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Dental 3D printing emerging in clinical use in the Middle East and African countries

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CAD/CAM technology combining 3D imaging, digital modeling and manufacturing using milling technique has had a role in dentistry for over thirty years. 3D printing was introduced more than 20 years ago, but only during the last decade became a reality in dentistry due to the development of different technologies such as photopolymerization, fused deposition modelling, multijet and selective laser sintering, as well as different biomaterials: polymers, metals, ceramics and composites. 3D printing is currently used in the dental labs in different fields of dentistry, to fabricate e.g. splints, surgical guides, removable dentures, crowns, facial prostheses and orthodontic aligners. The flexibility of 3D printing contributes in improving patients comfort and decrease chair-time with usually more accurate end-

results. The use of 3D printing in dentistry is also spreading in the Middle East and Africa (MEA) like everywhere else. Its expenditure reached USD 16.3 million in 2018 in MEA, which covers 1% of the global dental 3D printing market. The United Arab Emirates (UAE) has a future strategy to make Dubai the capital of 3D printing by 2025. South Africa plans to invest in healthcare 3D printing development and research. Moreover, the area has many advantages to attract more international investments and the market is predicted to grow 19% annually. RAYO 3DToothFill is a novel technique to manufacture demanding 3D indirect, precisely fitting restorations chairside to be smoothly fixed on prepared teeth with less discomfort and pain for the patient.

Biography

Samah A S Zahlaf has completed her bachelor's degree in dentistry and oral surgery in 2015 from Al-Quds University in East Jerusalem/ Palestine, and now she is completing her master's degree in general toxicology and health risk assessment at the University of East Finland/ Kuopio.

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