Helmet therapy is ineffective on babies with moderate to severe plagiocephaly

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Throughout the world, many thousands of babies wear a helmet 23 hours a day for six months. At the beginning of May, Renske van Wijk, of the University of Twente's IGS Research Institute, published an article in which she demonstrated that helmet therapy is ineffective on babies with moderate to severe plagiocephaly (skull flattening). The research was

broadly discussed in the media and Van Wijk received responses from all over the world. Almost six months later, on the eve of the day on which she will defend her thesis, Van Wijk looks back on the debate provoked by her research.

A lot of babies suffer from cranial deformation because a baby's skull is still relatively soft and they spend a lot of time lying on their back. Although this is a cosmetic problem, many parents chose to have a helmet measured for their baby, which babies have to wear almost all day long. Even though there is no scientific evidence that this therapy is effective. Renske van Wijk came to the conclusion that it is not. The natural growth of the skull ensures that the shape of the child's head improves as the child grows, and her research showed that helmet therapy did not have any added value.

What were the responses after the article was published?

"The research was published in a great many media and provoked a lot of responses throughout the world: from America to Argentina and from Brazil to Germany. Before the publication, we had already made recordings for the TV programme EenVandaag. In America an article on the research appeared in the *New York Times* and - within a few days - the research had been placed on dozens of websites there, and a few items appeared in news programmes, including on CBS and NBC. The BBC also paid attention to the research. After this, the media in the Netherlands got started. I thought the research would provoke a lot of discussion, but did not expect there would be so much international attention."

What sort of reactions did you receive?

"The most noticeable was an e-mail that I received recently from England, that supposed I was probably happy that 20% fewer helmets had been sold as a consequence of my publication. I know it is unrealistic to expect everyone to look at my research objectively. The manufacturers of helmets are generally critical of our research. But a doctor or helmet specialist who has spent years giving children helmet therapy is bound to have seen an improvement in the skull shape of many children. This makes it difficult for them to realize that the same might have happened without the helmet.

Many other doctors are, however, relieved that this research is finally available. They already had severe doubts about the efficacy, and now, based on the facts, they can have a dialogue with parents and tell them that helmet therapy is not their preferred choice.

You also see a lot of differences in parents' reactions. Some parents do not identify with the results of the research and claim that their child really did benefit enormously from the helmet. This may well be the case, but the question remains as to what degree of improvement is due to the helmet. Many other parents, however, feel that their choice not to use the helmet has been confirmed. Then there are the parents currently choosing a therapy, who are really pleased that they can use our study results.

The important thing now is to actively implement our results. We have answered an important clinical question and the next task is making sure the message gets through to those responsible for treatment. For instance, I have been invited to speak at the congress of the American Academy of Orthotists and Prosthestists. What's more, on the day that I defend my doctoral degree, we are organizing a symposium so the various care professionals can get together and discuss the implications of the studies."

Why was no research ever carried out in the past into whether helmet treatment was effective?

"The way the helmet is supposed to work sounds quite logical. Part of the head may become flattened due to a baby often lying on it. When this results in flattening off, you can opt for treatment with a close-fitting helmet which protects the head from further pressure and permits room only where the head has been flattened. If the shape of the skull of children who were given a helmet improved, this was soon put down to the treatment.

The most important reason why no research was carried out into the added value of the helmet in comparison with allowing nature to take its course, is the difficulty of setting up good research. In order to comply with the highest standards of research, you have to select by lot who will receive which treatment. An extra difficulty involved is that this is a treatment that is strongly based on preferences. Some parents really want their child to have a helmet, while others definitely do not. This makes it difficult to determine treatment by drawing lots. Fortunately we managed to find enough test subjects, because many parents felt the research was important. There were also parents who preferred not to have to choose, and preferred having the choice made for them. They could do this in the knowledge that their child would be properly monitored during the study."

Provided by University of Twente