

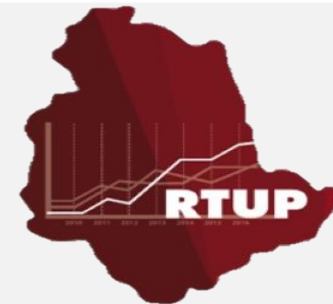


University of Perugia

Department of Experimental Medicine - Section of Public Health

School of Specialization in Hygiene and Preventive Medicine

Coordinator: Prof. Fabrizio Stracci



Adherence to guidelines and relative survival of older women with invasive non metastatic breast cancer in Umbria (Italy)

Caricato M. , Gili A. , Lupi C. , Bianconi F. , Stracci F.

Introduction

- Breast cancer is the most common malignancy and the leading cause of death in women in Europe and in Italy.
- Optimal breast cancer management in older women is still a controversial issue.
- Older women tend to be treated less aggressively.
- Healthy older women, however, could benefit from standard treatments, as well as younger patients.

Research Objectives

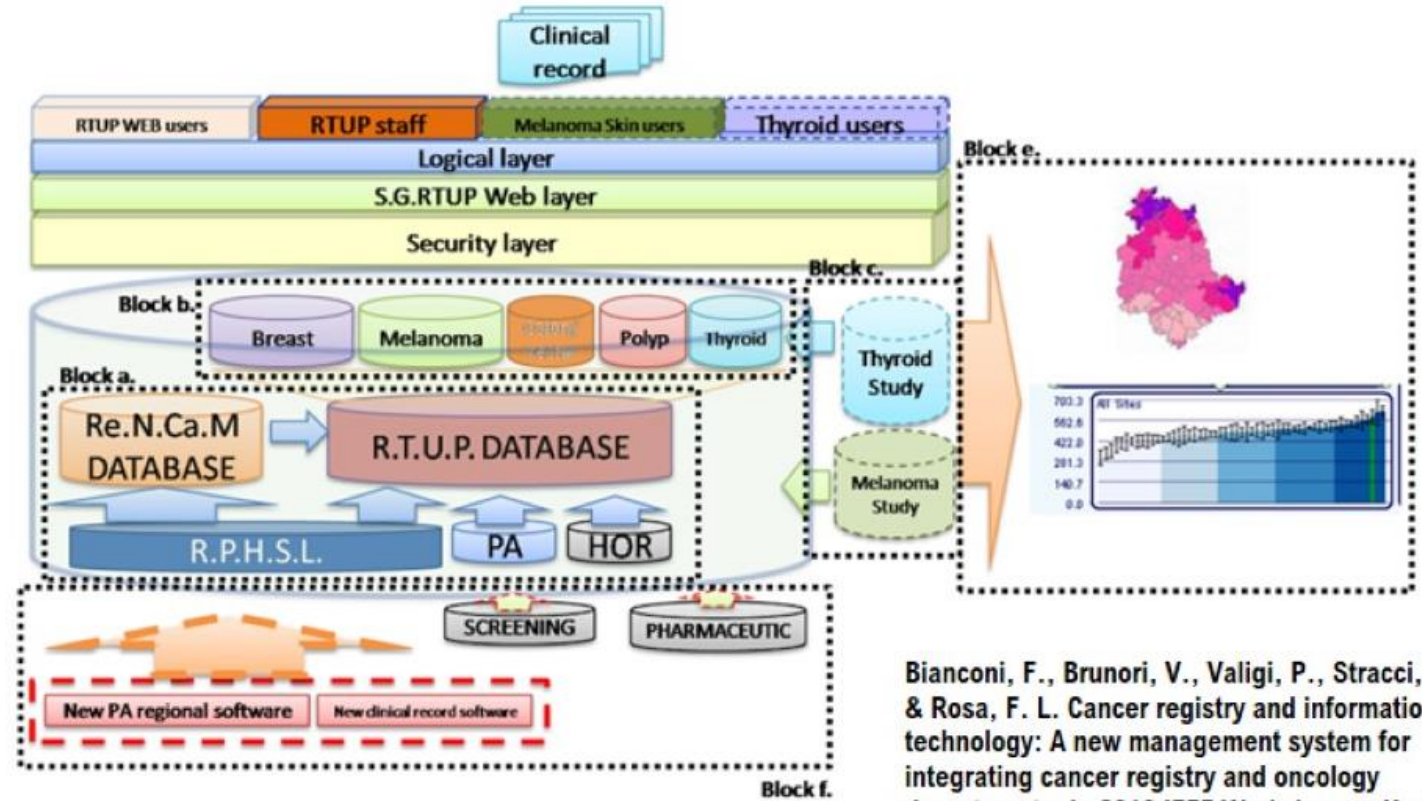
The aim of our study is to investigate **guidelines adherence** and to estimate **5-year relative survival and relative excess risk of death** in **older women** with primary invasive non-metastatic **breast carcinoma** incident from 2001 to 2014 in Umbria (Italy), **eligible for adjuvant treatments**: endocrine therapy, radiotherapy or chemotherapy.

Materials and Methods

DATA SOURCE

Umbria Cancer Registry (RTUP):

- pathologic reports;
- medical records;
- hospital discharge records;
- death certificates (Umbrian Regional Causes of Death Registry - ReNCaM).



Bianconi, F., Brunori, V., Valigi, P., Stracci, F. & Rosa, F. L. Cancer registry and information technology: A new management system for integrating cancer registry and oncology departments. in 2010 IEEE Workshop on Health Care Management (WHCM) 1–5 (2010). doi:10.1109/WHCM.2010.5441254

Materials and Methods

STUDY COHORT

Incident primary invasive
breast cancer
in Umbria in the period
2001-2014
(n=10,020)

Metastatic
cancers: **483**

Women with
previous cancer
diagnosis: **732**

Women aged less
than 50 years:
1,530

Our study cohort
(n=5,555)

Morphology
different from
carcinoma: **41**

Cases treated with
neoadjuvant
therapy: **387**

Cases surgically
treated outside
Umbria: **1,226**

Women aged
more than 89
years: **66**

Materials and Methods

ELIGIBILITY CRITERIA

Our study cohort
(n=5,555)
All women were
surgically treated

ENDOCRINE THERAPY

Breast carcinomas ER/PgR +

RADIATION THERAPY

- Tumors treated with breast conserving surgery
- Tumors pT \geq 3 and/or pN \geq 2 treated with mastectomy

CHEMOTHERAPY

Tumors with unfavorable prognostic factors: (triple negative, Her2+, pN \geq 2)

Materials and Methods

STATISTICAL ANALYSIS

- Five-year relative survival by the Pohar-Perme method
- Relative excess risk of death (RER)
- All estimates were performed using STATA 14.2

Results

ELIGIBILITY CRITERIA

ENDOCRINE THERAPY

Breast carcinomas ER/PgR +

→ n=4,803

5,555

All women were
surgically treated

RADIATION THERAPY

- Tumors treated with breast conserving surgery
- Tumors pT≥3 and/or pN≥2 treated with mastectomy

CHEMOTHERAPY

Tumors with unfavorable prognostic factors:
(triple negative, Her2+, pN≥2)

Results

ENDOCRINE THERAPY

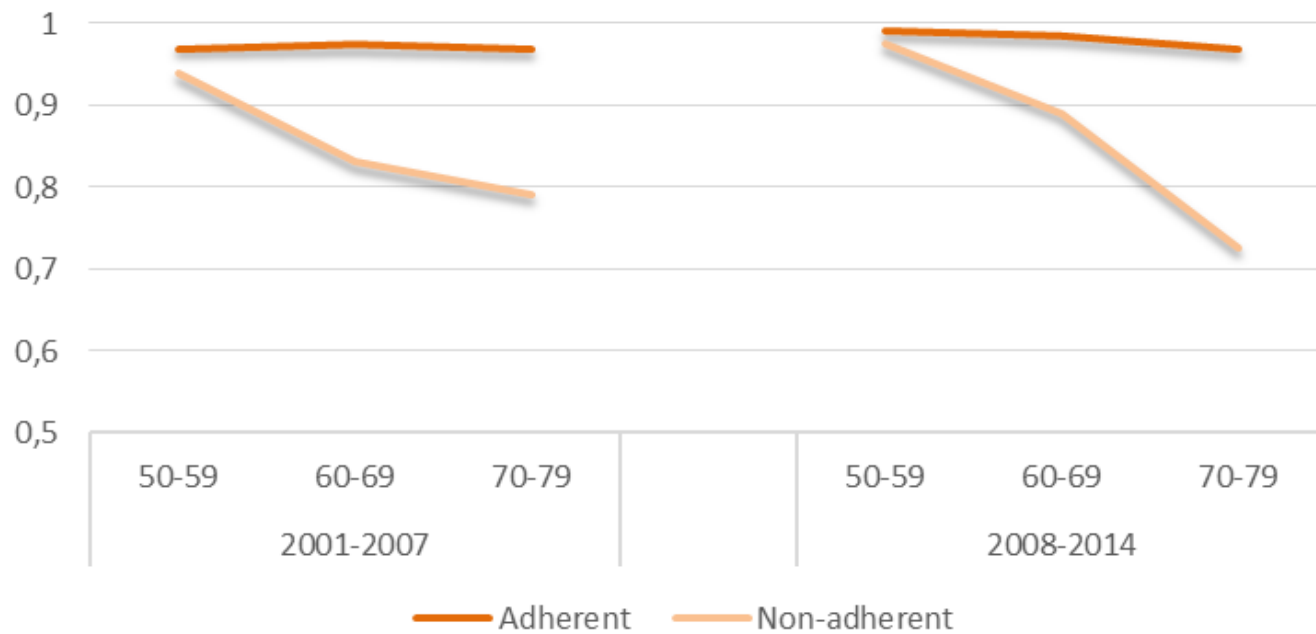
Variables	ENDOCRINE THERAPY n=4.803	
	Non-adherent 548 (11.41)	Adherent 4.255 (88.59)
	n (%)	n (%)
Age group		
50-59	72 (5.73)	1,185 (94.27)
60-69	117 (7.34)	1,476 (92.66)
70-79	157 (12.11)	1,139 (87.89)
80-89	202 (30.75)	455 (69.25)
Period of diagnosis		
2001-2007	310 (13.86)	1,927 (86.14)
2008-2014	238 (9.28)	2,328 (90.72)

- The adherence to guidelines decreased with increasing age
- The adherence to guidelines increased over the study period

Results

ENDOCRINE THERAPY

5-year Relative Survival



ENDOCRINE THERAPY

			RER	p
2001-2007	50-59	Adherent	Ref	
		Non-adherent	2.10	0.184
	60-69	Adherent	Ref	
		Non-adherent	3.43	0.001
	70-79	Adherent	Ref	
		Non-adherent	4.86	0.000
2008-2014	50-59	Adherent	Ref	
		Non-adherent	10.71	0.091
	60-69	Adherent	Ref	
		Non-adherent	6.48	0.003
	70-79	Adherent	Ref	
		Non-adherent	12.67	0.000

Results

ELIGIBILITY CRITERIA

ENDOCRINE THERAPY

Breast carcinomas ER/PgR +

RADIATION THERAPY

- Tumors treated with breast conserving surgery
- Tumors pT \geq 3 and/or pN \geq 2 treated with mastectomy

CHEMOTHERAPY

Tumors with unfavorable prognostic factors:
(triple negative, Her2+, pN \geq 2)

5,555

All women were surgically treated

n=4,462

Results

RADIATION THERAPY

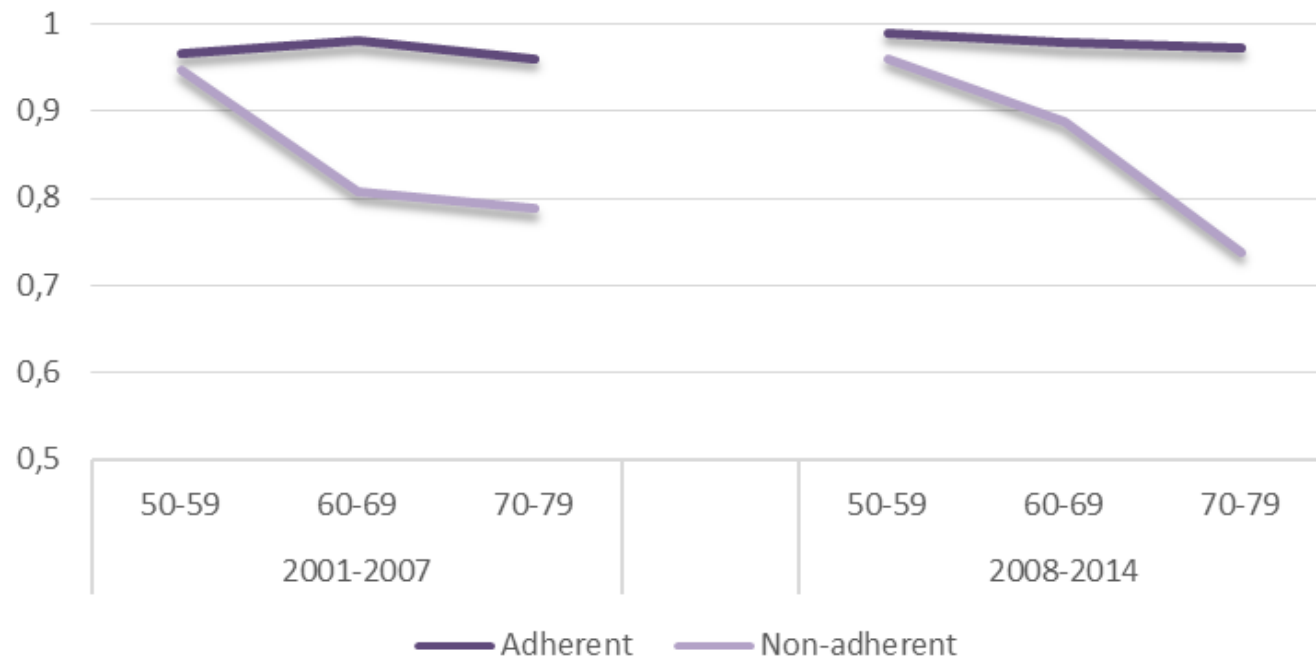
Variables	RADIATION THERAPY n=4.462	
	Non-adherent 842 (18.87)	Adherent 3.620 (81.13)
	n (%)	n (%)
Age group		
50-59	128 (10.09)	1,140 (89.91)
60-69	140 (8.92)	1,429 (91.08)
70-79	245 (21.89)	874 (78.11)
80-89	329 (65.02)	177 (34.98)
Period of diagnosis		
2001-2007	526 (24.32)	1,637 (75.68)
2008-2014	316 (13.75)	1,983 (86.25)

- The adherence to guidelines decreased with increasing age
- The adherence to guidelines increased over the study period

Results

RADIATION THERAPY

5-year relative survival



RADIATION THERAPY

			RER	p
2001-2007	50-59	Adherent	Ref	
		Non-adherent	1.10	0.870
	60-69	Adherent	Ref	
		Non-adherent	4.06	0.000
	70-79	Adherent	Ref	
		Non-adherent	4.60	0.000
2008-2014	50-59	Adherent	Ref	
		Non-adherent	2.72	0.386
	60-69	Adherent	Ref	
		Non-adherent	6.20	0.001
	70-79	Adherent	Ref	
		Non-adherent	9.69	0.000

Results

ELIGIBILITY CRITERIA

ENDOCRINE THERAPY

Breast carcinomas ER/PgR +

RADIATION THERAPY

- Tumors treated with breast conserving surgery
- Tumors pT \geq 3 and/or pN \geq 2 treated with mastectomy

CHEMOTHERAPY

Tumors with unfavorable prognostic factors: (triple negative, Her2+, pN \geq 2)

n=1,560

5,555

All women were surgically treated

Results

CHEMOTHERAPY

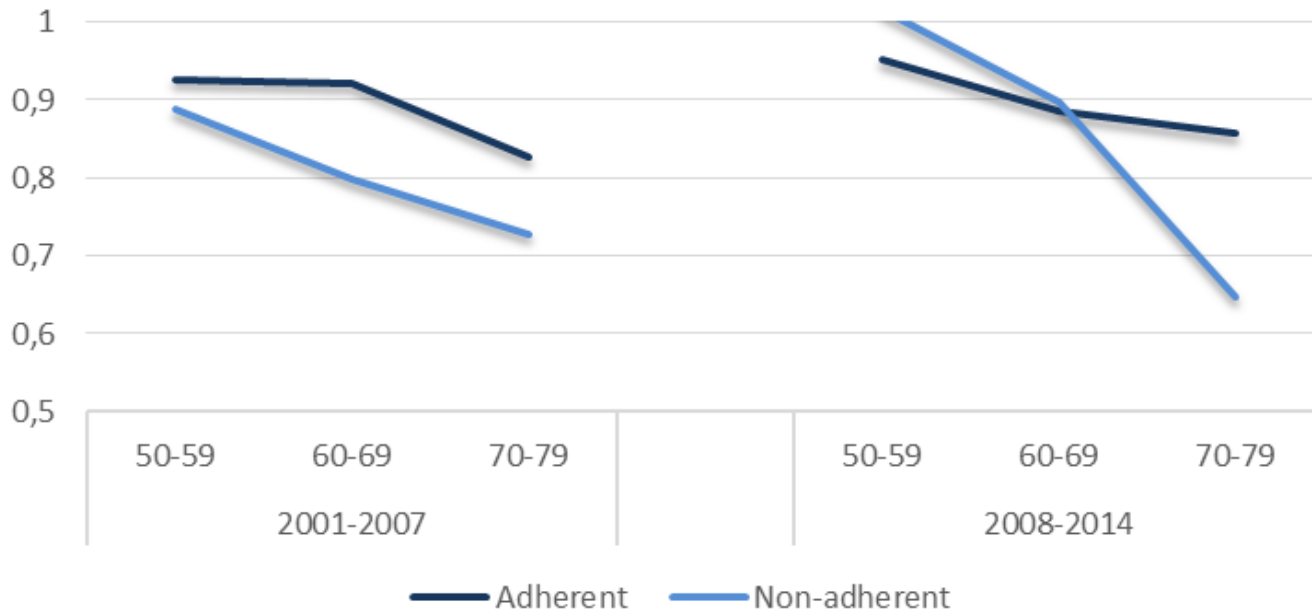
Variables	CHEMOTERAPHY n=1.560	
	Non-adherent 462 (29.62)	Adherent 1.098 (70.38)
	n (%)	n (%)
Age group		
50-59	55 (11.34)	430 (88.66)
60-69	81 (16.27)	417 (83.73)
70-79	156 (41.05)	224 (58.95)
80-89	170 (86.29)	27 (13.71)
Period of diagnosis		
2001-2007	292 (36.36)	511 (63.64)
2008-2014	222 (29.33)	535 (70.67)

- The adherence to guidelines decreased with increasing age
- The adherence to guidelines increased over the study period

Results

CHEMOTHERAPY

5-year Relative Survival



CHEMOTHERAPY

			RER	p
2001-2007	50-59	Adherent	Ref	
		Non-adherent	1.20	0.708
	60-69	Adherent	Ref	
		Non-adherent	1.38	0.386
	70-79	Adherent	Ref	
		Non-adherent	1.01	0.973
2008-2014	50-59	Adherent	Ref	
		Non-adherent	0.70	0.811
	60-69	Adherent	Ref	
		Non-adherent	0.87	0.842
	70-79	Adherent	Ref	
		Non-adherent	1.60	0.221

Limitations

- The administration and health outcomes for each adjuvant treatment were investigated separately.
- The small number of patients eligible for chemotherapy could have affected the estimation of the 5-year relative survival and RER of death.
- The estimation of the 5-year relative survival did not evaluate the age-group 80-89 due to the low number of patients.

Conclusions

- ✓ Our study shows that **older women** (70-79 and 80-89) eligible for adjuvant treatments **received less frequently guidelines-adherent therapies**, if compared to younger women.
- ✓ **Non-adherence to guidelines decreased over the study period** for each adjuvant treatment.
- ✓ **Non-adherence to guidelines** was associated with **worst** health outcomes for adjuvant endocrine therapy and radiation therapy, in particular 5-year relative survival and RER of death.
- ✓ **Non-adherence to guidelines** was **not** significantly associated with **worst** health outcomes for adjuvant **chemotherapy**.

Conclusions

- ✓ Our findings suggest a further awareness of clinical practitioners on the **importance of therapeutic strategy** adhering to evidence-based recommendation.
- ✓ Further studies are needed to identify the **optimal management** of invasive breast cancer in older women.

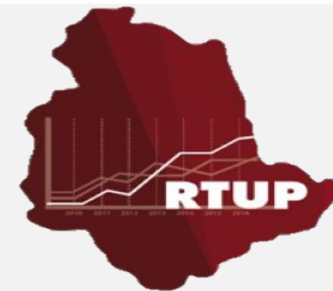


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