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**MECHANISMS OF FUNGAL RESISTANCE IN CANDIDA SPECIES AND
THEIR GLOBAL IMPACT**

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INTRODUCTION: Most hospital-acquired infections are caused by *Candida* fungal species. Currently, infections stemming from various species of this fungus affect over 250,000 people annually, with mortality exceeding 50,000 individuals¹. **OBJECTIVE:** To examine the resistance mechanisms in *Candida* species and assess their worldwide impact. **METHODS:** This study employed a descriptive approach combining qualitative and quantitative analyses through a bibliographic review in the PubMed and Google Scholar databases. The search utilized the descriptors “*resistance Candida*”, “*Candida*”, “*Candida antifungal resistance*”, and “*resistência cândida*”. Seven articles — six international and one national — focused on fungal resistance were selected based on the eligibility criteria of being scientific studies published within the last five years. **RESULTS:** A significant increase in infections caused by various *Candida* species was observed¹. In the field of molecular biology, fungal resistance to antifungal agents is predominantly linked to several mechanisms, the most notable being resistance to azoles^{1,2,4}, echinocandins^{1,2}, and polyenes⁵. This resistance is driven by key adaptive mechanisms in these pathogens, including: overexpression of active sites, biofilm formation—particularly mature biofilms known as extracellular polymeric substances (EPS)⁶, alterations in the target enzyme lanosterol 14 α -demethylase^{5,6}, mutations in the FKS gene², and dysregulated expression of efflux pump-encoding genes (CDR1, CDR2, MDR1, and MDR2)^{5,6}. Moreover, mutations in the ERG2, ERG3, ERG6, and ERG11^{2,3,5} genes have been identified as contributors. These factors, whether acting independently or synergistically, present significant challenges in the treatment of *Candida* infections. **DISCUSSION:** Nosocomial infections caused by various *Candida* species have shown a global increase in incidence and prevalence. Species of the genus *Candida* represent a significant global health concern due to the emergence of new resistant strains and the presence of species better adapted to antifungal agents. This trend makes these infections challenging to treat, as resistance mechanisms may occur individually or in combination⁶. Consequently, there is an intrinsic relationship between the genomic plasticity of this fungal genus and the accumulation of mutations that contribute to fungal resistance^{2,3,5}. **CONCLUSION:** Hospital-acquired infections caused by *Candida* are on the rise, exhibiting resistance mechanisms that complicate treatment. Advancing research into new therapies and raising awareness about the appropriate use of antifungal agents are crucial steps to effectively combat these infections and improve clinical outcomes.

KEY-WORDS: *Candida*; Drug Resistance, Fungal; Cross-infection

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