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Association of Thailand's universal health coverage schemes on staging at presentation of breast cancer patients

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Introduction:

Thailand healthcare coverage has main three schemes that affect early diagnosis and treatment of breast cancer. This study aimed to compare the disparity in the stage at presentation among breast cancer patients in the Civil Servant Medical Benefit Scheme (CSMBS), Social Security Scheme (SSS), and Universal Coverage Scheme (UCS).

Materials & Methods:

Retrospective cohort study, we collected medical record data of breast cancer patients at Rajavithi Hospital from January 2014 to December 2022, including information such as age, gender, income, scheme, religion, living area, medical history, previous treatment, and subtype in breast cancer patients. The primary outcome is the correlation between the scheme and breast cancer staging at presentation, while the secondary outcome is the impact of other factors.
We categorized including CSMBS, SSS, and UCS.
All data were analyzed by using multiple logistic regression, with a significance p-value < 0.05.

Result:

Among the 1,314 breast cancer patients, 96.6% were women. The proportion of patients under the three main schemes was as follows: CSMBS 54 (4.1), SSS 393 (29.9), UCS 760 (57.8). Breast cancer staging revealed the distribution across stages: Stage I (CSMBS 10 (18.5), SSS 56 (14.2), UCS 87 (17.4)), Stage II (CSMBS 21 (38.9), SSS 168 (42.7), UCS 257 (33.8)), Stage III (CSMBS 16 (29.6), SSS 111 (28.2), UCS 262 (34.5)), and Stage IV (CSMBS 7 (13.0), SSS 58 (14.8), UCS 154 (20.3)), with a statistically significant difference (p= 0.02). Comparing the UCS, it was observed that there is a higher prevalence of late-stage breast cancer presentation (Odds ratio: 1.69, 95% CI: 1.02-2.81) as shown in the table below.

Table 1 Results from Multivariable Logistic Models associating Scheme with risk of breast cancer staging

Scheme	Crude OR	95% CI	p-value	Adj. OR	95%CI	p-value
CSMBS	1	-		1	-	
SSS	1.124	0.666-1.897	0.660	0.789	0.431-1.446	0.444
UCS	1.694	1.019-2.817	0.042*	1.141	0.635-2.050	0.658
Co-pay	1.842	1.013-3.349	0.045*	1.385	0.685-2.800	0.365

Table 2

Factors	Crude OR	95% CI	p-value	Adj. OR	95%CI	p-value
RT (Yes)	1.997	1.312-3.039	0.001*	1.665	0.842-3.293	0.143
RT (No)	1	-		1	-	
PR (Yes)	0.745	0.603-0.920	0.006*	0.827	0.640-1.069	0.147
PR (No)	1	-		1	-	
KI67 (Yes)	1.753	1.290-2.381	<0.001*	1.584	1.154-2.176	0.004*
KI67 (No)	1	-		1	-	
HER2 (Yes)	1.347	1.076-1.687	0.009*	1.147	0.874-1.505	0.321
HER2 (No)	1	-		1	-	

[a] Multivariable model adjusted for RT, PR, KI67, HER2, Scheme

*Significance at p<0.05. On multivariable analysis by Ordinal logistic regression.

Conclusion:

This study found that **UCS is associated with a higher late presentation stage of breast cancer.**

The referral system influences treatment delays, leading to a poor prognosis for breast cancer patients. We suggest developing a medical information system that connects primary care to tertiary care.

References:

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