

Summary – Masterthesis Eva Spieler

Colorectal cancer (CRC) remains a significant public health challenge in Switzerland. Although organized, population-based CRC screening programs offer high prevention potential, participation rates remain suboptimal and socially patterned. This study examined whether socioeconomic status (SES) associates with participation in an organized CRC screening program in the Swiss canton of Lucerne, specifically among individuals who received a formal invitation letter, and whether SES affects the choice of screening modality.

The analysis was based on routinely collected, population-wide program data from all eligible residents invited during the first year of the program. Data were linked to an area-based SES index, originally categorized into deciles, to allow for a differentiated analysis of the socioeconomic gradient. Participation, defined as registration for screening within one year of invitation, was analyzed using multivariable regression models, adjusted for age, sex and degree of urbanization. Both screening methods offered by the program, fecal immunochemical testing (FIT) and colonoscopy, were considered in the analysis.

Participation rates varied across SES groups. Individuals with lower SES had reduced odds of participating in the program compared to those with higher SES, following a clear exposure-response pattern. This association remained significant after adjustment for sociodemographic factors. Stratified analyses showed that this gradient was primarily driven by participation via FIT, which relies on individual initiative and self-administration. In contrast, no consistent association between SES and participation via colonoscopy was observed. Among participants, SES did not substantially influence the choice of screening method or the timing of participation.

These findings indicate that SES primarily affects whether individuals choose to participate, rather than how or when they participate once engaged. Individuals with lower SES were less likely to utilize preventive services, especially self-directed options like FIT. Structural barriers, health literacy limitations and differing perceptions of preventive health care may have contributed to these disparities.

In conclusion, the study demonstrates persistent socioeconomic inequalities in participation, even within a standardized, invitation-based screening program. To address these disparities, public health strategies should focus on reducing structural and informational barriers, improving health communication and simplifying participation procedures, particularly for lower SES groups.