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MICROBIOLOGICAL@MIND: EDUCATIONAL ACTIVITIES ABOUT THE WORLD OF MICROBES AND CORRELATED DISEASES FOR YOUNG STUDENTS

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Introduction: Science education plays a strategic role to promote both life skills and health among young school audiences. This Microbiological@mind project is a MIUR funded project as a part of national initiatives for the dissemination of scientific culture in Italy and designed to bring the "world of microbes" to life for children in the classroom environment. The project is in line with the Italian and the European Community programmes aimed at extending the science education into the primary school to foster interest in science from an early age. We report here the experience of this initiative addressed to young school children, intended to promote scientific knowledge on microbes and how microbial infections can spread and be prevented through improved hygiene, reinforcing awareness towards attitudes that may ensure a safer lifestyle in the future generation of adults.

Materials and Methods: Through 2013/2014 school year, interactive workshops were held directly at primary schools of Turin by microbiologists of the Dept. of Public Health and Pediatrics, University of Torino, to a large target audience of over 1200 children. Several areas were presented: introduction to microbes (types of microbes, microbial shapes, use of microscope); transmission, fight and prevention of microbial infections (natural defences and vaccines); treatment of infections. Activities combined educational aspects with entertainment and took various forms: "hands-on"

experiments, microscope microbial observation, quizzes, interactive games and team competitions.

Results: Overall, a very positive response was obtained. Students carried out simple scientific investigations and educational games on microbes. They learnt about microbiology concepts and methods, improving their knowledge on microorganisms and microbial impact on their personal lives and society as a whole. The direct contact of microbiologists with young students was extremely successful and allowed them to learn while having fun.

Discussion and Conclusions: Science education should form a key part of the primary curriculum. Students at this age are unable and unmotivated to cope with abstract ideas and, usually, tend to gain much from personal involvement activities; therefore, the 'hands-on' science education provided by this project was easily accepted by students. Through this approach, it was easy to motivate and interest young students, bringing scientific education closer to young audience. In fact, while children may forget the formal content in the form of concepts and theories, they are likely to remember the more personal and emotional part of their encounter with science, contributing to create more informed citizens.