F.50. EVALUATION OF THE ANTIMICROBIAL ACTIVITY OF THE WINE AND OTHER OENOLOGICAL EXTRACTS.

BEHTA EMILIA[1, 2]

[1]*Technical University of Moldova, Chisinau, Republic of Moldova*

[2]*"Nicolae Testemitanu" State University of Medicine and Pharmacy of The Republic of Moldova*

Abstract. It has been done a review of the most relevant publications of scientific literature in the country and abroad using the databases PubMed, EMBASE, Google scholar, virtual health library (LILACS, SCIELO) and Science Direct Publisher Site, Europe PMC free article. According to many authors, red table wines have antibacterial properties. Good antimicrobial activity against pathogenic microorganisms, such as *Shigella sonnei*, *Salmonella typhimurium*, *Klebsiella pneumoniae*, *Escherichia coli*, *Proteus vulgaris*, *Proteus mirabilis*, *Staphylococcus saprophyticus* has been proved experimentally by the standard agar diffusion method. This effect is the result of the action of polyphenolic and antioxidant compounds in wine. Analysis of phenolic extracts of white and red wines revealed their pronounced antimicrobial activity. Moreover, it was noticed that common phenols inhibit the growth of *S. aureus* more actively than *E. coli* and *C. albicans*. *C. albicans* was resistant to more wine extracts than staphylococci and *E. coli.* Studies have also been conducted to evaluate the useful of bioactive extracts derived from certain by-products of wine production, such as the skins and stems of grapes. It is very important to ensure microbiological and biochemical stability in the process of winemaking and storage of finished wine. Therefore, the antioxidant and antimicrobial properties of the skins and stem extracts of grapes and red wines have been studied. Extracts from both grape skins and stems showed high concentrations of total phenolic compounds and antioxidant activity *in vitro*. In addition, they showed excellent antimicrobial activity, more pronounced against pathogens than against yeast. This means that they can be used to reduce or eliminate the use of SO_2 in wine production and thus to obtain healthier wines which will be microbiologically stable and protected from oxidation. Among other things, the use of by-products reduces the impact of wine production on the environment, because it provides a circular economy, which is extremely important nowadays.

Keywords: antimicrobial activity, wine, polyphenols.