



Cross Train Operating Theatre Nurses for Endoscopy Procedures

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Muhammad Aidil Bin Rizwan, SKH Nursing-OT

Jasmine G Laddad - SKH Department of Surgery

Ng Siok Peng, Ye Shuqin, Izzaidah Binte Mohd Hassan - SKH Nursing-OT

Li Min, Goh Pei Shi - SKH Endoscopy

Lim Jun Hui - SKH QRMO

Introduction

Endoscopy, a well-established minimally invasive technique, is employed for the diagnosis and treatment of gastrointestinal tract conditions. Oesophago-Gastro-Duodenoscopy (OGD) and colonoscopy are critical emergency endoscopic procedures primarily conducted in the Emergency Operating Theatre (EOT), playing a vital role in saving lives. Although endoscopy is generally a safe procedure, it carries potential complications such as intestinal hemorrhage, perforation, embolization or infection. The ability to promptly initiate emergency endoscopic interventions and having well-organized facilities for handling emergencies are pivotal in improving the chances of saving lives within an optimal timeframe.

Root Cause Analysis

When emergency cases arise, the short-handed OT team have to contact on-call Endoscopy staff members, who are typically an hour away from their current location when activated. This situation poses challenges, including a **delay in initiating emergency procedures, potentially endangering patients** due to the delayed access to necessary Endoscopic interventions. The time taken for a typical endoscopy procedure to begin after receiving the OT chit in the EOT is **3 hours and 50 minutes**, both during office hours and after office hours, prior to the cross-training of OT staff with the Endoscopy Centre.

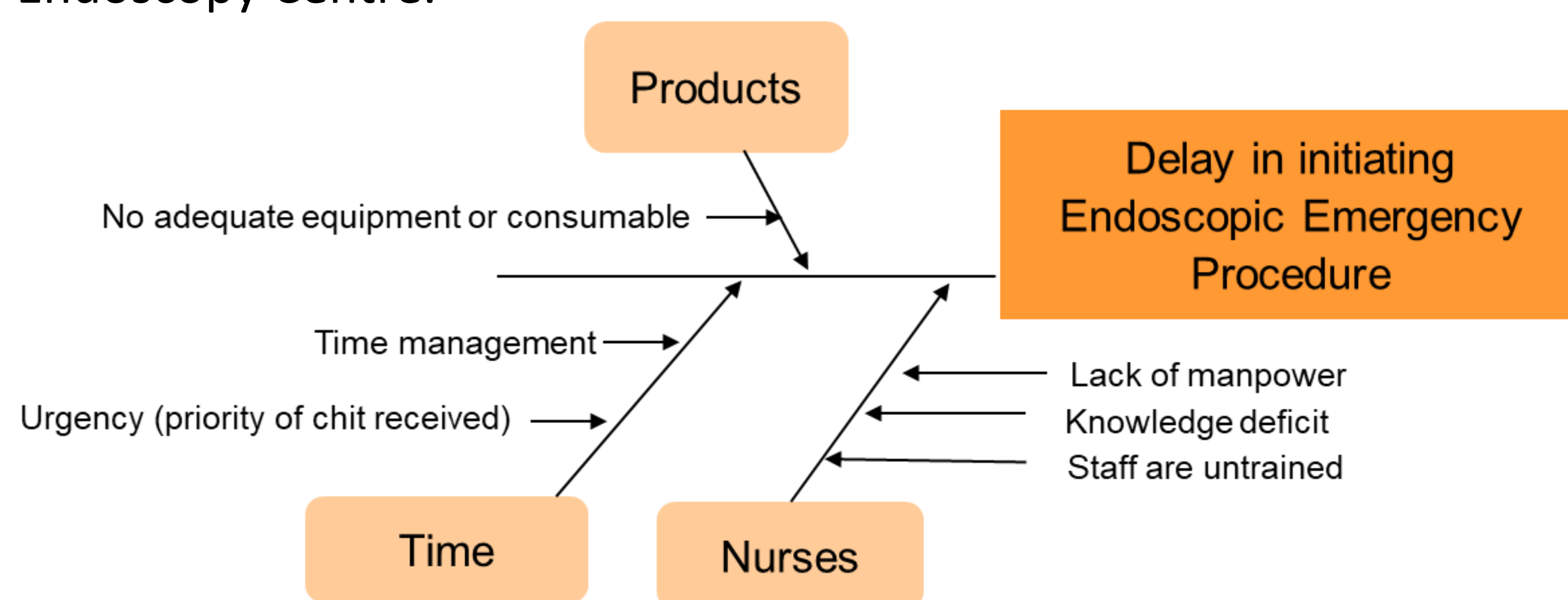


Fig.1.1 Fish Bone Diagram on the delay in initiating Endoscopic Emergency Procedure

Based on the analysis conducted, it was evident that delays in initiating emergency endoscopic procedures in the OT primarily stem from the insufficient number of proficient nurses.



Objective

Reduce the activation-to-start time of Emergency Endoscopic procedure of priority 1 and 2 patient, after office hours by 40% over a period of 12 months (Jan 22 – Dec 22)

Intervention

Cross training OT staff to Endoscopy Centre for the period of 3 months by practically on a hands-on basis, assisting in endoscopic procedures in terms of scrubbing and circulating the case.

A targeted competency in the form of competency checklist is ought to be completed during the 3 months of clinical attachments. During the cross-training period, OT staff are to complete their competency checklist by performing a practical session on various areas such as:

- I. Assisting in endoscopic procedure (OGD/ Colonoscopy)
- II. Learning how to circulate for endoscopic procedure e.g.; positioning, setting up equipment, preparing consumables required, receiving specimen and documentation

Results/ Follow Up

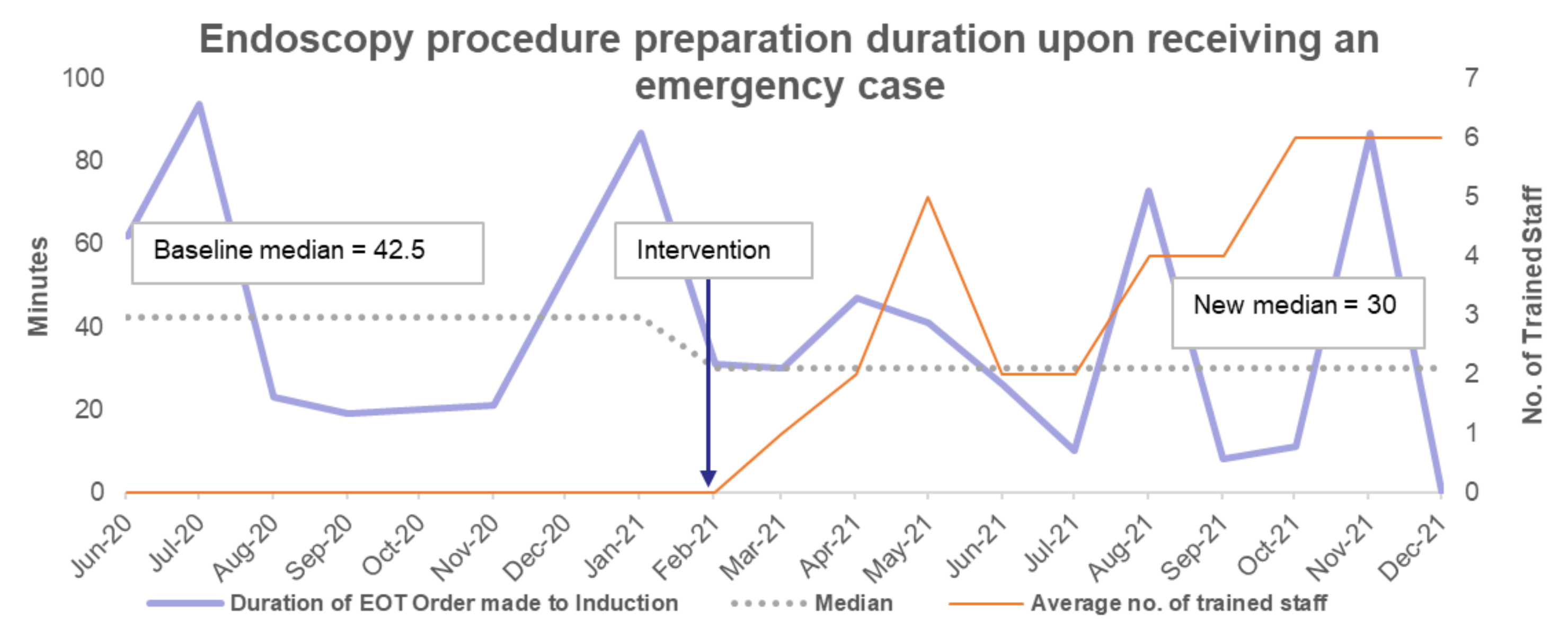


Fig.1.2 Trend of Endoscopy procedure preparation duration upon receiving emergency case & the availability of Endo trained staffs over the period of mid 2020 to 2021.

Intervention started slow in Sep 2020, with 2 staff undergoing the cross-training over a period of 6 months and only certified trained in Feb 2021. The number of trained staff increased as the training period is condensed to 3 months subsequently. The monthly average activation-to-start time of Emergency Endoscopic procedure after office hours has also reduced from a **median of 42.5 mins to 30 mins equivalent to a 29.4% reduction**.

Team faced steep challenge in achieving 40% reduction due to possible factors such as previous case overrun, no availability of theatre to be use and unavailability of Anaesthesia support. These unforeseen circumstances can be solved by doing endoscopy procedure in Local Anaesthetic and proper priority for delegation of Operating Room usage.

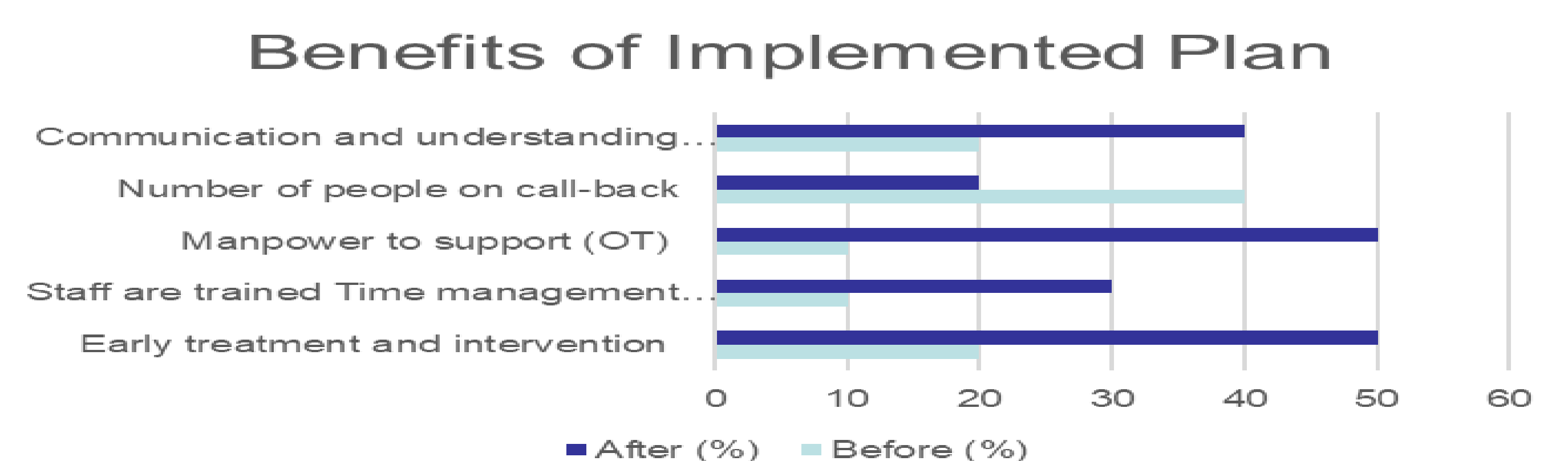


Fig.1.3 Pre and Post Cross Training Benefits Comparison Chart

Nevertheless, there are improvement areas as shown in Fig1.3. Team plans to cross train all OT staff on endoscopy procedures due to the positive outcome such as increased in efficiency and improved teamwork. With that, team plans to enhance our overall departmental capabilities and provide better patient care.