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DESIGN, SYNTHESIS, CHARACTERIZATION OF NEW PYRIMIDINES DERIVED FROM CHALCONES AND STUDIES THEIR ANTIMICROBIAL ACTIVITIES

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ABSTRACT

Many new 2,4,6-substituted pyrimidines namely 4(substituted)phenyl-6-(*p*-chlorophenyl or *p*-nitrophenyl)-2-oxo(1H)pyrimidines, 4(substituted)phenyl-6-(*p*-chlorophenyl or *p*-nitrophenyl)-2-imino(1H)pyrimidiens and 4(substituted)phenyl-6-(*p*-chlorophenyl or *p*-nitrophenyl)-2-thioxo(1H)-pyrimidines, with substituents *p*-benzenesulphonamido, *p*-uriedo, p(4',N-methylaminophenyl)azo were synthesized. All synthesised pyrimindines were characterized by its melting points FTIR, ^{1}HNMR, and ^{13C} NMR and Mass spectral analysis.

Antimicrobial activities of all synthesised pyrimidines were examined against Gram-Ve (*Serratia marcescens, pseucomonas aeroginosa*), G+Ve bacteria (*Staphylococcus aureus and streptococcus pyogenes*) and (*candida albicans*) fungi in comparism with Cephalexin, Amoxicillin, and Tetracycline, Lincomycin pharmaceutical antibioticis, Nystatine and Flucanazole antifungal treatments.

Results showed good antibacterial effect, much better than antibiotics used in these studies, specially that pyrimidines containing imino and thioxo in postions-2. All synthesised pyrimidines showed very good inhibition effect against *candida albicance* fungi, specially that pyrimidines containing N-methylphenylazophenyl group at position-4.

KEYWORDS: Pyrimidines, Antimicrobial Activity