

Internship Training at Care- India Bihar

Project

**Study on Qualitative assessment of Indoor Residual Spray
during Kala-azar elimination program at Darbhanga
district in Bihar**

By

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Organization Introduction

- CARE has been working in India for over 60 years, focusing on ending poverty and social injustice.
- It works through well-planned and comprehensive programs in health, education, livelihoods and disaster preparedness and response.
- Its overall goal is the empowerment of women and girls from poor and marginalized communities
- Care India is working in 33 districts of Bihar for Kala azar project and has established its own office in 90 percent districts.
- BMGF (Bill and Milinda Gates Foundation) is funding agency of Care India for SKAEP project in Bihar

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1. Introduction of Kala-azar Elimination Program and its components

- National kala-azar elimination program was started in 1991
- In 2002, a goal for elimination of kala-azar by 2010 was set
- In 2005, a tripartite MoU was signed between India, Bangladesh and Nepal for elimination of Kala-azar by 2015.
- Goal of sustainable elimination of VL from all blocks of Bihar by 2016 can be achieved by following components-

Contd.

- Enhancing the quality of Indoor Residual Spray
 - Detecting all VL and PKDL cases across all villages.
 - Ensuring complete cure of all detected cases.
 - Capacity building of Govt. machineries
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- Visceral leishmaniasis is a vector borne disease caused by parasite *Leishmania donovani* and transmitted by infected female sand-fly *Phlebotomus argentipes*.
 - Indoor residual spraying with DDT is an important component of the kala-azar (visceral leishmaniasis) control strategy
 - Monitoring of spraying operation

2. Problem Statement:

- Kala-azar is a neglected tropical endemic disease in South Asia. Elimination of Kala-azar from India has not been done due to lack of IRS quality.
- Regarding the social acceptability of IRS program, many people refuse to take spray in their houses due to various misconceptions and cultural beliefs.
- lack of knowledge about the spray and disease lead to high number of refusal cases in endemic areas

3. Research Question:

- What is the quality of IRS spray during Kala-azar elimination program in Darbhanga district of Bihar?

4. Objectives:

General Objective-

- To assess the quality of indoor residual spray during Kala-azar elimination program in Darbhanga district of Bihar

Specific Objective-

- To identify the factors affecting the quality (implementation) of indoor residual spray during elimination program
- To assess the training needs of the spraying squads for indoor residual spray round

5. Methodology

- Type of Study – Descriptive cross sectional
- Study Period – 1st February to 1st May 2014
- Study Area – Darbhanga district in Bihar
- Study Unit – IRS Squads
- Sample size – 96

Selection process – Squads were monitored once during IRS round in the mid time of IRS round (Total Squads in district = 96)

- Sampling- Complete evaluation

7. Data Collection Method

- Data collection – During squads spraying time at villages
- Data is collected through questionnaire method while monitoring the squad team members and observations inside sprayed households.
- Each squad team is visited once during the mid time of IRS spray in Darbhanga district in Bihar.
- Their knowledge level and practicing methods were checked and assessment of quality of spray is done.

8. Analysis and Results:

1. Manpower presence at the field
 - A- Number of workers in the squad
 - B- Spray Start time at field level
 - C- Spray end time by squads
2. Safety of the spraying squad persons
3. Equipment insufficiency at the field staff
 - A- Stirrup pumps Availability
 - B- Buckets Availability
4. Awareness among squad teams about IRS technique
 - A- Spray uniformity from nozzle
 - B- Stroke frequency per minute
 - C- Plunger movement length while spraying
 - D- Spraying height inside households

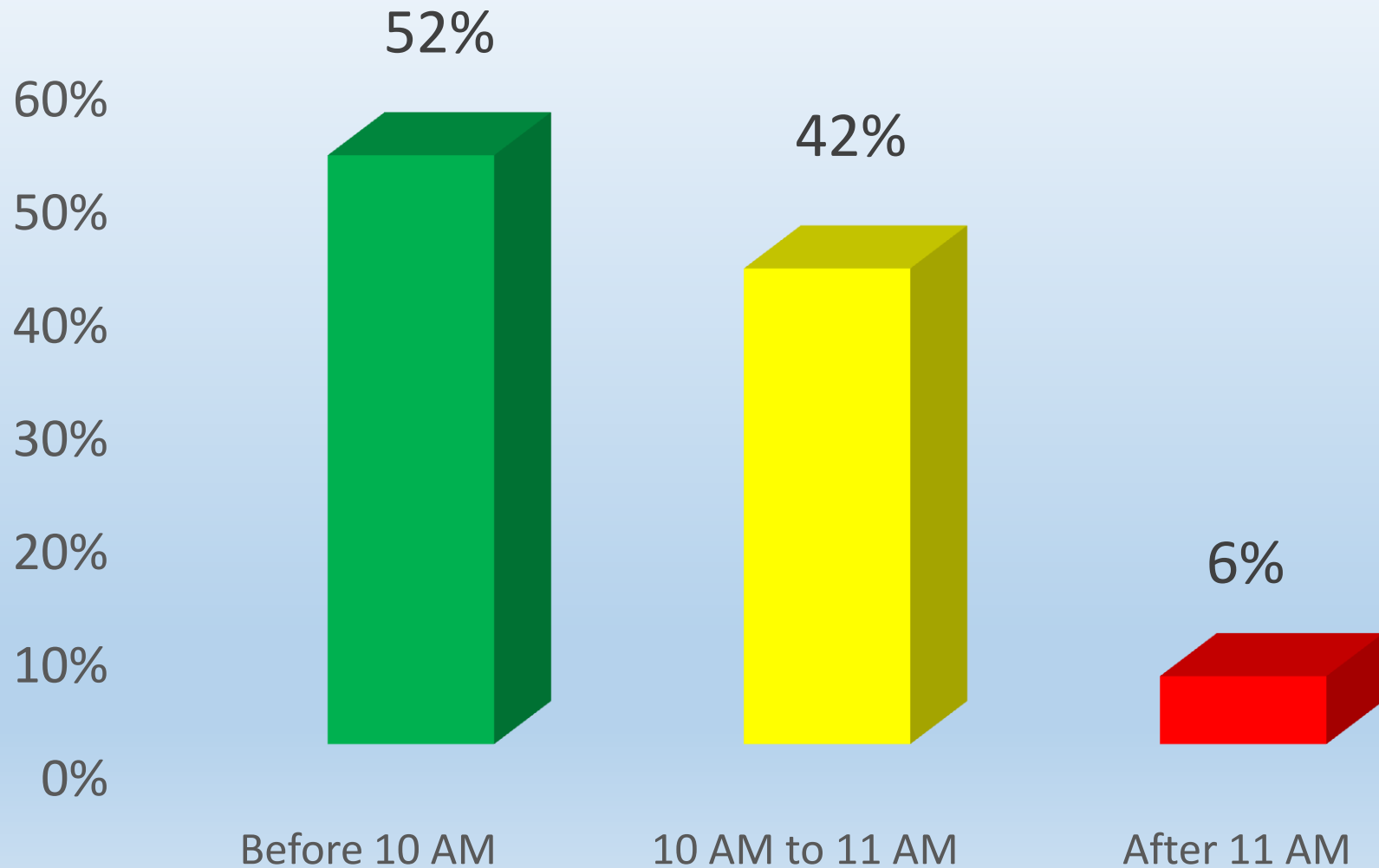
- A squads should have 5 FWs and 1 SFW

1 C. Spray team members presence in the Squad

Sr. No.	Squad Members	Frequency	Percent
1	5FW and 1SFW	88	91.7
2	4FW and 0 SFW	5	5.2
3	3FW and 1 SFW	3	3.1
	Total	96	100.0

- Normally Squads start spray activity from 9 am to 5 pm

1 A. Spray start time in this village

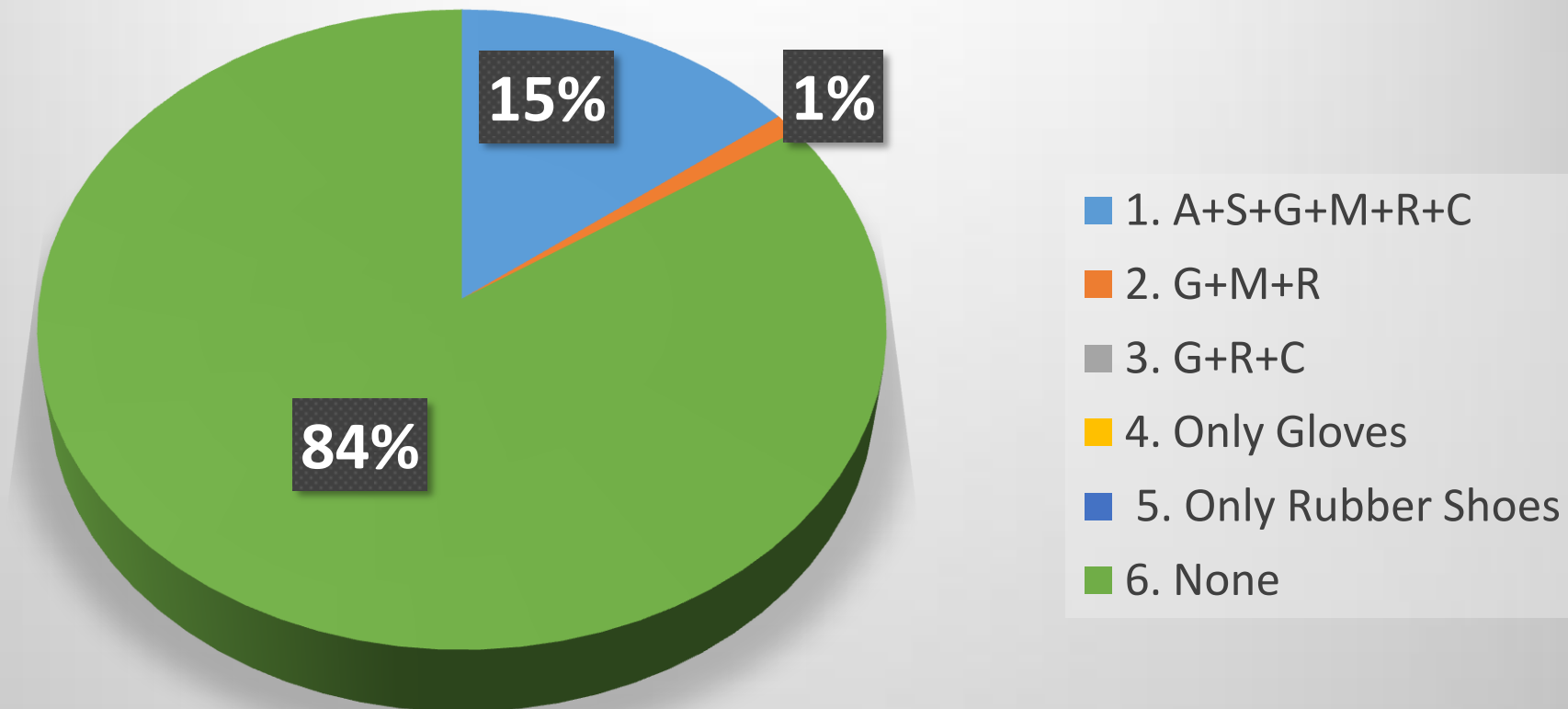


Standards for PPE per squad

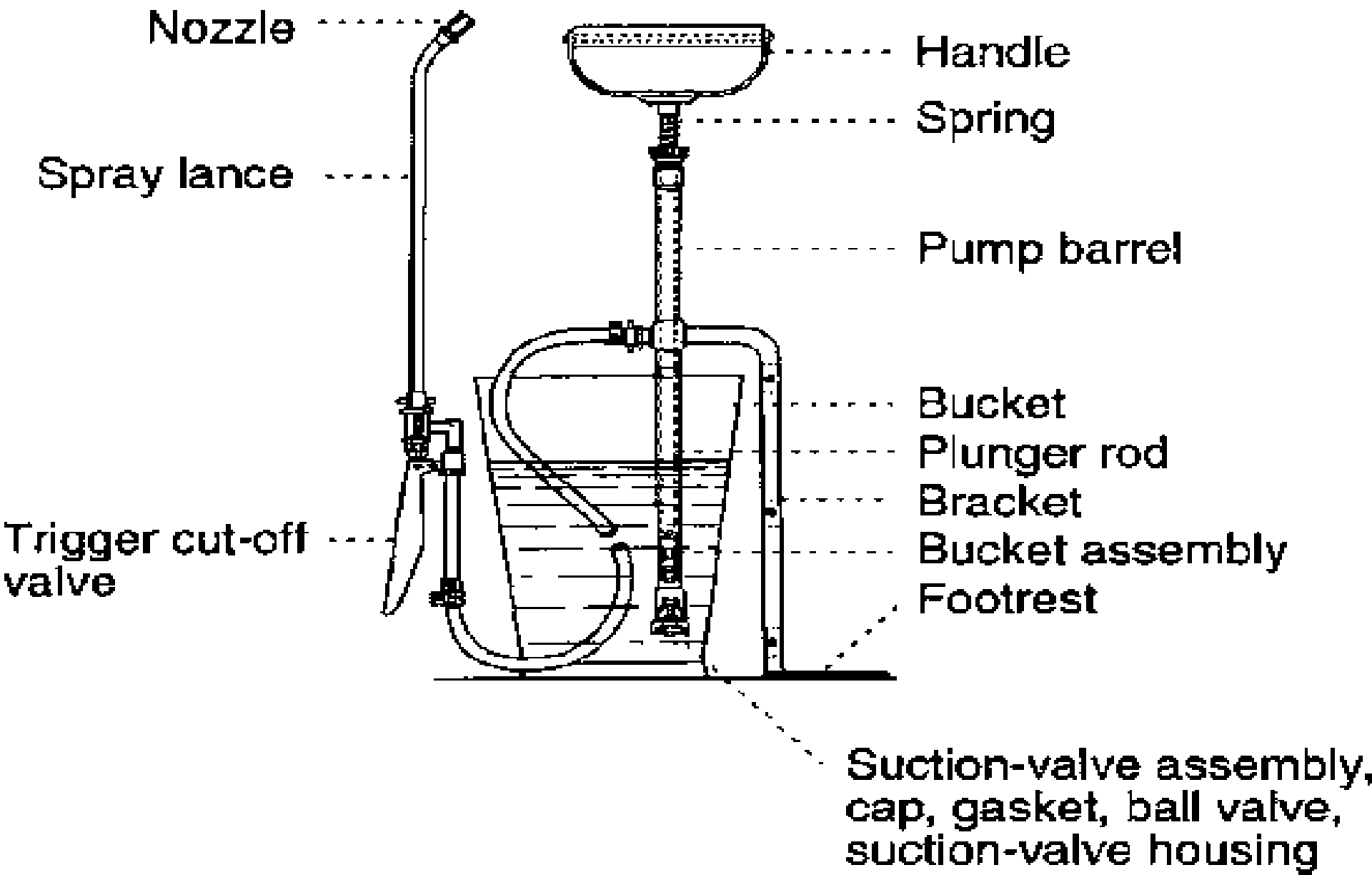
Apron=5 ,
Cap= 6 ,
Masks=5,

Rubber Shoes=5 pairs
Gloves=2 Pairs
Spectacle=5

2. Spray Team Members using Personal Protective Equipment

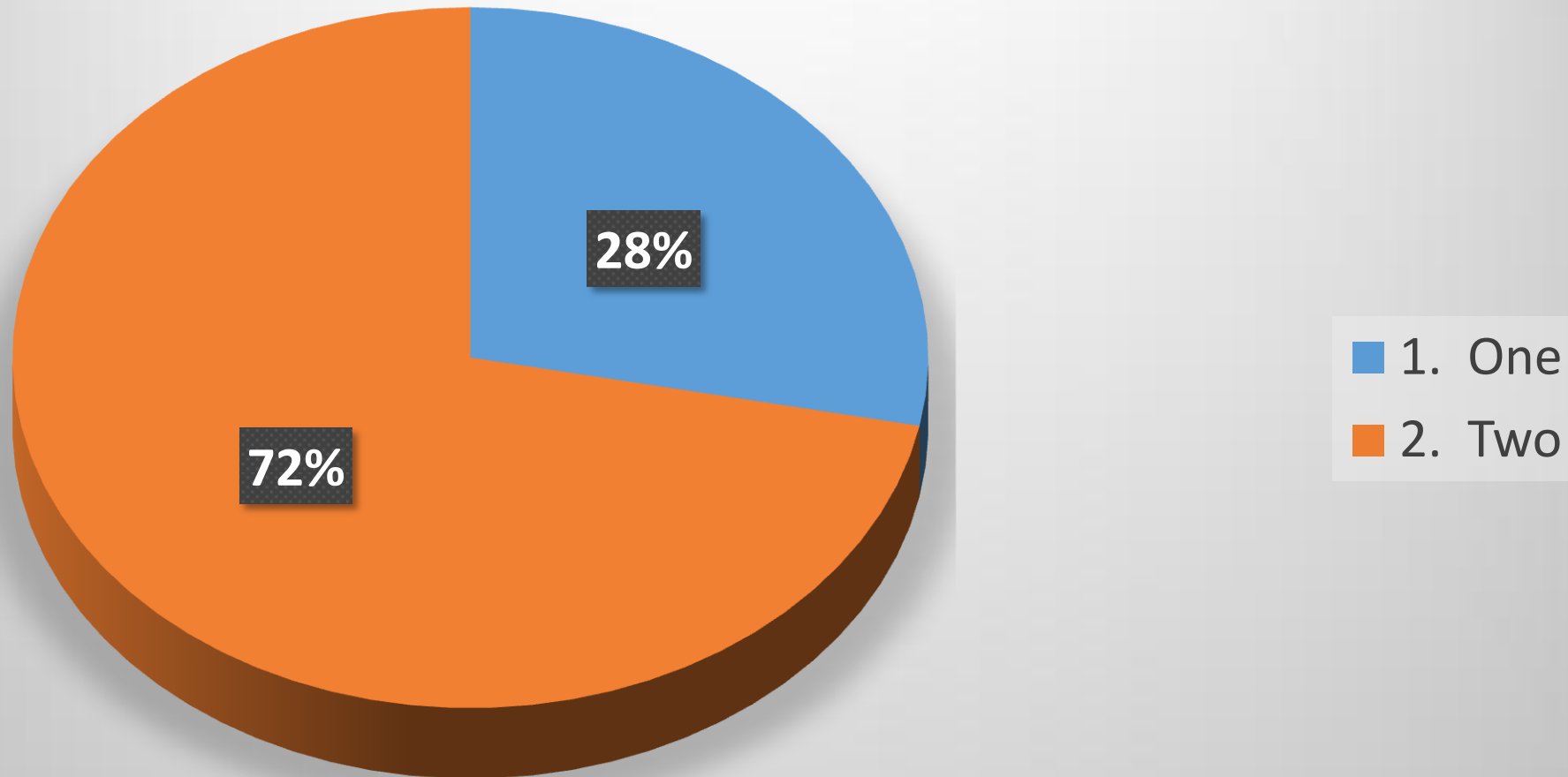


STIRRUP PUMP



- Two stirrup pumps per squad is the standard

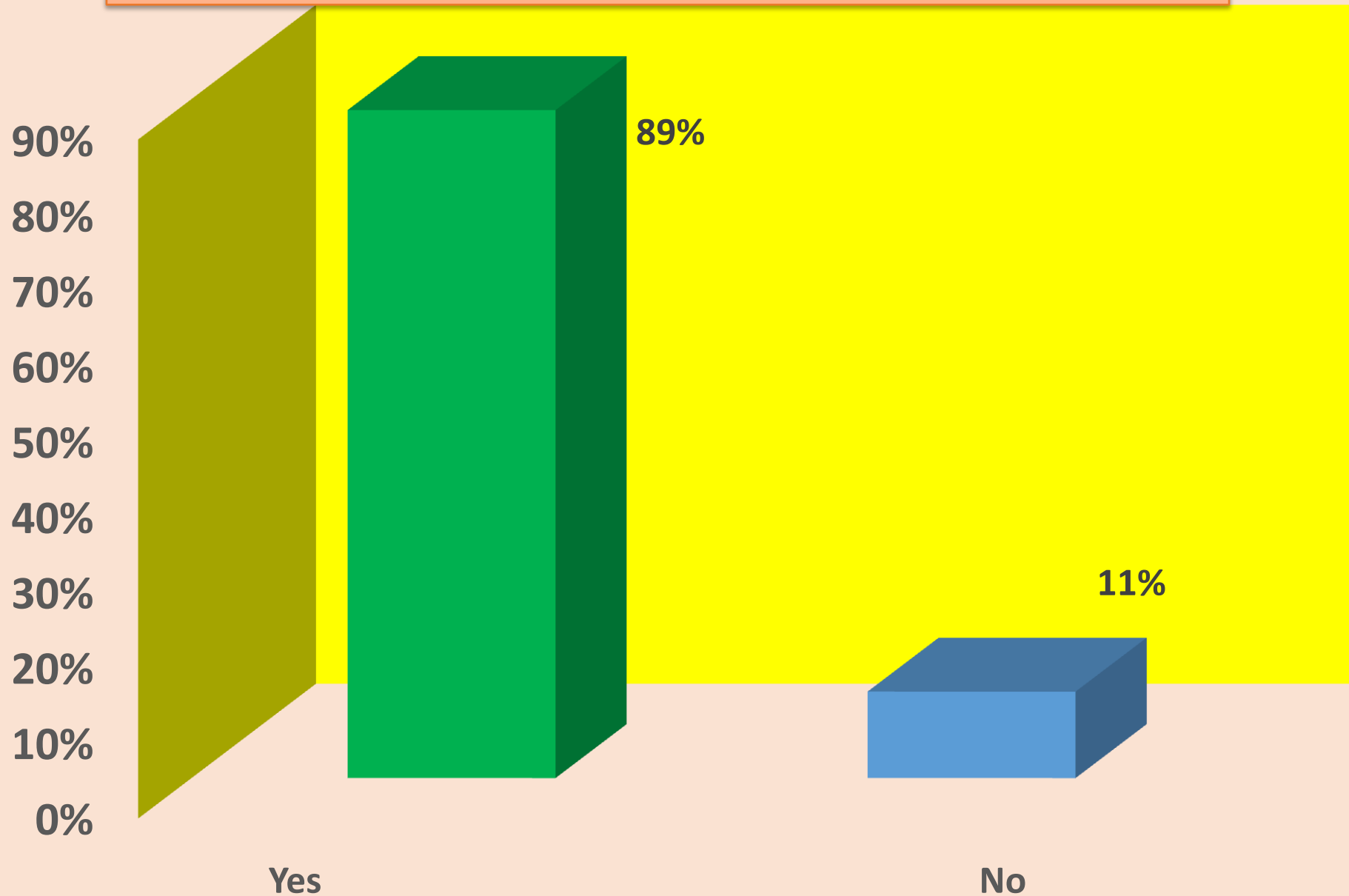
3 A. Stirrup Pumps being used per squad



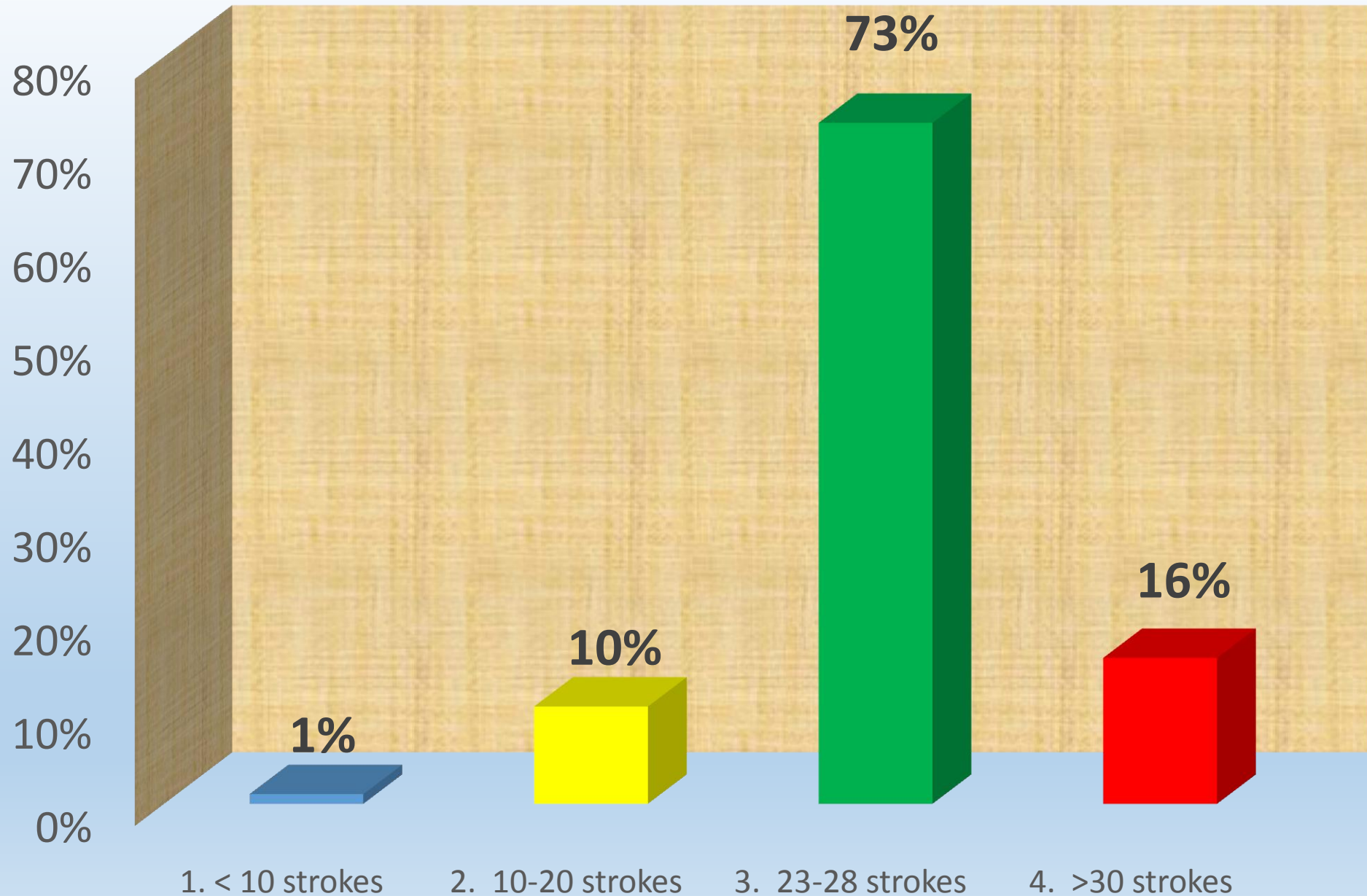
3 B. Number of buckets with squad teams = 4/Squad

Sr. No.	Number of Buckets used	Frequency	Percent
1	One	12	12.5
2	Two	39	40.6
3	Three	33	34.4
4	Four	12	12.5
	Total	96	100.0

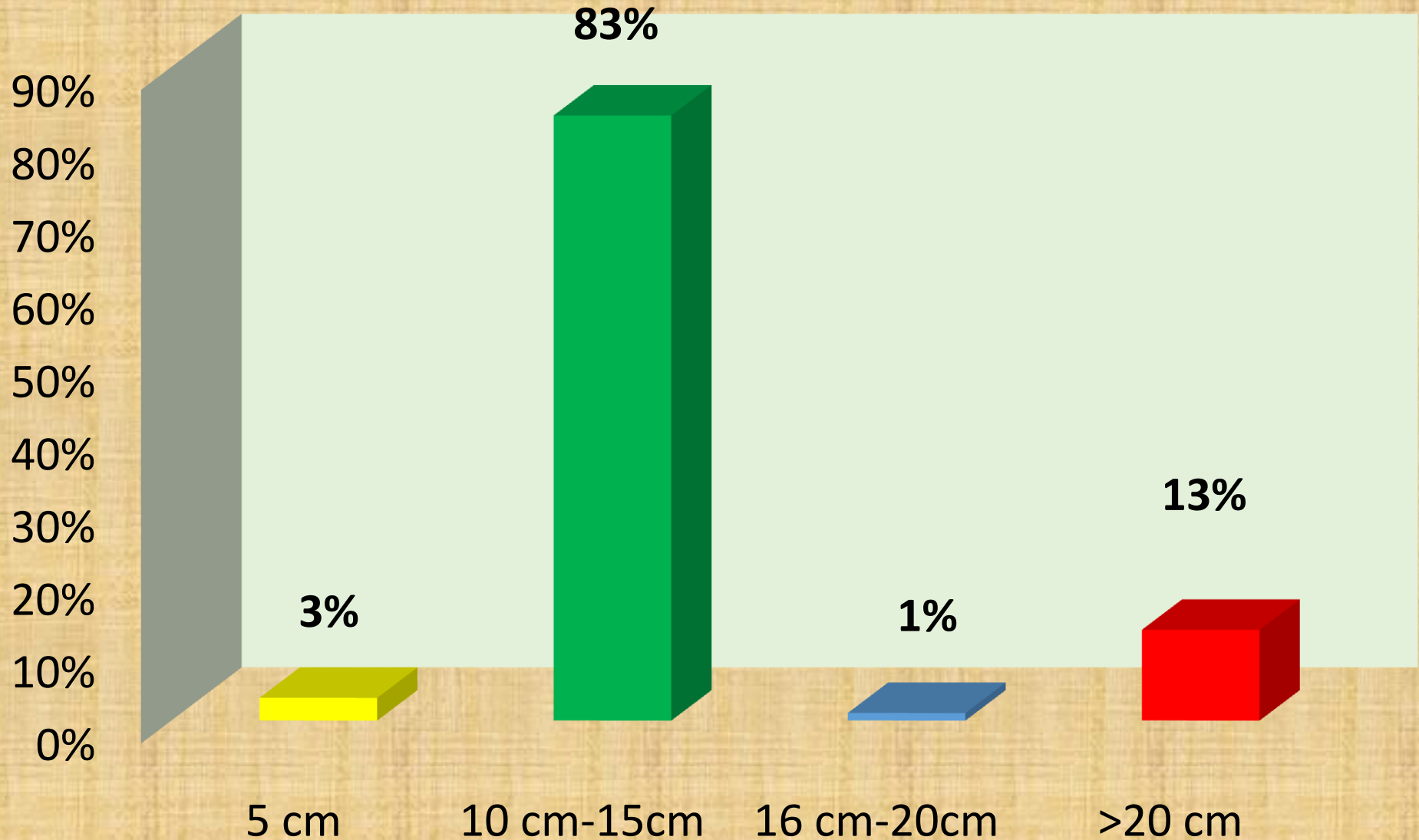
4 A. Uniform distribution of spray from the nozzle by squad teams



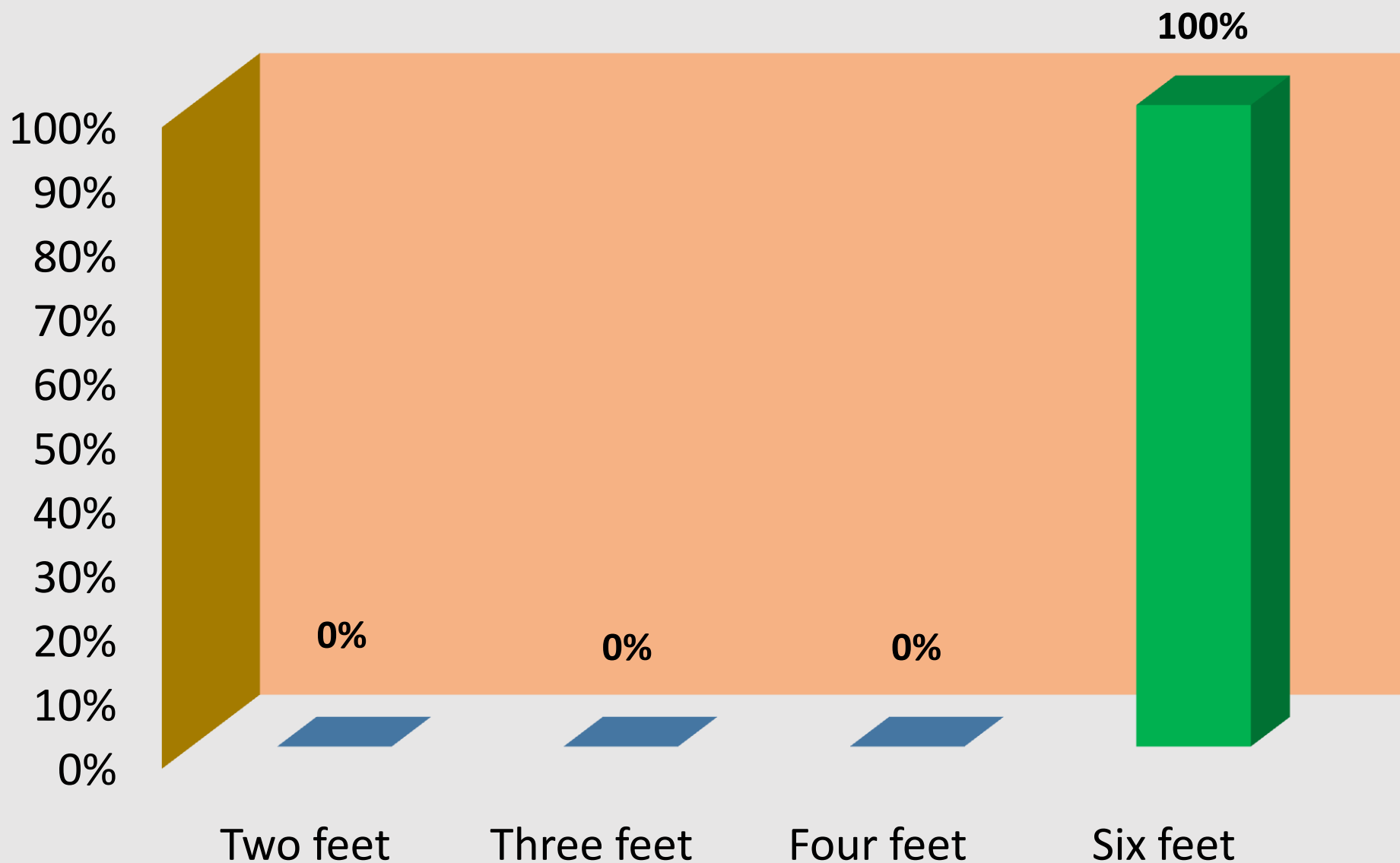
4 B. Frequency of strokes per minute by spraying men



4 C. Length of plunger movement at the nozzle tip given by spraying men



4 D. Spraying height inside the houses



9. Discussion and Results:

- Maximum squads have complete team members but approximately half of them started spray after 10 am
- Personal protective equipment usage was found negligible by squad teams at the field.
- Most of the teams did not have buckets which is necessary for smooth measurement and preparation of DDT paste but stirrup pumps lacking was also affecting quality of IRS spray
- Most of the squad teams have enough knowledge about spray uniformity, plunger distance, height of spray and per minute strokes.

10. Conclusion:

1. Insufficient number of team members, PPE equipment, stirrup pumps, buckets, plastic sheets were directly affecting the quality of indoor residual spray.
2. Personal protective equipment were not being used by teams which directly affects the health of spray squads.
3. Team members were found partially awared about plunger movement distance, frequency of strokes per minute, speed of spray and breadth of spray

11. Recommendations:

1. To maintain quality of indoor residual spray, identified gap of IRS equipment i.e. spray pumps, buckets should be fulfilled as soon as possible before the start of spraying activity.
2. There is a need to supply PPE and aware teams about its benefit so that teams could use them for their personal protection
3. Close monitoring of each squad is necessary
4. Squad teams are also found partially awared about spraying techniques of the activity. So capacity building of the squads is needed

12. Limitation

- Data collection at initial and end time of the spraying activity may produce different results as analyzed data was taken in the mid time of IRS activity.
- Some of the respondents that could have given misconstrued results noticed language barrier.
- Summer season also affected the quality of IRS spray and study data.

Thanks