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Bridging the Gap in Lung Cancer Awareness: A Cross-Sectional Study of Risk Perception and Early Detection Willingness in Pakistan with Global Implications

Lung cancer remains the leading cause of cancer-related mortality globally, with late-stage diagnoses significantly reducing survival rates. In Pakistan, limited awareness and misconceptions about risk factors and screening may contribute to delayed detection. Understanding how knowledge influences screening willingness is critical to developing effective screening programs locally and globally. This novel study involves a cross-sectional survey conducted among 364 adults in urban Pakistan to assess their awareness of lung cancer risk factors, symptoms, and early detection methods. The primary outcome—willingness to undergo screening—was assessed based on urgency to seek medical care and prior screening history. The primary exposure was a composite knowledge score reflecting correct identification of risk factors. Chi-square tests examined associations between knowledge and screening willingness, while logistic regression adjusted for demographic covariates (gender, smoking status, and age). Preliminary results show that greater awareness of lung cancer risk factors significantly increases screening willingness ($\chi^2(3) = 10.5950$, $p = 0.014$), with belief in early detection benefits mediating this effect. Screening willingness also increased with age ($p = 0.042$). These findings highlight the urgent need for targeted public health campaigns particularly in countries where screening programs remain underutilized. Pakistan serves as a case study for similar regions facing barriers to early detection, demonstrating the broader global need for culturally tailored interventions. Strengthening education on lung cancer risk factors and screening accessibility could have profound implications for reducing late-stage diagnoses worldwide. Expanding screening awareness beyond high-risk populations may contribute to improved survival rates and global lung cancer prevention efforts.