Miris Interviews

Making the change to Targeted fortification

Dr Jiří Dušek

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Dr Jiří Dušek spent 10 years working in a Swedish NICU seeing firsthand how an individualized nutritional program benefits preterm babies. Upon his return to Czechia he was determined to implement individualized nutrition at České Budějovice Hospital NICU, and after only one year he reached his goal. Miris met up with Dr Dušek to hear about how he managed to achieve this change and what results they have seen in their patients.

How did your interest for preterm nutrition start?
I worked 10 years at the neonatal care unit at Umeå University Hospital. This NICU has a long history of excellence in neonatal nutrition and their nutritional program is used in many countries. This is where my interest in neonatal nutrition sparked.

When I returned to Czechia and started work as medical director at České Budějovice Hospital NICU, I had seen firsthand the great results that can be achieved with a controlled nutritional program. There was no question for me that we needed to implement this also in our hospital. I started work immediately and in only one year managed to switch our practice to an individualized nutritional program and I was surprised of the effect this had on the babies.

Can you tell us about what changes you made?
We started with a new system containing three important steps:

1. Implemented a nutritional program for fluids and macronutrients. We dedicated one of the rounds per week to nutrition, according to the Swedish model. During this round all doctors go through the nutritional status and growth of their patients.
2. Implemented high concentration low volume parenteral nutrition.
3. Implemented targeted fortification with Miris Human Milk Analyzer.

What challenges have you faced?
In fact, I did not meet any challenges that slowed down the progress. As we quickly achieved noticeably better results with the change, my colleagues quickly saw the benefits and worked alongside me to establish all routines with the new nutritional program.

The whole process with calculation of both enteral and parenteral nutrition takes maximum 10 minutes per baby. As babies get their nutritional intake

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optimized and as such are more stable, challenges for doctors are reduced.

How do you track your results from these changes?
We implemented a system similar to the SNQ (Swedish Neonatal Quality Register) and started gathering both new data and retrospective data from before 2018. We measure ROP, BPD, Insulin usage, length of stay and much more. We track everything and constantly compare our current data with retrospective data for our patients between GA 22 and 31+6.

You have achieved fantastic results with implementation of individualized nutrition. Can you tell us more about what benefits you have found with this program?
Most evident is the improvement in growth of our patients in the group GA 22 to 31+6. For the group 25+0 to 27+6 the growth was improved with 1.5 standard deviations at 36 weeks corrected age.

We also see improvements in head circumference, associated with brain development.

We have reduced the non-nutritional fluid intake. In one year, we saved 35 000 EUR on Curosurf and PDA treatments alone. We were also excited to see that we reduced time on PCVC and antibiotics.

Earlier when our patients were discharged from the NICU you could immediately see that this baby was born premature. Now when you compare our former patients at 36 weeks with another baby born at week 36 you can’t see any difference. If you do not know which baby was born premature you cannot tell. In the photos we have at our NICU of earlier patients, you can clearly see if the photo was taken before or after we implemented targeted fortification.
We also see a reduction in length of stay in the NICU and the babies move earlier to the parent rooms. Being able to have these babies close to their mothers is of course of great benefit for their

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development. Also, this shortening of stay in the NICU has reduced costs and meant that we are able to accept patients from other regions. Earlier our NICU was often overcrowded but now it is our parent rooms that are overcrowded, not our NICU.

As the babies move to the parent room earlier, where baby is kept with mother, we also see a clear reduction in sepsis.

We still have ways to go, but in just one year we have seen remarkable improvements and we are currently getting ready to publish our results.

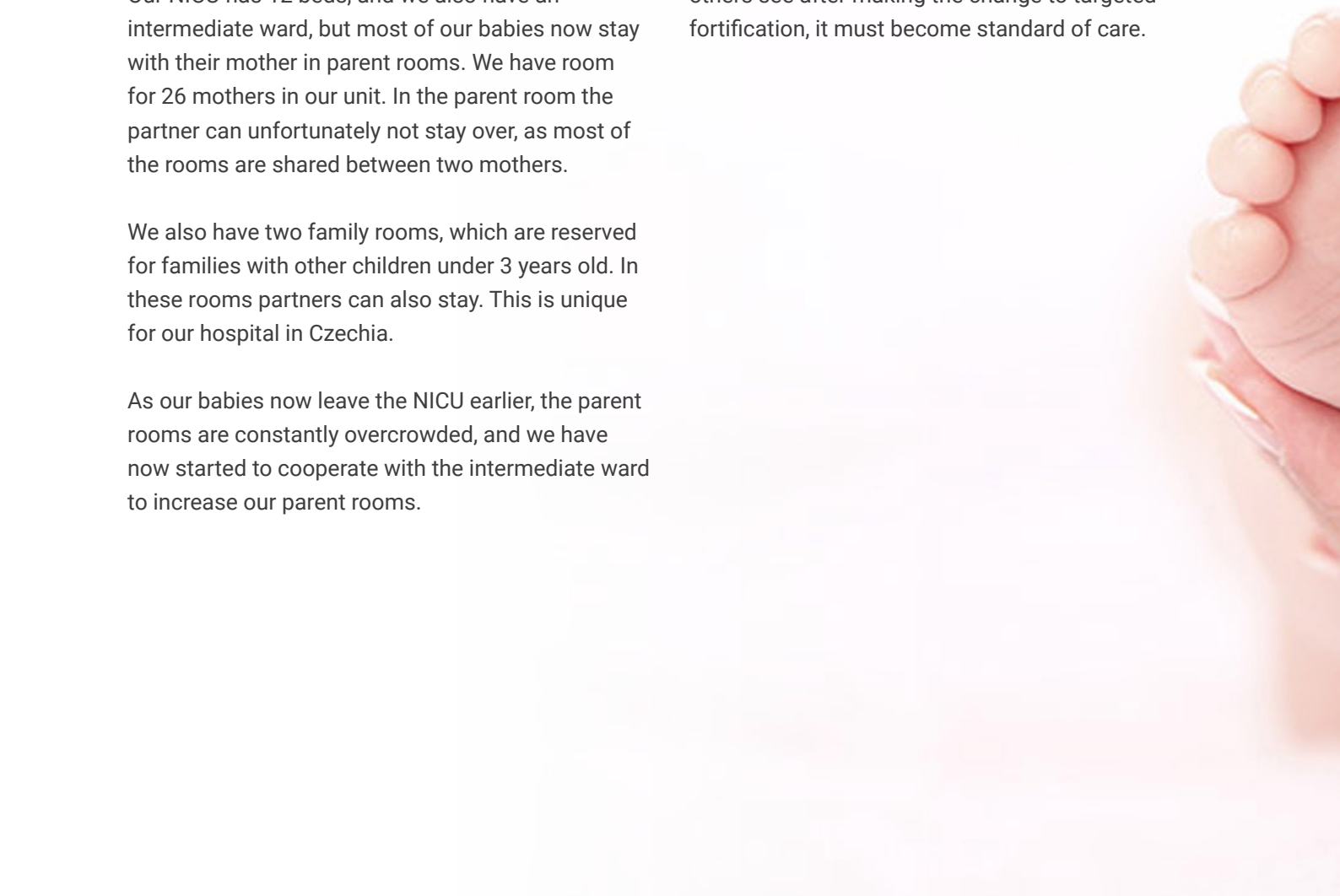
Can you tell us more about your parent rooms?
Our NICU has 12 beds, and we also have an intermediate ward, but most of our babies now stay with their mother in parent rooms. We have room for 26 mothers in our unit. In the parent room the partner can unfortunately not stay over, as most of the rooms are shared between two mothers.

We also have two family rooms, which are reserved for families with other children under 3 years old. In these rooms partners can also stay. This is unique for our hospital in Czechia.

As our babies now leave the NICU earlier, the parent rooms are constantly overcrowded, and we have now started to cooperate with the intermediate ward to increase our parent rooms.

What is your advice to a NICU considering changing to a targeted fortification approach?
My recommendation is to stop thinking about it, just start making the changes. Take help from people that have experience in making the change. Visit a unit that has implemented the process and visit for 1-2 weeks to learn how the process works. We are arranging workshops and inviting clinicians so that they can learn. I have seen how well it works, so for me it is no question this is the way to go.

Do you see targeted fortification as part of standard care of premature babies in the future, in Czechia and worldwide?
I am convinced it will be. With the results we and others see after making the change to targeted fortification, it must become standard of care.



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