

INTRODUCTION

South Africa has a high burden of drug-sensitive (DS)-TB and HIV. In most cases DS-TB is a curable disease, however, treatment may be complicated by adverse effects such as DILI which may lead to poor treatment outcomes and drug resistance. This study aims to analyse all possible DS-TB/HIV DILI-related queries received by the National HIV & TB Health Care Worker (HCW) hotline during a one year period.

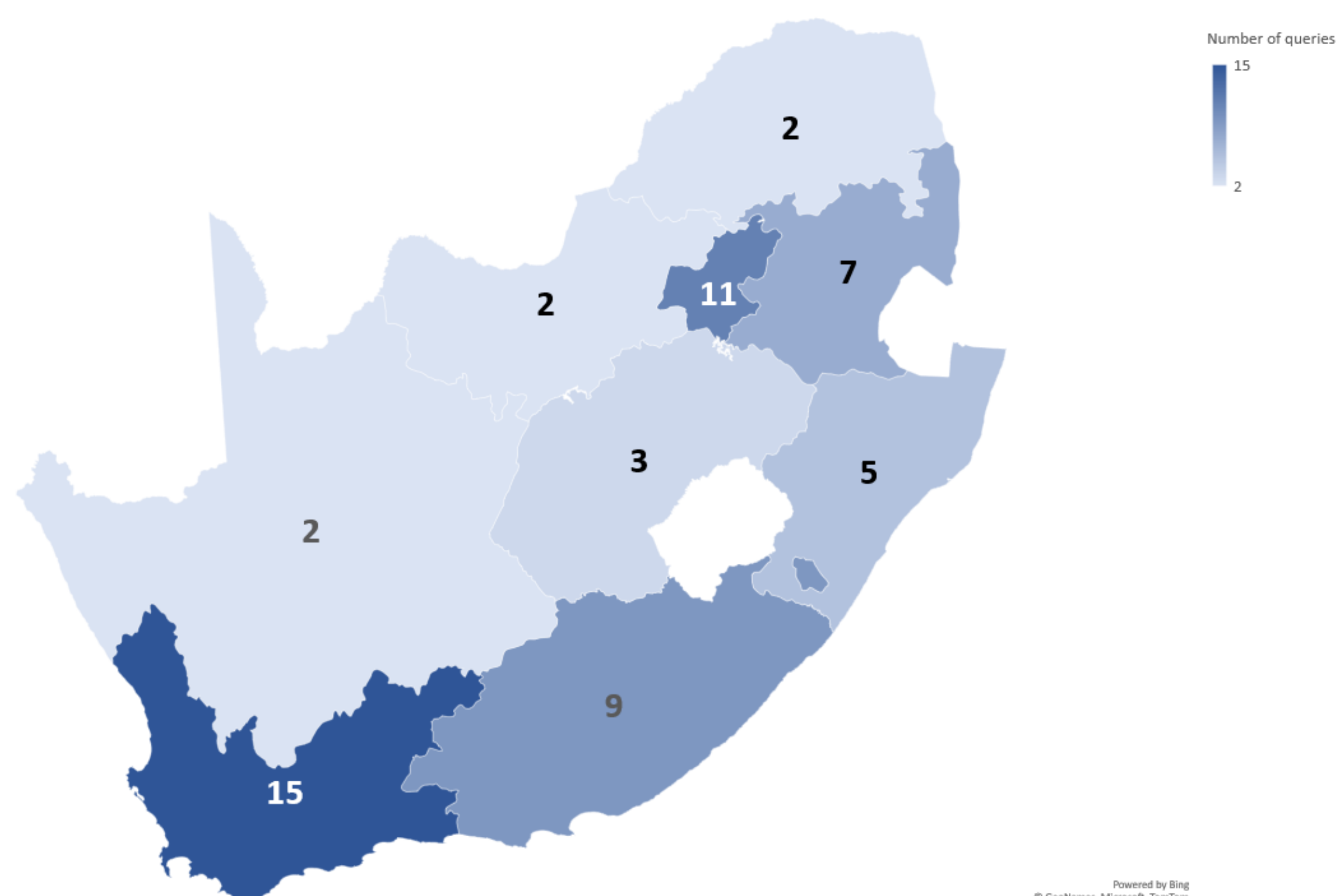
METHODS

All suspected DILI cases possibly caused by DS-TB treatment and/or ART, received from 1 April 2022 to 31 March 2023, were reviewed by a drug information pharmacist. Only suspected DILI cases that met the definition of a DILI (ALT > 120 IU/l and symptoms (nausea, vomiting, abdominal pain, jaundice); or ALT > 200 IU/l and asymptomatic; or total serum bilirubin concentration > 40 µmol/l) as defined by the South African HIV Clinicians' Society were included in the analysis. Caller demographics (profession, province), patient demographics (HIV status, age, gender) and description of the DILI (presenting symptoms, liver function tests) are reported on.

RESULTS

From 1 April 2022 to 31 March 2023 the National HIV & TB HCW hotline received 416 queries relating to adverse effects of which 71 (17%) were suspected DILIs. Of these, 56 met the inclusion criteria. Most of the queries were received from the Western Cape (26.8%), followed by Gauteng (19.6%) as seen in Figure 1. Callers were mostly doctors (93%), and consultant input was needed in 66% of cases.

Figure 1: Location of callers



Patient demographics: Patients were predominantly female (64.3%), with 52/56 being HIV-infected (see Figure 2) of which 39 were on ART. The median age of the patients was 35.5 years, with 3 patients < 18 years of age. 16 patients had a CD4 count less than 200, 13 above 200, and no reported CD4 in 23 patients. Most patients were co-infected with HIV and TB (see Figure 3) and were on a dolutegravir (DTG)-based ART regimen. Only four patients on ART were virologically suppressed on presentation (see Figure 4), information was missing for 11 patients, and 14 patients only recently started ART, thus their viral load (VL) had not been done yet.

Figure 2: HIV status and gender

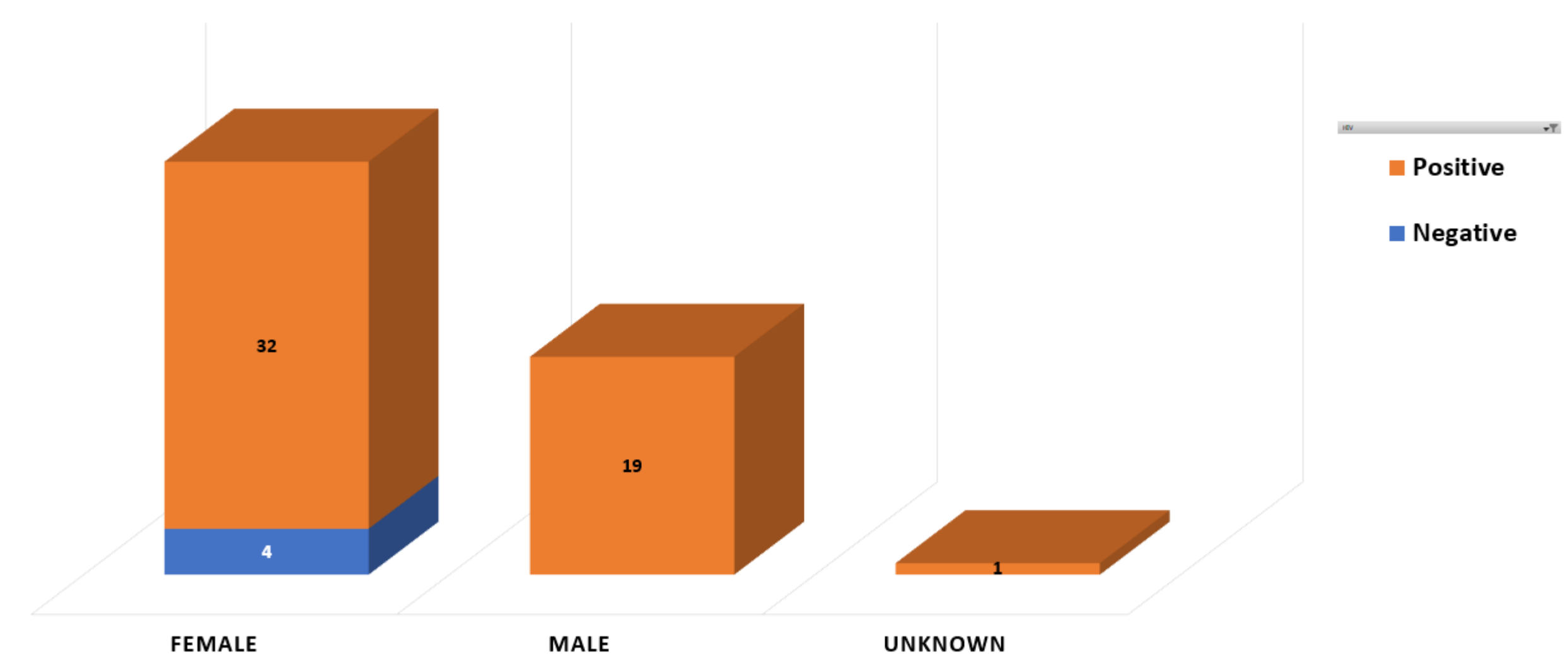


Figure 3: Phase of TB treatment at presentation of DILI

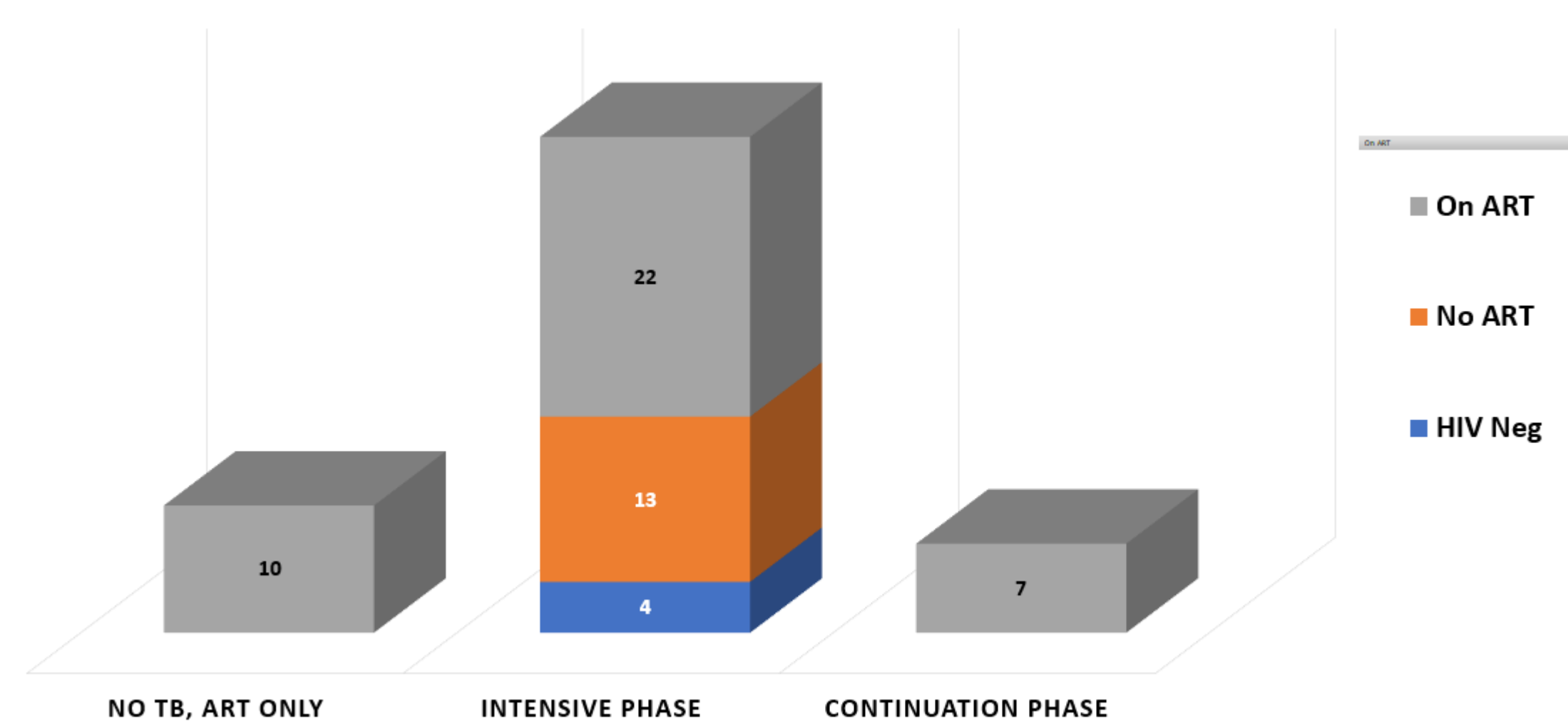
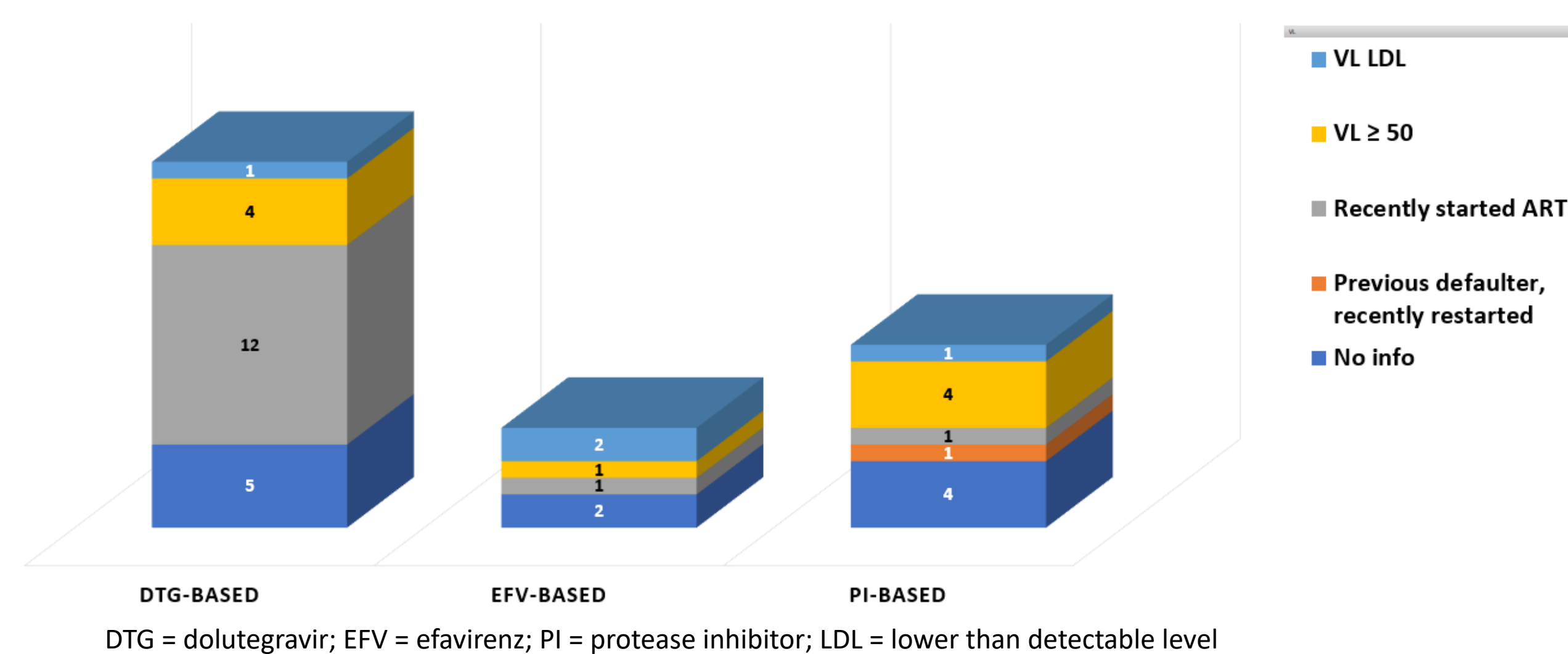


Figure 4: ART regimen and Viral load (VL)



Description of DILI: Figure 5 describes the DILI in terms of increased alanine transaminase (ALT) and/or bilirubin and symptoms in the presence of the TB regimen and ART. Of the four cases with no active TB on a DTG-based regimen, two were also on isoniazid for TB-preventive therapy and one was co-infected with hepatitis B. Information on presenting symptoms was available for 40 patients, with 29 presenting with jaundice with or without other symptoms (Table 1). Ten of these patients with jaundice, also had gastrointestinal (GIT) symptoms. Common knowledge gaps identified are included in Table 2, with most callers unsure on how to manage a DILI. Concerningly, only 17/36 (unknown = 6) of the HIV and TB co-infected patients were taking co-trimoxazole.

Figure 5: Description of DILI with TB and ART regimen

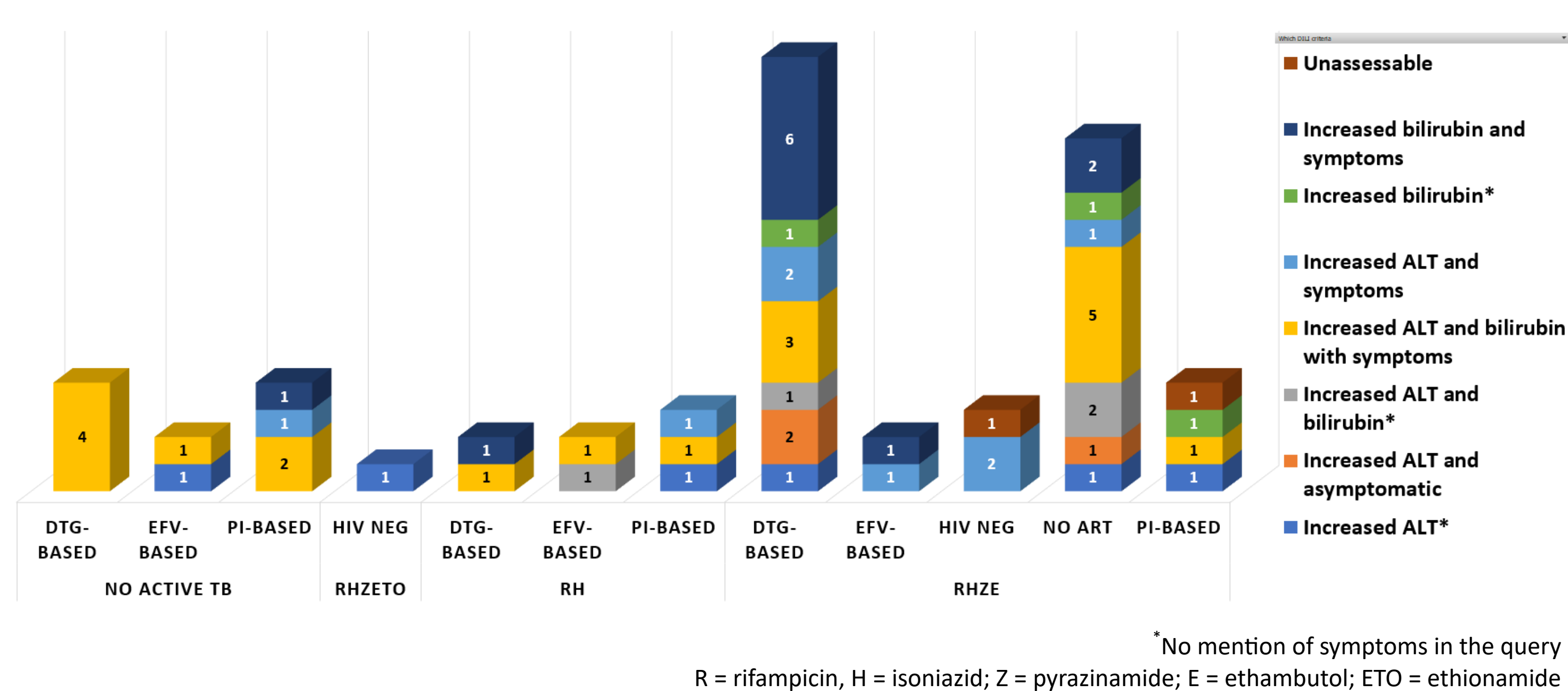


Table 1: Reported symptoms on presentation of DILI (n = 40)	
Jaundice (with/without other symptoms)	29
Asymptomatic	3
GIT symptoms	16
Jaundice and GIT	10
Rash	1
Other	6
Jaundice only	19

Table 2: Knowledge Gaps	
Guidance on managing a DILI [#]	21
Managing a failed rechallenge	9
Assistance with rechallenge	8
Diagnosis of DILI	5
ART Rechallenge	4
Other	3
Background TB regimen	2
Should PZA be rechallenged	2
Isoniazid preventive therapy DILI	2

CONCLUSION

Answering DILI-related queries is an integral part of the function of the National HIV and TB HCW hotline. These queries are mostly received from doctors who seek guidance to manage these complicated patients. Pharmacists manning the hotline often contact a consultant for clinical input on these queries.

Ethics approval
Ethical approval was obtained from The University of Cape Town's Human Research Ethics committee (HREC 298/2023).

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