



Prevalence of drug-drug interactions between antiretroviral therapy and drugs of abuse among people with HIV who use drugs in Spain: knowledge, beliefs and adherence.

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BACKGROUND

- Drug use implies important challenges related to HIV management.
- This study analyzed the prevalence of drug-drug interactions (DDI) between antiretroviral therapy (ART) and drugs among people with HIV (PHIV) and their impact on quality of life (QoL).
- DDI analyzed were based upon available information on the known metabolism on the drugs and the potential/theoretical DDI with ART.
- We also explored knowledge and beliefs about DDI and its impact on treatment adherence

METHODS

- 1401 PHIV participated in a cross-sectional survey conducted between November 2016 and April 2017 throughout 33 centres in Spain.
- An on-line survey was designed, with the following measurements: demographics; health data; drug use; knowledge, beliefs and behaviours about interactions (designed ad hoc from the results of a previous qualitative study); treatment adherence (CEAT-VIH), QoL (WHOQoL-HIV-BREF).
- Analysis was performed considering those persons who used drugs.

RESULTS

SOCIODEMOGRAPHIC AND CLINICAL PROFILE OF THE PARTICIPANTS

Table 1. Sociodemographic and clinical profile of the participants

		Total (N = 1401)	Drug users With DDI (n=367)	Drug users Without DDI (n=325)
Age (M ± SD)	M ± ST	45.4 ± 10.2	42.5 ± 9.6	44.8 ± 9.8
Sex*	Men	78.5	89.1	82.8
	Women	20.0	8.7	15.4
	Transgender	1.5	2.2	1.8
Sexual behaviour*	Heterosexual	41.4	29.5	39.7
	Homosexual	50.9	61.5	53.5
	Bisexual	4.4	5.7	4.0
	Other	3.3	3.3	2.2
CD4 cell count*	<200 cells/μL	4.9	3.3	5.2
	200-400 cells/μL	10.5	6.0	10.5
	>400 cells/μL	66.5	70.2	65.2
QoL spiritual domain*	M ± ST	65.9 ± 22.3	64.1 ± 22.3	67.8 ± 21.5
Intentional Non adherence*	M ± ST	-	2.1 ± 1.0	1.9 ± 0.9

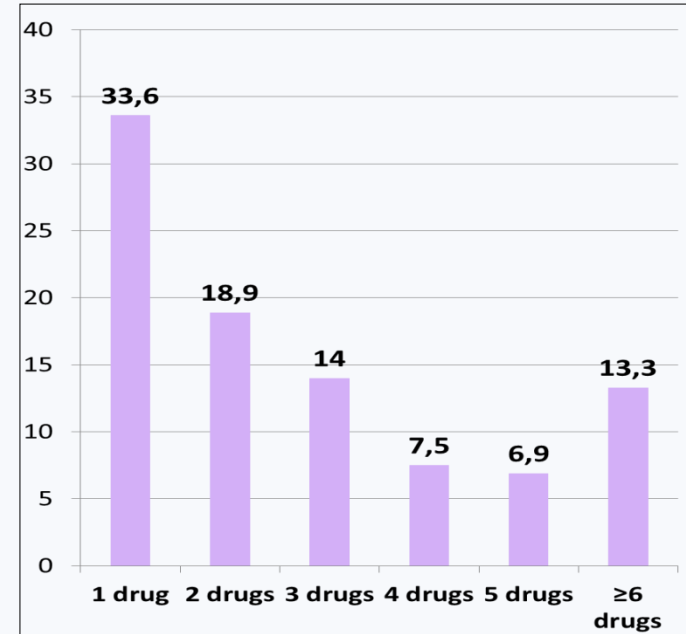
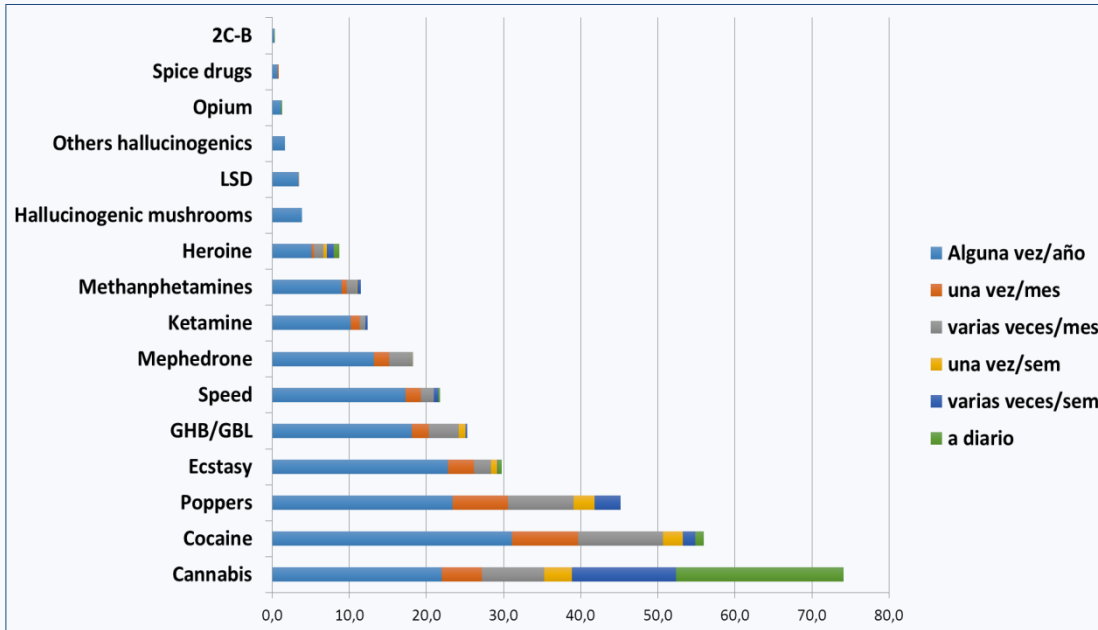
- ✓ Women have fewer DDI than men.
- ✓ Among these, men who have sex with men (MSM) showed higher DDI. Indeed, these have a better immune status.
- ✓ Patients with higher DDI had a lower score in the of QoL's spiritual domain and higher score in intentional nonadherence behaviors.

Notes: Data in percentages unless otherwise stated. Not all categories of response are displayed in the table. In three cases there were missing data about their ART regimen, thus this cases were excluded of the analysis. Drug users with DDI were those who presented some moderate-to-severe interactions. Range QoL (0-100).Range Intentional nonadherence (1-5).

* p< .05

RESULTS

PREVALENCE AND FREQUENCY OF DRUG USED IN THE PAST 12-MONTHS (n=691)



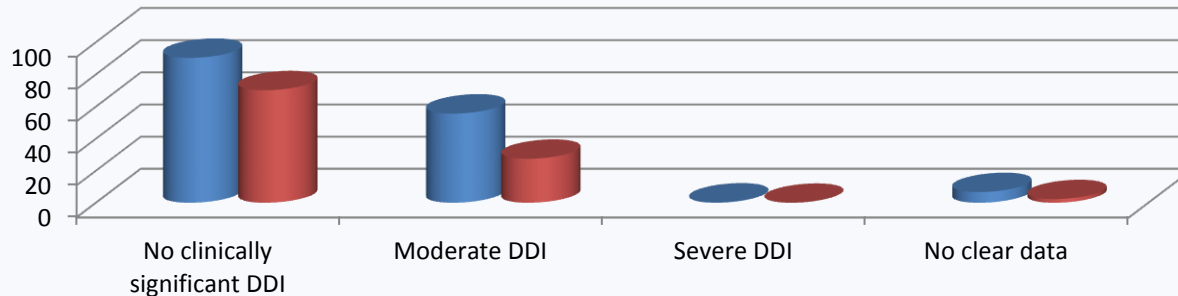
Participants consumed between 1-14 drug ($M=3.3\pm2.7$). MSM were the most prevalent consumers (57.7%). Additionally, 15.1% of the total sample also used erection enhancers without prescription (data not shown in the figure).

RESULTS

TYPE OF DDI IDENTIFIED

	Patients (N)	Patients (%)	Interactions (N)	Interactions (%)
No clinically significant DDI	617	90.3	2841	70.2
Moderate DDI	366	55.7	1111	27.5
Severe DDI	1	0.2	1	0.0
No clear data	46	6.7	93	2.3
TOTAL	657	46,9	4046	100

Notes. A total of 380 theoretical DDI was coded to analyze data. DDI were coded according to daily-practice interaction databases: www.hiv-druginteractions.org by the University of Liverpool

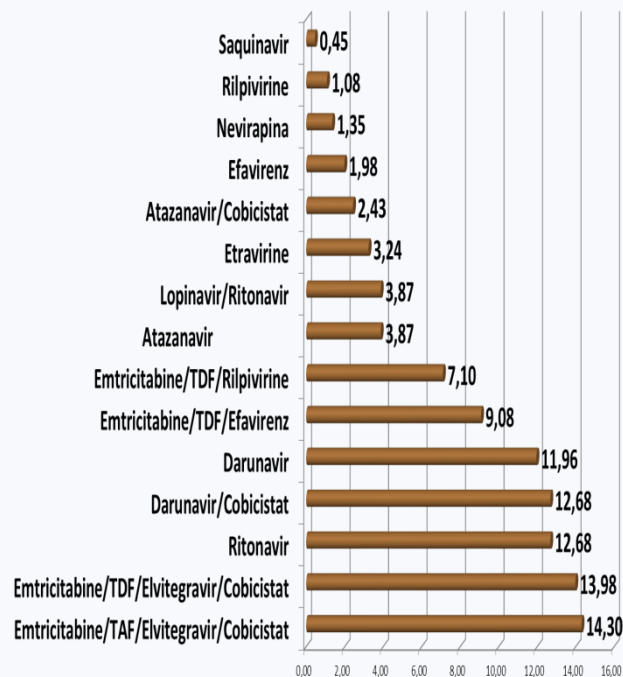


■ Patients (%)
■ Interactions (%)

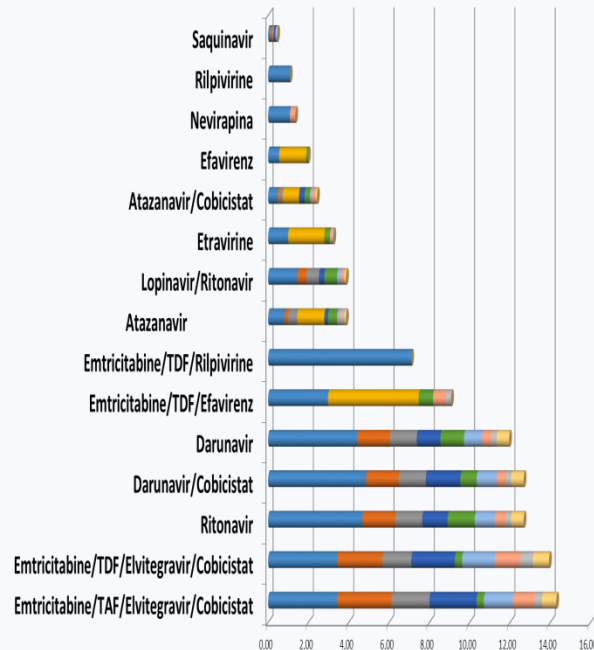
Cocaine produced the only severe DDI

RESULTS

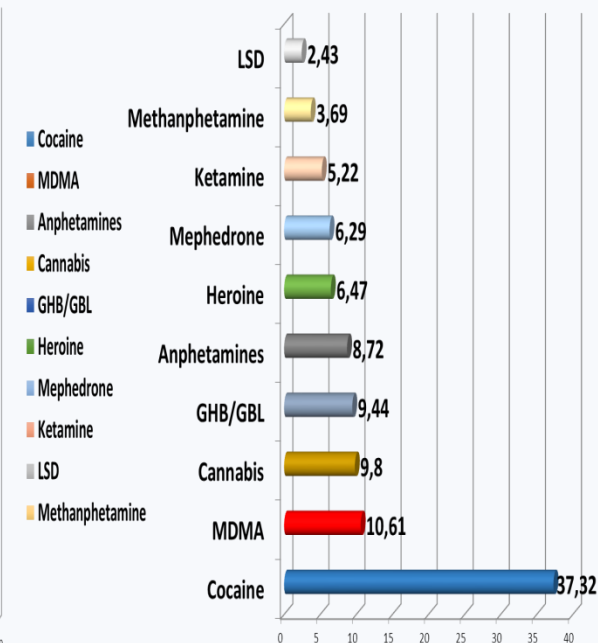
PERCENTAGE OF DDI BY ART



PERCENTAGE OF DDI BY ART/DRUG

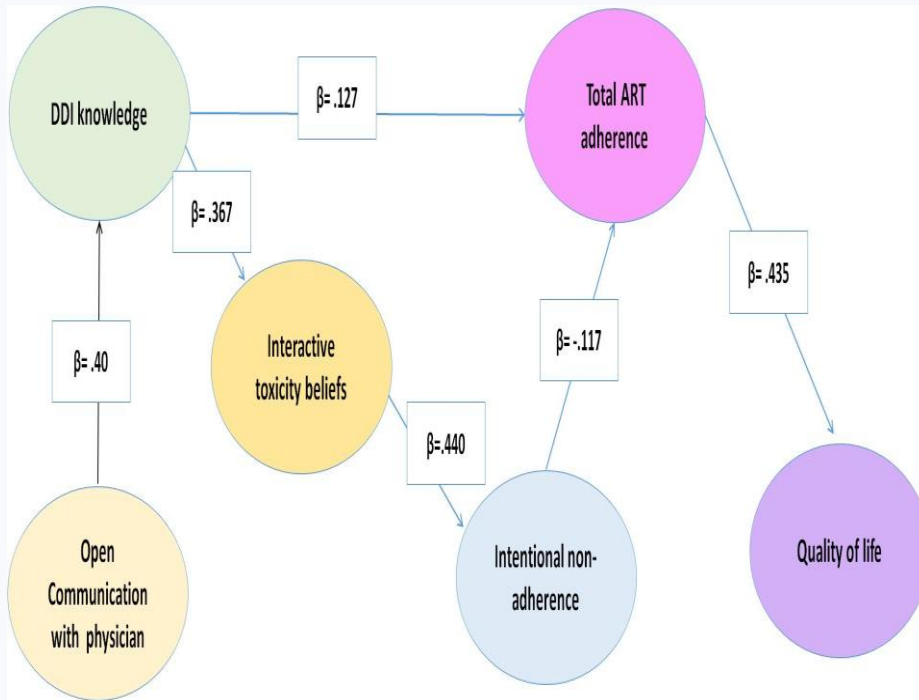


PERCENTAGE DDI BY DRUG



RESULTS

RESULTS OF PARTIAL LEAST SQUARES (PLS) PREDICTIVE MODEL

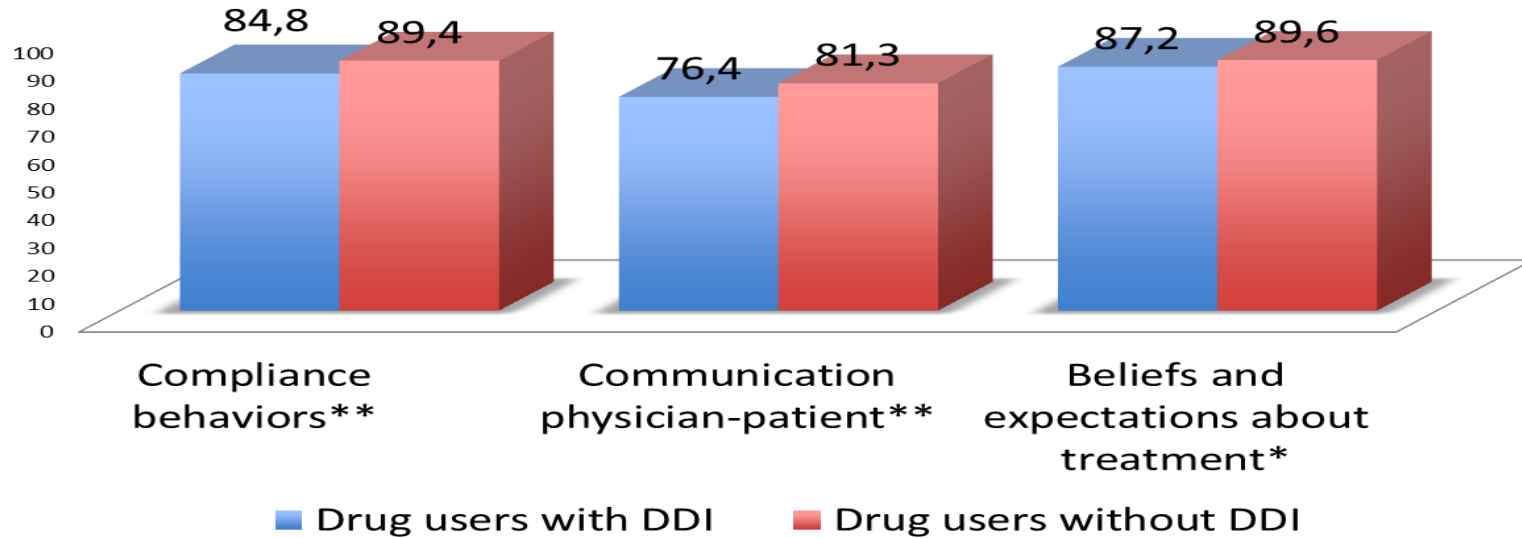


Note. β are significant at $p < .0001$, except for the relationship between Intentional nonadherence and global adherence ($p < .05$)

- ✓ Results of Partial Least Square (PLS) model showed that having an open communication with the physician about drug consumption had a positive influence in DDI knowledge.
- ✓ This knowledge influenced positively QoL through its positive association with global ART adherence.
- ✓ However, DDI knowledge was also associated with interactive toxicity beliefs which in turn influenced intentional nonadherence behaviors.
- ✓ These behaviors had a negative association with total score in ART adherence.

RESULTS

DIFFERENCES IN ART ADHERENCE DIMENSIONS



** $p < .0001$. * $p < .01$

CONCLUSIONS

- Moderate-to-severe potential and theoretical DDI that require monitoring were found in more than a half of the patients who have used drug during the past 12 months. MSM presented the highest percentage of potential DDIs probably because they are the most prevalent drug users
- ART involved in these interactions were: ritonavir-boosted protease inhibitors, some non-nucleoside reverse transcriptase inhibitors and cobicistat-boosted elvitegravir. All recreational drug except poppers and LSD were found to have relevant potential DDI in some participants
- Communication with physician on the use of drug and DDI knowledge could play an important role in ART adherence. Adequate information about DDI and clues about how to manage ART when patients are using drugs could improve ART adherence and QoL

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