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**DENTAL IMPLANTS: A PERFECT COMBINATION OF BIOLOGY
AND TECHNOLOGY**

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Relevance. Dental implantation is one of the most advanced tooth replacement methods. According to the World Health Organization, about 30% of people over 65 suffer from complete tooth loss. Unlike traditional methods, implants preserve bone and restore chewing function. Modern technologies improve the treatment outcomes. Their success also depends on patients awareness and acceptance.

Aim: to study the history, structure, advantages, and innovations in implantology; to analyze the indications, contraindications, and complications; to assess the awareness and attitude of students towards implants using a survey.

Materials and methods. Scientific articles, open databases, and implant systems (Nobel Biocare, Straumann) were analyzed. A survey of 41 first-year students from different faculties of Belarusian State Medical University was made.

Results and their discussion. The basis of implantology is osseointegration (Brånemark's discovery). Implants consist of three parts: implant, abutment, crown. They are made of titanium with a rough surface. Their advantages are: preservation of adjacent teeth, prevention of bone atrophy, restoration of chewing function, service life more than 25 years. Such innovations as 3D printing with 300-500 µm porous structure, bioactive coatings accelerate osseointegration and reduce risks.

Survey results show that 85.4% of respondents had heard about implants, and 68.3% understand correctly that they are artificial roots. The main barrier to implantation was fear of pain. The general advantages of implants were identified as the ability to restore full chewing function, while the main disadvantage was high cost (43.9%).

Conclusions. Future development holds unlimited potential for further innovations in implant materials, 3D printing, bioactive coatings, and digital planning. Implants are a reliable solution that allows patients to eat, smile, and live confidently. Dental implants are a perfect example of closed integration of biology, medicine, and engineering. The results of the survey showed the importance of education people about the implantation benefits.