

## EP19.05

### **Family mobile phone otoscopy in diagnostics of otitis media (Family mOTO -Study)**

*Nora Erkkola-Anttinen(1,2), H Irjala(3), M Laine(4), A Ruohola(1,5)*

*(1) Department of Paediatrics and Adolescent Medicine, Turku University Hospital, Finland*

*(2) City of Turku Welfare Division, Primary Healthcare Services, Turku, Finland*

*(3) Department of Otorhinolaryngology, Turku University Hospital, Turku, Finland*

*(4) Department of Medical Microbiology and Immunology, University of Turku, Finland*

*(5) University of Turku, Turku, Finland*

*Corresponding author: Dr Nora Erkkola-Anttinen, City Of Turku Welfare Division, Turku, Finland, Primary Healthcare Services, Turku, Finland. E-mail: nora.erkkola-anttinen@turku.fi*

**Background and Aim:** Otitis media in young children is one of the most frequent causes for families to seek medical care resulting in great burden to both families and primary health care systems worldwide. Our aim was to study the diagnostic quality of parentally obtained tympanic membrane videos with a new and innovative consumer targeted iPhone enabled otoscope (OTO).

**Method:** We recruited families with day care children from 6 to 35 months of age, with an AOM diagnosed within 90 preceding days and parental possessed iPhone 5, 5s or 6. Study physician taught parents the basic anatomy of the tympanic membrane; the principals of acute otitis media (AOM); how to conduct the OTO-examination on their child and; removed cerumen from the child's ear canal at the teaching visit. Parents were instructed to conduct bilateral OTO-examination on their child during the 60 days follow-up at predefined time points and to send the OTO-videos to the study physician by e-mail or by iMessage (= OTO-message) with detailed symptom information. Parents took their child to their own physician if needed, and we did not participate in the diagnosis or treatment of the study children. In this study, we analyzed the diagnostic quality of parentally obtained OTO-videos by using a structured analysis method.

**Results:** Forty-one families participated in this study, and only 3 families have discontinued after the first study week. The data collection is continuing until April 2016. At this point, we already have over 1000 OTO-videos to analyze and over half of families have already finished the study.

**Conclusions:** Parents are motivated and able to conduct middle ear examinations with a smartphone-enabled otoscope at home.