%. MIC analysis revealed high level of resistance against clarithomysin (256 µg/ml) and azithromycin (148 µg/ml). Among macrolide-resistant isolates, 77 isolates (84.6%) had the ermB gene, while 14 isolates (15.4%) had the ermA gene. Among the macrolide-resistant isolates, the most frequent emm type was emm 42 (45%), followed by emm68 (25%). Blast analysis of sequence similarities for the 50 isolates represented thirteen different emm sequence types. The frequency of other emm types among the GAS isolates were as follows: emm type 1 (10%); emm3 (12%), emm (5%), emm55 (3%). In conclusion, the rate of macrolide resistance to S. pyogenes is currently very high in tertiary care hospitals of KP. On the basis of the findings of this study, we may conclude that emm typing provides new insights on the genetic diversity of the S. pyogenes in KP.

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The Contribution of Biotechnology to Food: Innovations, Impacts, and Future Prospects

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Abstract: The integration of biotechnology in the food industry has revolutionized the way we produce, process and consume food. This paper explores the contribution of biotechnology to food production, its role in enhancing crop yields, nutritional quality, and resilience to environmental stressors. Through genetic engineering, biotechnology has facilitated the development of genetically modified organisms (GMOs) with traits such as pest resistance, herbicide tolerance, and improved nutritional content, ultimately leading to increased crop yields and improved food quality. Furthermore, biotechnological advancements have enabled the production of biofortified crops, addressing malnutrition and improving public health outcomes. Looking ahead, biotechnology holds promise for addressing emerging challenges such as climate change, population growth, and food security, through the development of resilient crops, efficient farming practices, and novel food products. So, the contributions of biotechnology to food are profound and continue to the future of food production worldwide.

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Effects of Moderate Physical Activity On HB Level and Psychological Well-Being in Females – A Randomized Control Trial

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