

Inequalities in survival from colorectal cancer: a comparison of the impact of deprivation, treatment, and host factors on observed and cause specific survival.

Wrigley H, Roderick P, George S, Smith J, Mullee M, Goddard J.

Health Care Research Unit, University of Southampton, Southampton General Hospital, Southampton, UK South and West (formerly Wessex) Cancer Intelligence Unit, Winchester, UK Health Care Research Unit/Medical Computing, University of Southampton.

**OBJECTIVE:** To investigate whether socioeconomic deprivation is associated with cause specific and all cause survival for colorectal cancer and to what extent this is independent of significant prognostic factors. **DESIGN:** Prospective cohort. **SETTING:** The former Wessex Health Region, South West England. **PARTICIPANTS:** All patients resident in Wessex registered with a diagnosis of colorectal cancer over three years (n=5176). Survival analysis was carried out on those patients with complete data for all factors and a positive survival time (n=4419). **OUTCOMES:** Death from colorectal cancer and all cause over five year follow up from initial diagnosis. **Main results:** Deprivation was significantly associated with survival for both outcomes in univariate analysis; the unadjusted hazard ratio for dying from colorectal cancer (most deprived compared with most affluent) was 1.12 (95% CI 1.00 to 1.25) and for all cause was 1.18 (1.07 to 1.30). Significant prognostic factors for both outcomes were age, specialisation of surgeon, Dukes's stage, and emergency compared with elective surgery. Comorbidity and gender were only associated with all cause survival. After adjustment for prognostic factors, the effect of deprivation on both cause specific and all cause mortality was reduced, and it was non-significant for colorectal cancer. However, the most deprived group had consistently worse survival than the most affluent. **CONCLUSIONS:** Factors associated with survival with colorectal cancer depend on the outcome measure. Socioeconomic deprivation is adversely associated with survival in patients with colorectal cancer. This is strongest for non-colorectal cancer death, partly reflecting higher comorbidity, but it is there for colorectal cancer though not statistically significant. Conclusive evidence of the inequalities by socioeconomic status and underlying reasons needs to come from studies using individual based measures of socioeconomic status and more detail on treatment and host related factors.

PMID: 12646548 [PubMed - in process]