OTARC Research Theme – Dr. Giacomo Vivanti

Research in intervention in autism typically focuses on school aged children, and we've learned a lot about how treatment can impact the development of children that age. We don't know much about very young children, infants and toddlers and at the same time we consider that age as a crucial time for intervention to be effective. We also don't know much about the effect of treatment in those with autism. So a critical area of interest for the Olga Tennison Research Centre is really to look at treatment, at intervention, throughout the life span.

So the aim of this project, the Margot Prior Wing project is part of a very ambitious program that was funded by the government. We are trying to understand if we can significantly modify or change the trajectory, the developmental trajectory of children with autism by delivering an evidence based intensive intervention as soon as these children are diagnosed. So we're talking about children who'll be 18 months old or 20 months old when they start the treatment. This is something that is possible now, was not possible until a few years ago. So what we're going to do and what we're currently doing is to study the developmental trajectories of these children who are starting the treatment here, and to see how the early intervention that we're providing will impact on their development.

We introduced at least three relevant innovations in these intervention study. The first one is we're not only looking at the group level, whether the children as a group are improving as a consequence of the treatment, we're looking at individual differences because one thing that we're studying is we're trying to understand why some children learn more rapidly than other children. Some children are doing very good, other children learn more slowly, we're trying to understand why and we're doing this with the methodology that involves understanding what are the factors, the pre treatment factors that may be associated with the best outcomes. The second innovation is that we are looking at measures of learning abilities through the use of modern technologies like the iTracking technologies which is a technology based on infra-red cameras that allow us to see what children with autism look at when exposed to for example a simulated teaching situation.

We are hoping to identify specific factors that will predict the response to a treatment of different children in a way that we can know in advance based on the profile of the child whether the child is more likely to respond to this specific treatment. In this way we will develop specific guidelines that will inform parents about of the likelihood that the child would benefit from a specific treatment. Because there are different treatment options available in the community, it's very important that we get to the level where we can match children to the most appropriate treatment based on this information. And this information is not there yet but this is what we're learning through this project and we'll probably be able to determine in advance whether the child is a child who will respond to this specific treatment verses this other type of treatment.