

SUMMER INTERNSHIP REPORT

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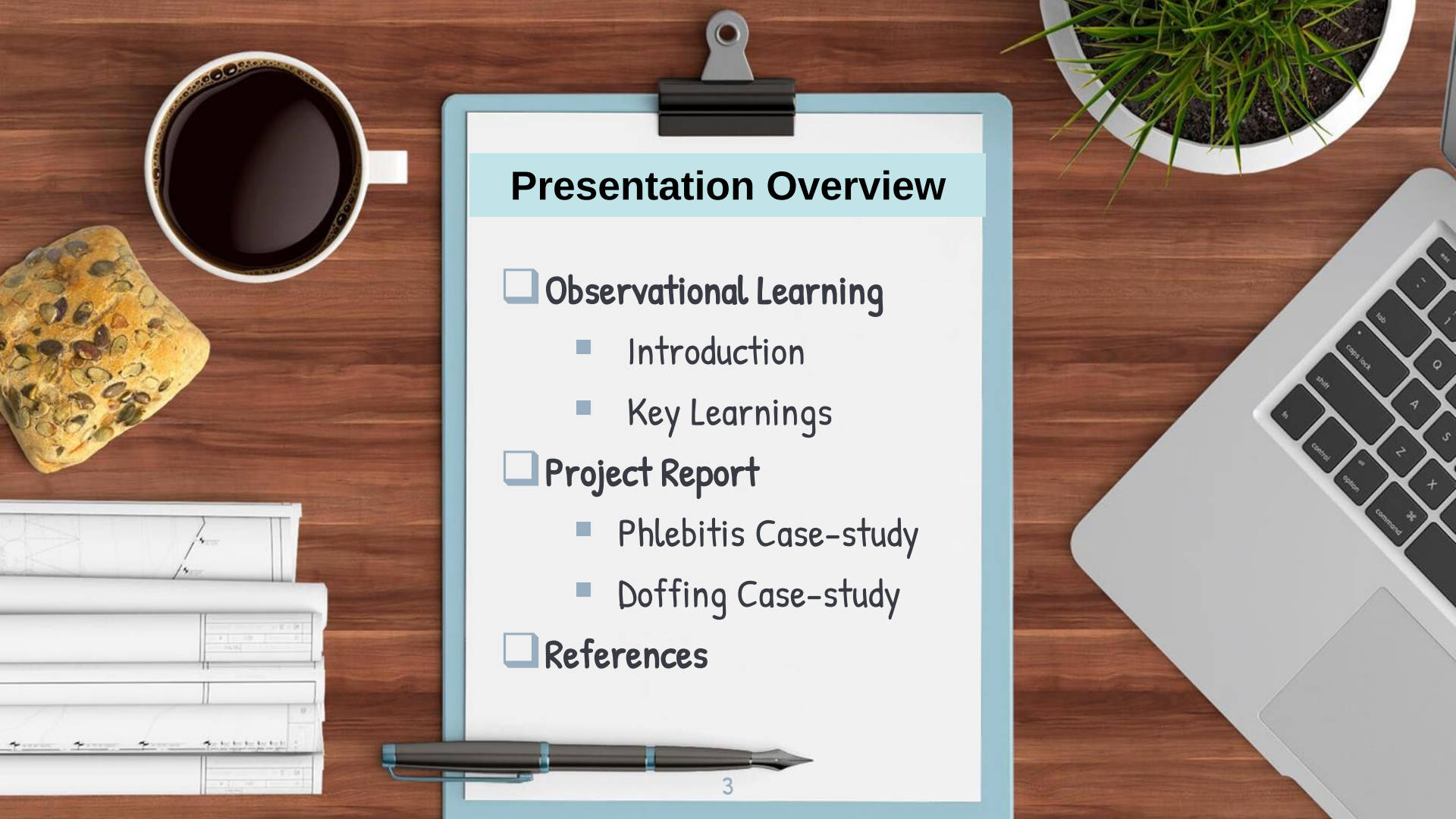
SUMMER TRAINING AT

SHALBY
MULTI-SPECIALTY
HOSPITALS

Surat

(From 10th May to 3rd July)

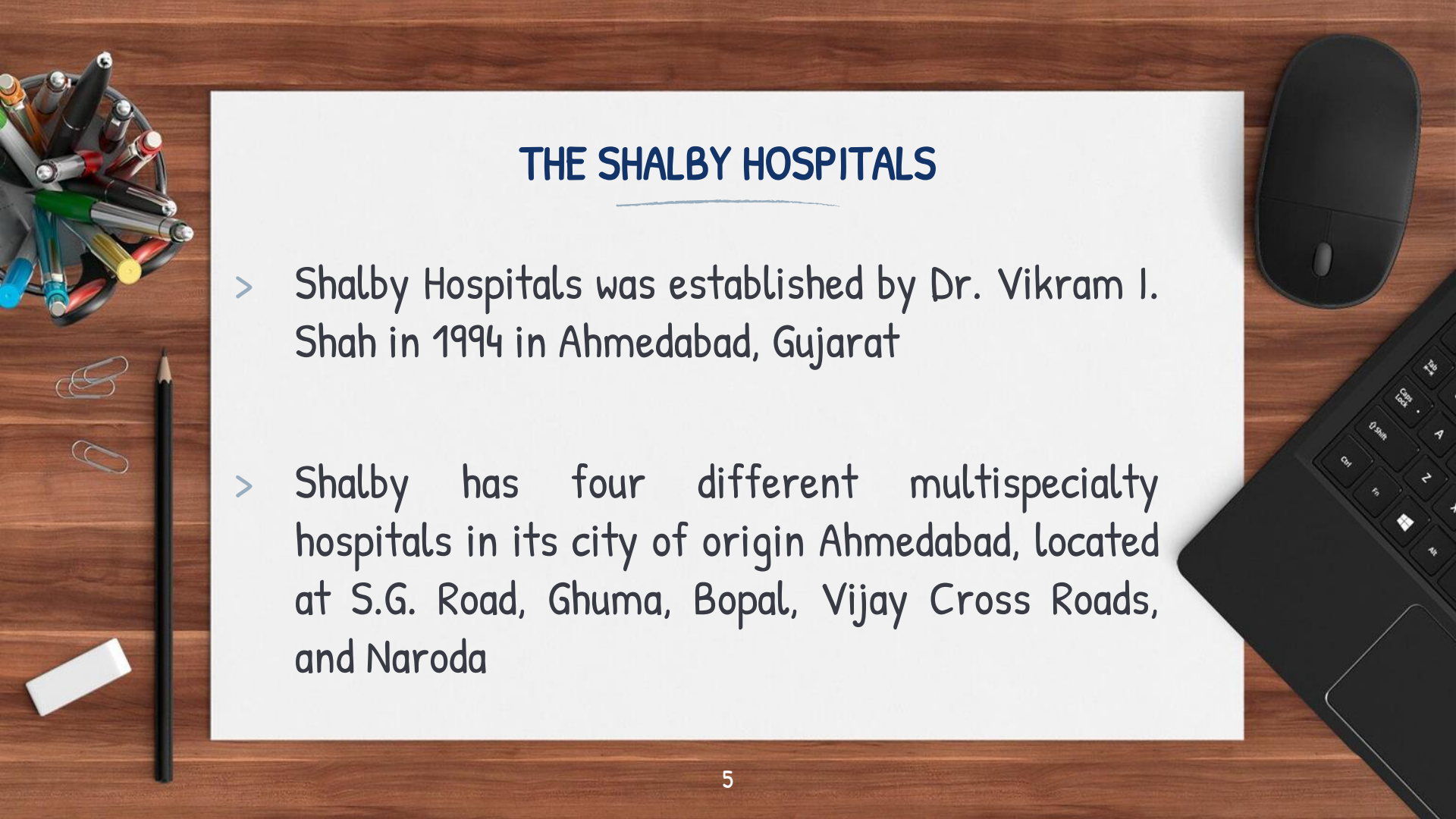




Presentation Overview

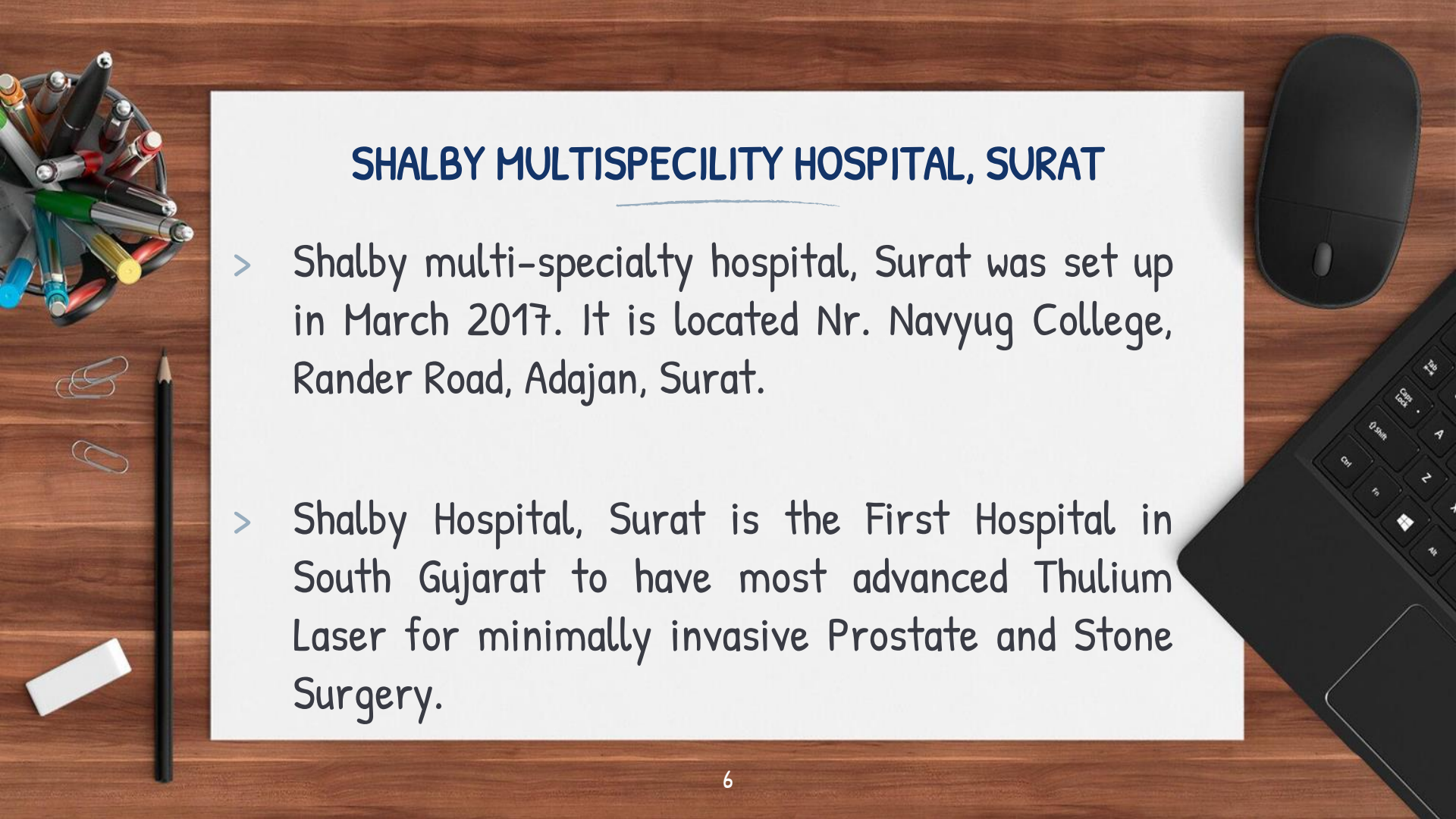
- ☐ Observational Learning
 - Introduction
 - Key Learnings
- ☐ Project Report
 - Phlebitis Case-study
 - Doffing Case-study
- ☐ References

1.
OBSERVATIONAL LEARNING



THE SHALBY HOSPITALS

- > Shalby Hospitals was established by Dr. Vikram I. Shah in 1994 in Ahmedabad, Gujarat
- > Shalby has four different multispecialty hospitals in its city of origin Ahmedabad, located at S.G. Road, Ghuma, Bopal, Vijay Cross Roads, and Naroda



SHALBY MULTISPECIALITY HOSPITAL, SURAT

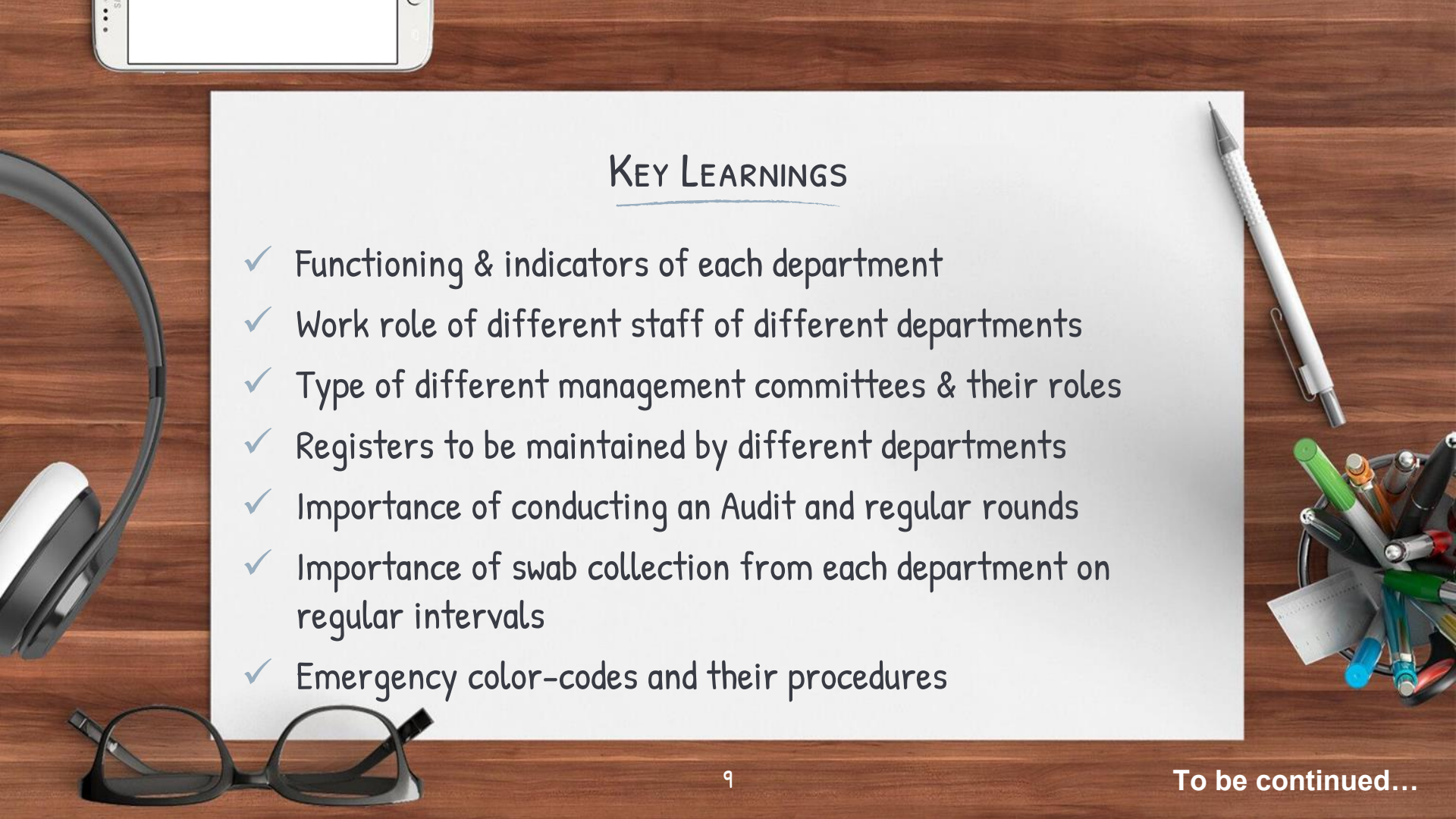
- > Shalby multi-specialty hospital, Surat was set up in March 2017. It is located Nr. Navyug College, Rander Road, Adajan, Surat.
- > Shalby Hospital, Surat is the First Hospital in South Gujarat to have most advanced Thulium Laser for minimally invasive Prostate and Stone Surgery.



Mission	Vision
“Leveraging global leadership in Joint replacement to establish multi-specialty care across geographies.”	“Exceeding expectation from health.”
Values	
We value each and every human life placed in our hands and constantly work towards meeting the expectations of our customers and stakeholders by raising the standards of our service deliveries, every time.	

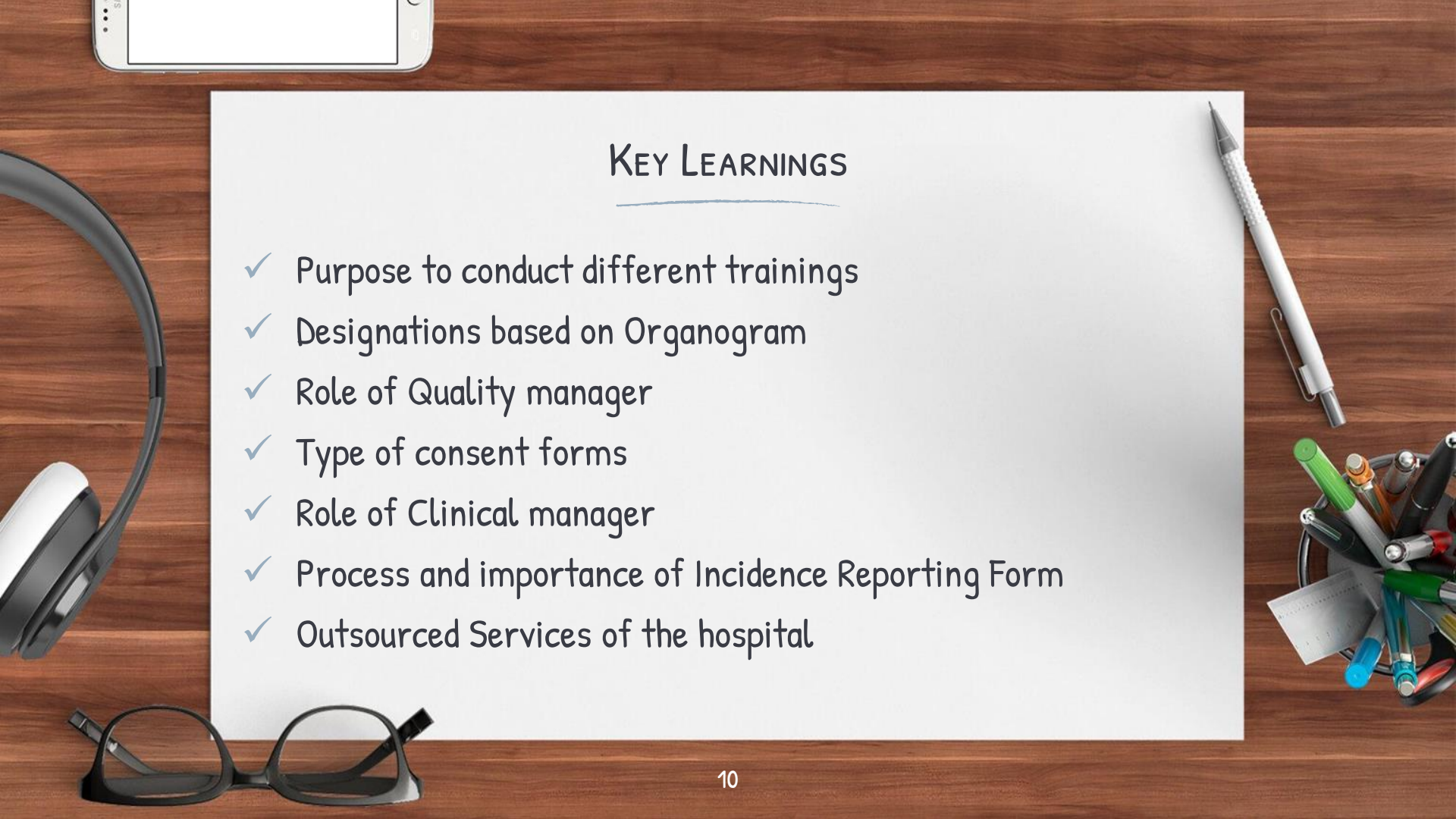
DESIGN OF THE HOSPITAL

Floor	Services
9	Cafeteria & Kitchen, Dialysis Centre, Clinical Research, NICU
8	Pathology Laboratory, IT Department, Auditorium, Administrative Department
7	Premium Ward
6	COVID ward
5	COVID ward
4	Twin Sharing & Economy ward
3	CSSD, AHU Area, COVID ICU
2	Operation Theatre, OT Pharmacy, ICU, Cath Lab
1	OPD (Chambers 1-25), Radiology Department (CT, MRI, ECHO, TMT)
G	Reception, Admission-Billing, TPA, OP Pharmacy, Emergency Department, Maa-card/Ayushman, X-ray Department, Ultra-sonography Room, Dental OPD, Biomedical waste storage area, Oxygen gas plant, Electric Panel Room, Underground Water Storage Area
B1	Physiotherapy Department, IP Pharmacy, MRD, General Store, Linen Room, Biomedical Maintenance Store, Staff Changing Room, Mortuary Room, Parking Area, Fire Plant



KEY LEARNINGS

- ✓ Functioning & indicators of each department
- ✓ Work role of different staff of different departments
- ✓ Type of different management committees & their roles
- ✓ Registers to be maintained by different departments
- ✓ Importance of conducting an Audit and regular rounds
- ✓ Importance of swab collection from each department on regular intervals
- ✓ Emergency color-codes and their procedures



KEY LEARNINGS

- ✓ Purpose to conduct different trainings
- ✓ Designations based on Organogram
- ✓ Role of Quality manager
- ✓ Type of consent forms
- ✓ Role of Clinical manager
- ✓ Process and importance of Incidence Reporting Form
- ✓ Outsourced Services of the hospital

2.
PROJECT REPORT

PHLEBITIS CASE-STUDY

Introduction

- ☐ Primary care physicians are the first responders in majority of the cases that reports to hospital.
- ☐ One commonly performed procedure in hospital is placement of PIC.
- ☐ Incidence rate of intravenous catheter placement in patients admitted to hospital is approx 80%.
- ☐ Main uses of a peripheral intravenous catheter are the administration of intravenous fluids, blood sampling, administration of medications and blood products.

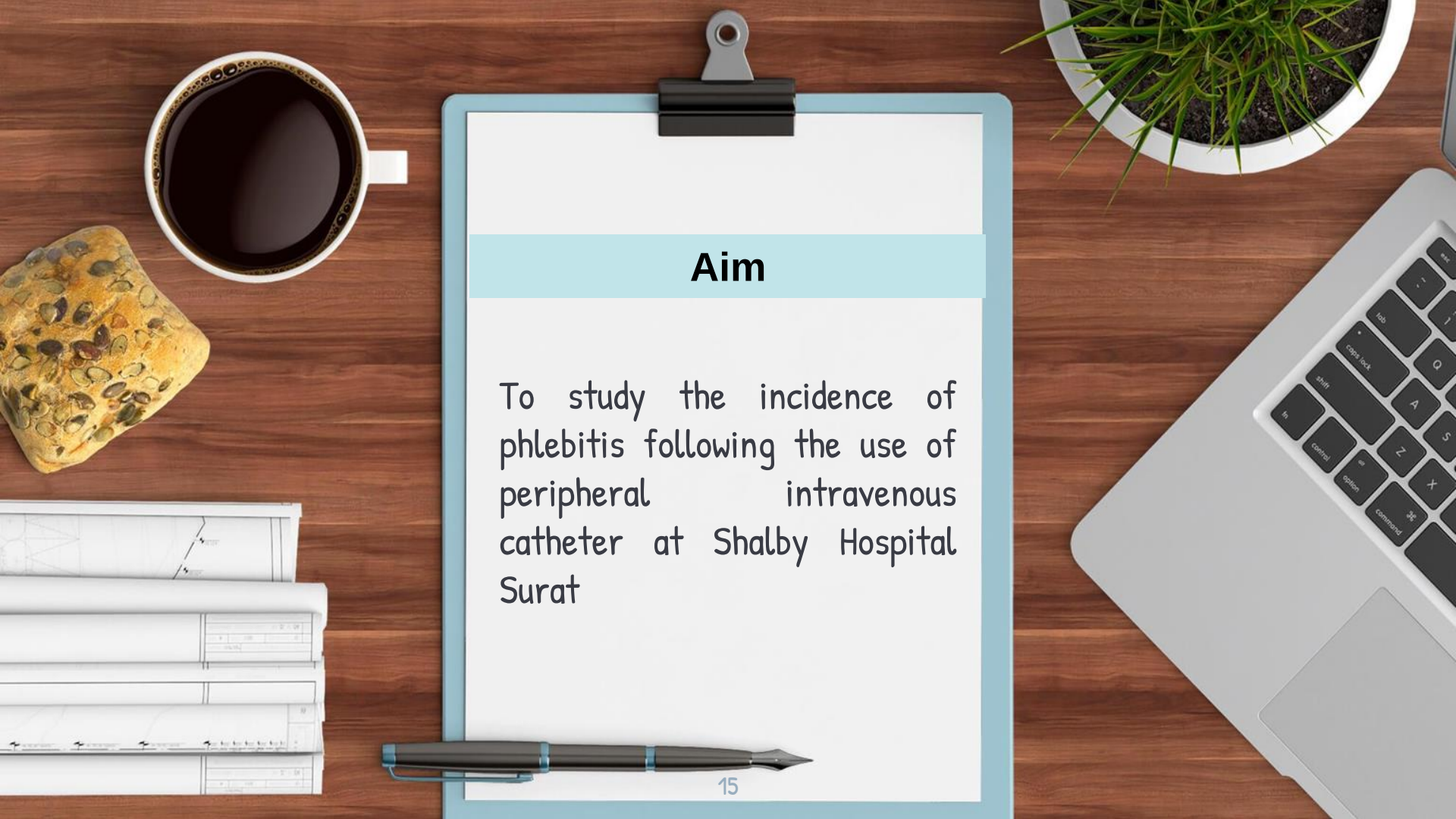
DEFINITION

Phlebitis is an inflammation of the vessel wall and it manifest as localized pain, redness, edema and palpable venous cord.



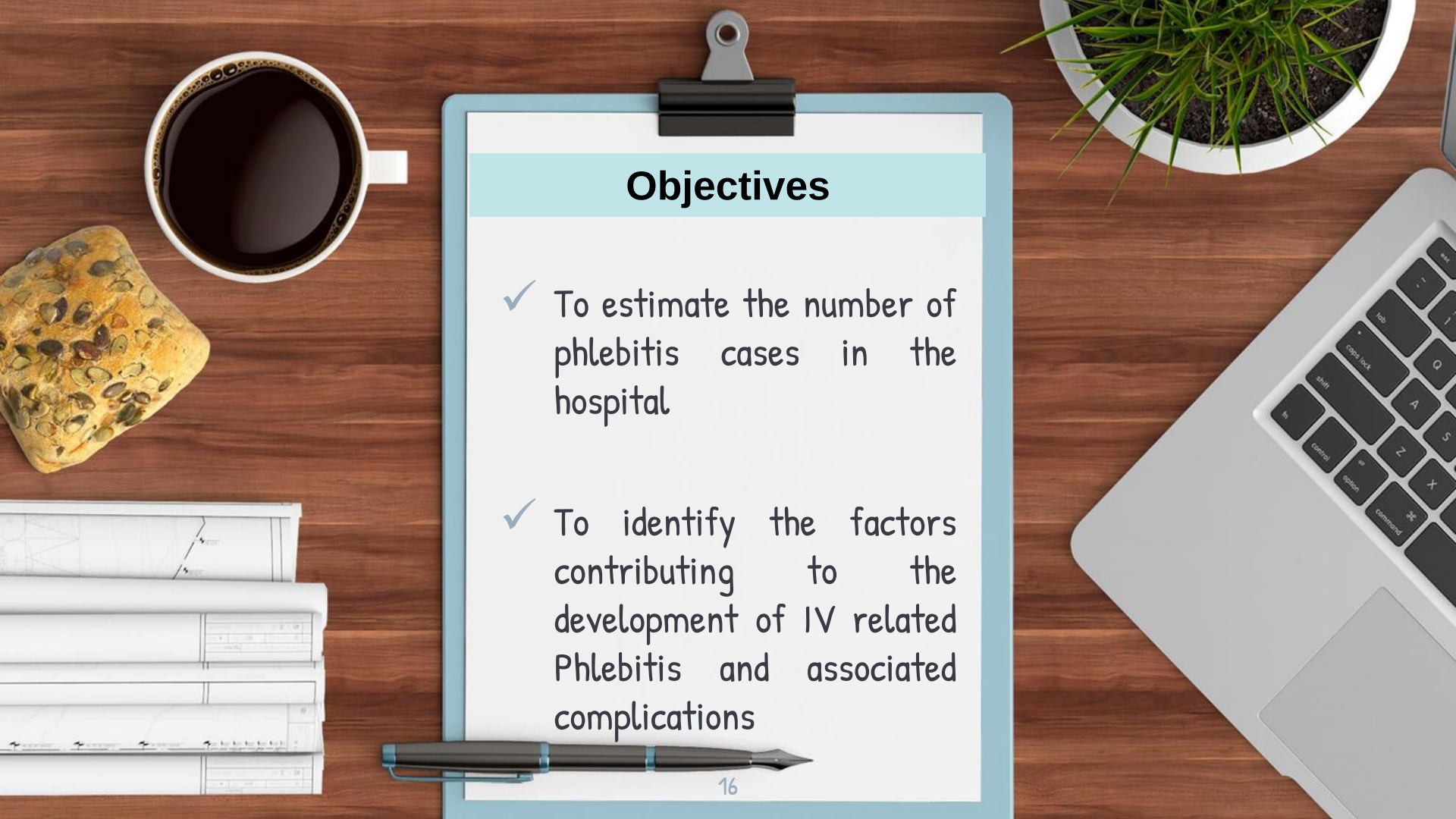
Problem Statement

In the month of December-2020, it was observed that the number of patients, with more than 1 PIC insertion was on an increased side, and staff was not aware about phlebitis identification clinically, which resulted in to delayed presentation.



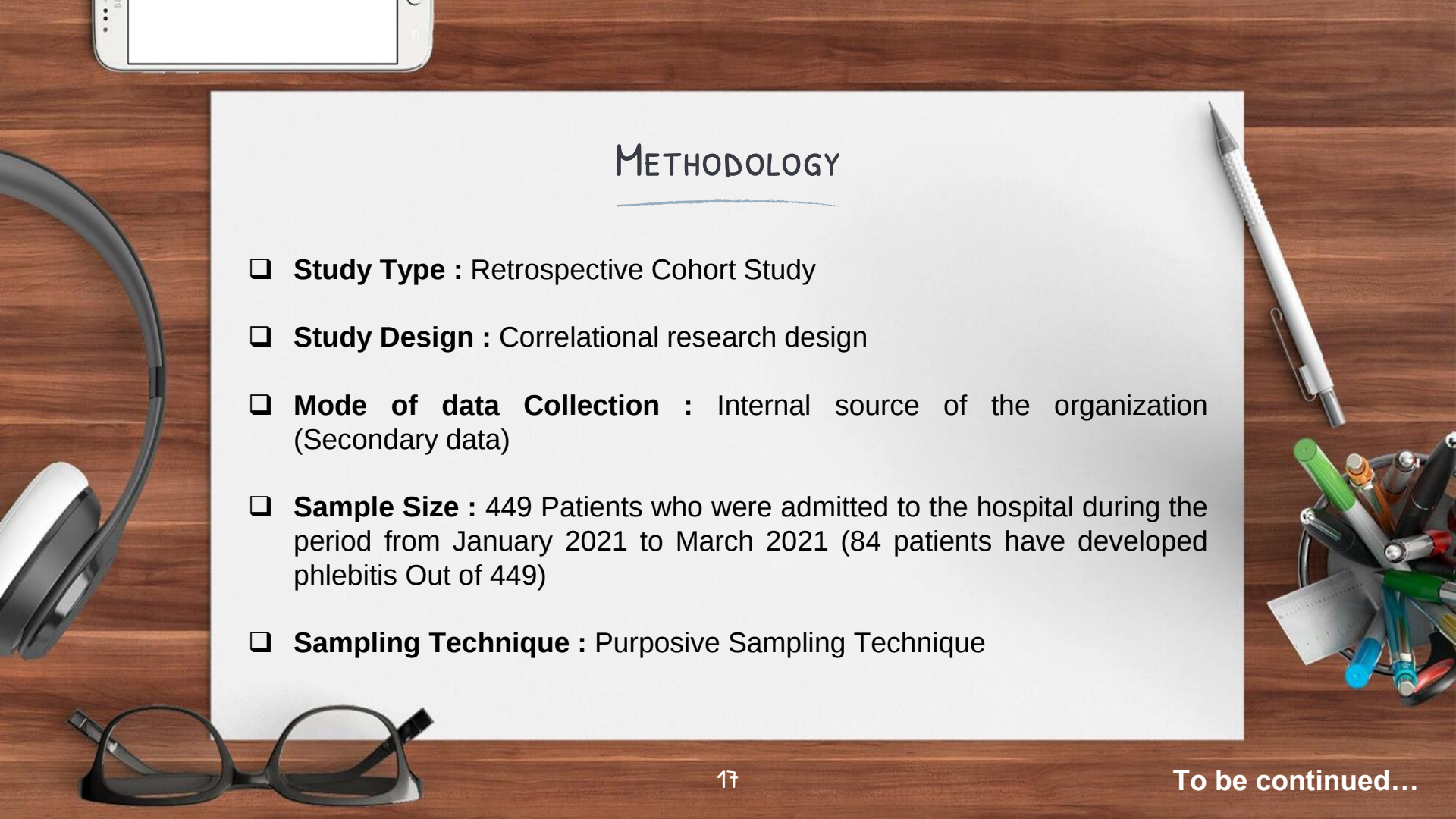
Aim

To study the incidence of
phlebitis following the use of
peripheral intravenous
catheter at Shalby Hospital
Surat



Objectives

- ✓ To estimate the number of phlebitis cases in the hospital
- ✓ To identify the factors contributing to the development of IV related Phlebitis and associated complications



METHODOLOGY

- ❑ **Study Type** : Retrospective Cohort Study
- ❑ **Study Design** : Correlational research design
- ❑ **Mode of data Collection** : Internal source of the organization (Secondary data)
- ❑ **Sample Size** : 449 Patients who were admitted to the hospital during the period from January 2021 to March 2021 (84 patients have developed phlebitis Out of 449)
- ❑ **Sampling Technique** : Purposive Sampling Technique

METHODOLOGY

- ❑ **Sample Duration** : Jan 2021 to March 2021
- ❑ **Study tool** : Visual Infusion Phlebitis scale

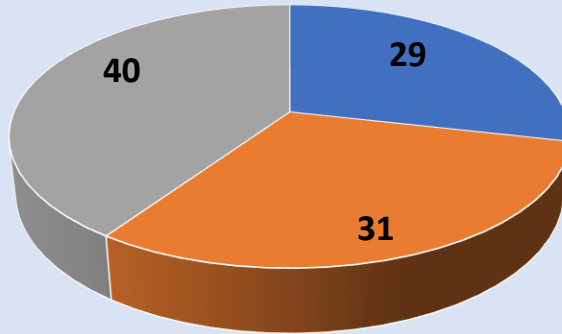
(Findings were categorized into Phlebitis stages based on Visual Infusion Phlebitis Scale)

DATA COLLECTION TOOL

IV site appears healthy	0	No Sign of phlebitis
One of the following is evident: • Slight pain near IV site or • Slight redness near IV site	1	Possible first signs
Two of the following are evident: • Pain at IV site • Erythema • Swelling	2	Early stage of phlebitis
All of the following signs are evident: • Path along path of cannula • Erythema • Induration	3	Mid stage of Phlebitis
All of the following signs are extensive and evident: • Path along path of cannula • Erythema • Induration • Palpable venous cord	4	Advanced stage of phlebitis or start of thrombophlebitis
All of the following signs are extensive and evident: • Path along path of cannula • Erythema • Induration • Palpable venous cord • Pyrexia	5	Advanced stage of thrombophlebitis

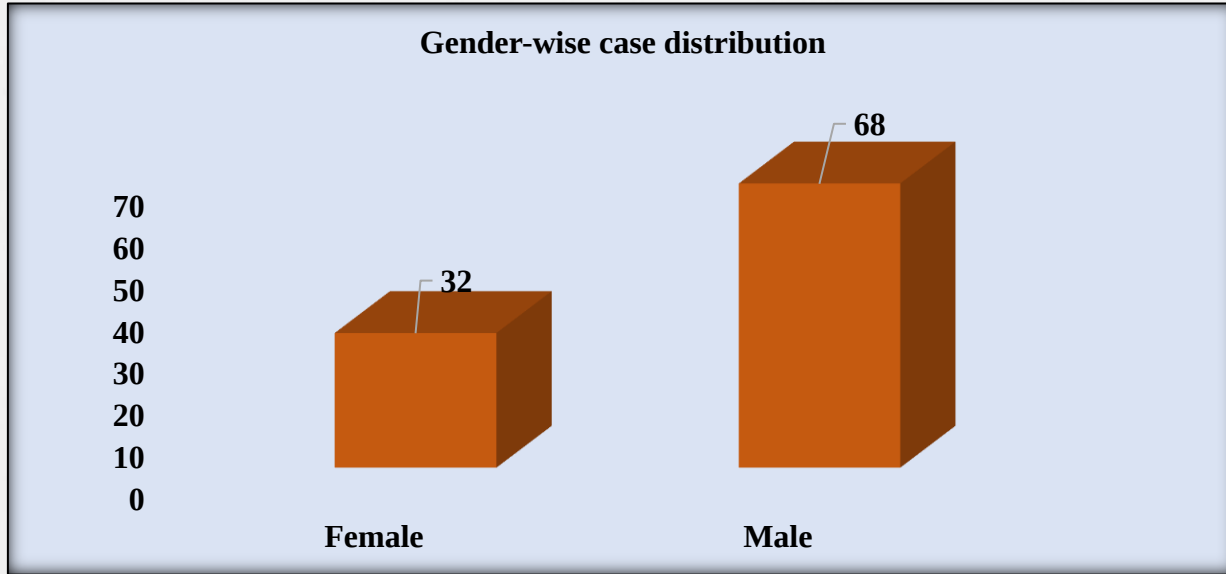
DATA ANALYSIS

Month-wise case distribution (%)

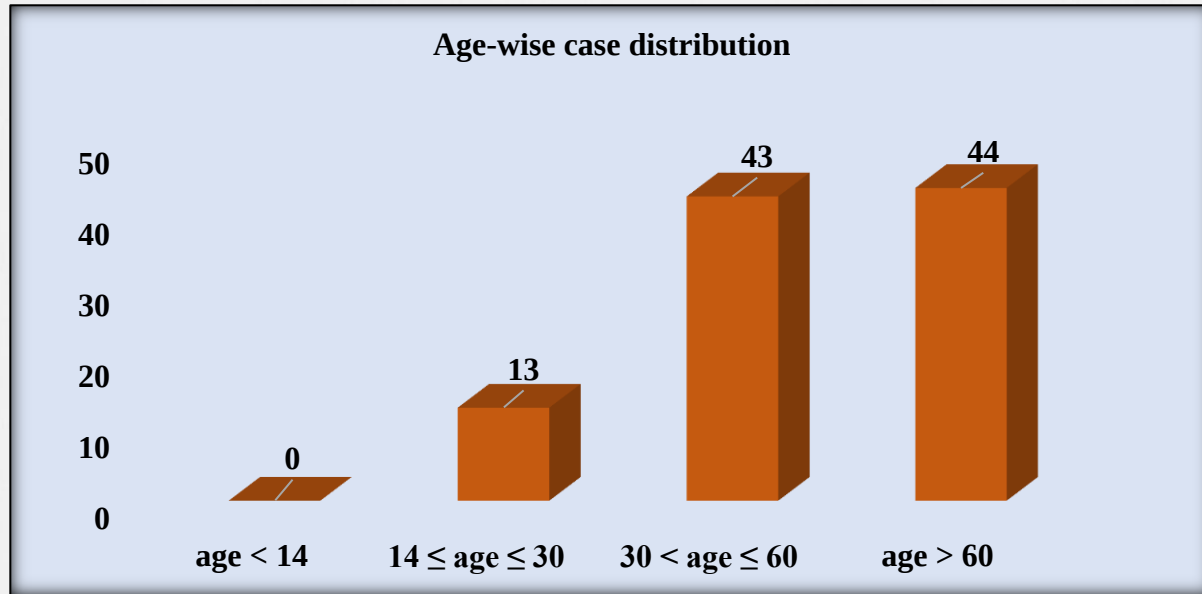


■ January ■ February ■ March

DATA ANALYSIS

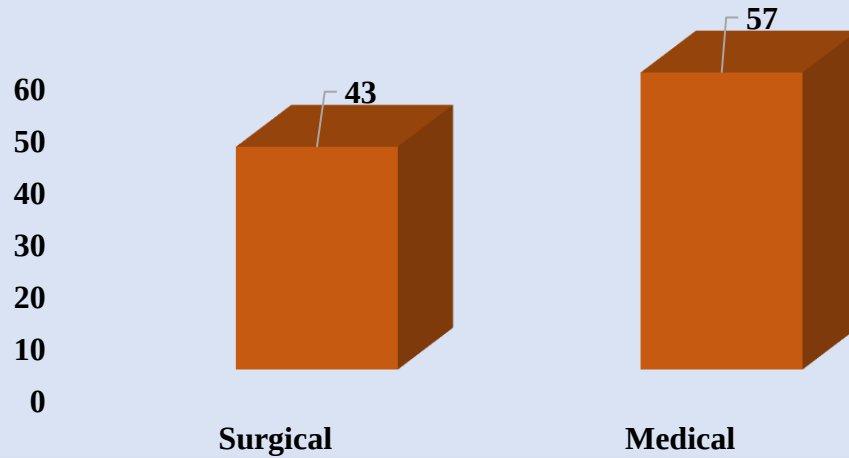


DATA ANALYSIS



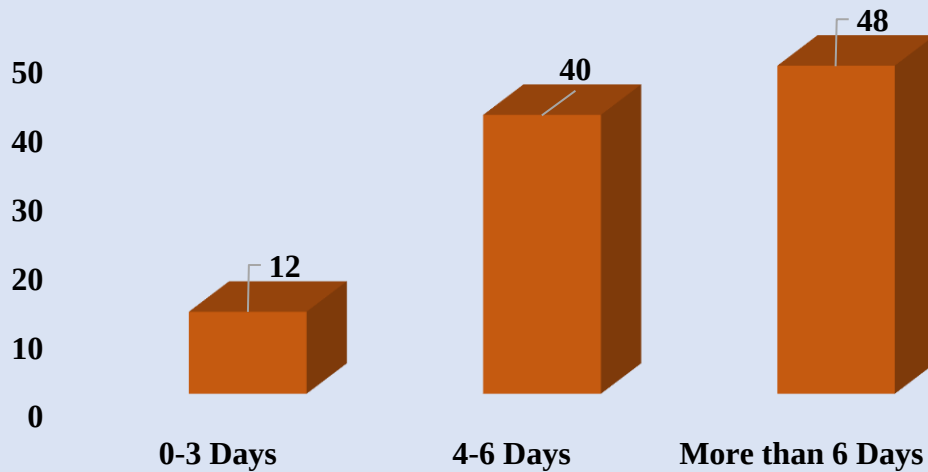
DATA ANALYSIS

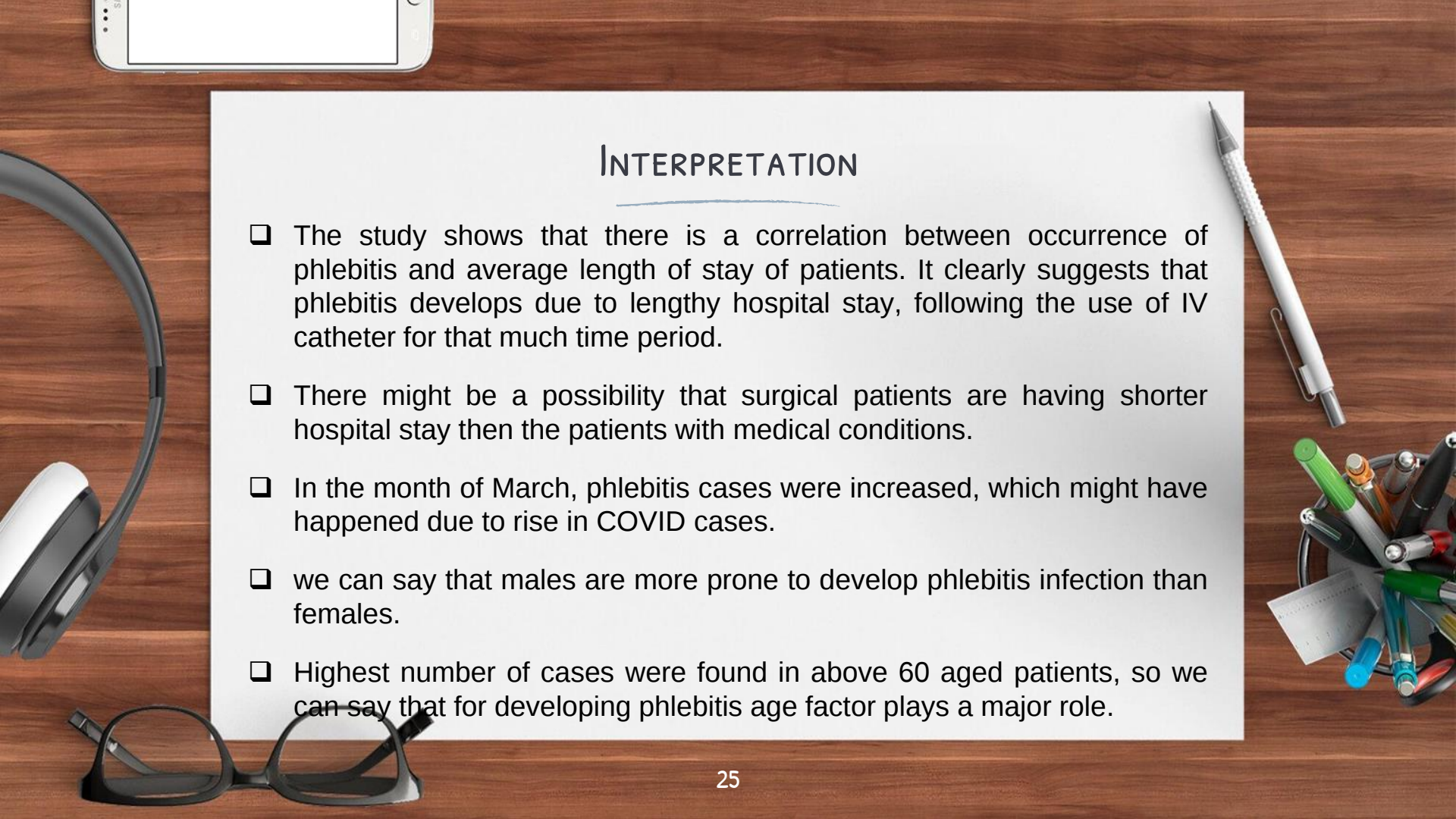
Number of cases found in different conditions



DATA ANALYSIS

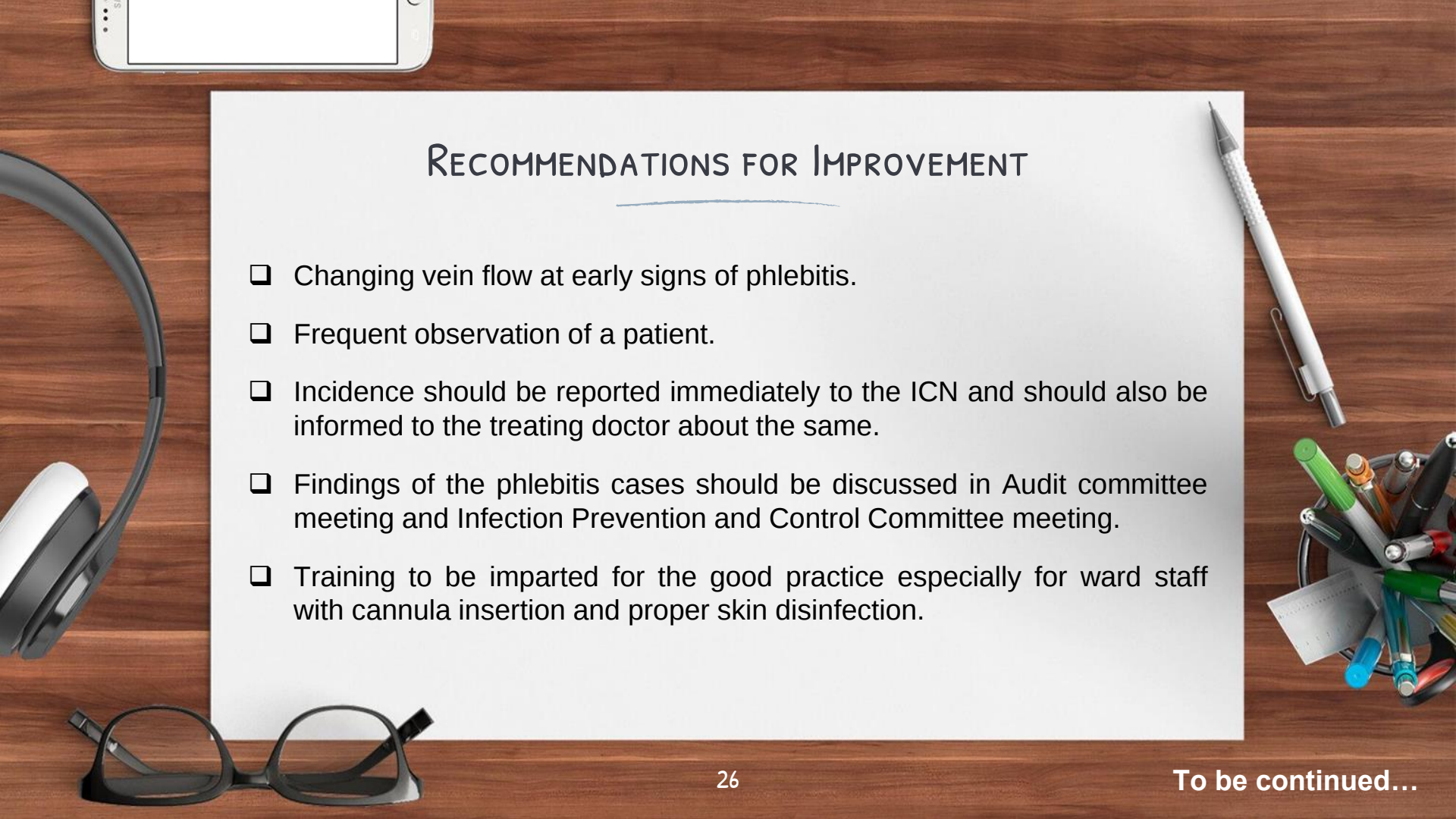
Days spent in hospital vs number of cases





INTERPRETATION

- ❑ The study shows that there is a correlation between occurrence of phlebitis and average length of stay of patients. It clearly suggests that phlebitis develops due to lengthy hospital stay, following the use of IV catheter for that much time period.
- ❑ There might be a possibility that surgical patients are having shorter hospital stay then the patients with medical conditions.
- ❑ In the month of March, phlebitis cases were increased, which might have happened due to rise in COVID cases.
- ❑ we can say that males are more prone to develop phlebitis infection than females.
- ❑ Highest number of cases were found in above 60 aged patients, so we can say that for developing phlebitis age factor plays a major role.



RECOMMENDATIONS FOR IMPROVEMENT

- ☐ Changing vein flow at early signs of phlebitis.
- ☐ Frequent observation of a patient.
- ☐ Incidence should be reported immediately to the ICN and should also be informed to the treating doctor about the same.
- ☐ Findings of the phlebitis cases should be discussed in Audit committee meeting and Infection Prevention and Control Committee meeting.
- ☐ Training to be imparted for the good practice especially for ward staff with cannula insertion and proper skin disinfection.



RECOMMENDATIONS FOR IMPROVEMENT

- ☐ Identification of patients who are at risk of developing phlebitis, and the patients who fall under high-risk category.
 - ☐ CVP should be measured in high-risk patients.
 - ☐ Identification of drugs which are irritant to veins and that drugs should be injected only after measuring CVP.
 - ☐ Selection of size of cannula based on vein of a patient.
 - ☐ Material quality should be checked.
 - ☐ On job training should be given by ICN to the nursing staff.
- 
- 

Conclusion

- Based on our findings, we can conclude that there is a need of monitoring systematic indicators in continued quality care of the HCO, and to match the rates within the different contexts of nursing practice.
- To avoid the preventable risk factors, daily inspection of catheters and proper medical care are required to prevent the phlebitis.

DOFFING CASE-STUDY

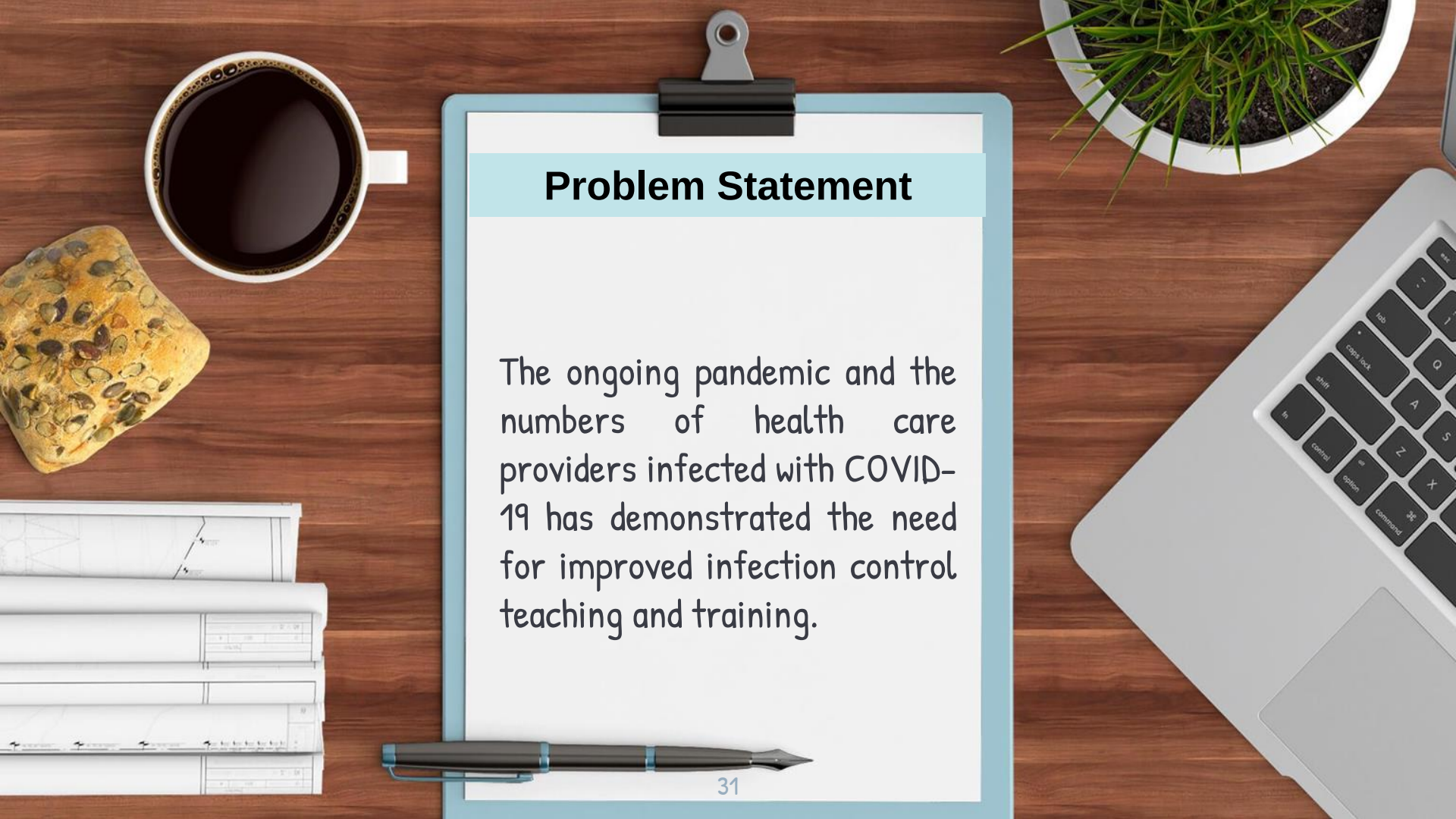
Introduction

- ❑ Use of PPE is an uncommon practice in the routine provision of nursing care. Which has now become common in this COVID era.
- ❑ Healthcare personnel often indulge into variety of hazardous working conditions with potential exposures to a variety of bacteria and viruses, where adherence to PPE protocols is often quite low.
- ❑ The need for teaching and training of safe effective donning and doffing of PPE is an important part of protection for the HCWs. Appropriate use of PPE helps to reduce the potential for transition of infectious disease to their patients, their families, and the public.

DEFINITION

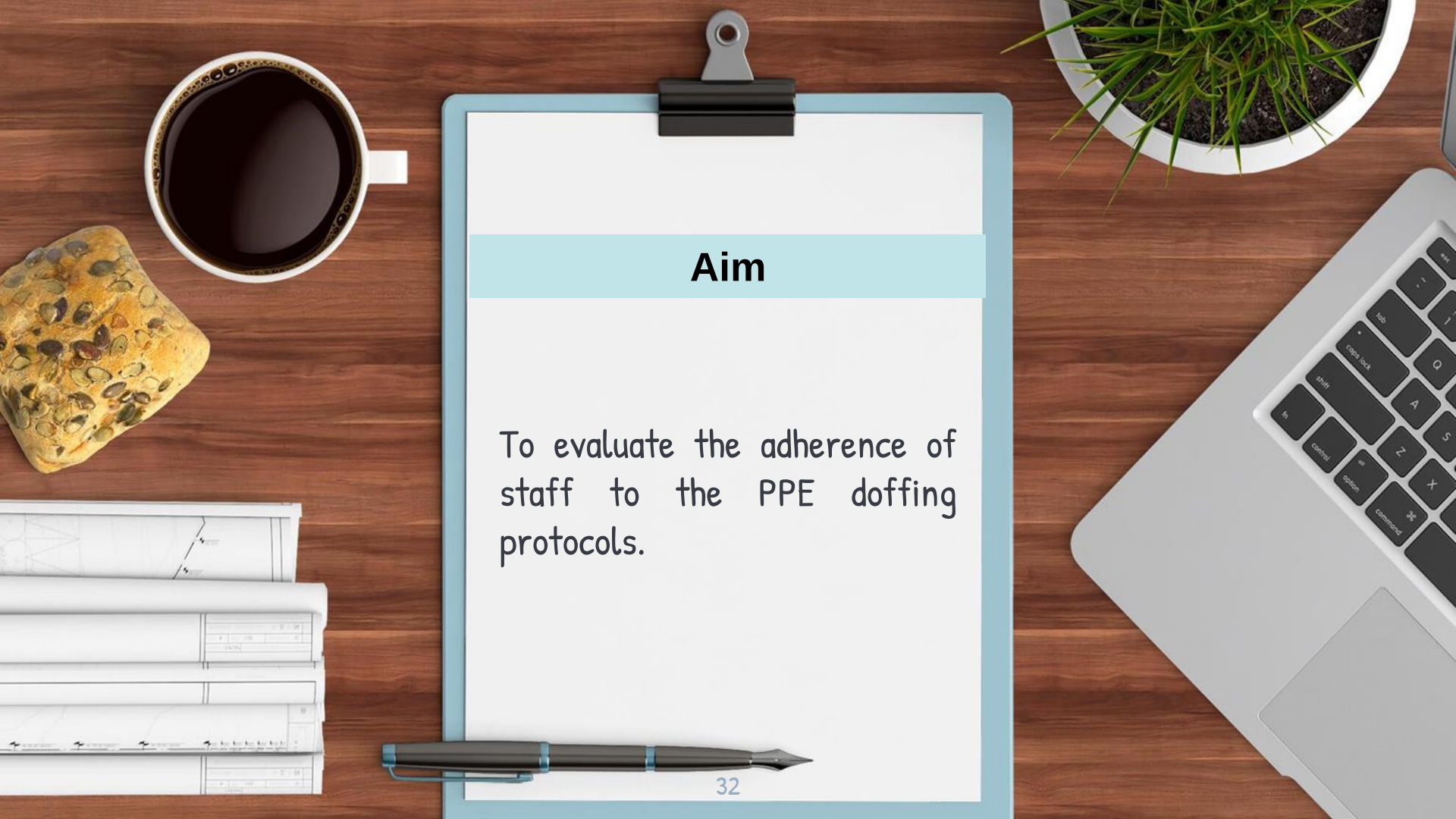
Doffing is the practice of employees removing work-related protective gear, clothing, and uniforms.





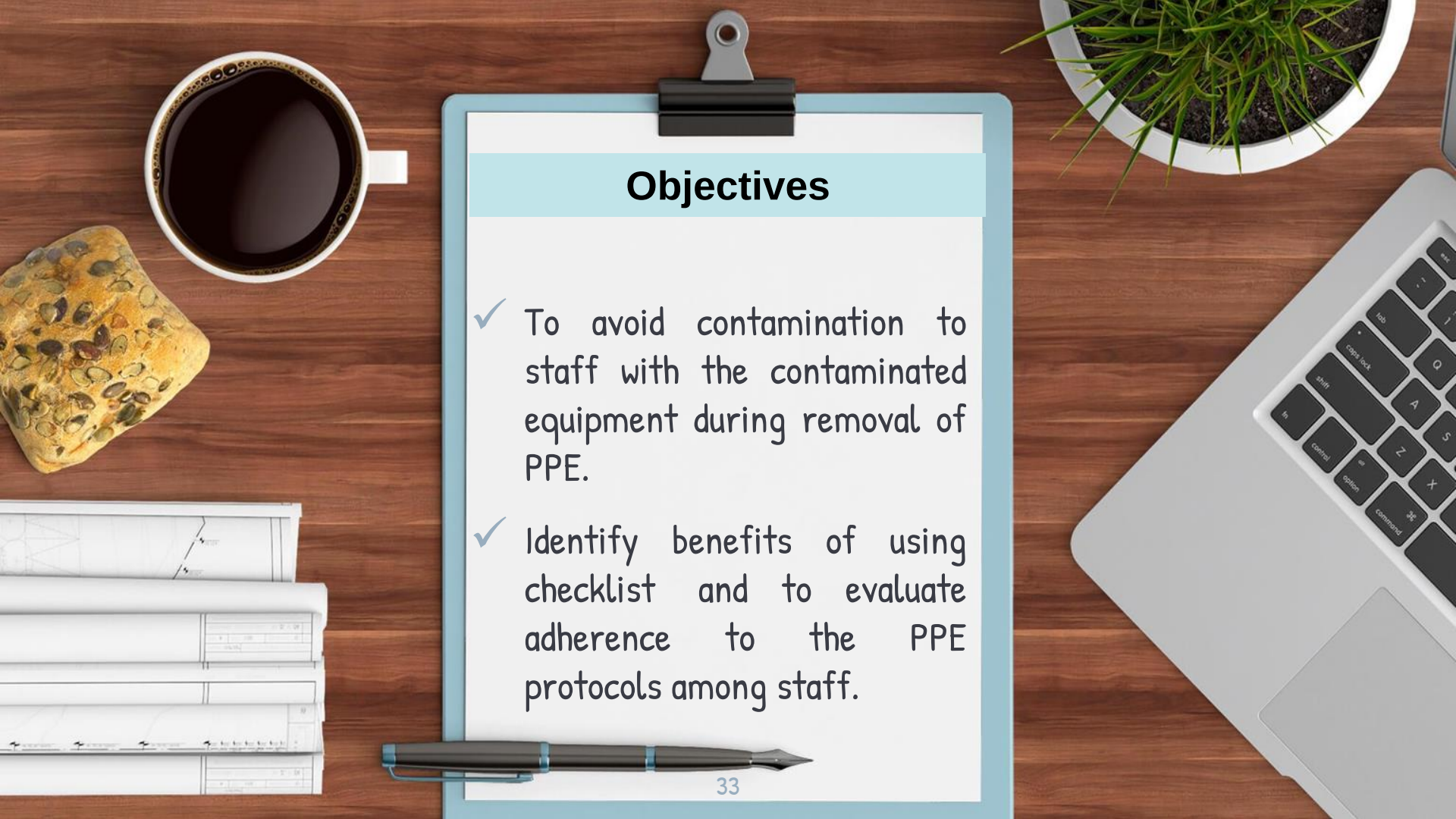
Problem Statement

The ongoing pandemic and the numbers of health care providers infected with COVID-19 has demonstrated the need for improved infection control teaching and training.



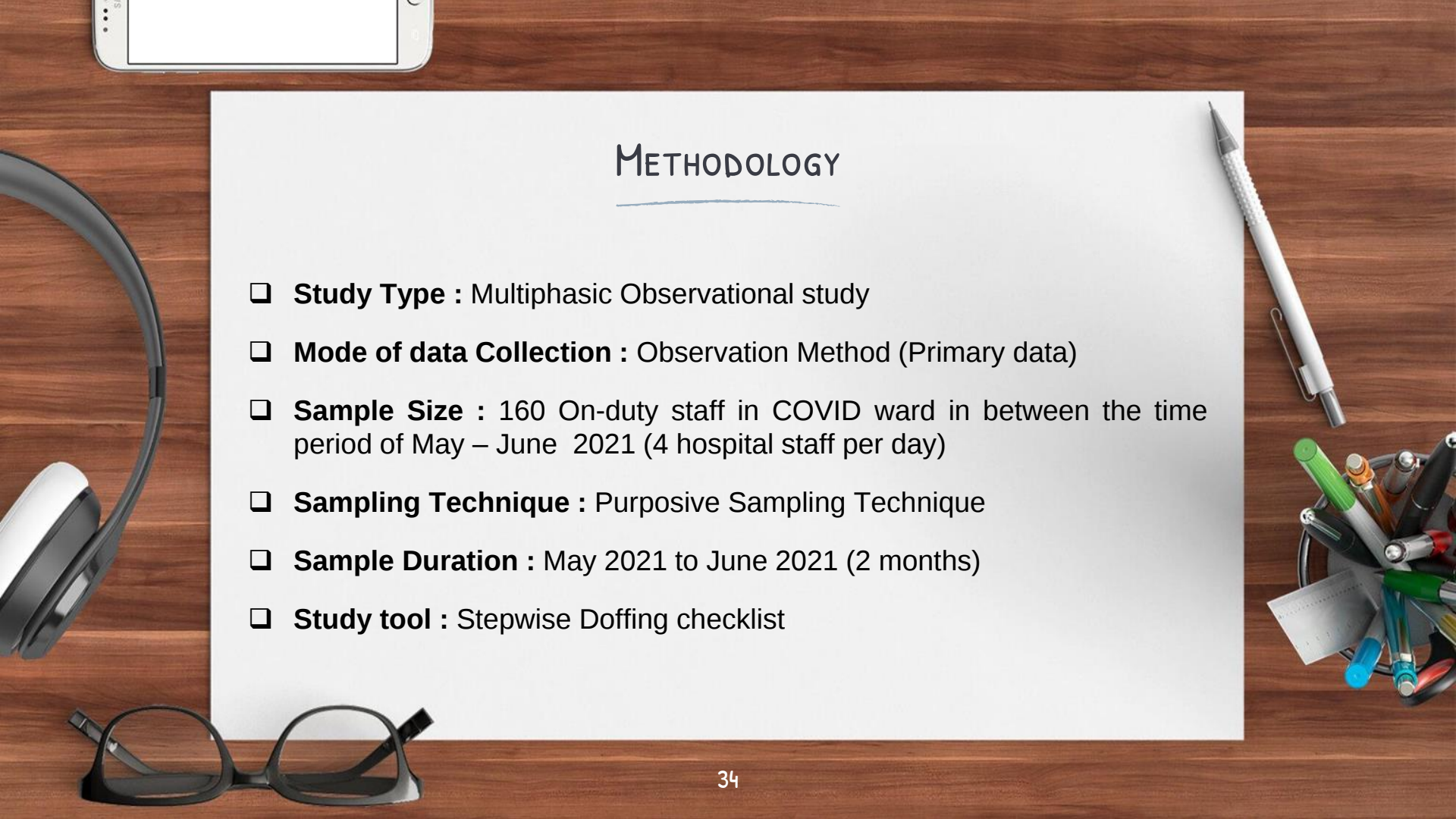
Aim

To evaluate the adherence of staff to the PPE doffing protocols.



Objectives

- ✓ To avoid contamination to staff with the contaminated equipment during removal of PPE.
- ✓ Identify benefits of using checklist and to evaluate adherence to the PPE protocols among staff.



METHODOLOGY

- ❑ **Study Type :** Multiphasic Observational study
- ❑ **Mode of data Collection :** Observation Method (Primary data)
- ❑ **Sample Size :** 160 On-duty staff in COVID ward in between the time period of May – June 2021 (4 hospital staff per day)
- ❑ **Sampling Technique :** Purposive Sampling Technique
- ❑ **Sample Duration :** May 2021 to June 2021 (2 months)
- ❑ **Study tool :** Stepwise Doffing checklist

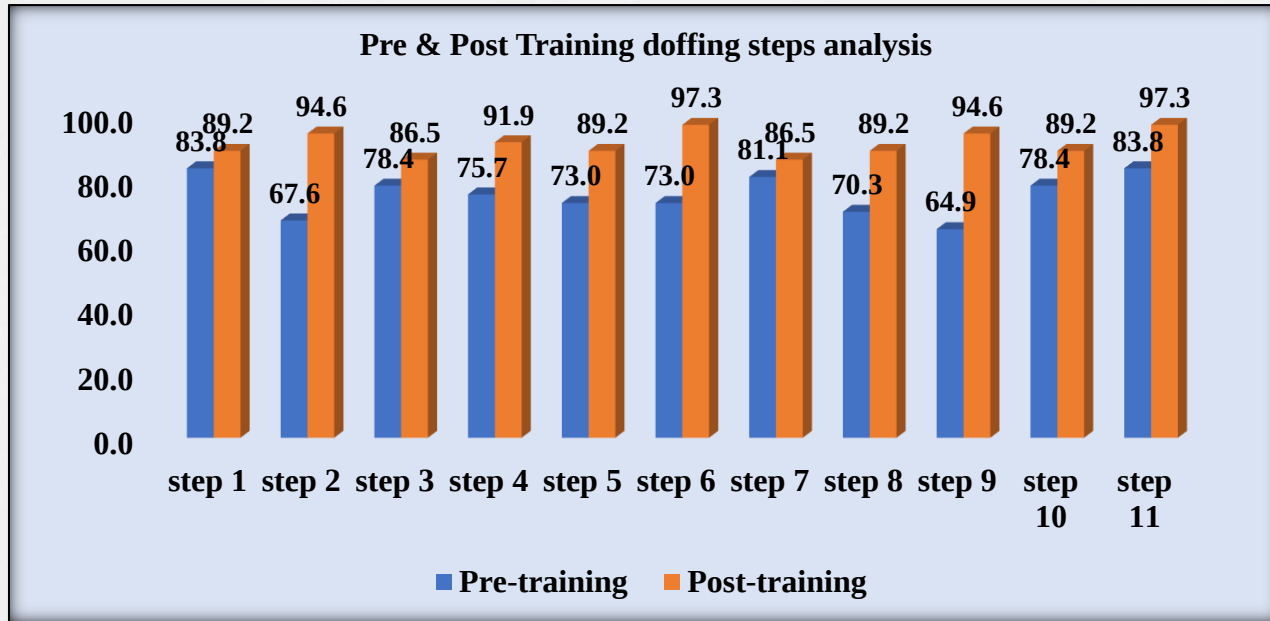
DATA COLLECTION TOOL

Steps	Protocols of Doffing
Step 1	Inspection of PPE for any splash/ tear/ cuts/ holes
Step 2	If splash present on PPE, to be wiped with 1% hypo/ABHR. Wipe to be discarded in yellow bag
Step 3	Sit on the chair and remove the shoe covers one at a time. Roll them down so that the inside of the shoe cover comes outside; discard in yellow bag
Step 4	Sanitize your hands with alcohol-based hand rub
Step 5	Remove the outer pair of gloves and discard in the red bag
Step 6	Remove the gown; roll it inside out so that you touch only the inside; discard in the yellow bag
Step 7	Sanitize your hands with alcohol-based hand rub
Step 8	Remove goggles/ hood; discard in the red bag
Step 9	Sanitize your hands with alcohol-based hand rub
Step 10	Remove the N95 mask, first remove the lower strap over your head first, then remove the upper strap. Do not touch the front of the N95 mask. If you do, sanitize your hands. Discard the N95 mask in yellow bag.
Step 11	After removing inner pair of gloves, Sanitize your hands with alcohol-based hand rub before leaving the doffing area

CHECKLIST FORM SAMPLE

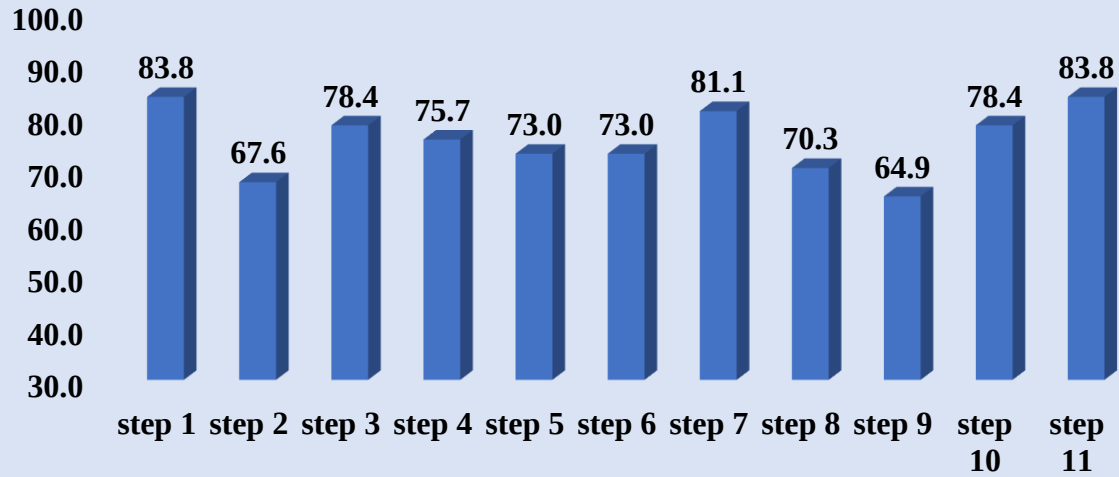
PPE Doffing Checklist				
Staff name : Raj		Observation Date : 21/05/2021		
Steps	Protocols of Doffing	Yes	No	Remarks
Step 1	Inspection of PPE for any splash/ tear/ cuts/ holes	✓		
Step 2	If splash present on PPE, to be wiped with 1% hypo/ABHR. Wipe to be discarded in yellow bag	✓		
Step 3	Sit on the chair and remove the shoe covers one at a time. Roll them down so that the inside of the shoe cover comes outside; discard in yellow bag		✓	Touched on contaminated part
Step 4	Sanitize your hands with alcohol-based hand rub		✓	
Step 5	Remove the outer pair of gloves and discard in the red bag		✓	Discarded in yellow bag
Step 6	Remove the gown; roll it inside out so that you touch only the inside; discard in the yellow bag	✓		
Step 7	Sanitize your hands with alcohol-based hand rub		✓	
Step 8	Remove goggles/ hood; discard in the red bag		✓	Discarded in yellow bag
Step 9	Sanitize your hands with alcohol-based hand rub		✓	
Step 10	Remove the N95 mask, first remove the lower strap over your head first, then remove the upper strap. Do not touch the front of the N95 mask. If you do, sanitize your hands. Discard the N95 mask in yellow bag.	✓		
Step 11	Sanitize your hands with alcohol-based hand rub before leaving the doffing area	✓		

DATA ANALYSIS



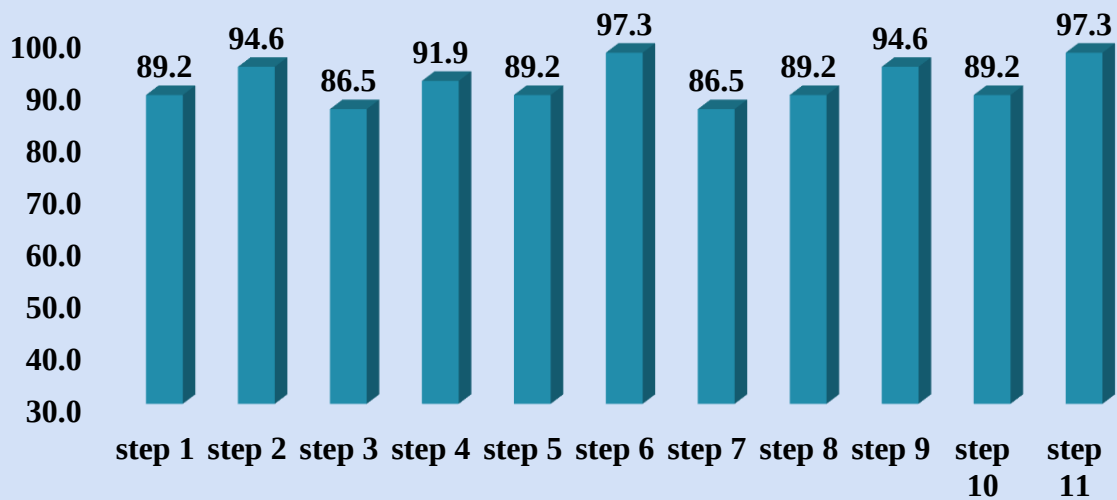
DATA ANALYSIS

Pre-training doffing steps analysis



DATA ANALYSIS

Post-training doffing steps analysis



INTERPRETATION

Pre-training Data Analysis :

- ☐ The mean doffing score was found 75.4% before conducting the training process of doffing.
- ☐ When the PPE protocol was introduced, the staff was not aware of that protocols, due to that reporting was poor and the PPE components were either not reported or poorly reported or the protocol was altered.
- ☐ In most of the cases, staff was making multiple errors related to the removal of gloves, like touching glove with a gloved hand or touching the inside the gown, touching the glove with bare hands or outside the gown.

INTERPRETATION

Pre-training Data Analysis :

- ❑ The most frequent errors occurred during disinfecting the feet (78.4%) and discarding the scrubs (64.9%). The most vulnerable processes were removing respirators/mask (78.4%), removing the shoe covers (78.4%), and removal of the hood (70.3%). Some findings were related to facility available during doffing process, which includes :
 - Unavailability of glove box
 - Shortage/Unavailability of mask
 - Lack of quick refilling of hand-rub
 - Unavailability of dirty chair, where one will sit to take off his/her boot covers only.
 - Lack of quick emptying process of BMW

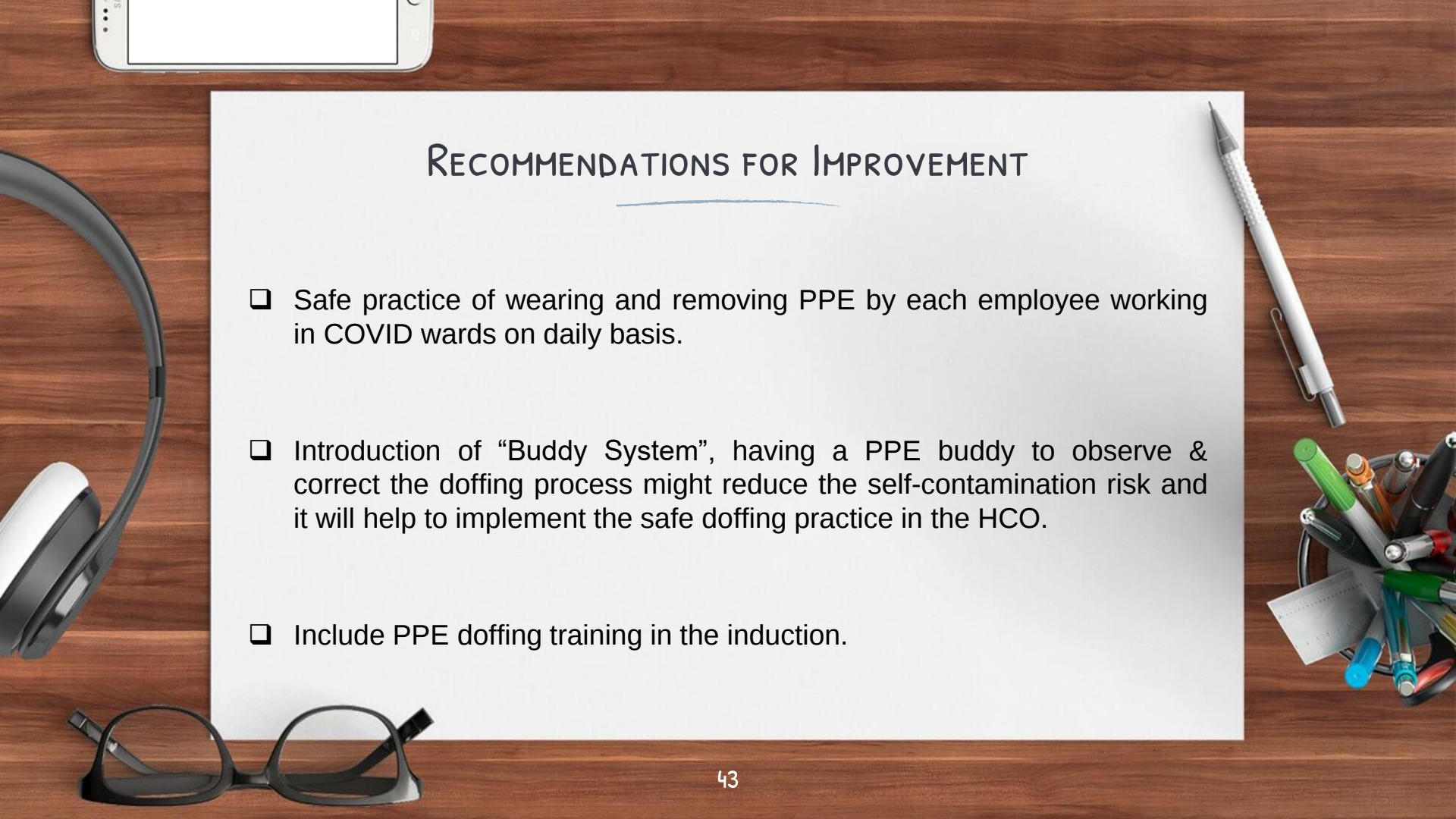
INTERPRETATION

Post-training Data Analysis & Corrective Actions :

- ☐ The mean doffing score was found 91.4 % after conducting the training process of doffing.
- ☐ The most frequent errors were recovered after conducting the training session.
- ☐ Complete facility provided for doffing process and staff was trained to check the doffing facility at particular intervals.

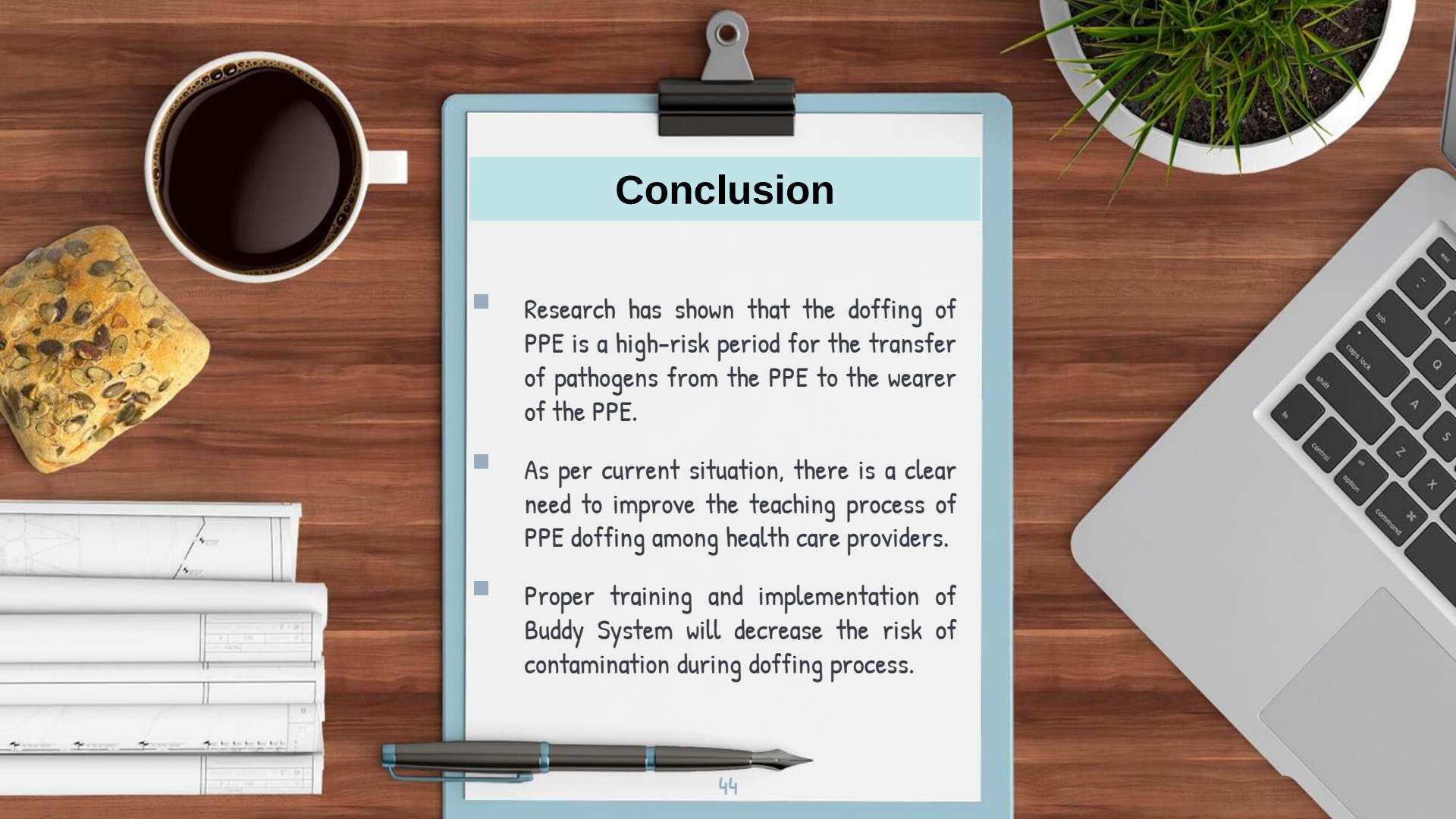
Limitations of the study :

- ☐ The audit was conducted at the time of shift change at 2:00 pm daily.
- ☐ So, evening shift staff was not covered, so the observation of only one shift was covered.



RECOMMENDATIONS FOR IMPROVEMENT

- ☐ Safe practice of wearing and removing PPE by each employee working in COVID wards on daily basis.
- ☐ Introduction of “Buddy System”, having a PPE buddy to observe & correct the doffing process might reduce the self-contamination risk and it will help to implement the safe doffing practice in the HCO.
- ☐ Include PPE doffing training in the induction.



Conclusion

- Research has shown that the doffing of PPE is a high-risk period for the transfer of pathogens from the PPE to the wearer of the PPE.
- As per current situation, there is a clear need to improve the teaching process of PPE doffing among health care providers.
- Proper training and implementation of Buddy System will decrease the risk of contamination during doffing process.

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