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Impact of caregiving on the disease burden among patients with female-specific cancers (breast, cervical, ovarian, uterine) in Japan

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Background

The incidence of female-specific cancers (breast, cervical, ovarian, and uterine) is on the rise driven by an aging population and significant shifts in lifestyle and societal factors.[1]

In Japan, where there is a strong cultural expectation of family-based caregiving, many women are not only cancer patients but also informal caregivers.

As the burden of female-specific cancers (breast, cervical, ovarian, uterine) is expected to increase, patients may be challenged by caregiving responsibilities while simultaneously managing their own cancer treatment.

Objective

This study examined how the dual role of managing cancer and caregiving impacts the quality of life of female-specific cancer patients in Japan.

Methods

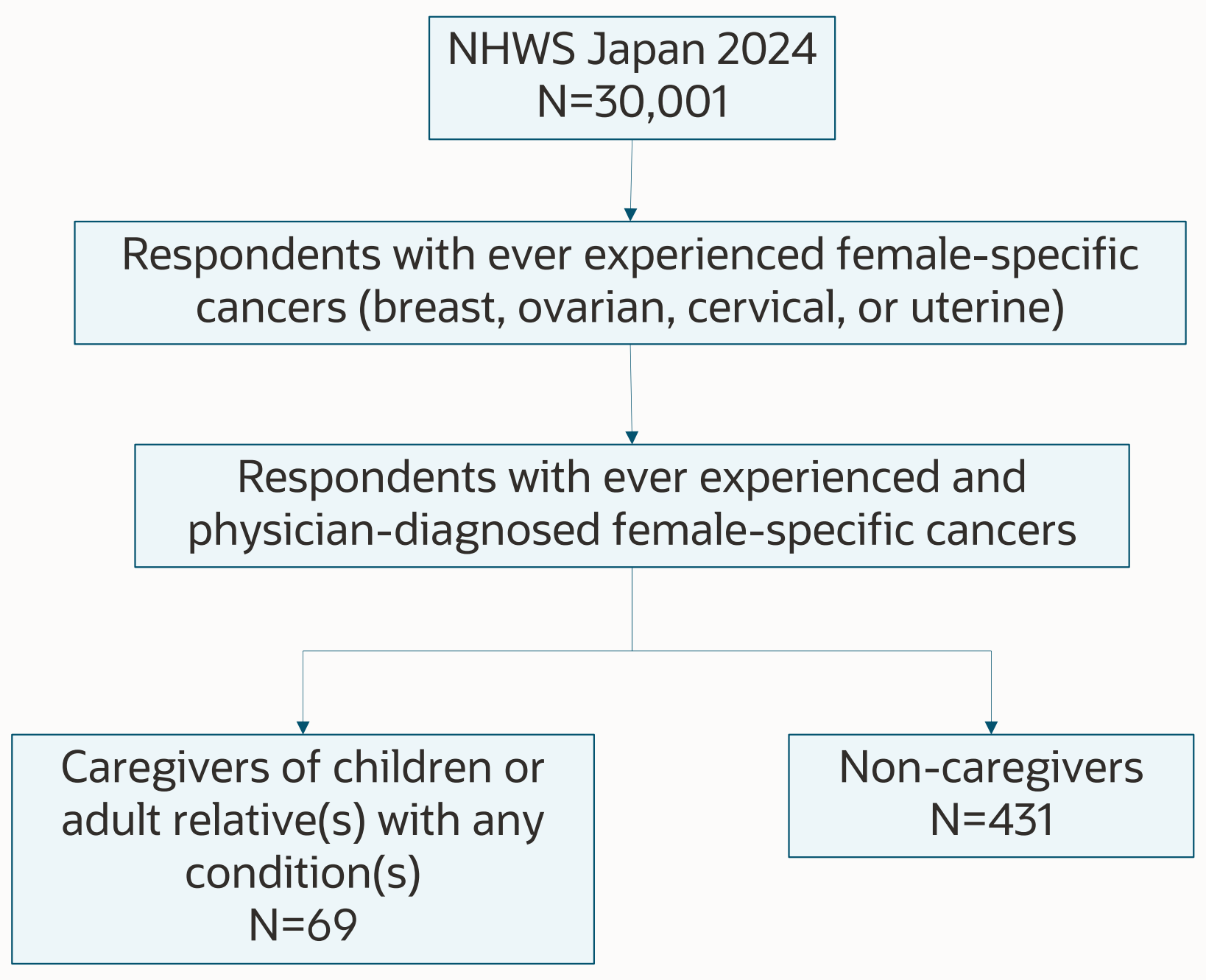
Study Design and study population:

- This cross-sectional study used data from the 2024 Japan National Health Wellness Survey.
- Study population included female patients, aged ≥18 years, with self-reported physician-diagnosis of any female-specific cancer (breast cancer, cervical cancer, ovarian cancer, uterine cancer) and sub-categorized into "Caregivers" (having cared for any adult relative(s) and/or children of any condition) and "Non-Caregivers" (**Figure 1**).

Data analysis:

- Outcomes were summarized descriptively using counts, percentages, mean, and standard deviation (SD). Included patient-reported outcomes: Patient Health Questionnaire (PHQ–9),[2] General Anxiety Disorder-7 (GAD-7),[3] Work Productivity and Activity Impairment (WPAI) (including percentages of overall work productivity loss (a combination of absenteeism and presenteeism),[4] and health-related activity impairment and the EQ-5D index score and the visual analog scale (EQ VAS).[5] Comorbidity burden was measured using the adjusted Charlson Comorbidities Index (CCI).[6]
- Bivariate analyses were used to compare the demographic characteristics, prevalence of mental health conditions, health-related quality of life, and work productivity and work impairment among the patients.
- P-values <0.05 were statistically significant.

Figure 1. Schematic flow of study populations



NHWS Japan 2024
N=30,001

Respondents with ever experienced female-specific cancers (breast, ovarian, cervical, or uterine)

Respondents with ever experienced and physician-diagnosed female-specific cancers

Caregivers of children or adult relative(s) with any condition(s)
N=69

Non-caregivers
N=431

Results

Respondents characteristics.

- Among 500 patients with female specific cancers, 69 had caregiving responsibilities.
  Among caregivers, 71.0% were caring for adult relative(s) with any condition(s) and 46.4% were caring for children with any condition(s).
- The mean age of caregivers was 57.9 years (SD: 11.3) and non-caregivers was 60.7 years (SD: 12.4).
  Majority of caregivers were aged 56-65 years (40.5%), while majority of non-caregivers were aged >65 years (42.2%)
- Compared to non-caregivers, a higher proportion of caregivers were married (75.4% vs. 58.2%, p=0.007).
- Caregivers had significantly higher comorbidity burden than non-caregivers (CCI: 3.36 vs. 2.20, p<0.01), with a significantly higher proportion of caregivers having ≥3 comorbidities (29.0% vs. 16.9%, p=0.017) (**Table 1**).

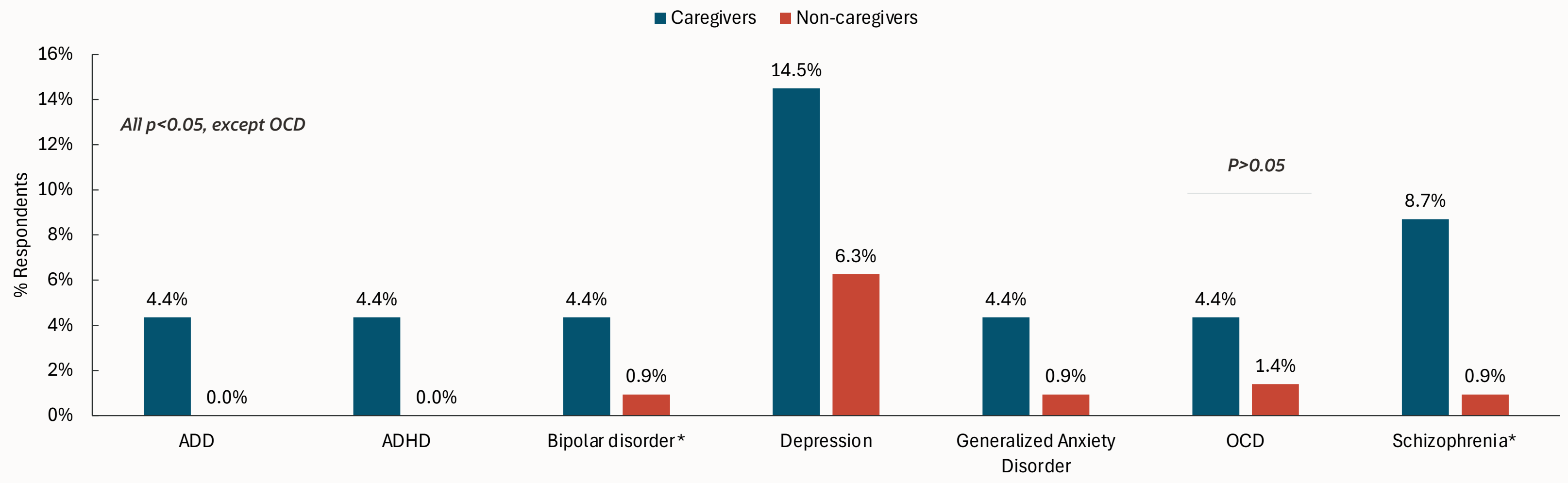
Table 1. Respondents' characteristics

	Female cancer patients who are caregivers		Female cancer patients who are non-caregivers		p-value
	N	%	N	%	
Total Population	**69**		**431**		
Types of female cancers diagnosed with..					
Breast Cancer	48	69.6%	277	64.3%	0.393
Ovarian Cancer	5	7.3%	28	6.5%	0.816
Cervical cancer	19	27.5%	86	20.0%	0.152
Uterine Cancer	6	8.7%	49	11.4%	0.511
Caregivers					
of adult relative(s) with conditions	49	71.0%	-	0	0.000
of children with conditions	32	46.4%	-	0	0.000
Demographic characteristics					
Age, years					
Mean Age, (SD)	57.9 (11.3)		60.7 (12.4)		0.082
18-25	0	0%	2	0.5%	0.571
26-35	3	4.4%	13	3.0%	0.560
36-45	6	8.7%	40	9.3%	0.876
46-55	15	21.7%	84	19.5%	0.664
56-65	28	40.6%	110	25.5%	0.010
>65	17	24.6%	182	42.2%	0.006
Marital Status					
Married or living with partner	52	75.4%	251	58.24%	0.007
Education					
University degree	26	37.7%	128	29.70%	0.183
Employment status					
Current employed	32	46.4%	185	42.92%	0.592
General health characteristics					
Body Mass Index, mean (SD)	21.84 (4.25)		21.51 (3.73)		0.511
CCI score					
Mean CCI score (SD)	3.36 (5.31)		2.20 (0.48)		<0.001
0	0	0%	0	0%	0.500
1	0	0%	0	0%	0.500
2	49	71.0%	358	83.1%	0.017
≥3	20	29.0%	73	16.9%	0.017

Prevalence of mental health conditions among patients with female-specific cancers

- Compared to non-caregivers, a significantly higher proportion of caregivers experienced ADD, ADHD, depression, generalized anxiety disorder and OCD in the past 12 months, and ever experienced bipolar disorder and schizophrenia (all <0.05) (**Figure 2**).

Figure 2. Prevalence of mental conditions among patients who are caregivers vs. non-caregivers



Abbreviations: ADD, Attention Deficit Disorder; ADHD, Attention Deficit Hyperactivity Disorder; OCD, Obsessive Compulsive Disorder
**Ever experienced bipolar disorder or schizophrenia*

Overall, the humanistic burden of patients who are caregivers (mental health burden, health state, and WPAI) were higher than patients who are not caregivers (Figures 3-5).

Figure 3. Mental health burden of patients who are caregivers vs. non-caregivers in terms of depressive (Patient Health Questionnaire-9 [PHQ-9≥10]) and anxiety (Generalized Anxiety Disorder, GAD-7≥10) symptoms.

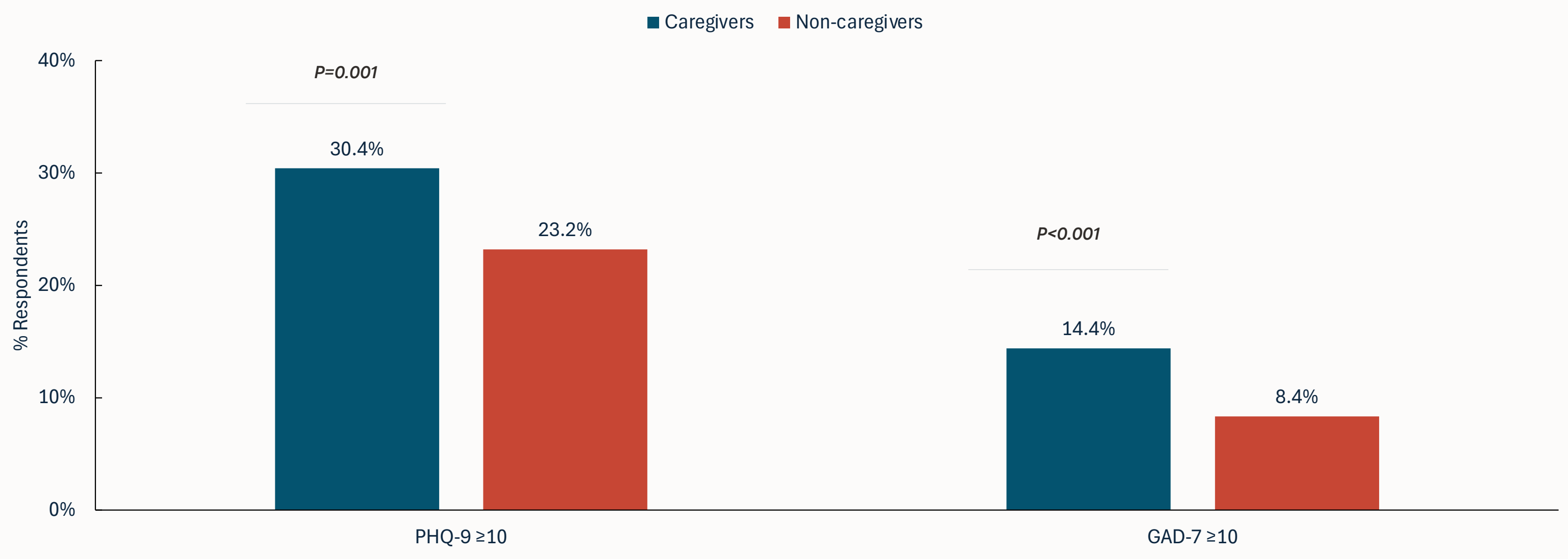


Figure 4. Health-related quality of life scores of patients who are caregivers vs. non-caregivers in terms of EQ-5D health-state.

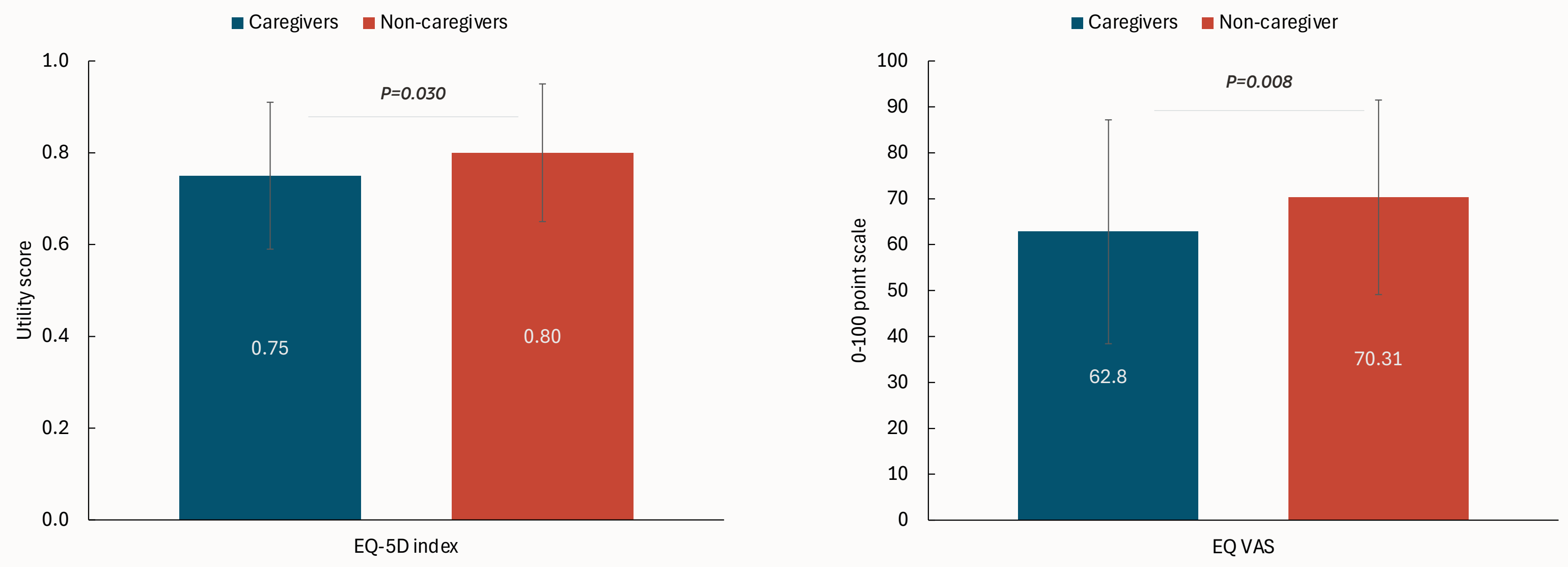
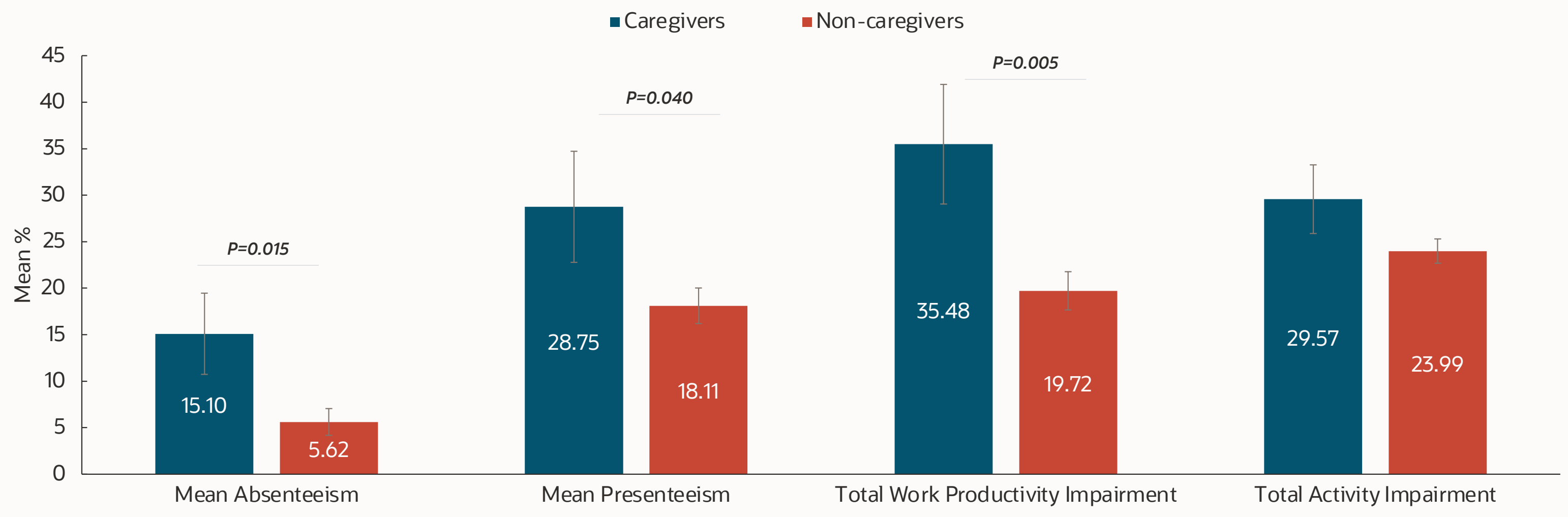


Figure 5. Work Productivity and Activity Impairment of patients who are caregivers vs. non-caregivers



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Conclusion

- The study findings showed a negative impact of caregiving on female-specific cancer patients.
  - This dual role, of being both a patient and a caregiver, leads to a heightened disease burden and a reduced quality of life.
  - The challenges faced are multifaceted, including physical, emotional, social, and financial strains.
- This highlighted the unmet need for interventions to alleviate caregiving responsibilities among female-specific cancer patients to reduce their disease burden and improve their overall quality of life.

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