

COMPARISON OF HEALTH STATUS UTILITIES OF BREAST CANCER WITH COMORBIDITIES FROM THE KOREAN NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY (KNHANES) 2008-2018

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Introduction

- Breast cancer is the most common cancer in South Korea [1] where breast cancer ranked as the sixth most common cause of cancer death in women (8.1% of total) [2].
- The majority of cancer patients suffer from chronic comorbidities. Having comorbidity during treatment and follow-up periods can negatively influence to treatment choices and outcomes [3].
- There is a paucity of research on the association between comorbidities in breast cancer and health related quality of life (HRQoL).
- The utility approach can be used to create a single cardinal value, usually between 0 and 1, that reflects the HRQoL of an individual at a particular point in time.

Objectives

- The purpose of this study was to analyze data from the Korean National Health and Nutrition Examination Survey (KNHANES) to explore the potential impact of comorbidities on health utilities in Korean patients with breast cancer.

Methods

- KNHANES is a nationwide cross-sectional survey conducted every year, and its target population comprises nationally representative non-institutionalized civilians in Korea [5].
- In KNHANES, breast cancer (BC) and comorbidities diagnoses depended on the information self-reported by the participants in an interview.
- The comorbidities assessed were hypertension (HTN), diabetes (DM), myocardial infarction (MI), osteoarthritis (OA), osteoporosis (OP), thyroid disease (TD), rheumatoid arthritis (RA) and dyslipidemia (DYL).
- Patients with two or more of these comorbidities were excluded.
- Utility values were calculated using data from the three level version of the Euro-Quality of Life-5 Dimension (EQ-5D-3L) in the survey. The average EQ-5D index score were calculated using the South Korean-specific tariff [6].
- We performed t-testing to compare the utilities of breast cancer patients with and without each comorbidity.

Results

Table1. Demographic characteristics of patient

Variables	Total (n=118)	Only BC (n=55)	With HTN (n=33)	With DM (n=13)	With MI (n=3)	With OA (n=25)	With OP (n=6)	With TD (n=11)	With RA (n=5)	With DYL (n=31)
Age										
Mean	55.85	49.60	65.09	50.69	63.00	62.46	66.00	59.73	64.40	63.19
SD	11.01	9.46	8.18	11.01	16.52	8.50	5.22	11.24	7.92	8.45
Highest education achieved (n, %)										
Elementary school or less	37 (31.36)	7 (12.73)	18 (54.55)	6 (46.15)	2 (66.67)	16 (64.00)	4 (66.67)	4 (36.36)	1 (80.0)	15 (48.39)
Middle school	12 (10.17)	3 (5.45)	4 (12.12)	-	-	3 (12.00)	-	1 (9.09)	-	6 (19.35)
High school	35 (29.66)	26 (47.27)	5 (15.15)	3 (23.08)	1 (33.33)	1 (4.00)	1 (16.67)	3 (27.27)	-	3 (9.68)
University, college	34 (28.81)	19 (34.55)	6 (18.18)	4 (30.77)	-	5 (20.00)	1 (16.67)	3 (27.27)	1 (20.00)	7 (22.58)
Mean monthly household income in million KRW										
Mean	383.7	482.65	266.23	371.14	564.67	253.61	289.90	330.51	167.93	296.85
SD	337.52	308.15	338.75	386.12	811.75	318.50	237.30	246.21	126.40	373.79
Self-rated health (n,%)										
Poor	2 (1.69)	2 (3.64)	-	-	-	-	-	-	-	-
Fair	15 (12.71)	10 (18.18)	2 (6.06)	1 (7.69)	-	2 (8.00)	1 (16.67)	2 (18.18)	-	-
Good	59 (50.00)	33 (60.00)	11 (33.33)	7 (53.85)	1 (33.33)	11 (44.00)	3 (50.00)	6 (54.55)	2 (40.00)	8 (25.81)
Very good	31 (26.67)	9 (16.36)	14 (42.42)	3 (23.08)	1 (33.33)	7 (28.00)	2 (33.33)	3 (27.27)	1 (20.00)	16 (51.61)
Excellent	11 (9.32)	5 (9.09)	6 (18.18)	2 (15.38)	1 (33.33)	5 (20.00)	-	-	2 (40.00)	7 (22.58)

- A total of 118 respondents, of which 63 (53%) had a comorbidity, being treated for BC were identified in the KNHANES between 2008 to 2018.
- The mean age of 118 BC patients was 55.85 (±11.01) years. The mean age of BC patients with OA and OP as comorbidities was higher than that of BC patients without a comorbidity.
- The largest proportion of patients had 'Good' self-rated health (SRH) (50%).
- The average utility scores of patients with breast cancer only (n=55) was 0.96 which was higher than the average score of patients with associated comorbidities [Figure 1].
- BC patients with MI (n=3), DYL (n=31), OA (n=25) or HTN (n=33) had significantly lower utility scores than those who did not have any comorbidity (0.79, 0.82, 0.82, 0.86, respectively p<0.05).
- BC patients who had RA (n=5), DM (n=13), OP (n=6) and TD (n=11) tended to have lower utility scores compared with those who did not have these particular comorbidities (0.69, 0.89, 0.91, 0.94, respectively; p>0.05).

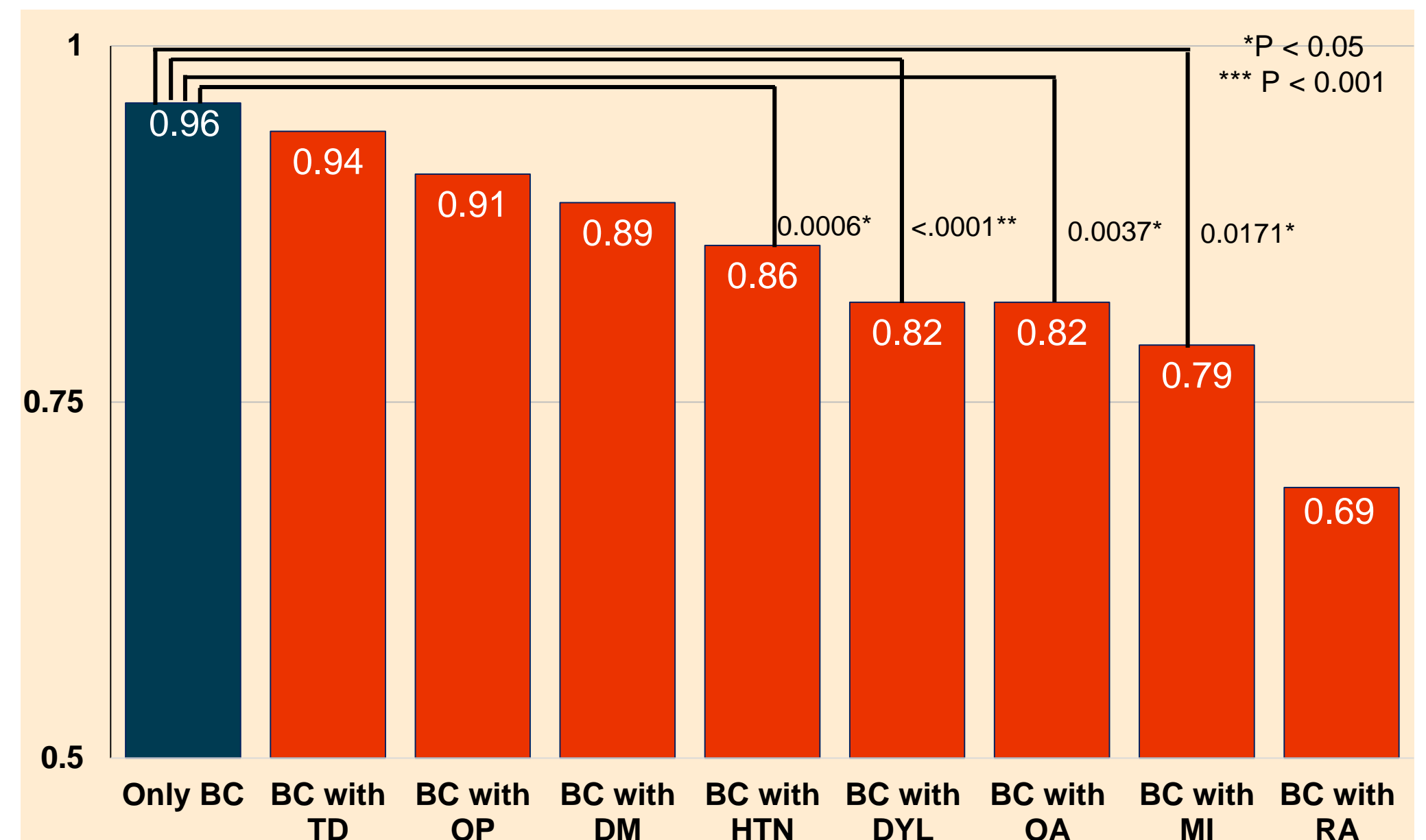


Figure 1. Comparison of utility scores of BC patients with and without comorbidity

Conclusion

- This study described the burden of chronic comorbidities among BC patients in Korea and comorbidities are negatively associated with breast cancer survivors' quality of life. Patients with breast cancer in addition to other comorbidities experienced lower utilities than patients with breast cancer alone in Korea.
- In previous studies, as in our study results, the quality of life was found to be low when there were co-morbidities [7,8].
- Due to our small sample size, the findings may to be generalizable because the number of patients is not large enough. Furthermore diseases were identified through self-report so there may be underreporting.
- Future research should consider larger and more diverse samples as well as the combined impact of multiple comorbidities upon breast cancer survivors' quality of life.

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