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# Management of early breast cancer: Pattern of practice in Pakistan

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# Breast cancer: A public health problem in Pakistan

- Population ~ 160 million
- Females aged > 20 years: 38 million (approx)
- High incidence rates in Pakistani women <sup>1</sup>
- Two third (63%) present at advanced stages of cancer <sup>1</sup>

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<sup>1</sup> Bhurgri, Y., Kayani, N., Faridi, N., Pervez, S., Usman, A., Bhurgri, H., Malik, J., Bashir, I., Bhurgri, A., Hasan, S.H. & Zaidi, S.H.M. (2007). Patho-epidemiology of breast cancer in Karachi '1995-1997'. Asian Pacific Journal of Cancer Prevention, 8, 215-20.

# High incidence and high mortality

Cancer site Breast	World	More developed countries *	Less developed countries *	RR <sup>†</sup> LD:MD <sup>‡</sup>	Pakistan *	RR P:MD <sup>§</sup>
Incidence / 100000	37.4	67.8	23.8	0.4	50.1	0.74
Mortality / 100000	13.2	18.1	10.3	0.8	22.0	1.22
Case fatality (%)	35.3	26.7	43.3	1.6	43.9	1.64

Table 1: Breast cancer incidence, mortality age standardized rate (ASR) per 100000 and case-fatality by World, More and Less Developed Countries and Pakistan - IARC 2002

\* Data for these regions generally cover the time period 1993-97 while for Pakistan the data are from 1995-97

<sup>†</sup> RR = relative risk (author calculated)

<sup>‡</sup> LD=less developed, MD=more developed

<sup>§</sup> Pakistan:More Developed

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# Reducing breast cancer mortality

- Success of developed countries in reducing breast cancer mortality with **early detection + optimal treatment**
- Early detection
- Optimal treatment
  - Guidelines for management of breast cancer developed in economically privileged areas
- Applicability of this approach in developing countries

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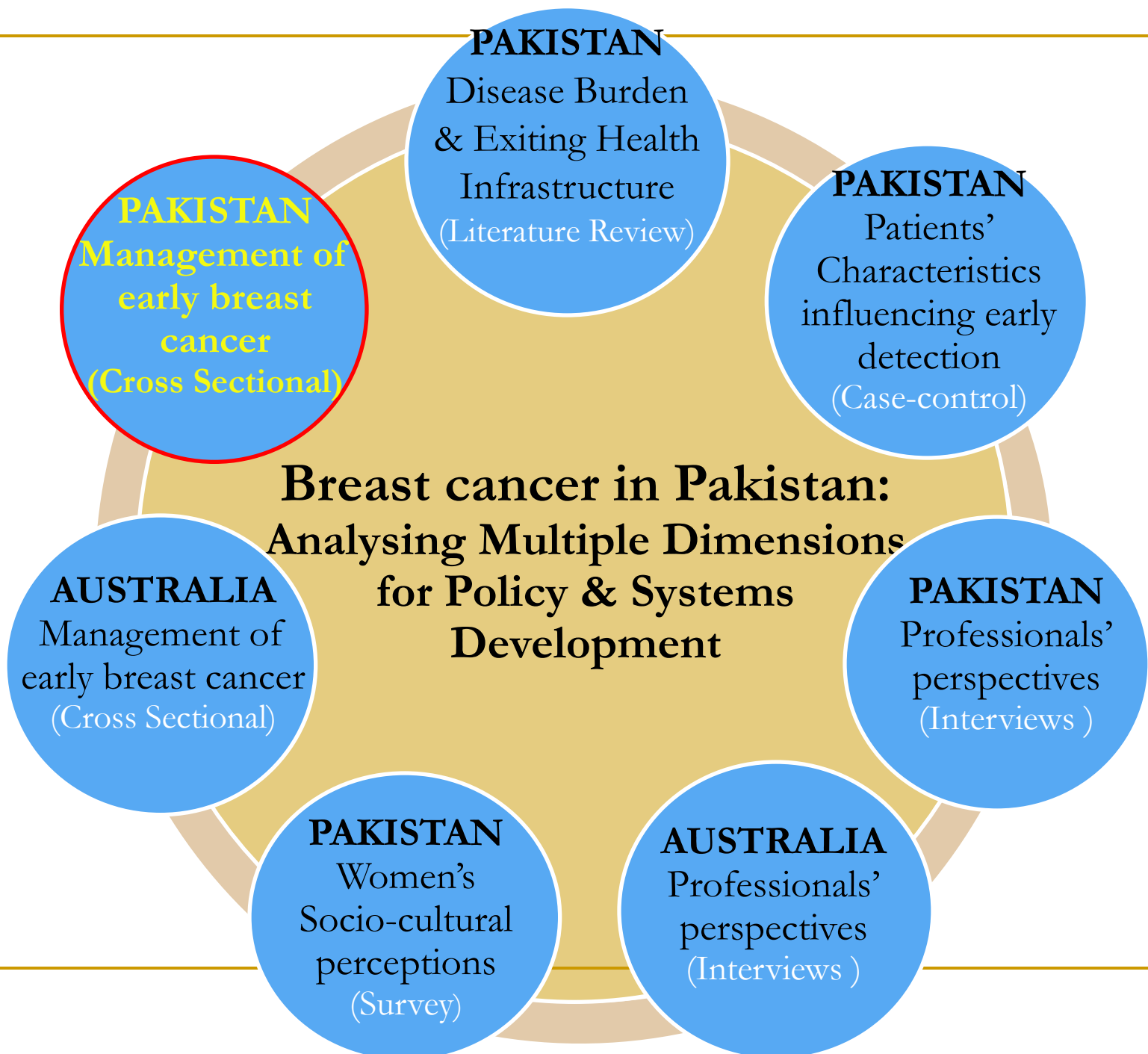
# Making the recommendations work in Pakistan

- Empowerment and awareness
  - Patients' perspectives regarding breast cancer neglected
- Early detection efforts
  - There is no systematic population based screening
- **Management of early breast cancer**
  - **How are early detected cases managed currently?**

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# Research questions

- What are the socio-cultural aspects of breast cancer health seeking behaviour in Pakistan? (Women's perceptions about breast cancer)
- In the absence of a population based screening programme what are the characteristics of patients presenting with early breast cancer in Pakistan?
- What are health system professionals' perspectives on the status of breast cancer care and applicability of public health interventions used elsewhere for improving breast cancer care in Pakistan?
- What are health system professionals' perspectives on the development of breast cancer care in Australia?
- **What are the differences or similarities in early breast cancer management in a developing (Australia) versus developed country (Pakistan)?**



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# Methods

## ■ Setting

Department of Surgery, Aga Khan University Hospital (AKUH), Karachi, Pakistan

## ■ Duration

January 2002 – Dec 2006

## ■ Analysis

- Descriptive statistics
- Logistic regression - to determine factors (age, stage of tumour, histologic grade of tumour, history of hormone use, marital status and position of tumour) associated with breast conserving surgery (BCS)



## Characteristics of women and tumour description for breast cancer patients in Karachi (2002 – 06) (n=325)

Characteristic	Distribution	
	n	%
<b>Age in groups</b>		
< 50	139	(43)
50 – 69	148	(46)
≥ 70	38	(12)
<b>Menopausal status<sup>1</sup></b>		
Pre menopausal	120	(39)
Post menopausal <sup>2</sup>	190	(61)
<b>BMI<sup>3</sup></b>		
BMI < 25	85	(28)
BMI ≥ 25	220	(72)
<b>Marital Status<sup>4</sup></b>		
Single	21	(7)
Married	277	(86)
Divorced/widowed	24	(8)
<b>Work status<sup>5</sup></b>		
Housewife	295	(92)
Paid work	27	(8)

# Characteristics of women and tumour description for breast cancer patients in Karachi (2002 – 06)

Characteristic	Distribution	
	n	%
<b>UICC clinical stage</b>		
I	70	(22)
II	255	(78)
<b>Histological grade of tumour<sup>6</sup></b>		
Grade 1	31	(12)
Grade 2	176	(65)
Grade 3	63	(23)
<b>History of hormone use<sup>7</sup></b>		
No	289	(89)
Yes	34	(11)

## Surgical procedure adopted for early breast cancer cases by year of diagnosis, Karachi (2002-06)

Surgical procedure	Year of diagnosis	
	2002 -06	
	n	%
	308	
<b>BCS<sup>*a</sup></b>	111	(36)
<b>Mastectomy<sup>b</sup></b>	197	(64)

\*BCS=Breast conserving surgery, <sup>a</sup> includes Wide Local Excision (WLE) & Axillary sampling, Lumpectomy/WLE only, WLE + Axillary node sampling + Lateral Dorsi Flap (Conservation+ Reconstruction), Rainsbury's and Quadrentectomy + Lateral Dorsi Flap + ANS (Conservation + Reconstruction)

<sup>b</sup> Mastectomy includes Modified Radical Mastectomy, Simple Mastectomy, Skin Spring Mastectomy + TRAM FLAP(Reconstruction), Total Mastectomy & Axillary Clearance and Conversion Mastectomy

## Multivariate associations between independent variables and type of surgery, Karachi (2002-2006)

Characteristics	aOR	P - value	95% C.I. for aOR	
			Lower	Upper
<b>Age</b>	1	0.898	0.975	1.023
<b>UICC clinical stage</b>				
I	5.425	0.000	2.627	11.205
II	1			
<b>Marital Status<sup>1</sup></b>				
Single	5.773	0.032	1.159	28.747
Married	1.876	0.311	0.555	6.336
Divorced/ widowed	1			
<b>History of hormone use<sup>2</sup></b>				
No	1			
Yes	2.119	0.137	0.788	5.699

aOR=Odds Ratio adjusted for histological grade and position of tumour, Missing information 1=3, 2=2

\* Tumours located at central position or involved whole breast for 4 cases, all underwent mastectomy

## Early breast cancer cases receiving adjuvant treatment by surgical procedure, Karachi (2002-06)

Treatment	Surgical procedure			
	Mastectomy		BCS	
	n	%	n	%
Adjuvant radiotherapy <sup>1</sup>	42	(21)	88	(79)
<i>Completed radiotherapy</i>	40		87	
Adjuvant chemotherapy	107	(54)	70	(63)
<i>Completed chemotherapy</i>	91		61	

<sup>1</sup>=Adjuvant radiotherapy includes breast and axillary radiation; information not available for 1 case in BCS group

# Comparison

	<b>Australia</b>	<b>Pakistan</b>
<b>Breast conservation surgery</b>	68%	36%
<b>Post surgery treatment</b>		
Adjuvant Radiotherapy	93%	79%
Adjuvant Chemotherapy	41%	70%

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# Conclusion

- Fewer women with early BC are receiving BCS than mastectomy
- Not all receive post BCS radiation therapy
- Some conformity with guidelines, considerable room for improvement
- Important baseline treatment indicators for future assessments of BC care in Pakistan