Breast and Stomach Cancer Healthcare Fragmentation Associated with Clinical and Economic Outcomes: A National Cohort Study in Colombia

Rozo Agudelo N[1], **Buitrago G**[1,2], Patiño Benavidez A[1,2], Saldaña Espinel L[1], Sánchez R[1], Gamboa Ó[1,3,4], Eslava-Schmalbach J[1], Guevara-Cruz Ó[1,2,4], Junca-Burgos E[1,2], Caycedo R[1,2], Bonilla C[4]

[1]Facultad de Medicina, Universidad Nacional de Colombia, Bogotá D.C, Colombia, [2]Hospital Universitario Nacional de Colombia, Bogotá D.C., Colombia, [3]Universidad Militar Nueva Granada, Bogotá D.C, Colombia, [4]Instituto Nacional de Cancerología, Fundación Colombiana de Cancerología Clínica Vida, Bogotá, CUN, Colombia

BACKGROUND

Cancer healthcare requires multidisciplinary teams (MDT) in order to prevent, diagnose and treat patients. Healthcare fragmentation in multiple providers leads to negative outcomes. In Colombia by 2020 breast cancer (BC) and stomach cancer (SC) ranked first in incidence and mortality rate(1), fragmentation effect in this context has not been assessed. Healthcare fragmentation effect on BC and SC costs and mortality were calculated.

METHODS

Two national retrospective cohorts were conducted from 2013 – 2018 based on administrative data. Patients were selected through ICE-10 codes and oncologic procedures (chemotherapy, radiotherapy and surgery) according to an electronic algorithm. Fragmentation as exposure was calculated by the number of providers in first year survival. Primary outcomes were mortality and direct cost. Lineal regression and Poisson models were used for multivariate analysis on cost and mortality. Statistical analysis was made in STATA 15.

CONCLUSION

Cancer healthcare fragmentation has a real impact in costs and mortality. Evidence shows the need to integrate delivery of healthcare in cancer, providers must include all MTD's integrants in one provider to decrease cost and mortality.

REFERENCES

1. The Global Cancer Observatory. GLOBOCAN 2020: International Agency Research on Cancer. 2020;509:1–2.

RESULTS

13106 BC and 2434 SC patients were selected. Median follow up were 3 years in both cohorts. SC mortality is higher than BC (41.62% vs. 7.21%). Median direct cost is also higher in SC ($2.947.926 COP vs. $1.601.333 COP). Median number of provider in first year survival are 5 in both cancer type (BC Rank: 1 – 14 ; SC Rank: 1 - 16). Fragmentation geographic distribution shows less providers in central region and more fragmentated healthcare in peripheric areas.

Outcome	Breast Cancer	Stomach Cancer
Mortality (Relative Risk)	1.16 (IC 95% 1.12 – 1.20)	1.11 (IC 95% 1.08 – 1.15
Direct Cost (% increase)	2.18% (IC 95% 2.11% – 2.26%)	1.97% (IC 95% 1.82 % - 2.12 %)

Table 1. Multivariate analysis on mortality and direct cost. Adjusted by sex, age, Charlson comorbidity index, health insurance and region

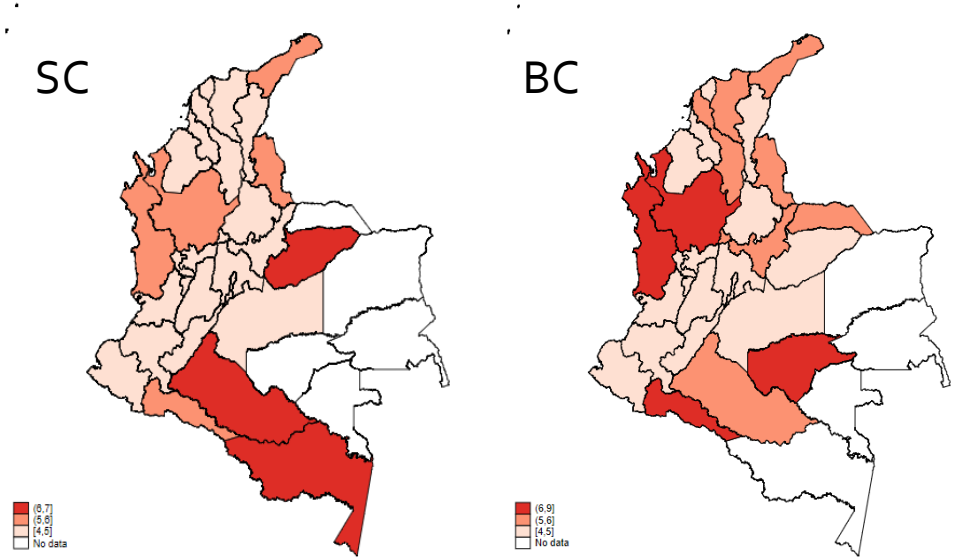

Figure 1. Fragmentation geographic distribution

Contact Information: Giancarlo Buitrago MD MSc PhD, gbuitragog@unal.edu.co; Nicolás Rozo Agudelo MD MSc (C),nrozoa@unal.edu.co