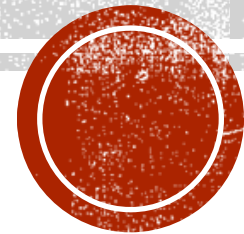


Off-Label Medicine Use in India

Likhith Prasanna¹, Jeffrey Pradeep Raj²

1. Junior Resident 2. Associate Professor



Kasturba Medical College Manipal, Manipal Academy of Higher Education (MAHE), Manipal, Karnataka, India

DR. LIKHITH - CV

➤ Professional summary:

- Junior Resident – MD Pharmacology, Kasturba Medical College, Manipal

➤ Work experiences:

- General Physician (2020-2021) – Primary Health Centre, Bengaluru
- Resident doctor (2020)
- Consultant physician (2022-2023, care-on-call)
- Sexologist (2023, Allo health)

➤ Education:

MD Physician – Kharkiv National Medical University, Ukraine, class of 2019

- Ongoing research studies: 4
- Certifications & Awards: 8



PRESENTATION OVERVIEW



- What is Off-label drug use ?
- Study Objectives
- Methods and Study procedures
- Results
- Discussion
- Conclusions

INTRODUCTION TO OFF-LABEL DRUG USE

- **What is Off-Label Drug Use?**
Prescribing drugs for conditions, doses, age groups, or routes not officially approved.
- **Rationale:** Address the need for insights into off-label drug use practices and associated ethical concerns in India

BACKGROUND: OFF-LABEL DRUG USE

- **Why It's Done:** Lack of alternatives, clinical experience, or emerging evidence.
- **Concerns:**
 - Safety risks (ADRs).
 - Efficacy uncertainty.
 - Limited patient consent.
- **Challenges:**
 - No clear guidelines or incentives for trials

EXAMPLES OF COMMON OFF-LABEL USES OF DRUGS

Category	Drug	Off-Label Use(s)
Allergy	Diphenhydramine	Chemotherapy-related emesis, insomnia
Anesthesiology	Propofol	Intracranial hypertension
	Dexamethasone	Postoperative nausea
Cardiology	Amiodarone	Supraventricular tachycardia

AIMS & OBJECTIVES

- **Primary:** To describe the patterns and practices of off-label drug use
- **Secondary:** To understand the perceived safety and ethical concerns

METHODS - OVERVIEW

Ethics	<p>IEC Reference Number: 371/2024 CTRI Reference Number: CTRI/2024/10/075563 Written informed consent was obtained digitally Conducted in accordance with ICH-GCP, and ICMR ethics guidelines 2017</p>
Study Design	Cross sectional survey
Sample size	2,700 (75 × 36 states/UTs, adjusted for 10% withdrawal).



Kasturba Medical College and Kasturba Hospital
 Institutional Ethics Committee
 (Registration No. ECR/146/Inst/KA/2013/RR-19)
 (DHR Registration No. EC/NEW/INST/2022/KA/0042)

Members, present at the meeting

- Mr. Rajaram Rao (Chairperson)
- Layperson
- Dr. Deepak Malika (Clinician)
- Dr. Girish Thunga (Scientific Member)
- Dr. Badarceeh L. (Clinician)
- Dr. Archana G (Scientific Member)
- Dr. Rajesh Karanth (Scientific Member)
- Dr. Vijetha Shetty Belle (Basic Medical Scientist)
- Dr. Sangita G Karanth (Basic Medical Scientist)
- Dr. Vimo Thomas George (Scientific Member)
- Dr. Murali T S (Scientific Member)
- Ms. Annapurna (Legal Expert)
- Dr. Binil (Scientific Member)
- Dr. Aral Amuthan L (Basic Medical Scientist)
- Dr. Sreenivasa Acharya (Social Scientist)
- Dr. Muralidhar M Kulkarni (Member Secretary)

Standing Instructions

- The PI and all members of the project shall ensure compliance to current regulatory provisions (NDCT Rules 2019 and ICH-GCP), Ethical Guidelines for Biomedical Research on Human Participants by ICMR, and the SOP of IEC including timely submission of Interim Annual Report and Final Closure Report
- Participant Information Sheet and a copy of signed Informed Consent shall be given to every research participant (for all prospective studies)
- Inform IEC in case of any proposed amendments (change in protocol / procedure, site / Investigator etc.)
- Inform IEC immediately in case of any Adverse Events and Serious Adverse Events
- Members of IEC have the right to monitor any project with prior intimation.
- If CTRI/ ICMR/ CDSCO registration: Ensure registration and clearance from the respective authorities before the enrollment of the first participant. The IEC to be notified about the same within 7 days of successful registration / clearance

(SOP: The chairperson endorses the comments before communicating to the investigators. The Member Secretary signs on behalf of the Chairperson on the IEC certificate)

Communication of the decision of the Institutional Ethics Committee

Wednesday 14th August 2024 IEC1 : 371/2024

Project title	: Practices and Ethical Dilemmas on Off-Label Medicine use in India - A digital Survey.
Principal Investigator	: Dr. Jeffrey Pradeep Raj
Co Investigators	: Dr. Likhith P
Name & Address of Institution	: Division of Clinical Pharmacology, Department of Pharmacology, Kasturba Medical College, Manipal, Department of Pharmacology, Kasturba Medical College, Manipal.
Status of review	: New
Date of review	: 13.08.2024
Decision of the IEC	: Approved with modifications till 31.10.2025.
IEC Approval Date	: 16 OCT 2024

Additional Recommendations:
 • CTRI Registration



Dr. Muralidhar M Kulkarni
 MEMBER SECRETARY – KMC & KH IEC




STUDY SETTING

The survey link has been live from 21 October 2024

Interim analysis with data until 04 Nov 2024

Survey Format: Self-administered

Shared on platforms like whatsApp, LinkedIn, Facebook, Twitter and Email, after Institutional Ethics Committee approval

ELIGIBILITY CRITERIA

➤ Inclusions:

- Indian › Doctors > 18Years

➤ Exclusion:

- Incomplete > survey forms



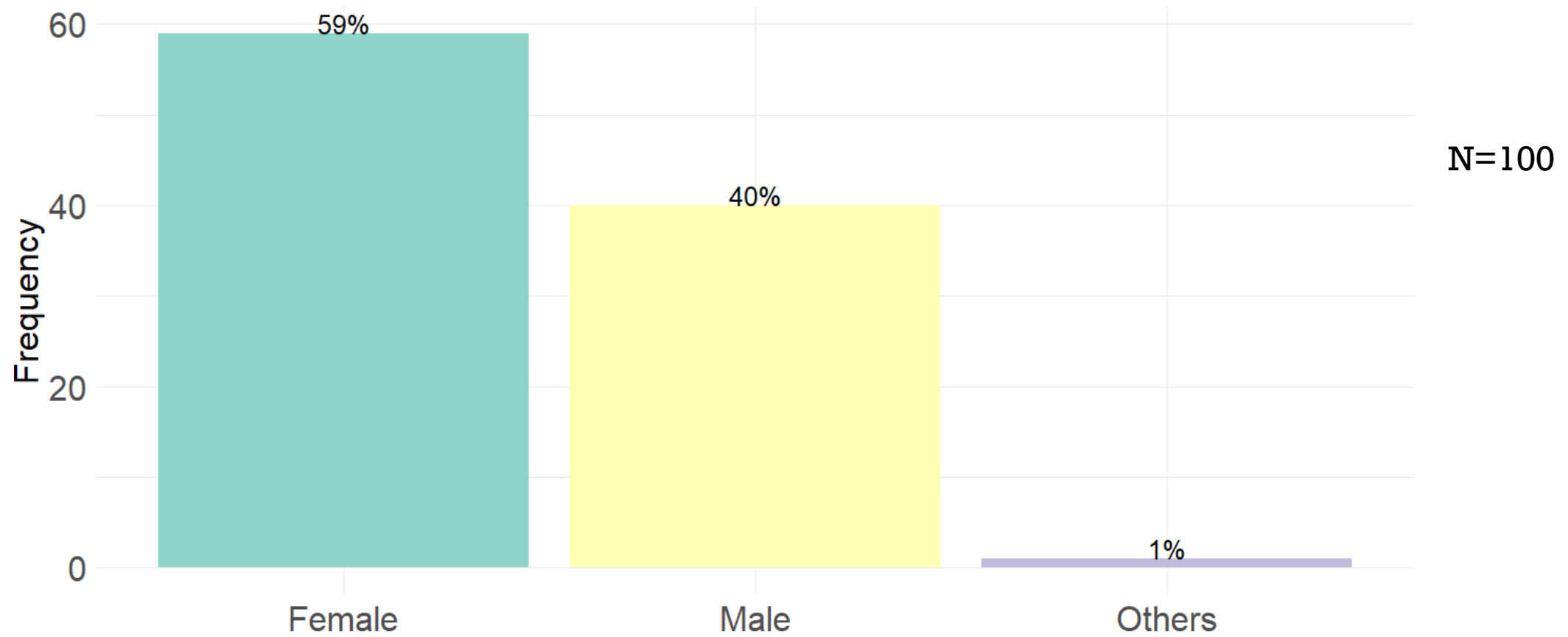
STATISTICAL ANALYSIS PLAN

Data Summary:

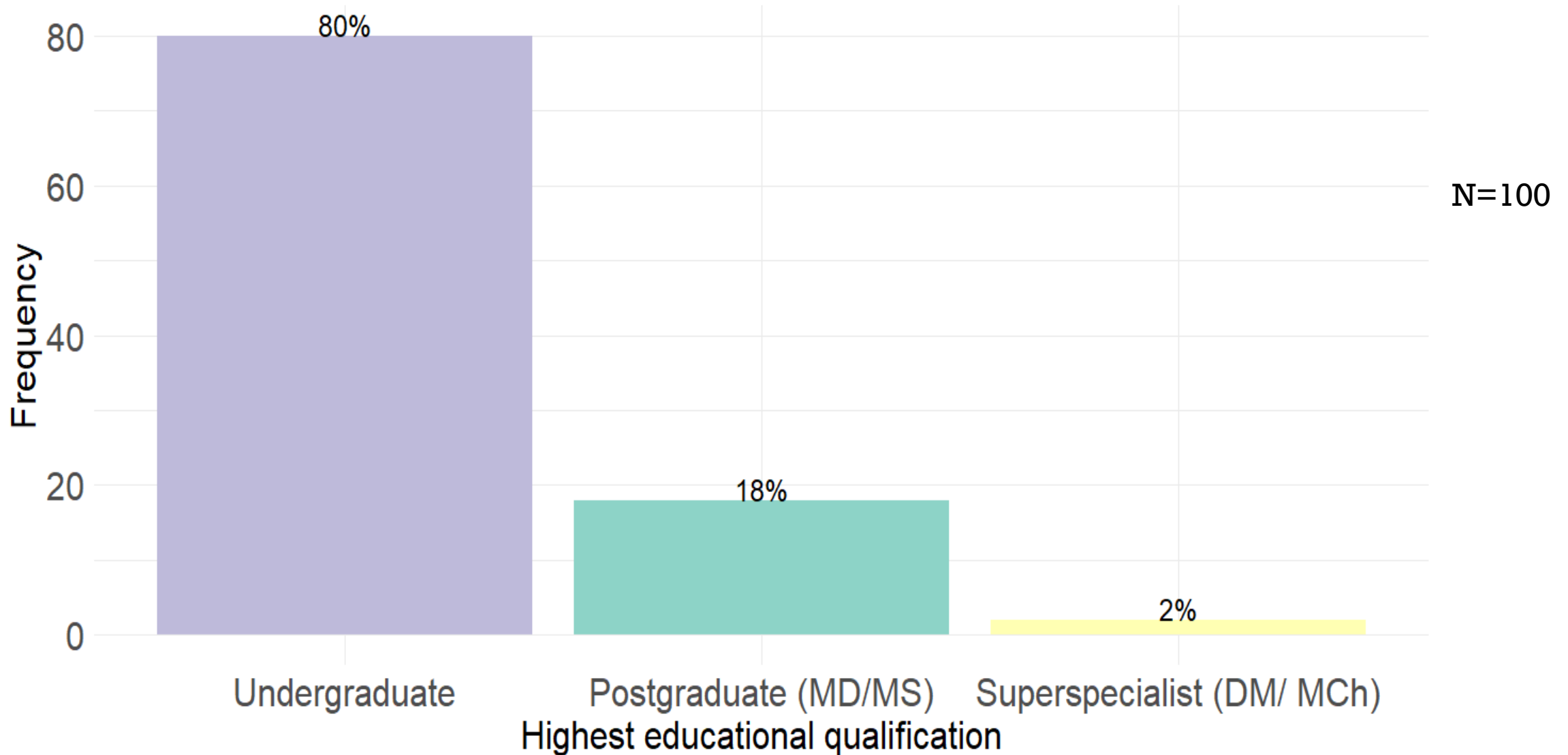
- **Descriptive Statistics:** Mean, standard deviation for continuous data; median and interquartile range if non-normal
- **Categorical Data:** Frequency and percentages
- **Normality Test:** Shapiro-Wilk
- **Inferential Statistics:** Appropriate tests based on variable type and distribution
- **Software:** SPSS Version 20 or above, with significance level at $p < 0.05$

RESULTS

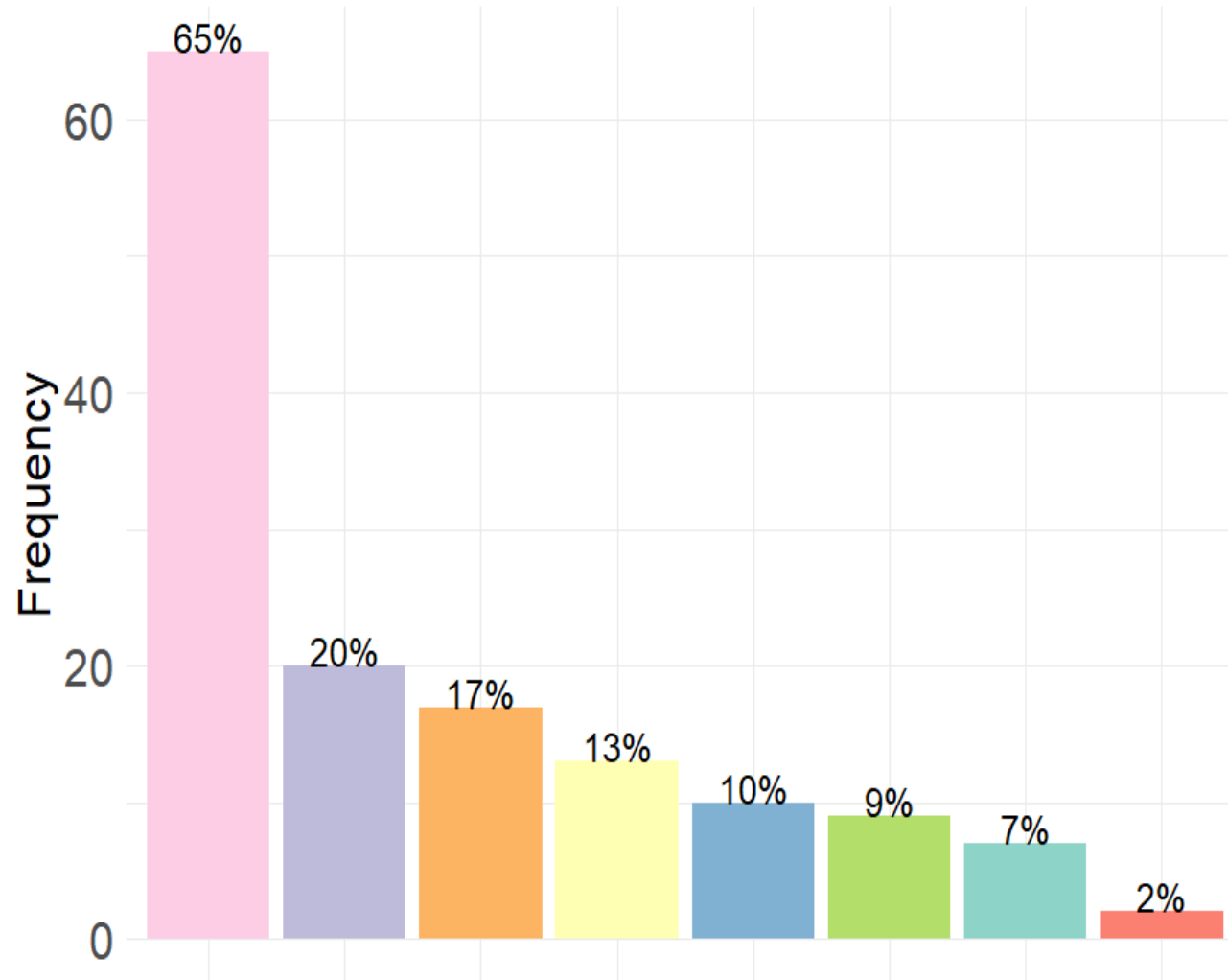
Biological sex



Highest educational qualification



Place of work Distribution

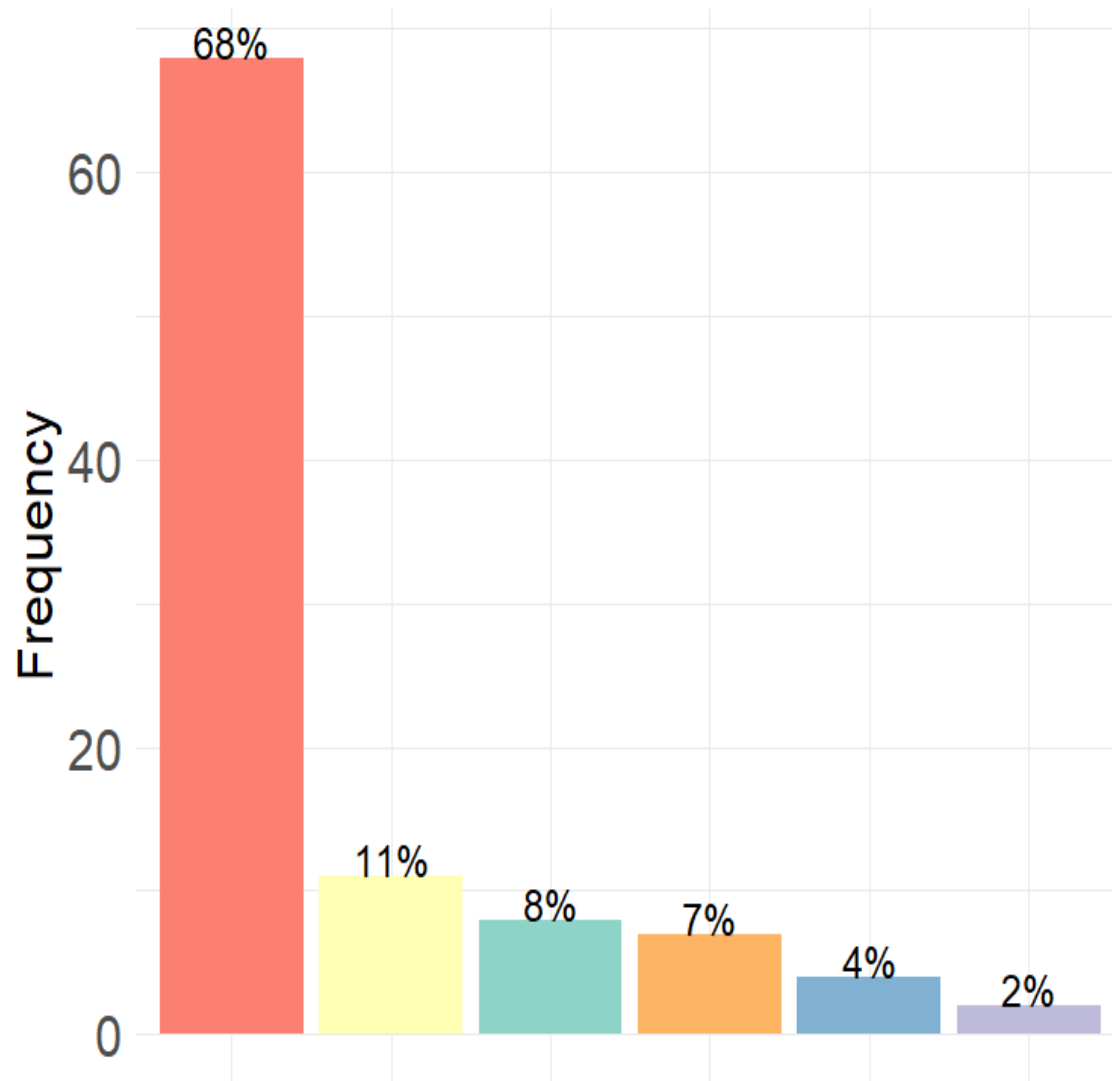


Levels

- Diagnostic center
- Government hospital
- Government teaching hospital
- Others
- Primary health center
- Private clinic
- Private hospital
- Private teaching hospital

N=100

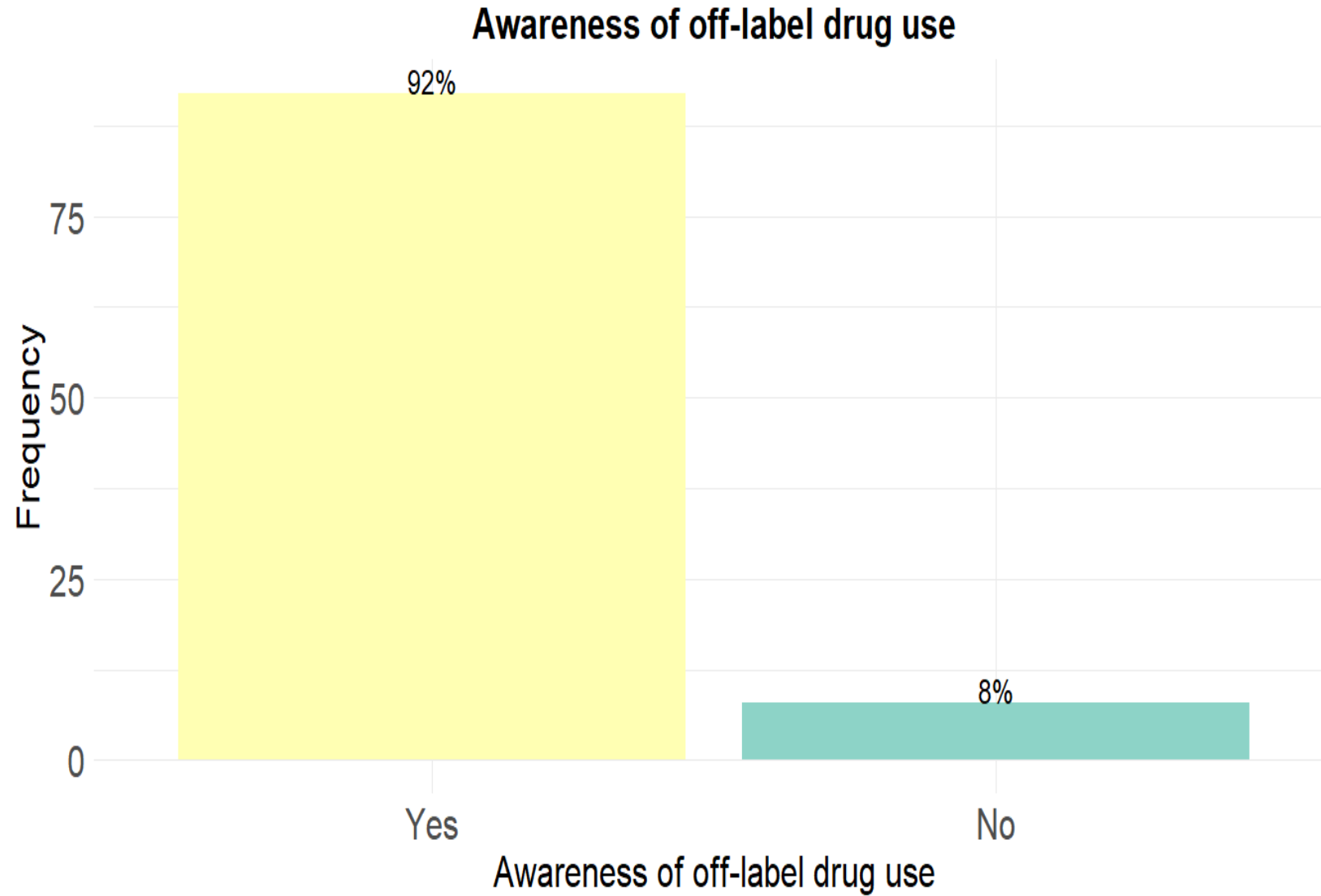
Role Distribution



N=100

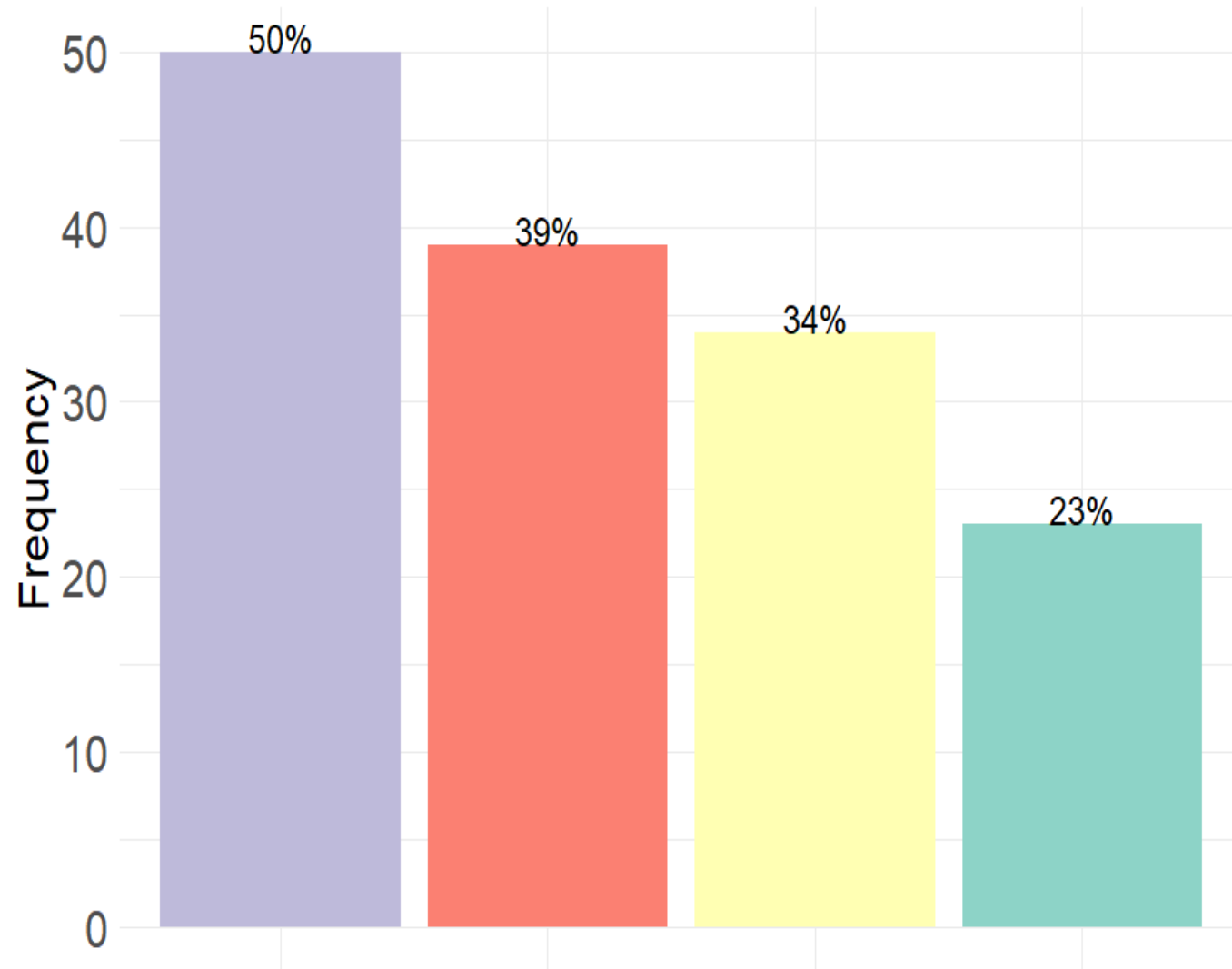
Levels

- Intern
- Junior faculty/consultant board speciality
- Junior faculty/consultant super speciality
- Resident/ PG trainee
- Senior faculty/consultant board speciality
- Senior faculty/consultant super speciality



N=100





Common reason for off-label drug use



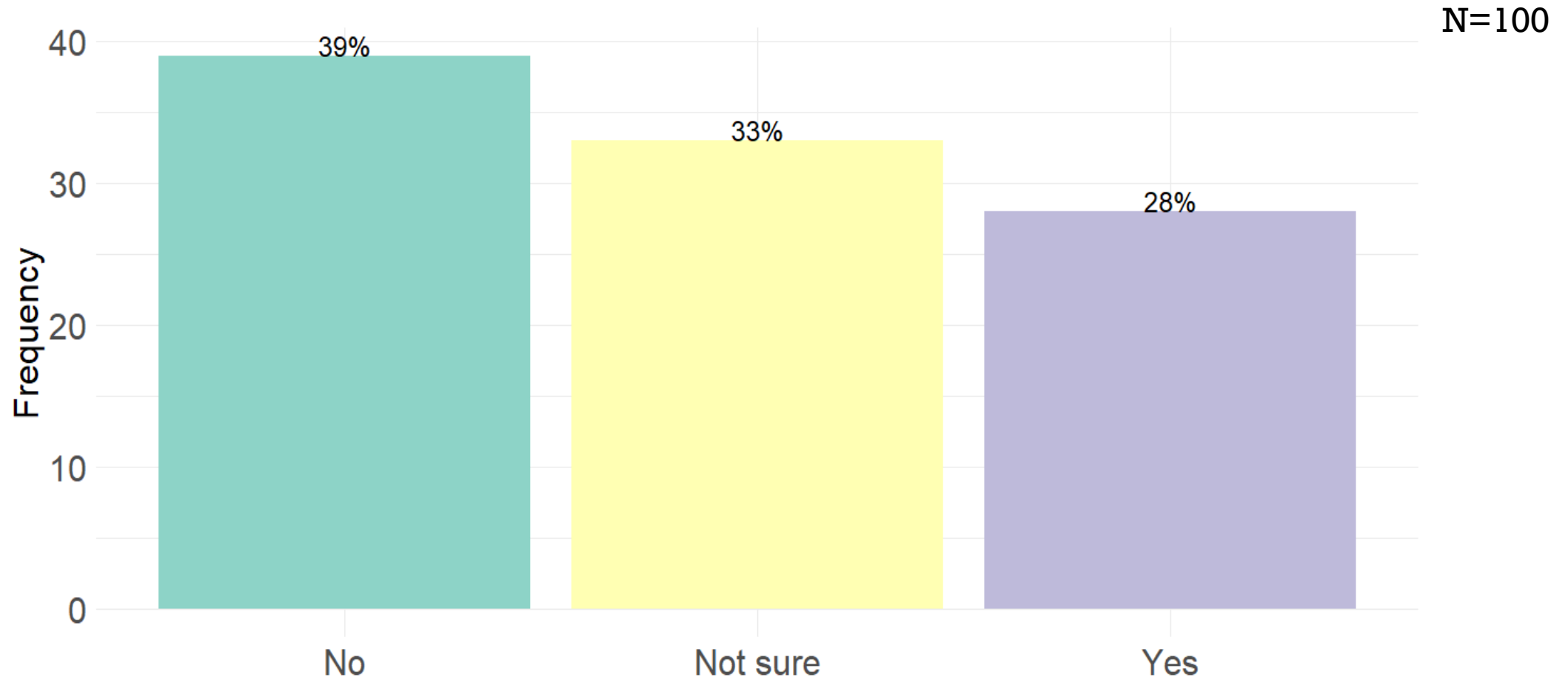
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N= 100

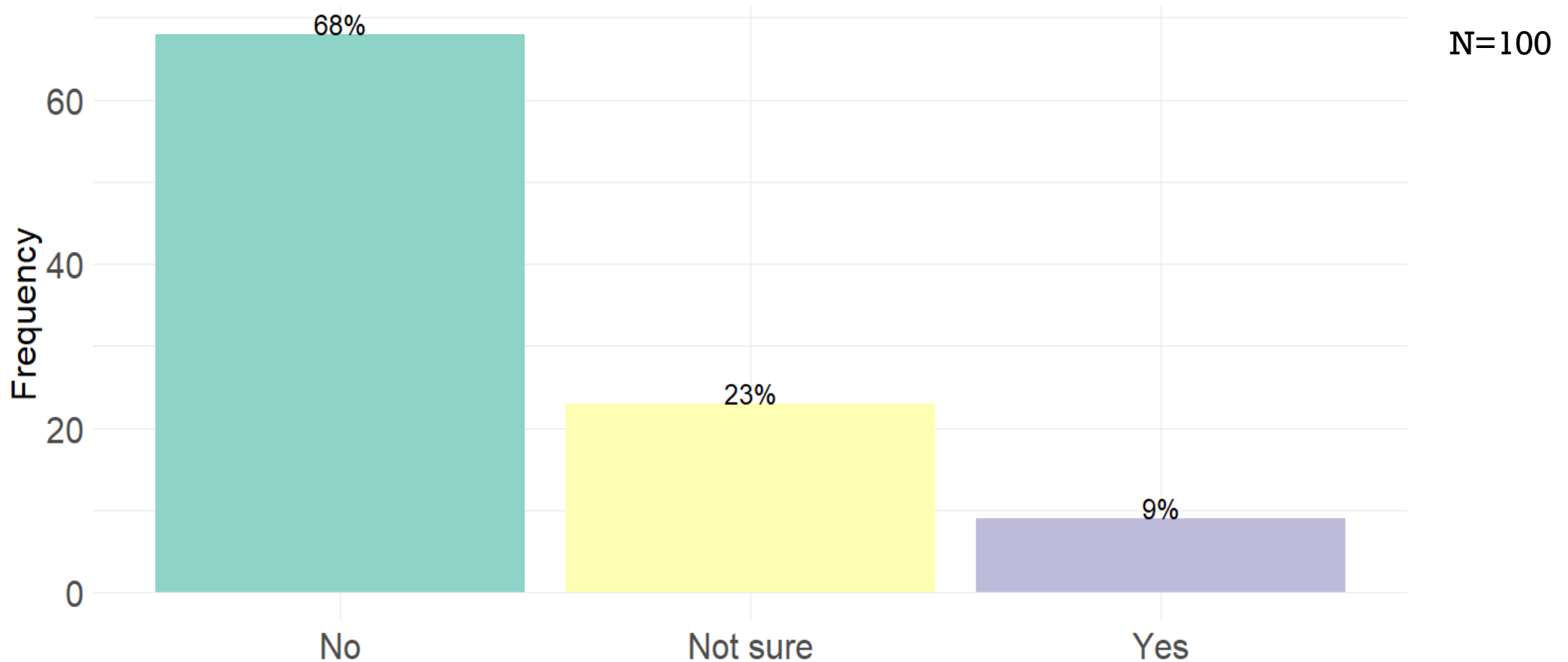
Levels

-  Case reports
-  Non-availability of alternatives
-  Not applicable
-  Personal experience

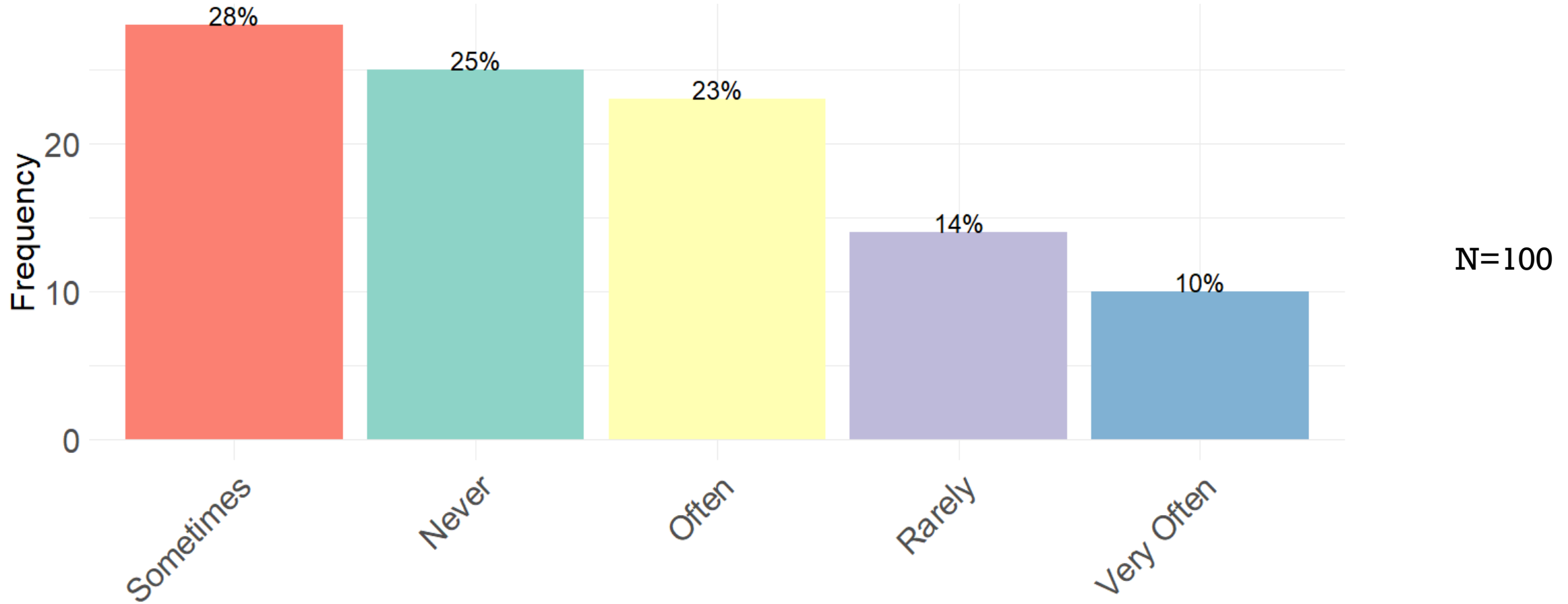
Experience/seen treatment failure after using off-label drugs



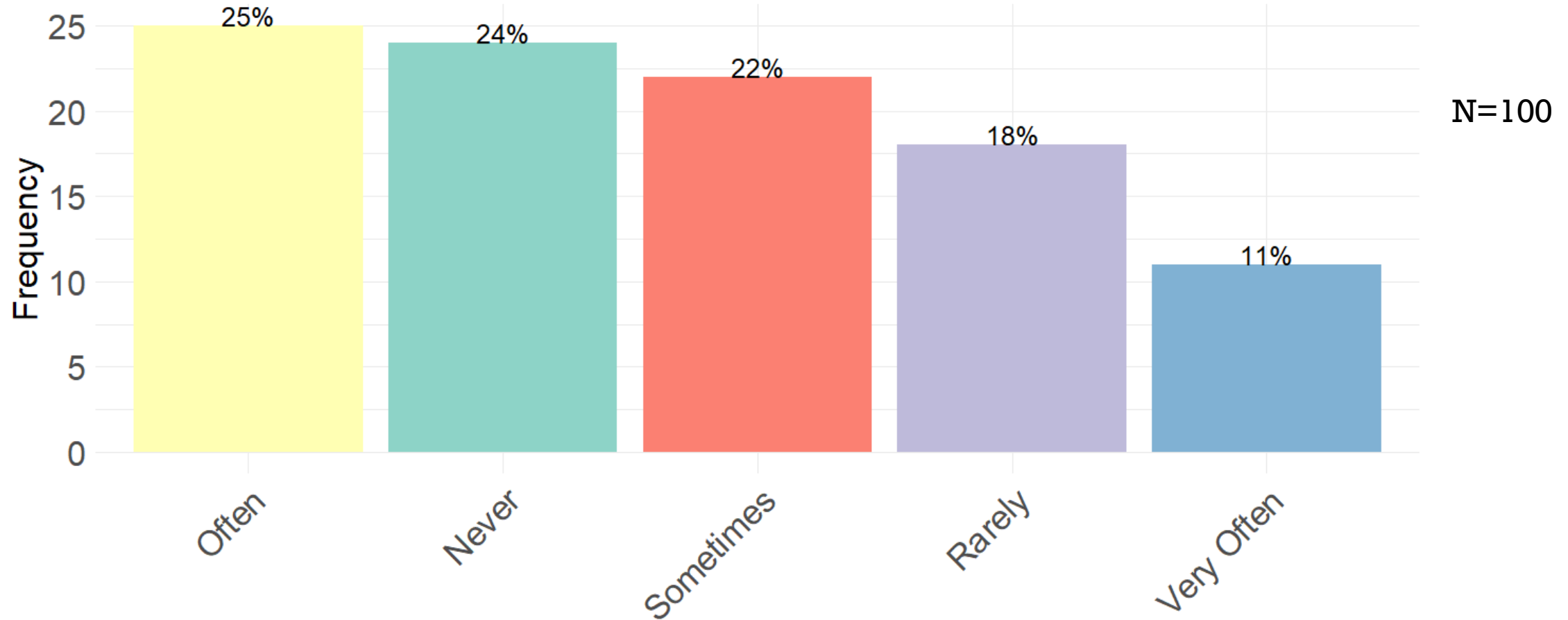
Experience/seen ADRs after using off-label drugs



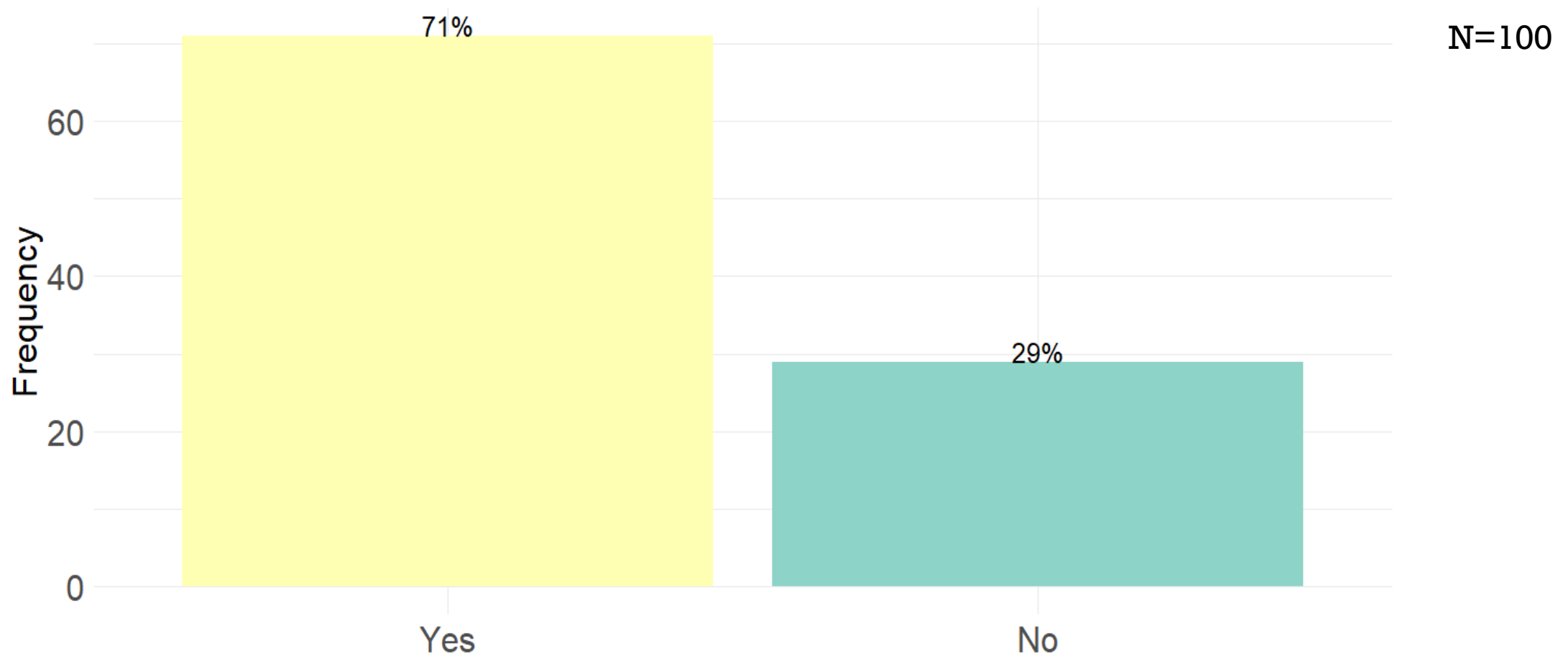
Frequency of informing to institute recommendations about off-label drug use



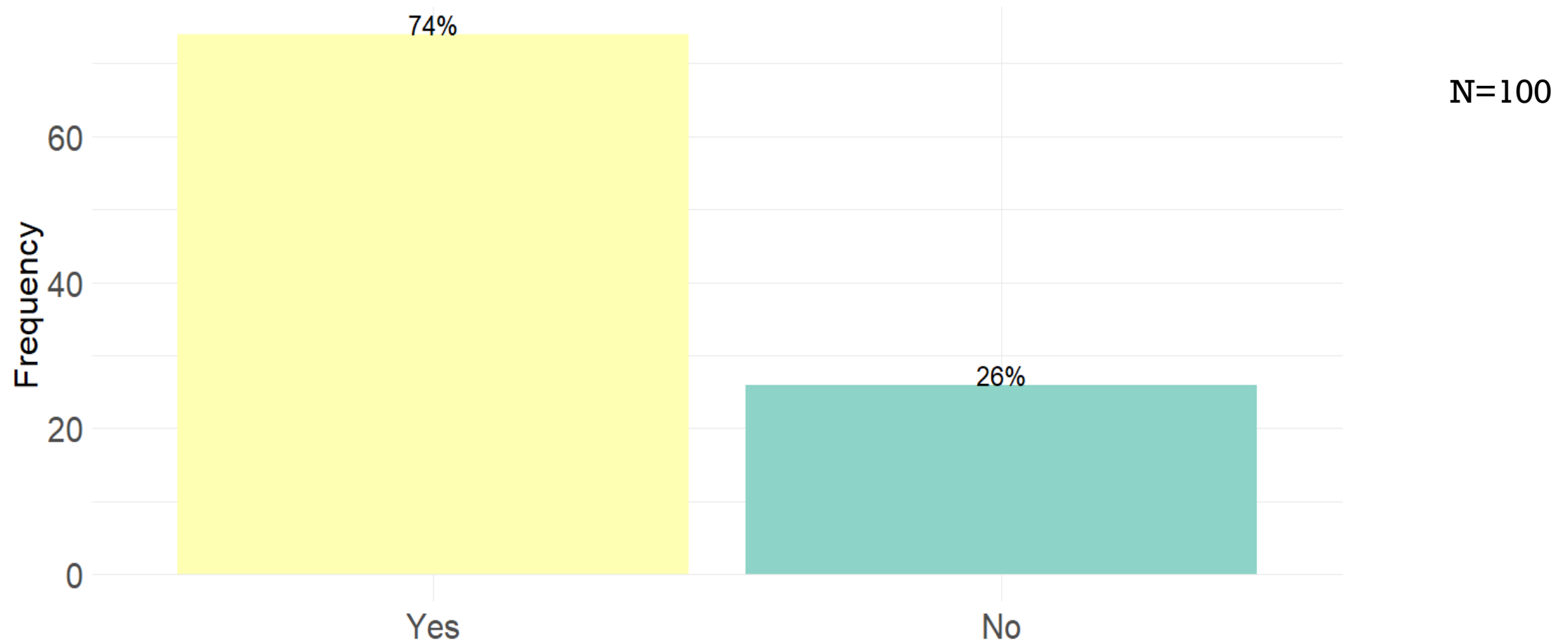
Frequency of taking permission from patients before prescribing off-label drugs



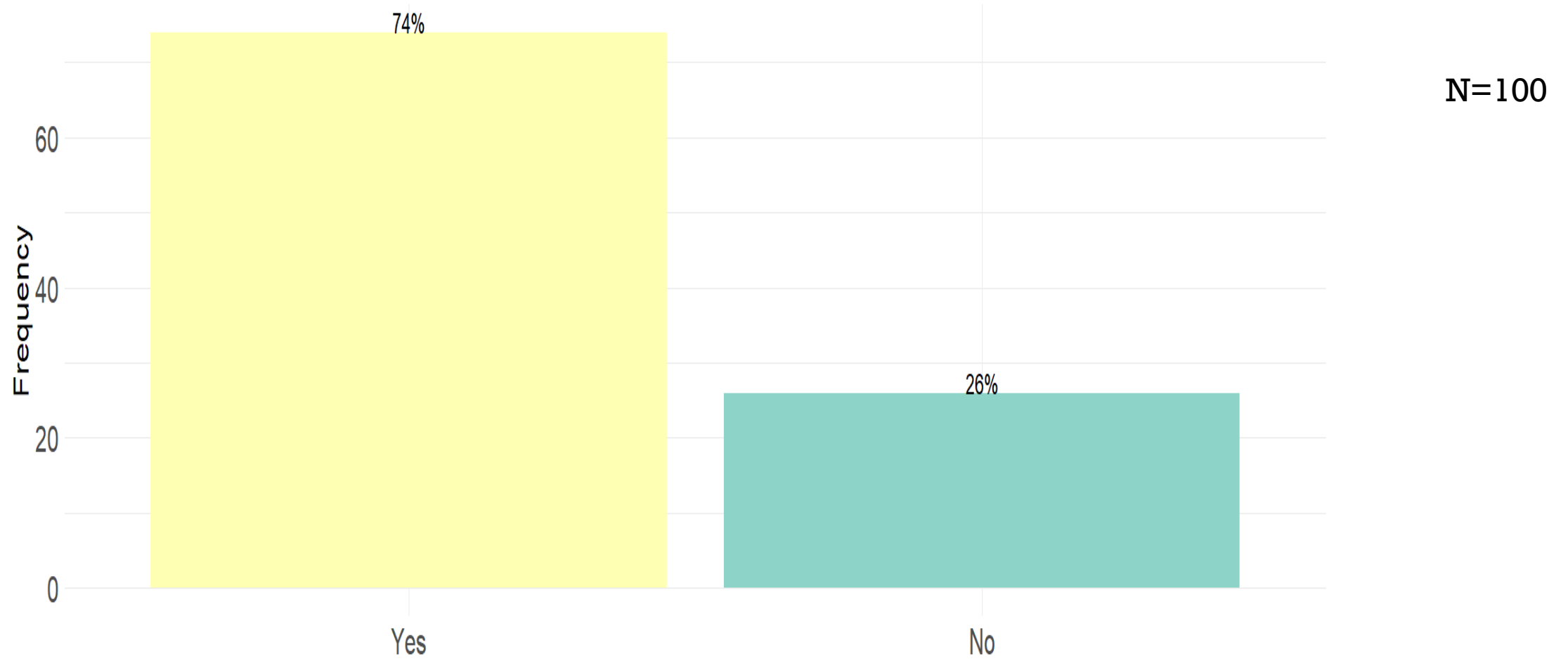
Should all current drugs be trialled in young population to avoid off-label drug use



All drugs undergo clinical trails at all ages to avoid off-labelling

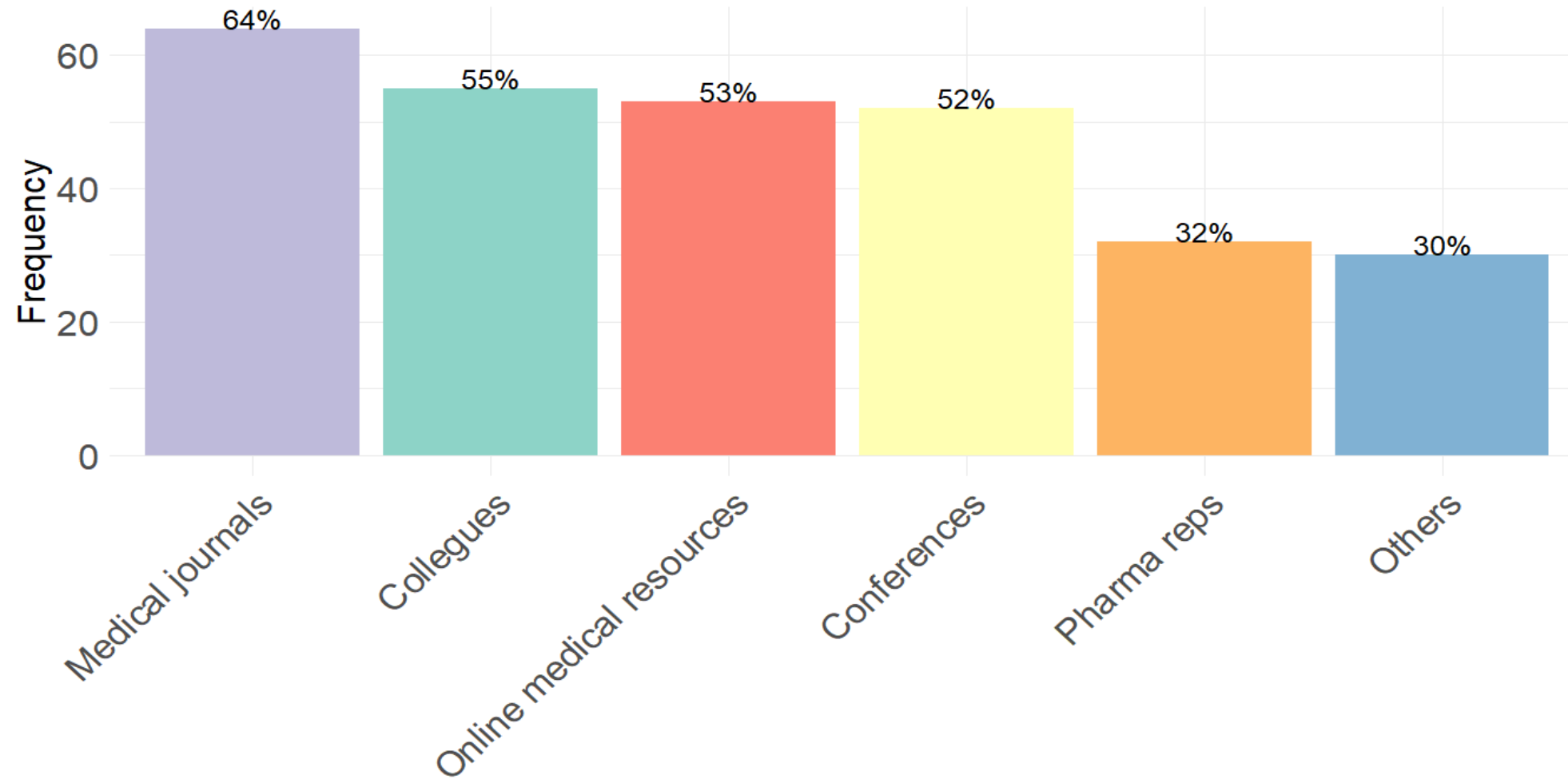


Should government give incentives to perform clinical trials to avoid off-label prescribing

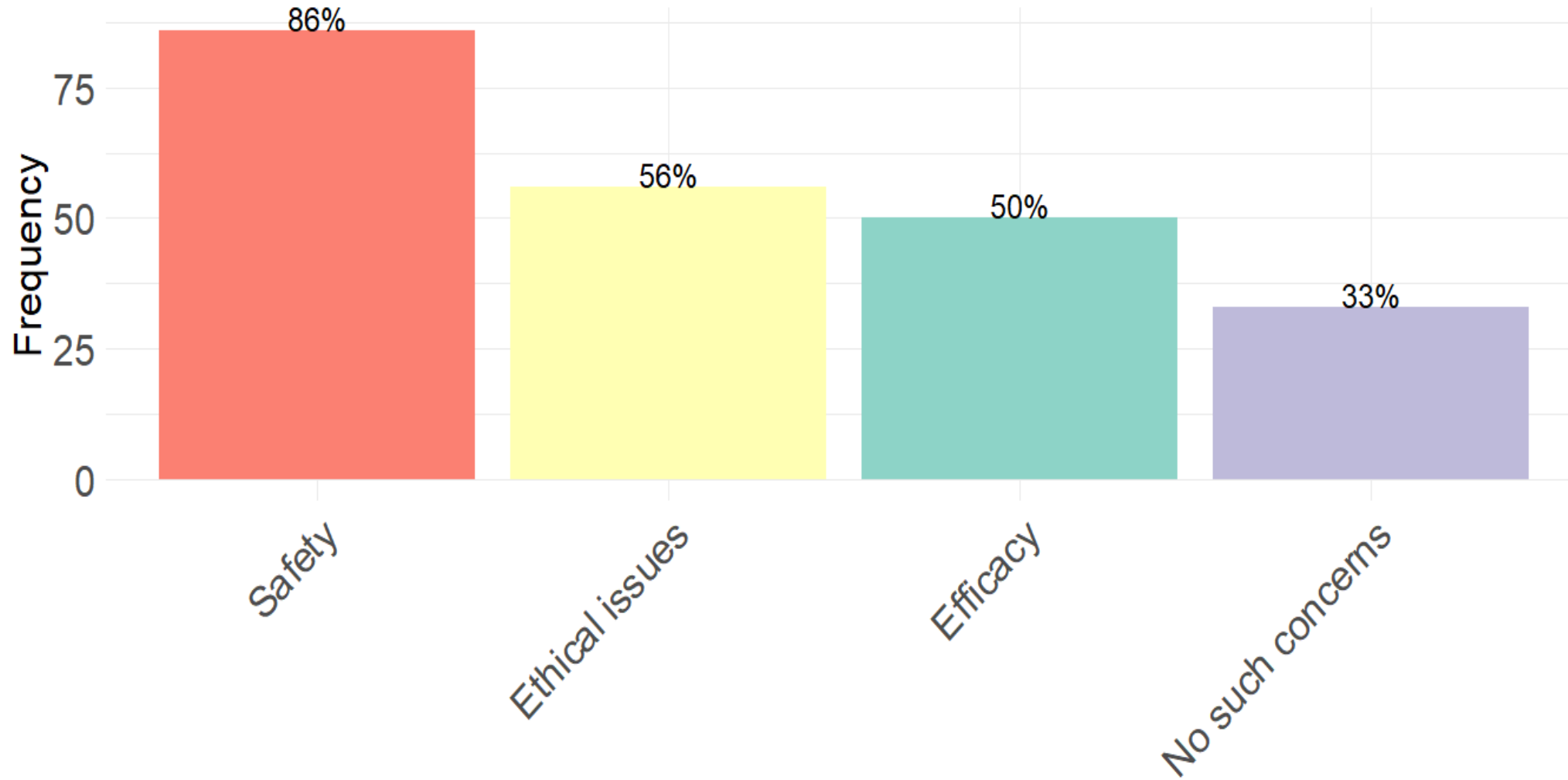


Main sources of information about off-label drug use

N=100



Major concerns regarding off-label prescription



DISCUSSION: ETHICAL IMPLICATIONS

- **High Use, Low Guidance**
 - Off-label prescribing common (50%) but lacks clear guidelines.
- **Ethical and Safety Concerns**
 - Perceived key issues: Treatment failures (28%) and ADRs (9%) raise safety alarms.
- **Communication Gaps**
 - Limited/Rare patient communication (43%) and reporting (28.4%).
- **Need for Oversight and Evidence**
 - Strong support for clinical trials and ethical frameworks to guide safe off-label use.

CONCLUSION

- **High Awareness**, but 50% have used drugs off label
- **Top Concerns:** Safety and efficacy

Recommendations:

- Enhance education on safe off-label practices.
- Support research to validate off-label uses.
- Improve patient communication and consent policies.

