

IMPACT ON CONSUMPTION AND BUDGET DUE TO SUPPLY SHORTAGES



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BACKGROUND AND IMPORTANCE

Healthcare services are frequently hindered by supply shortages that force the acquisition of other generics and different drugs. These changes often generate a bewildering impact on the healthcare system.

AIM AND OBJECTIVES

To analyze the impact on the consumption of the therapeutic alternatives and the economic consequences.

MATERIAL AND METHODS

Retrospective observational study using data collected by a university hospital from 2015-2024. The consumption of treatments was compared over intervals of equal duration during and before the shortage (7-54 months depending on drug pairs), by calculating the defined daily doses (DDD)/100 stays/day. An analysis of associated costs was conducted using the unit sale price. Data obtained from the WHO Collaborating Centre for Drug Statistics Methodology (established DDD), the annual hospital stay census, and the Athos-Stock management program.

RESULTS

DRUG PAIRS	DDD/100 STAYS/DAY		EXPENSES INCREASE(↑)- DECREASE(↓)
	BEFORE SHORTAGE	DURING SHORTAGE	
Ranitidine (oral/iv)- Famotidine (oral/iv)	0,0209(oral) 0,040(iv)	0,0002(oral) 0,0024(iv)	↓99,72€
Mitomycin- epirubicin- BCG (intravesical)	0,0048 0 0,0001	0,0015 0,0048 0,0001	↓2.404,23€
Labetalol (oral)- methyldopa (oral)	0,0005 0,0003	0,0004 0,0003	↓3,80€
Alteplase (iv)- urokinase (iv)	0,0006 0,0001	0,0002 0,0005	↑4.094,90€
Cyclopentolate- atropine (eye drops)	0,0076 0,0002	0,0025 0,0002	↑50,53€
Clorazepate (iv)- diazepam (iv)	0,0004 0,0821	0,0003 0,0608	↓239,39€

The most notable changes in administration were: increases in famotidine(oral) by 7/100,000 stays and epirubicin(iv) by 5/100,000; decreases in diazepam(iv) by 21/100,000 and clorazepate(iv) by 5/100,000. Regarding the budgetary impact, the alteplase shortage generated the highest global/adjusted monthly expense (73,708.12€/18 months; 4,094.90€/month), while the mitomycin shortage generated the lowest global/adjusted monthly expense (125,019.72€/52 months; 2,404.23€/month).

* Expressing first the affected drug and then the alternative(s), the data obtained about DDD/100 stays/day (before/during the shortage) and increase (↑)/decrease (↓) in expenses derived from the exchange adjusted per month

CONCLUSION AND RELEVANCE

No consumption increase was observed for BCG (decrease in mitomycin use was offset by the increase in epirubicin), methyldopa (possibly due to an increase in other antihypertensives), or diazepam (decrease observed, instead of the expected increase). Except for famotidine(oral/iv), epirubicin(intravesical), and urokinase(iv), the DDD/100 stays/day for all alternatives to drugs affected by shortages either remained unchanged or decreased, with little economic impact. While some shortages have resulted in significant associated costs (alteplase), most have led to reduced costs due to the proposed lower-cost therapeutic alternatives.

