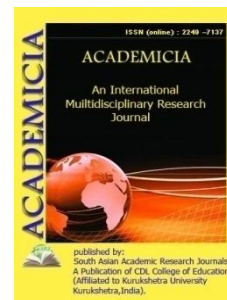


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AN OVERVIEW OF THE WORLDWIDE PROBLEM OF ANTIBIOTIC RESISTANCE: A REVIEW

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ABSTRACT

Antibiotics, which have previously revolutionized medical research, are now under jeopardy due to the emergence of multidrug resistance among dangerous microorganisms. The abuse of antimicrobial medicines, as well as the unavailability of newer treatments owing to stringent regulatory restrictions and decreased commercial incentives, has been blamed for the antimicrobial resistance problem. Emergent bacteria, resistance mechanisms, and antimicrobial drugs must all be studied in order to slow the rate of resistance. Health-care environments, as well as the environment and agricultural sectors, need multidisciplinary approaches. Probiotics, antibodies, and vaccinations are examples of progressive alternative treatments that have showed encouraging outcomes in studies, suggesting that they may be used as preventative or supplementary therapy in the future.

KEYWORDS: *Antibiotics, Antimicrobial Resistance, Alternative Therapies, Evolution, Multidrug Resistance.*

REFERENCES

1. A. C. Singer, H. Shaw, V. Rhodes, and A. Hart, "Review of antimicrobial resistance in the environment and its relevance to environmental regulators," *Frontiers in Microbiology*. 2016, doi: 10.3389/fmicb.2016.01728.
2. B. M. Marshall and S. B. Levy, "Food animals and antimicrobials: Impacts on human health," *Clinical Microbiology Reviews*. 2011, doi: 10.1128/CMR.00002-11.
3. C. Nathan and O. Cars, "Antibiotic Resistance — Problems, Progress, and Prospects," *N. Engl. J. Med.*, 2014, doi: 10.1056/nejmp1408040.
4. J. Davies, "Origins and evolution of antibiotic resistance.," *Microbiología (Madrid, Spain)*. 1996, doi: 10.1128/mmbr.00016-10.
5. T. P. Van Boeckel *et al.*, "Global trends in antimicrobial use in food animals," *Proc. Natl. Acad. Sci. U. S. A.*, 2015, doi: 10.1073/pnas.1503141112.
6. N. Zisko *et al.*, "Meso level influences on long term condition self-management: stakeholder accounts of commonalities and differences across six European countries," *PLoS One*, 2015, doi: 10.1186/s12889-015-1957-1.
7. G. M. Rossolini, F. Arena, P. Pecile, and S. Pollini, "Update on the antibiotic resistance crisis," *Current Opinion in Pharmacology*. 2014, doi: 10.1016/j.coph.2014.09.006.
8. C. A. Michael, D. Dominey-Howes, and M. Labbate, "The antimicrobial resistance crisis: Causes, consequences, and management," *Frontiers in Public Health*. 2014, doi: 10.3389/fpubh.2014.00145.
9. B. Spellberg, A. Srinivasan, and H. F. Chambers, "New societal approaches to empowering antibiotic stewardship," *JAMA - Journal of the American Medical Association*. 2016, doi: 10.1001/jama.2016.1346.
10. S. J. Hoffman *et al.*, "Strategies for achieving global collective action on antimicrobial resistance," *Bull. World Health Organ.*, 2015, doi: 10.2471/blt.15.153171.
11. C. Nathan, "Antibiotics at the crossroads," *Nature*. 2004, doi: 10.1038/431899a.