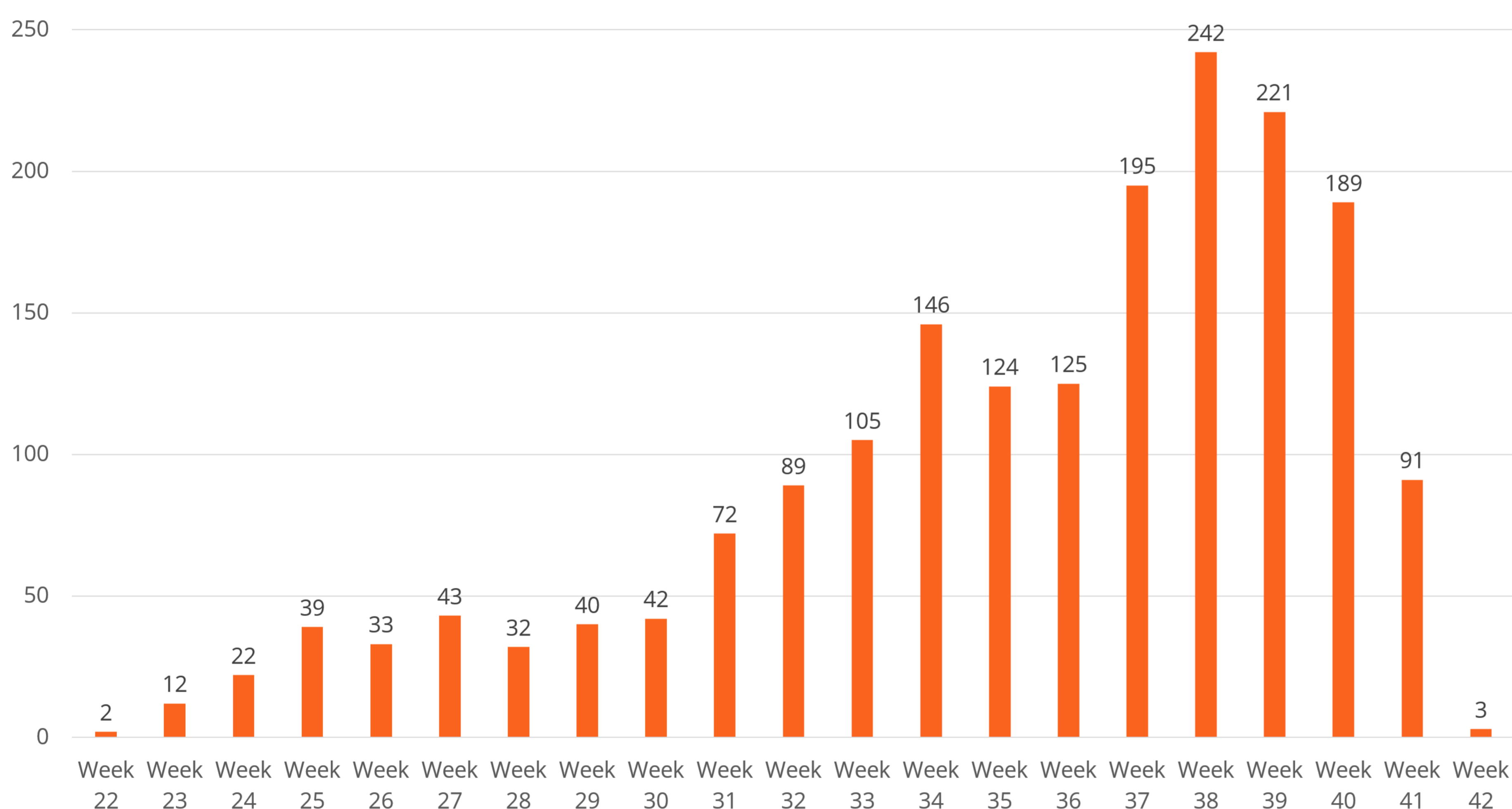


Figure 1 – Distribution of neonates receiving supportive interventions by completed week of gestation.

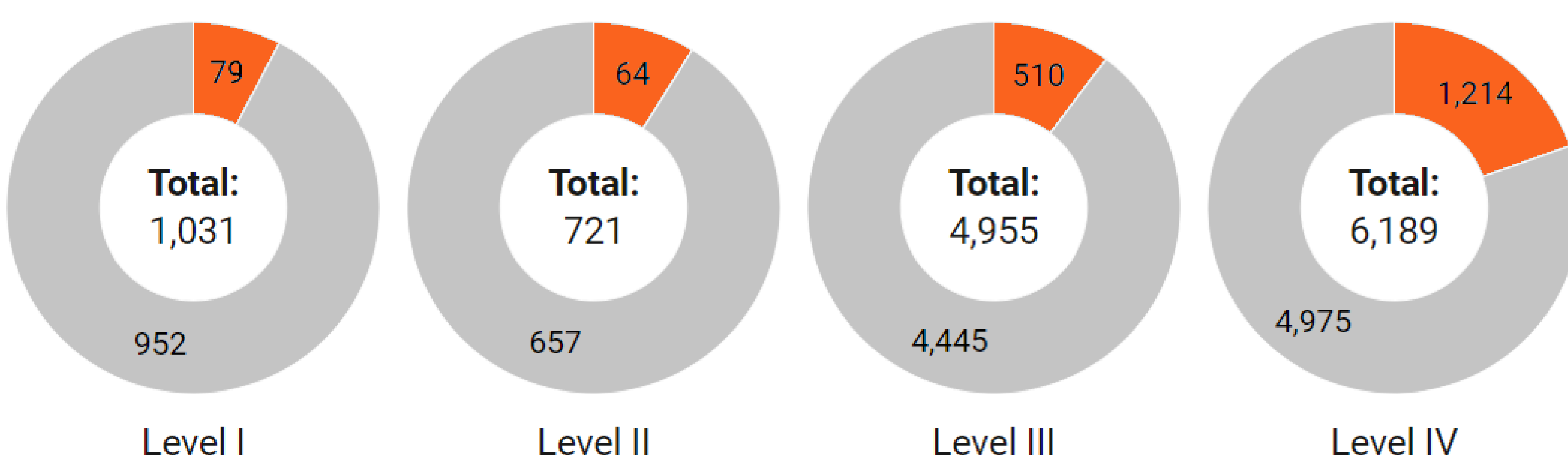


Figure 2 – Number of neonates with (orange) and without (grey) applied supportive interventions as well as total number of neonates stratified by level of neonatal care (according to AAP definition)

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