

Introduction

Whole blood donation is generally a safe procedure, but sometimes adverse reactions of varying severity may occur. Any untoward event or complication experienced by donor during or after blood donation process is adverse donor reaction (ADR) which can range from mild symptoms like dizziness, nausea to severe vasovagal reaction(VVR) like syncope and convulsions. This study helps in understanding the frequency and types of various adverse reactions encountered by whole blood donors. Blood centre have dual responsibility of meeting blood supply for patients & to ensure blood donor's safety.

Objective

To analyse the prevalence, characteristics, and severity of ADR among whole blood donors, to enhance donor care and safety.

Materials and Methods

STUDY TYPE: Retrospective cross sectional study
STUDY POPULATION: Voluntary non remunerated whole blood donors 5432
STUDY PERIOD: January 2022 to December 2022
STATITISCAL ANALYSIS : Prevalence of ADR was observed with respect to donors age, gender, first time or repeat donors and severity.

All donors were accepted for donation after screening and certified by medical officer. Blood was collected in standard 350ml blood bags. Donors were observed for any adverse reactions during and 30 mins following donation.

Observations

Types of complications after whole blood donation:

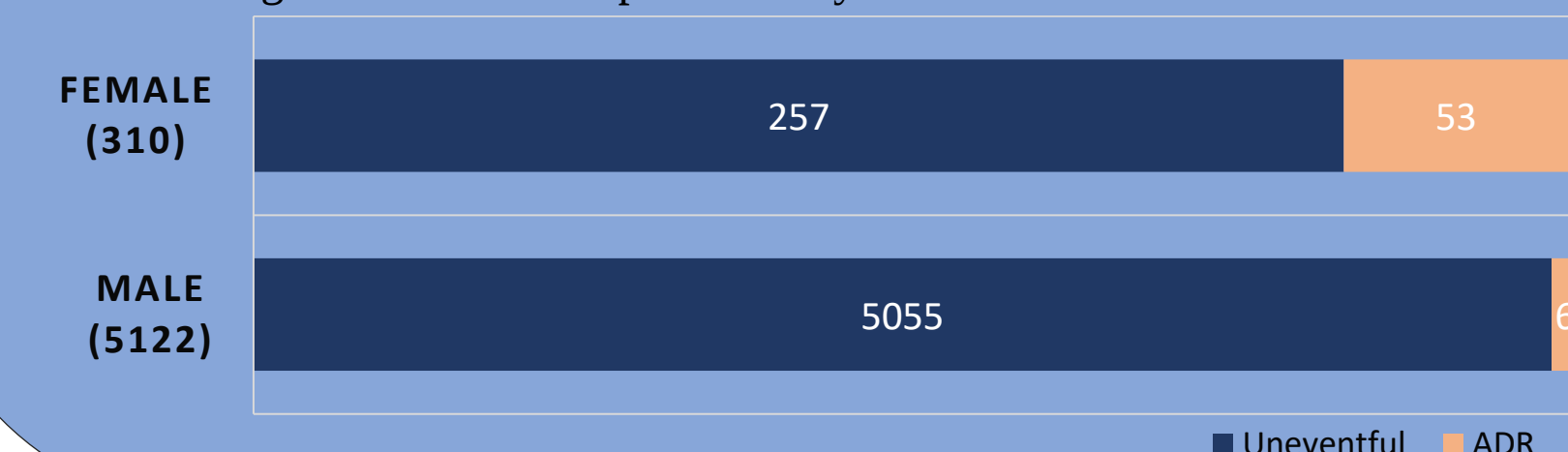
- Localised complications
- Generalised complications

Localised complications	Number	Percentage
Hematoma / bruise	13	11%
Delayed bleeding	08	6.6%
Local allergic reaction	03	2.5%
Injury to nerve/irritation	02	1.6%
Total	26	21.7%

Generalised complications observed were mostly vasovagal in nature and categorized accordingly.

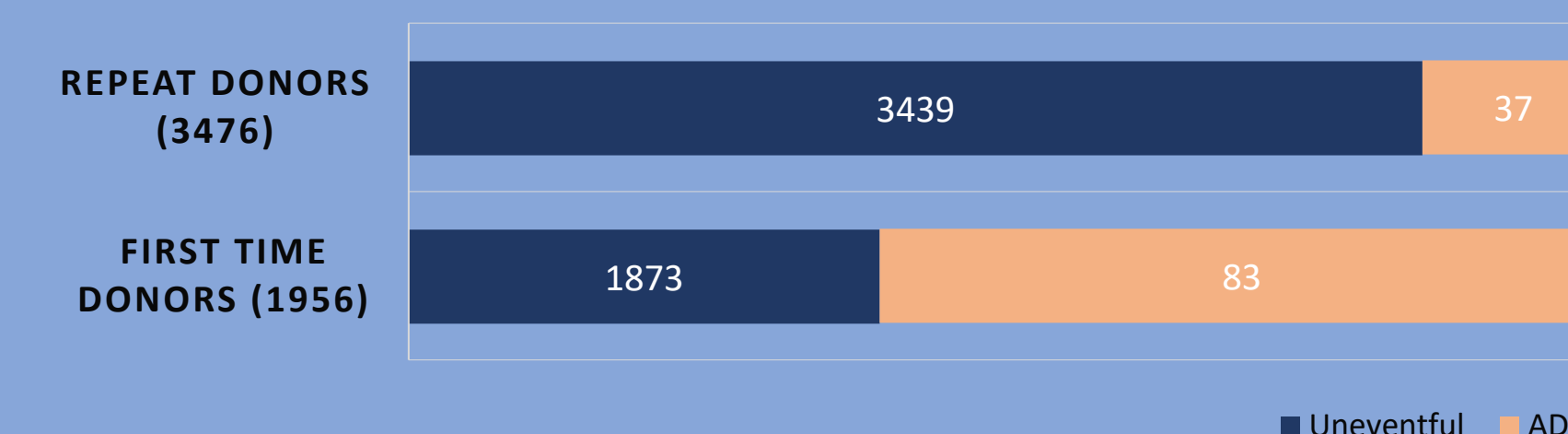
Generalised complications	Symptoms	Number	Percentage
Mild VVR	Cold extremities/chills,feeling of warmth, hypotension,light headedness/dizziness,nausea/vomiting,pallor,bradycardia, sweating,twitching/weakness with no Loss of consciousness(LOC)	75	62.5 %
Moderate VVR	Signs and symptoms of mild VVR with LOC <60 sec	15	12.5 %
Severe VVR	LOC >60 sec,convulsions, rigidity or tremor of extremities,loss of bowel/ bladder control	4	3.3 %
	Total	94	78.3%

Fig 1:Shows ADR experienced by male and female donors



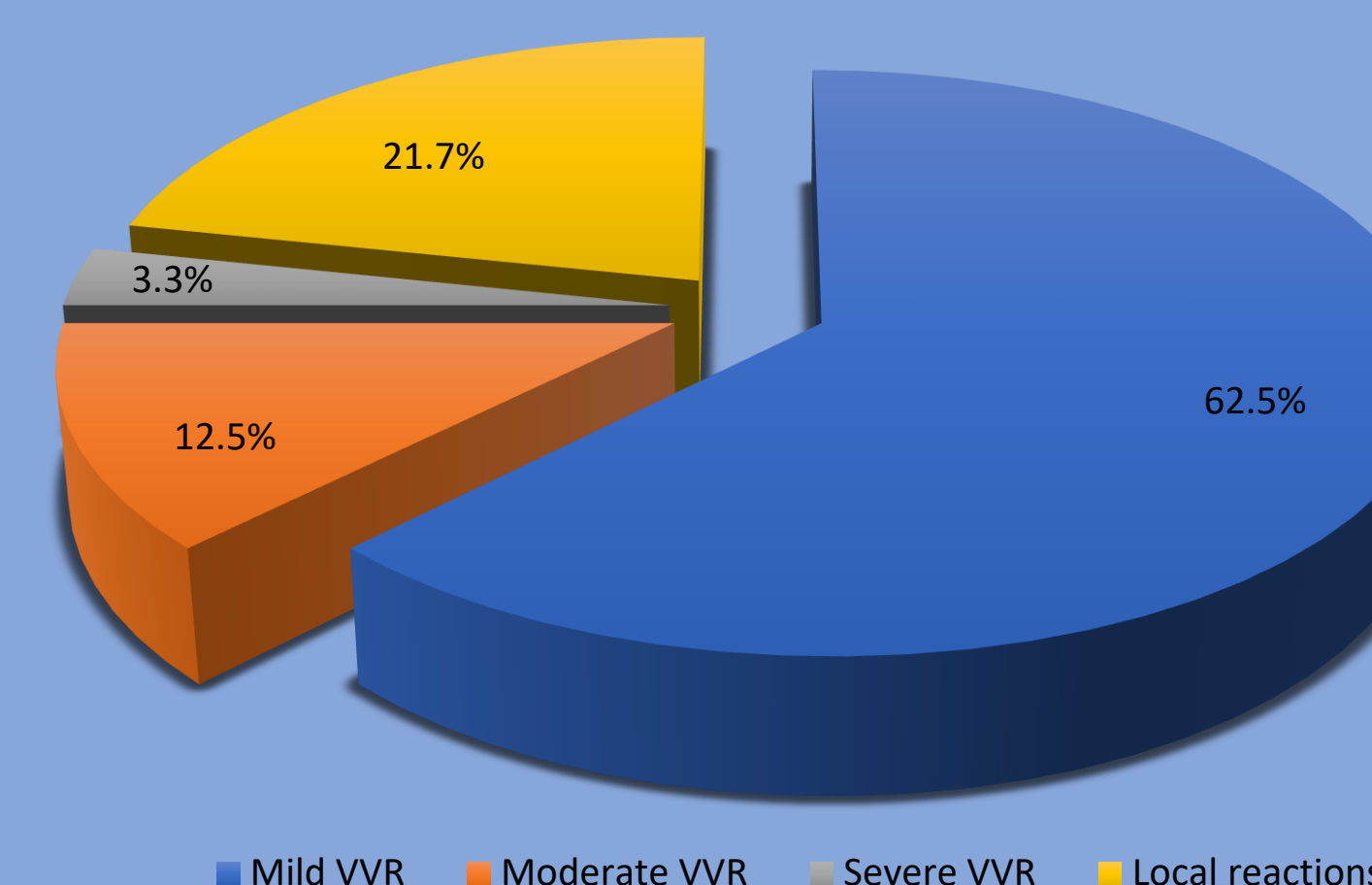
Results and Discussion

Fig 2: Depicts occurrence of ADR among first time vs repeat donors



- Total number of whole blood donation : 5432
- Total number of ADR observed: 120 (2.2%). Among them,67 (56%) were male and 53 (44%) were female donors.
- ADRs in first time blood donors were 83 (69%) and repeat blood donors were 37(31%).
- Out of 5432 whole blood donors observed, 120(2.2%) experienced ADRs of which 75(62.5%) were mild VVR, 15(12.5%) were moderate VVR, 4(3.3%) were severe VVR and 26 (21.7%) were local reactions.
- ADRs have highly significant relationship with respect to first time blood donors and gender is an independent predictor of donor reaction, with females having higher chances of reaction.

Fig 3:Figure shows ADR experienced in whole blood donors



Conclusion

ADR analysis helps in identifying blood donors at risk of donor reactions and preventing adverse reactions by proper screening, adopting appropriate donor motivational strategies, pre-donation counseling, and care during and after donation. Thus donor hemovigilance plays an important role in the safety of blood donation. Pre-donation information & understanding how to manage post donation adverse reactions are critical to ensuring that the donor returns for future donation.

References

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- BEulah M, latha FathIMa J. Pattern of Donor Adverse Reactions in Blood Donation in a Tertiary Care Hospital in Bangalore, India.