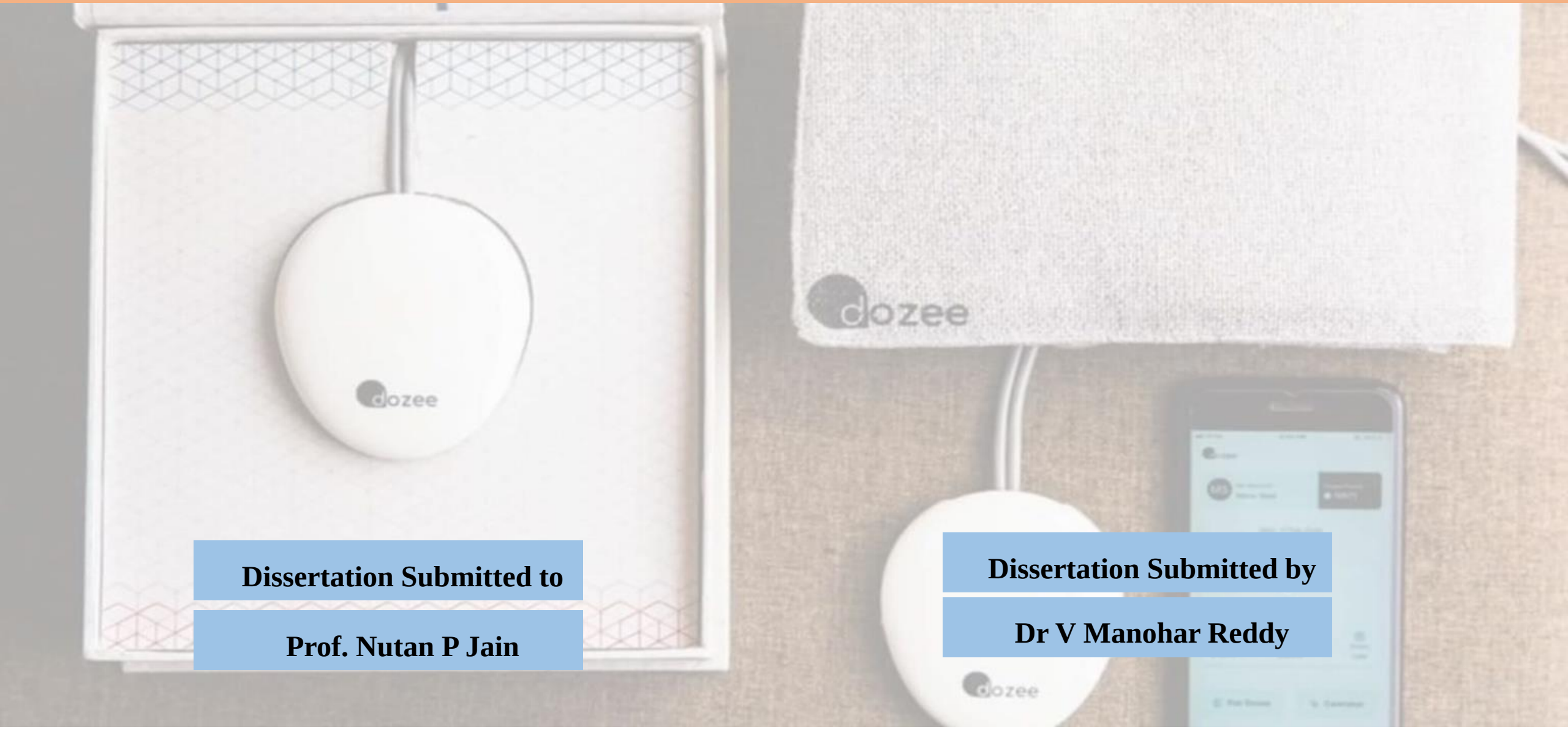
INNOVATIVE POINT OF CARE DEVICE- DOZEE : A FEASIBILITY STUDY



Dissertation Submitted to

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NeuroTouch

MPL

DOZEE

AINA

Ayusynk

- Point of Care Devices

Point-of-care (POC) diagnostic device is an instrument that is used to acquire clinical information of patients in clinical as well as resource-limited settings.

Why DOZEE

DOZEE monitors the following Parameters

- Heart Rate
- Respiration Rate
- Oxygen saturation
- Blood pressure
- Cardiac Performance Matrix

Study question

- Does implementation of the point of care device DOZEE at PHC across Rajasthan is feasible from operator's point of view**?**

Study Objectives

- To assess the feasibility of DOZEE device from the ‘Operator’ perspective at PHCs.
- To study the facilitating and hindering factors to use the device.

Where?

12 districts of Rajasthan

S.no	Facility	District
1	HWC Sorsan	Baran
2	HWC Dholam	
3	HWC Bhajneri	Bundi
4	PHC Jajawar	
5	PHC Dugari	
6	PHC Khandwa patta	Churu
7	HWC Myala	
8	PHC Richha	Dungarpur
9	UPHC Needad	Jaipur I
10	PHC Chacchlao	Jhalawar
11	PHC Kanwara	
12	PHC Dhanuri	Jhunjhunu
13	PHC Padampura	
14	HWC Kherulla	Kota
15	PHC Barod	
16	PHC Kotra deep singh	
17	PHC Lakshaneeja	
18	HWC badi sagthali	Pratapgarh
19	PHC Ambirama	
20	HWC Kankarwa	Rajsamand
21	HWC Kuncholi	
22	PHC Odda	
23	HWC Kundali nadi	Sawai madhopur
24	PHC Bhadoti	
25	PHC Mandwa	Udaipur

The study respondents

The study respondents were the operators of the device DOZEE at the PHCs across the 12 districts from Rajasthan. These respondents are at the position of ‘Lab Technician’ or “GNM’ at the above-mentioned facilities.

Structured Questionnaire

↓

Telephonic interview

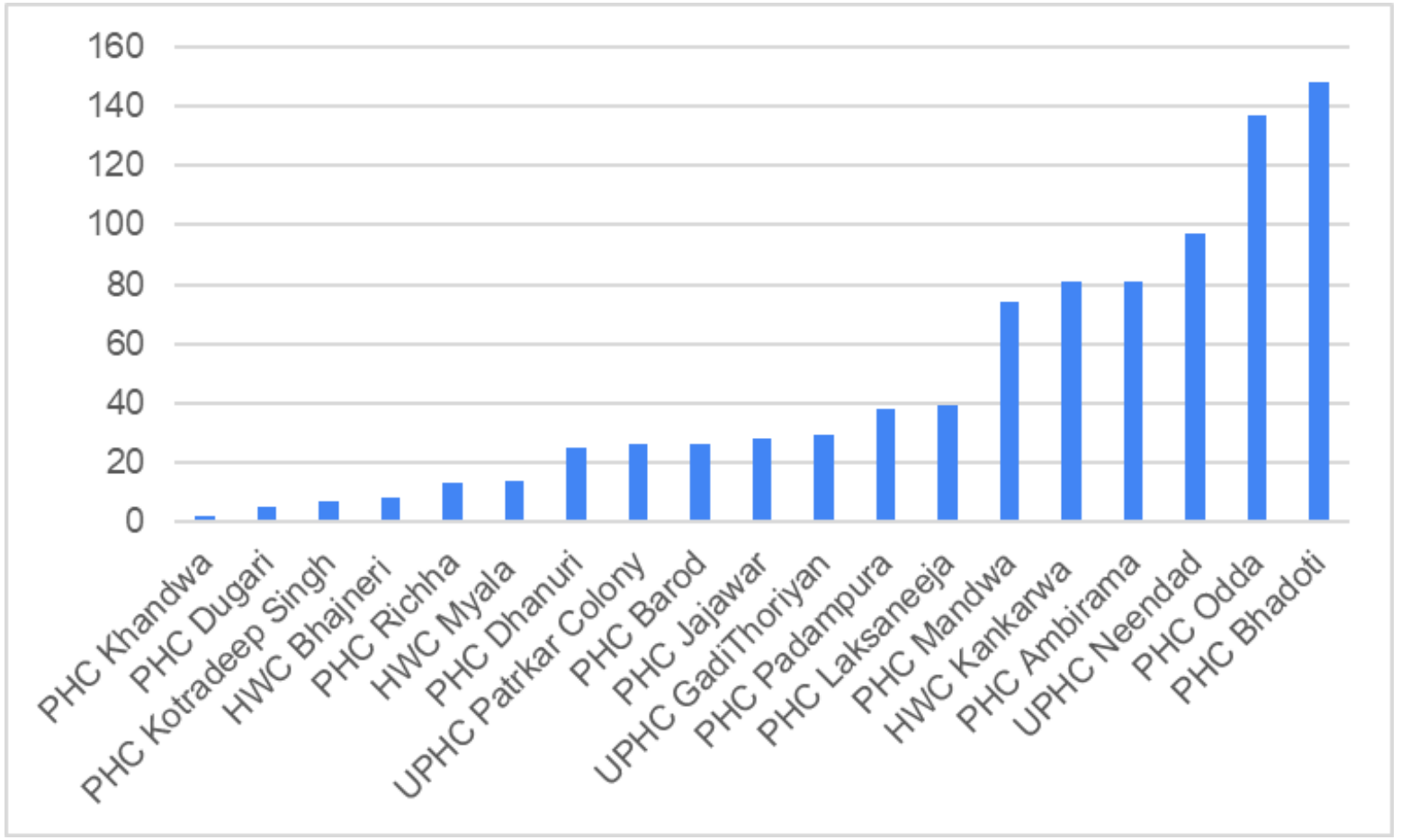
↓ 9 General Nurse Midwife (GNM)

↓ 15 Lab Technician (LT)

Parameters used for the study

Sr. No.	Parameter	Usefulness Perception index (weightage in %)
1	Daily test average	10%
2	Training needs of operators	10%
3	Processing time	10%
4	Challenges faced	20%
5	Device operability	20%
6	Usefulness perception	30%

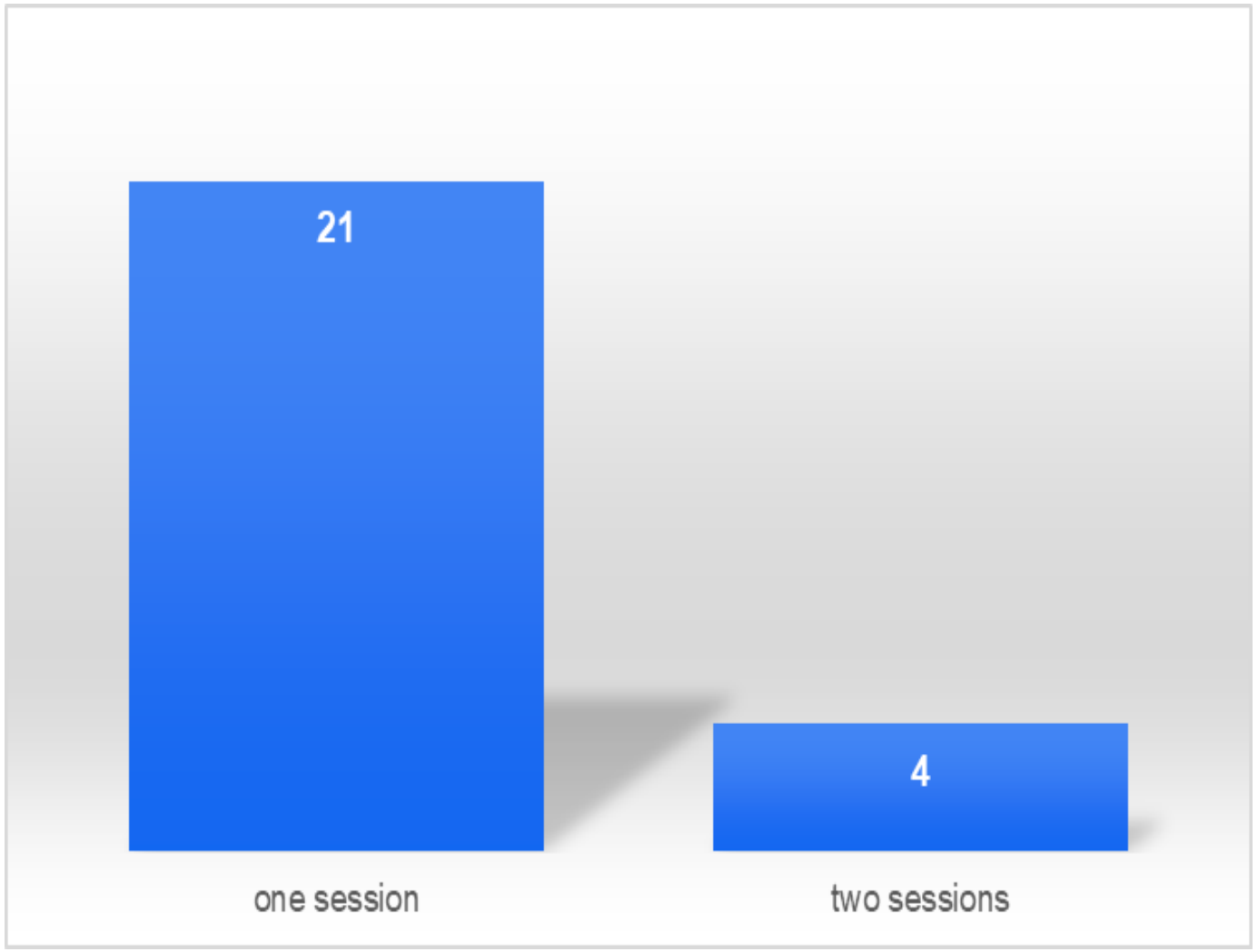
1. Distribution of number of tests done at PHCs using the DOZEE device from Jan 21 to March 21 (n=25)



1. Daily Tests average – analysis criteria

Sr No.	Total avg. of daily tests per day of all PHC's	Weightage fulfilled out of 10%
1	0-0.40	2%
2	0.41-0.80	4%
3	0.81-1.20	6%
4	1.21-1.60	8%
5	1.60 or more	10%

2. Perception of operators towards training requirement (n=25)

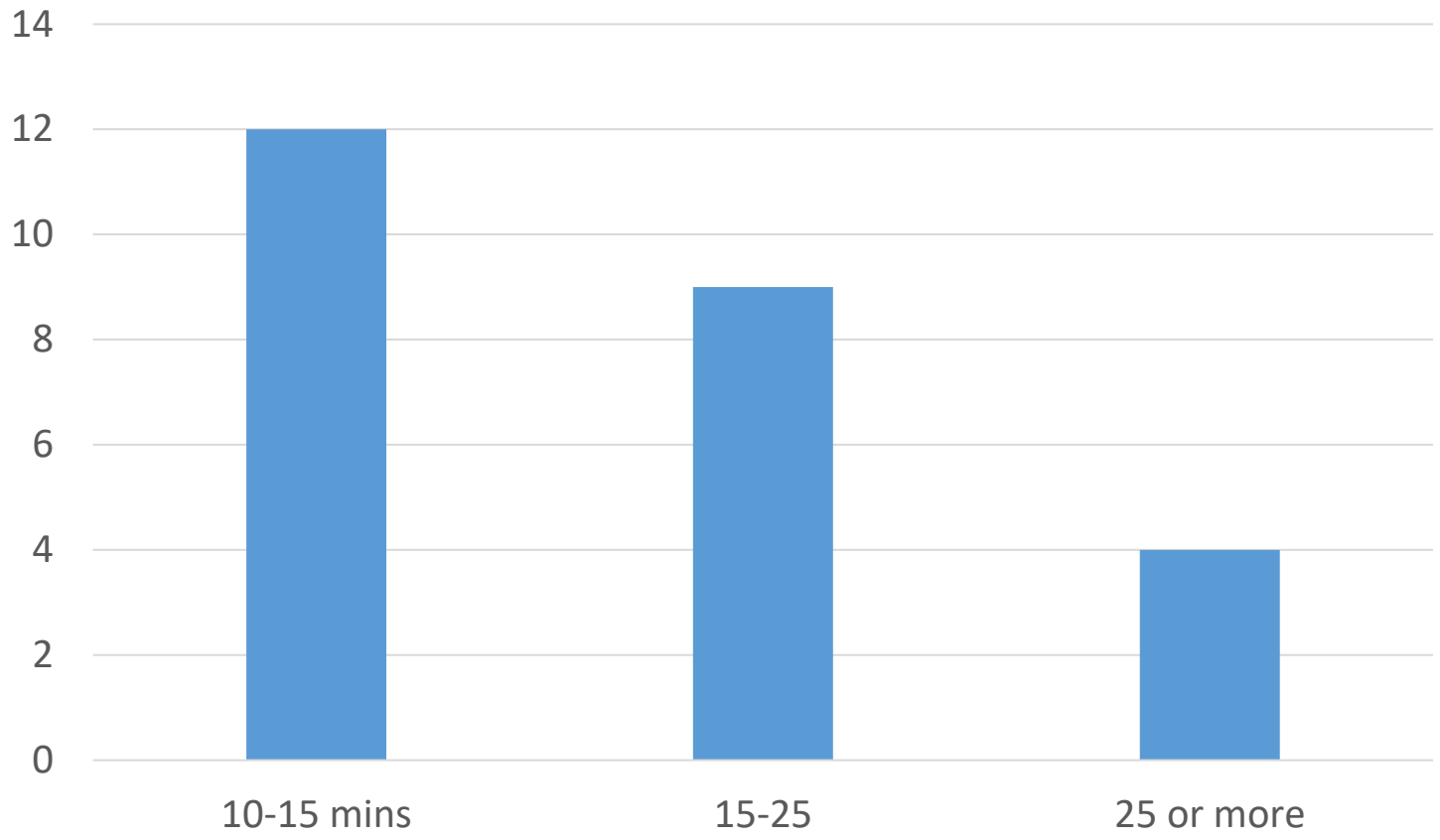


2. Training need of operators – analysis criteria

Sr No.	No. of Operators with single training session perception	Weightage fulfilled out of 10%
1	< 5	2%
2	5-10	4%
3	11-15	6%
4	16-20	8%
5	21-25	10%

3.

Distribution of Operators by time taken in processing the device per test (n=25)

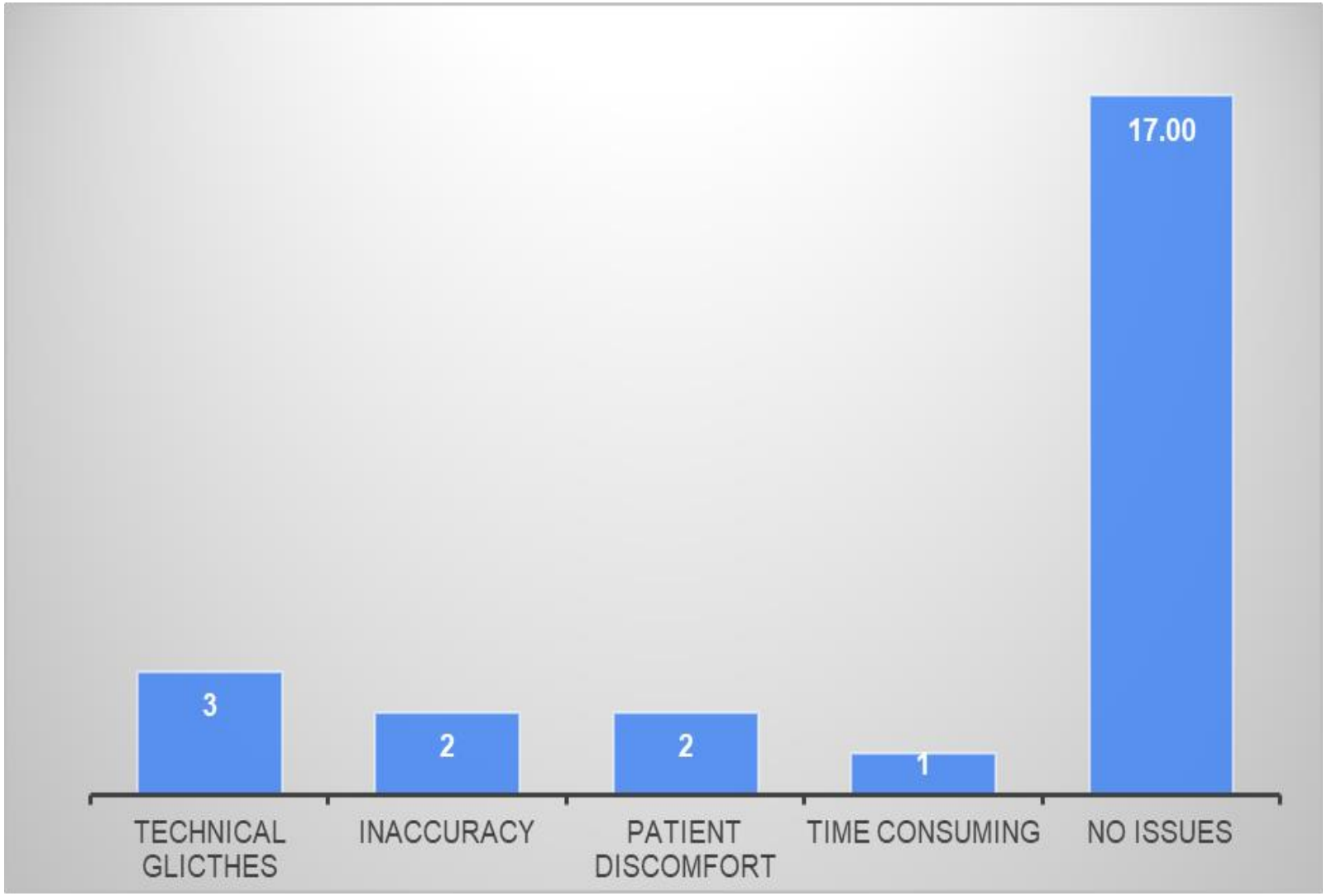


3. Processing time of device – analysis criteria

Sr No.	No. of operators with Processing time equal to company time of the device	Weightage fulfilled out of 10%
1	0-5	2%
2	5-10	4%
3	10-15	6%
4	15-20	8%
5	20-25	10%

4.

Distribution of challenges based on operators perception (n=25)



4. Challenges faced – analysis criteria

Sr No.	No. of operators not facing Challenges	Weightage fulfilled out of 20%
1	0-5	4%
2	5-10	8%
3	10-15	12%
4	15-20	16%
5	20-25	20%

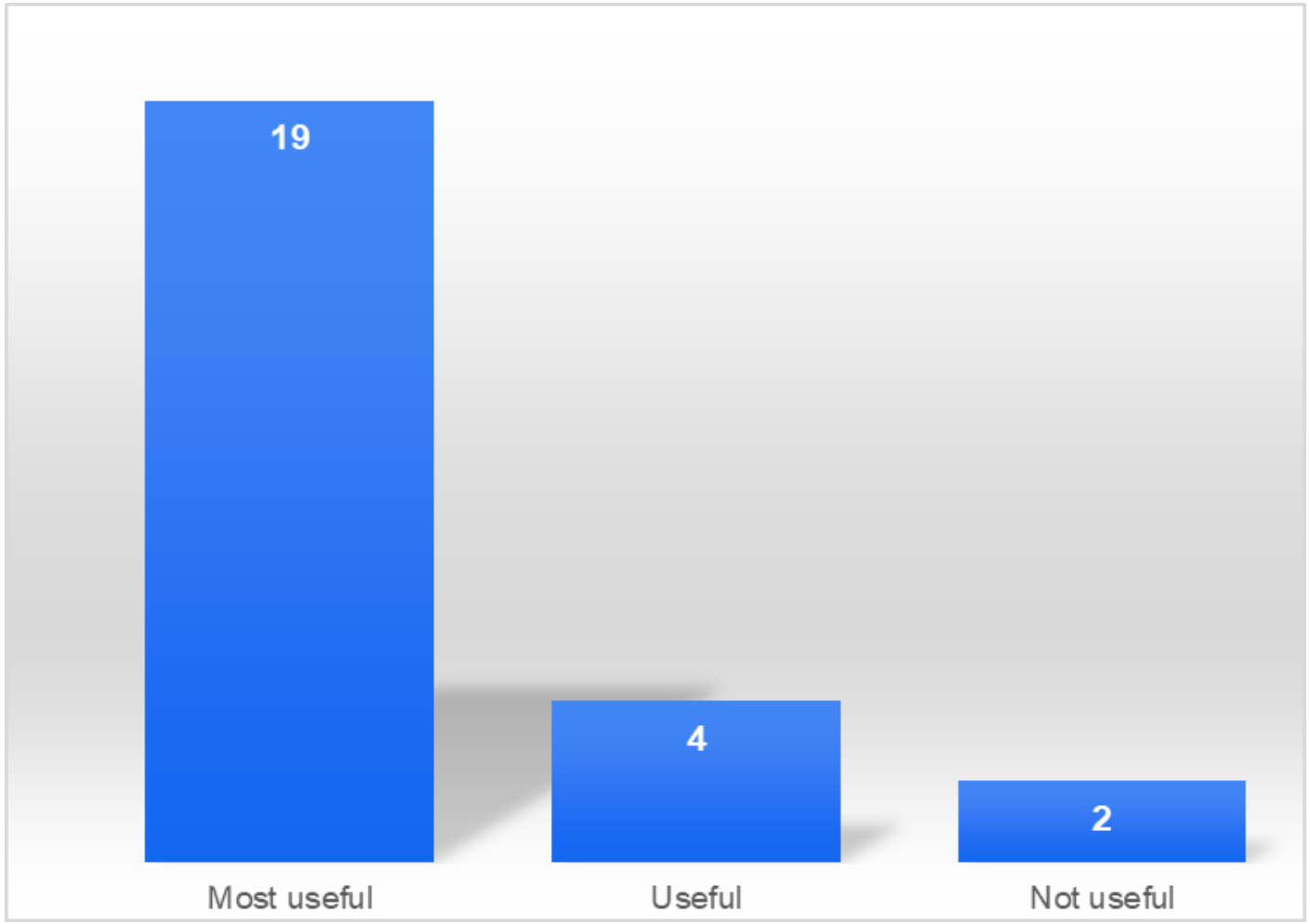
5.

Distribution of perception of operators towards ease in operating the device.

The operators were asked about the difficulty in handling the device to be rated out of 10 with 1 being ‘easy to use’ and 10 being ‘not easy to use’ and operate.

Sr No.	Device difficulty total avg.	Weightage fulfilled out of 20%
1	0-2	20%
2	2.1-4	16%
3	4.1-6	12%
4	6.1-8	8%
5	8.1-10	4%

6. Distribution of perception of respondents towards device usefulness (n=25)



6. Usefulness perception – analysis criteria

Sr No.	No.of operator with Overall usefulness perception	Weightage fulfilled out of 30%
1	0-5	6%
2	5-10	12%
3	10-15	18%
4	15-20	24%
5	20-25	30%

DOZEE - 76% Feasible

Sr. No.	Parameter	Feasibility Perception index (weightage fulfilled in %)
1	Daily test average	4%
2	Training needs of operators	10%
3	Processing time	6%
4	Challenges faced	16%
5	Device operability	16%
6	Usefulness perception	24%

Discussion:

- This study based on perception of 25 respondents, 16 Lab Technicians and 9 GNMs.
- 29% of them faced technical issues,21% of them faced inaccuracy errors from the device and 8% of them said that the device takes longer duration in result generation which is results in patient discomfort and loss of time of the operators.
- 76% of the operators said that it is very easy to use. The overall average of this rating is 3.72.
- All the score from the 6 criteria fulfills 76% of the total feasibility perception score. Hence, showing that the deployment of DOZEE device at all these facilities is 76% feasible.

Conclusion

- The DOZEE device was found feasible as the results revealed total feasibility perception score 76%.
- The facilitating factors were:
  - Easy to use
- The hindering factors were:
  - technical issues related to network or software issues;
  - inaccuracy errors from the device;
  - takes longer duration in result generation which is results in patient discomfort and loss of time of the operators

References

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