

## STUDY OF SENSITIVITY / RESISTANCE OF NOSOCOMIAL STRAINS TO DISINFECTANTS

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### Introduction.

Worldwide, morbidity and mortality of nosocomial infections are on continuous growth, and the causative agents of these infections can remain viable even after exposure to routine disinfectants.

**Keywords.** hospital strains, disinfectants, resistance

**Purpose.** Determination of resistance /susceptibility of hospital microorganisms to disinfectant solutions.

**Material and methods.** It has been studied the sensitivity/resistance of 41 strains of microorganisms to disinfectants from the groups: Oxidants, Alcohols, Aldehyde, QAC (quaternary ammonium compounds), QAC + aldehyde, QAC + amines, Chlorine-containing compounds. The investigated strains were isolated from the patients of the republican-level medical institution.

**Results.** The general sensitivity of the strains to disinfectants was 69.02% and the resistance 30.98%. More resistant disinfectants were Chemiofarm 81.25%, Viruton 64.0%, Smell net 58.53%, vs. more sensitive Peroster 95.12%, Chemiosept 93.75% Gigasept 93.75%, Aseptoman 87.5%, Sterisept 87.09%, Hygiene 85.36%, Dezderman 75.0%, Aniosept 75.0% (Fig.1). The most sensitive groups of disinfectants were Oxidants (83.56%), Alcohols (85.4%), Aldehydes (93.75%), and conversely, more resistant groups QAC 52.18%, QAC + amines 40.0%, Chlorine compounds 37.5%, QAC + aldehydes 34.15% (table 1).

**Conclusions.** The obtained results are necessary for optimization the monitoring of the microorganisms resistance to disinfectant at the level of medical institution, to identify the ineffective solutions.

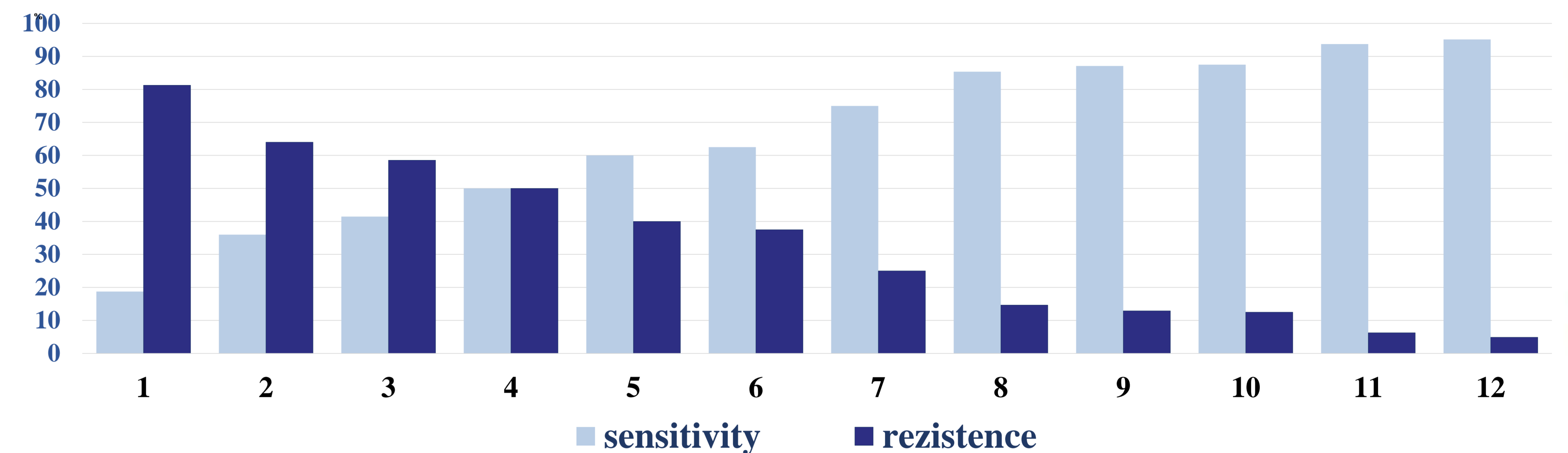


Fig.1. Sensitivity/resistance of the investigated strains, depending on the type of disinfectant: 1) Chemiofarm; 2) Viruton; 3) Smell net; 4) Secusept activ; 5) Surfanios; 6) Tabidez; 7) Aniosept; 8) Hygiene; 9) Sterisept; 10) Thermostept; 11) Gigasept; 12) Peroster.

Table 1. Sensitivity/resistance of the strains according to the group of disinfectants

N/o	Disinfectant group	S		R	
		abs	%	abs	% (CI 95%)
1.	Alcohols	41	85.40	7	14,60 (6,07-27,76)
2.	QAC	38	41.50	54	58,50 (47,95-68,87)
3.	Oxidants	108	83.10	22	16,90 (10,92-24,49)
4.	QAC + aldehydes	27	65.85	14	34,15 (20,08-50,59)
5.	QAC + amines	15	60.00	10	40,00 (21,13-61,33)
6.	Chlorine-containing compounds	10	62.50	6	37,50 (15,20-64,57)
7.	Aldehydes	15	93.75	1	6,25 (0,16-30,23)
	<b>Total</b>	254	69.02	114	30.98 (26,29-35,98)