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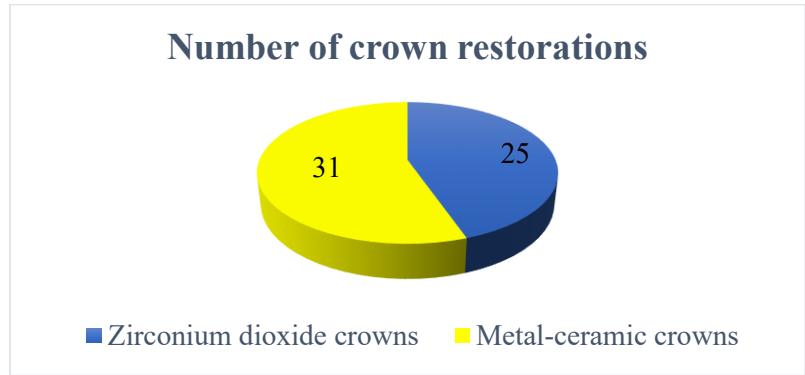


COMPARATIVE ANALYSIS OF DIFFERENT CROWN MATERIALS FOR DENTAL PROSTHESIS FROM BUDGET IN WARTIME IN UKRAINE

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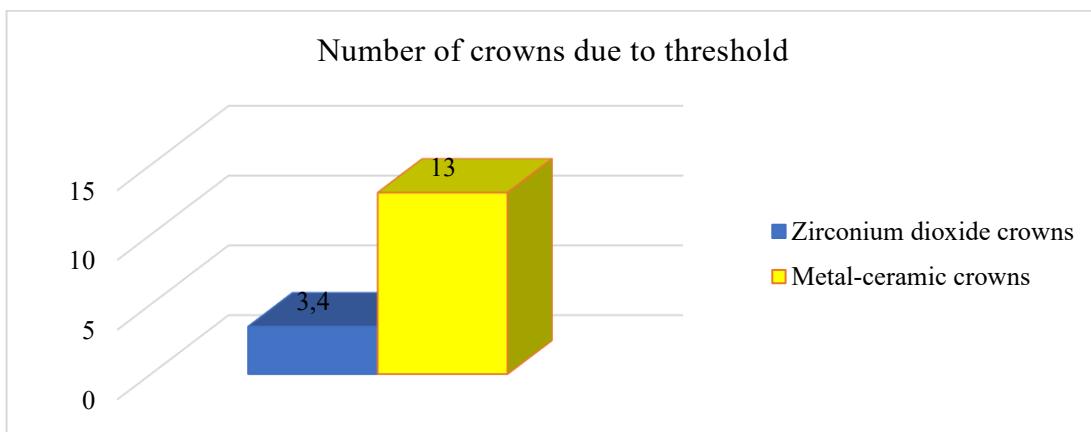
Objectives: There is a state budget program for free dental prosthetics services for military personnel and individuals with disabilities resulting from the war in Ukraine, which was approved by Order of the CMU, dated February 11, 2025 N156. According to this Order the maximum financing threshold was approved 34,966.19 UAH per one person, it is 790 Euro on June 19, 2025 (1 Euro = 47,6 UAH). The financing is conducted by state budget from National Health Services of Ukraine (NHSU) and local budgets. The study aim was to compare cost and efficacy of different types of crowns for this categories of military personnel.

Methods: We analyzed the data from two patient groups: 1) Control n= 25 treated patients with zirconium dioxide crowns; 2) Experimental n=31 with metal-ceramic crowns. The efficacy was evaluated based on the following parameters: strength, biocompatibility, and esthetic properties. Also we compared prices of these crown materials on June 2025.



Results: We established that the cost range for crowns was: 1) 8280-12420 UAH, 2) 2070-3310 UAH (1 Euro = 47.6 UAH). The metal-ceramic crowns are 73-75% cheaper than zirconium dioxide crowns. We evaluated that zirconium dioxide crowns demonstrated the better rates on all parameters of efficacy. The difference between zirconium dioxide and metal-ceramic crowns was: in biocompatibility rates 20 - 40%; in strength was 15 - 30%; in esthetic properties was 30-50%.

Parameter	Metal-ceramic crowns	Zirconium dioxide crowns
Strength	Reference level (100%)	+15-30%
Biocompatibility	100%	+20-40%
Esthetics	100%	+30-50%



Conclusions: Our study showed that the cost range of metal-ceramic crowns was 2070-3310 UAH which was lower than the budget threshold of 34966.19 UAH. According to this budget threshold 100 patients can receive free 1060-1690 crowns. So zirconium dioxide crowns are more expensive in 3.5-4.1 times. However, zirconium dioxide crowns demonstrate better properties, such as: strength, biocompatibility and esthetics. There is a need of patient-oriented survey about satisfaction level and esthetic outcomes and cost-effectiveness analysis.