

# Costs related to the use of non-antiretroviral medicines among people living with HIV/AIDS

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## BACKGROUND AND OBJECTIVES

- People living with HIV/AIDS (PLWHA) often use several medicines other than antiretrovirals (ART) to treat co-morbidities and pathologies associated with HIV
- Medicines constitute the main expenditure at the outpatient level and have a great impact on the cost of PLWHA care
- Therefore, we aimed to evaluate the costs associated with use of non-ART medicines among HIV patients.

## METHODS

- Non-concurrent prospective cohort of 440 patients initiating ART between Jan/14 and Dec/15 at a referral service in southeast, Brazil
- Sociodemographic, clinical and behavioral data obtained through patients' clinical chart
- 12 months of follow-up
- All prescribed items used by the patients were considered
- Medicines were classified by the ATC-DDD system
- Cost of non-ART was calculated considering the purchase price by the Ministry of Health and converted to US\$ using the 2016 purchasing power parity conversion factor.

## DISCUSSION AND CONCLUSION

- Expenditure on drugs used by people with HIV is significant
- Most prescribed agents were anti-infectives for systemic use, accounting for 88.9% (\$426,086.81) of the expenditure
- Antimycotics for systemic use was responsible for the higher expenditure
- Mainly due to amphotericin B
- Antibacterials for systemic use were the most prescribed medicines (28.2%).
- Mainly sulfamethoxazole-trimethoprim (11.9%) and azithromycin (5.9%), at a total cost of \$19,856.72.

- In Brazil the population's access to the medicines is increasing and it's essential to guarantee the constitutional rights to the health.
- By contrast, public spending on this acquisition are increasingly notorious.
- Identify the class of medicines with the highest expenditure, besides the most prescribed medicines, help in the optimization of resources allocation.

## References

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## Conflict of Interest Statement

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## RESULTS

- The total cost related to non-ART medicines was \$479,385.32
- The median cost per patient was \$41.49
- 2,535 prescriptions, 222 different active agents.

Figure 1. Distribution of patients' characteristics. Belo Horizonte, 2015 (N=440)

Characteristics	Total (n=440)	
	n	%
Sex (Male)	327	74,3
Age (> 36 years old)	222	50,5
Education level (Elementary)	194	52,6
Race/color (Browns)	272	62,5
Marital status (Divorced/single/widower)	310	70,8
Working (Yes)	224	55,2
Children (Yes)	204	51,8
Risk/exposure category (MSM)	142	36,7
Viral load (> 100.000 copies/ml)	129	41,9
CD4+ before ARV (≤ 200 cells/ml)	141	44,6
AIDS (Yes)	201	45,7
Previous hospitalization (Yes)	208	47,3
Mental health diagnosis (Yes)	114	25,9
Initiated ARV (inpatient level)	160	36,4
Year (2015)	230	52,3
Class of cART (2 NTRI + NNTRI)	405	92,0
Time since diagnosis (> 2 months)	209	47,5
Change of ARV (Yes)	105	23,9
Adherence to ARV in 6 months (Yes)	367	83,4
Adherence to ARV in 12 months (Yes)	323	73,4
Tobacco smoking in lifetime (Yes)	223	62,8
Illicit drugs use in lifetime (Yes)	142	44,2
Current tobacco smoking (Yes)	148	35,9
Current illicit drugs use (Yes)	71	19,0

ART: Antiretroviral; cART: combination antiretroviral; CD4+: T CD4 Lymphocyte; MSM: Men who have sex with men; NNRTI: non-nucleoside reverse transcriptase inhibitor; NRTI: nucleoside reverse transcriptase inhibitor

Figure 2. Percentage of costs related to medicines according to the Anatomical and Therapeutic class (%). Belo Horizonte, 2015.

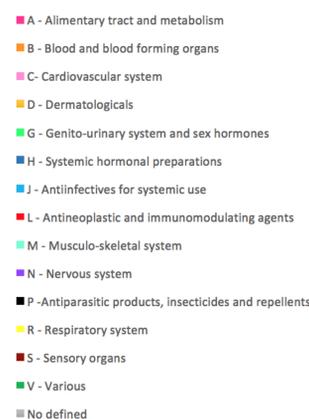


Figure 3. Top 10 most expensive agents. Belo Horizonte, 2015. (N= 222)

Rank	Agent	Cost (\$)
1.	Amphotericin B	\$369.596,08
2.	Ganciclovir	\$28.013,67
3.	Folinic Acid	\$8.701,83
4.	Amorolfine	\$6.753,77
5.	Eritropoetin	\$5.345,40
6.	Cyanocobalamin	\$3.688,67
7.	Clindamycin	\$3.486,64
8.	Ofloxacin	\$3.470,35
9.	Pyridoxine	\$3.405,43
10.	Dapsone	\$3.104,91

Figure 4. Expenditure related to Anti-infective for systemic use. Belo Horizonte, 2015.

ATC Code	Expenditure			
	\$	%		
ATC Group	J	Antiinfectives for systemic use	426.086,81	100
ATC 3th Level	J01	Antibacterials for systemic use	19.856,72	4,66
	J02	Antimycotics for systemic use	370.598,69	86,98
	J04	Antimycobacterials	6.636,45	1,56
	J05	Antivirals for systemic use	28.994,95	6,80

- Agents acting on the nervous system were the second ATC group most prescribed (15.4%), of which psychoanalectics accounted for 4.8% of prescriptions with a cost of \$1,343.12.