

# A randomized controlled trial of postoperative adjuvant therapy for elderly breast cancer patients: Comparison of health-related quality of life between clinical trial participants and decliners

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## Background

Health-related quality of life (HRQoL) is one of the important outcomes in cancer control trials and has increasingly become one of the primary foci. Obtaining informed consent from participants is essential for participation in randomized controlled trials (RCTs), but the participation in these RCTs may directly influence HRQoL, because treatment options are determined according to the allocation schedule. To date, only a few studies have compared HRQoL between clinical trial participants and decliners.

## Patients and Method

The National Surgical Adjuvant Study of Breast Cancer 07 is a randomized clinical trial in women with HER2-positive primary breast cancer who are over 70 years of age (07-RCT).

The primary aim of this study was to investigate the benefit of trastuzumab monotherapy compared with combination therapy using trastuzumab and chemotherapy<sup>1</sup>). In this study, patients were randomized to receive either trastuzumab plus chemotherapy or trastuzumab monotherapy. The primary endpoint was disease-free survival, and the secondary endpoints were overall survival, relapse-free survival, safety, HRQoL, comprehensive geriatric assessment (CGA) and cost effectiveness.

HRQoL and CGA were assessed at registration (baseline), 2 month, 1 year, and 3 years after the start of protocol treatments using questionnaires as follows:

- Functional Assessment of Cancer Therapy-General (FACT-G),
- Hospital Anxiety and Depression Scale (HADS)
- EuroQol 5 Dimension (EQ-5D)
- Tokyo Metropolitan Institute of Gerontology (TMIG) index of competence
- Philadelphia Geriatric Center (PGC) Morale Scale.

The subjects who declined to participate in 07-RCT were registered in a cohort study to prospectively evaluate the subsequent treatment options and prognosis (07-Cohort). The same questionnaire that was used in 07-RCT was used in 07-Cohort to evaluate HRQoL and CGA at entry.

## Results

Patients were enrolled from October 2012 to October 2015. During this period, 275 and 123 subjects were registered in 07-RCT and 07-Cohort, respectively (Figure 1).

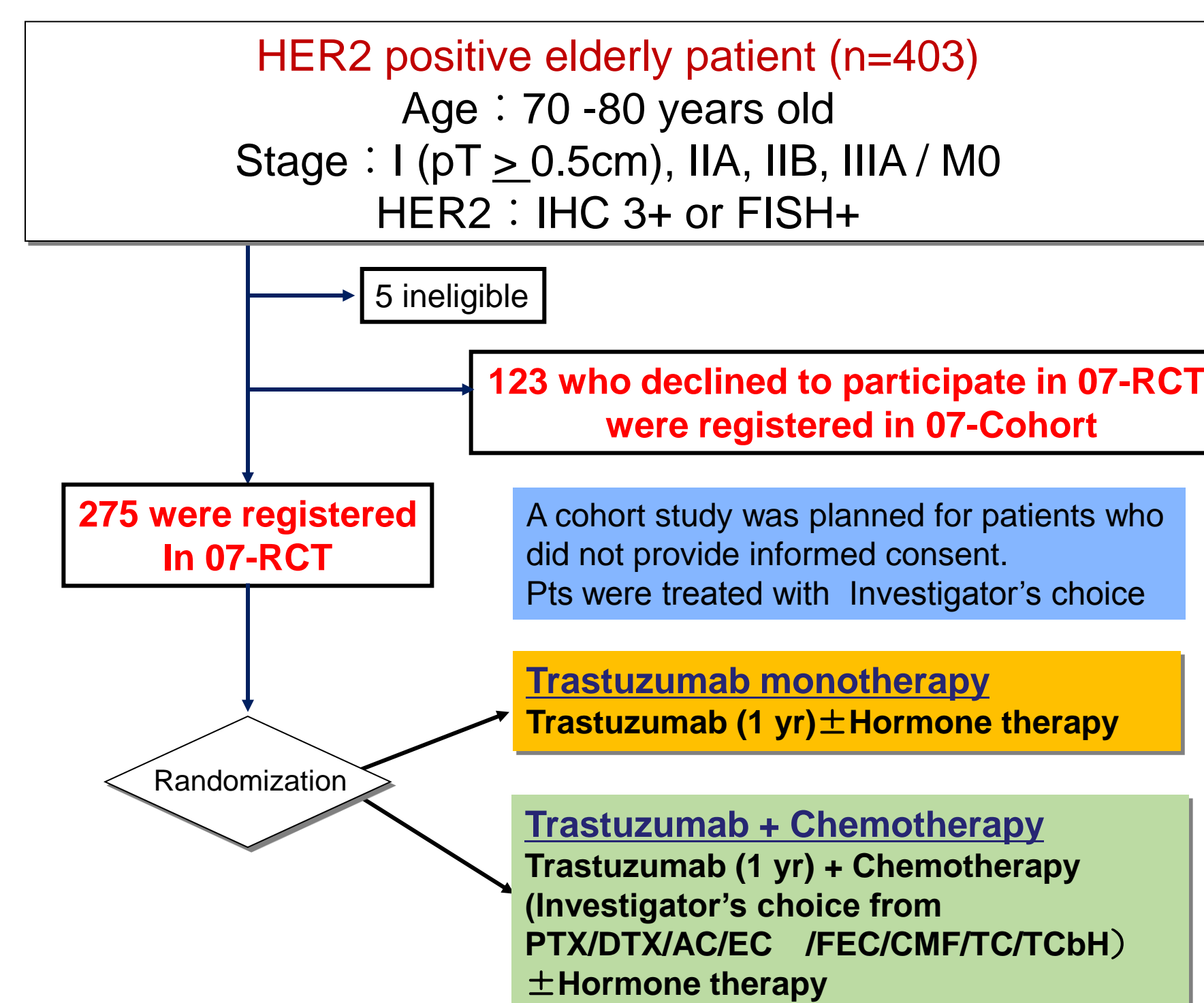


Figure 1. Study consort  
Registration Trial Number: NCT01104935 , UMIN000002349

The questionnaire response rates at baseline in the patients in 07-RCT and 07-Cohort were 244 (89%) and 102 (82%), respectively. The clinical characteristics of responders are presented in Table 1.

There were significant difference in mean age between the groups. The mean age in 07-RCT and 07-Cohort groups were 73.8 (2.9) and 74.8 (3.1), respectively, with the mean age being significantly higher in the 07-Cohort group. There were no significant difference in clinical stage and major comorbidities between groups, respectively.

Table 1. Clinical characteristics of 07-RCT and 07-Cohort

	07-RCT (N=244)		07-Cohort (N=102)		p-value
	Number of patients (%) / or mean (SD)				
Age	73.8 (2.9)		74.8 (3.1)		<b>0.019</b>
Stage					0.89
	I	101 (43)	41 (41)		
	IIA	99 (42)	42 (42)		
	IIB	32 (14)	14 (14)		
	IIIA	4 (2)	3 (3)		
Major comorbidity					
Hypertension	yes	109 (45)	38 (38)		0.21
	no	131 (55)	62 (62)		
Diabetes	yes	30 (13)	12 (12)		0.90
	no	210 (87)	88 (88)		
Osteoporosis	Yes	26 (11)	9 (9)		0.61
	no	214 (89)	91 (91)		
Hyperlipidemia	yes	63 (26)	22 (22)		0.41
	no	177 (74)	78 (78)		

There were no significant differences in FACT-G, HADS, EQ-5D, or TMIG index of competence at baseline between the groups, but the mean (standard deviation) scores of PGC Morale Scale in 07-RCT and 07-Cohort groups were 10.8 (3.3) and 9.9 (3.7), respectively, with the scores being significantly greater in the 07-RCT group (p=0.022, t-test). (Figure2, Table2)

Figure 2. Distribution of FACT-G, HADS, TMIG index and PGC Morale Scale score at baseline

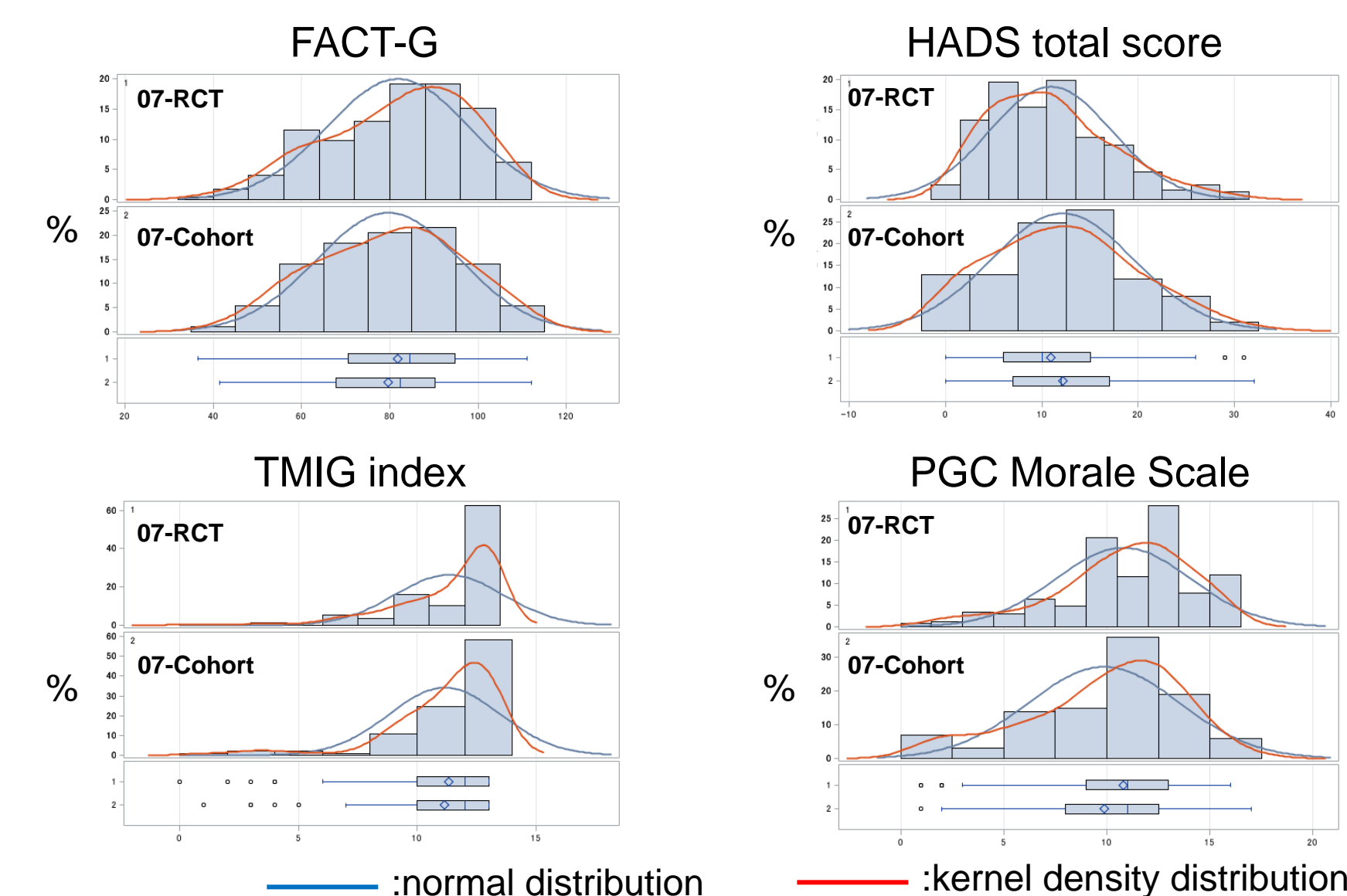


Table 2. Mean score of FACT-G, HADS, EQ-5D, TMIG index and PGC Morale Scale at baseline

	07-RCT		07-Cohort		p-value
	mean (SD)				
FACT-G					
	Total score	82.0(16.0)	79.6(16.2)		0.23
	Physical Well-Being	23.0(4.3)	22.9(4.2)		0.87
	Social/Family Well-Being	19.3(6.7)	18.6(6.8)		0.87
	Emotional Well-Being	20.3(5.3)	19.2(5.8)		0.11
	Functional Well-Being	19.5(6.5)	18.9(6.3)		0.44
HADS					
	Total score	10.9(6.4)	12.1(7.4)		0.12
	Anxiety	6.2(3.6)	6.9(4.2)		0.12
	Depression	4.6(3.5)	5.2(3.9)		0.21
EQ-5D					
		0.8(0.2)	0.8(0.2)		0.33
TMIG index					
		11.3(2.3)	11.2(2.3)		0.50
PGC Morale Scale					
		10.8(3.3)	9.9(3.7)		<b>0.02</b>

## Discussion and Conclusion

The PGC Morale Scale was designed to measure dimensions of emotional adjustments in persons aged 70 to 90. It provides a multidimensional approach to assessing the psychological well-being of older people<sup>2, 3</sup>). The total score ranges from 0-17. As a general guideline, scores of 13 to 17 would be considered high scores on the morale scale, 10 to 12 fall within the mid-range and scores below 9 are at the lower end. They provide a framework in the initial assessment of the individual's psychological disposition.

This study indicated that participation in the RCT did not affect the global HRQoL of elderly patients but suggested that the psychological well-being of the RCT participants was better than the decliners.

## References

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