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National Taiwan University Hospital
Yunlin Branch

DIGITAL PATIENT EDUCATION: IMPLEMENTATION TO IMPROVE EFFICIENCY AND QUALITY OF HEALTHCARE

Jo Fang Liao
National Taiwan University Hospital Yunlin Branch, TAIWAN

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INTRODUCTION

Advanced medical equipment and highly experienced clinicians act as significant elements in colonoscopy. Nonetheless, colonic preparation is the core of diagnostic accuracy and therapeutic safety. Specifically, the preparation consists of three principles, including low residue and clear liquid diet, correct use of bowel cleanser, and accurate timing of administration.

AIM

To ensure patients acquiring the correct instruction upon the preparation, patient education is applied as a common tool. Such tool in colonoscopy is mainly in hard copies or oral explanations. Misunderstandings and unclearness are prone to occur in such situations and considerably reduce the efficiency and quality of healthcare. Regarding the issue, it is aimed to analyze whether digital material, specifically accessing video instructions through a QR code, is an effective solution in improving efficiency and quality of healthcare.

METHOD

The experiment is designed into three main sections as following:
Firstly, the medical team is dedicated to **integrating frequently-asked questions** prior to the examination.
The data derives from two streams, including frequently-asked questions through calls and common issues observed by the staff. With the integrated data, the staff is capable of providing assistance in a more exact manner.
Secondly, after the physical explanation, **a QR code for the education video is provided**. The content includes integrated Q&As along with the consent form, procedure and correct information.
Last but not the least, patients with needs are **able to access details repeatedly** and reduce the occurrence of misunderstandings or unclearness.

RESULTS

According to the analysis, the frequency of staff responding to preparation-related calls had declined by more than 50% in the past two years. Precisely, there were 63 calls on a monthly average in 2020. With the implementation of the education video, the number was reduced to 32 calls every month in 2021. Moreover, the monthly frequency of incoming calls went down to 24 times in the first ten months of 2022 (Chart 1). In the meantime, the duration of call had also reduced significantly. Specifically, there were an average of 17 minutes each call in 2020. With the effort made, it went down gradually, which was 9 minutes in 2021, and eventually deducted to 5 minutes in 2022 (Chart 2).

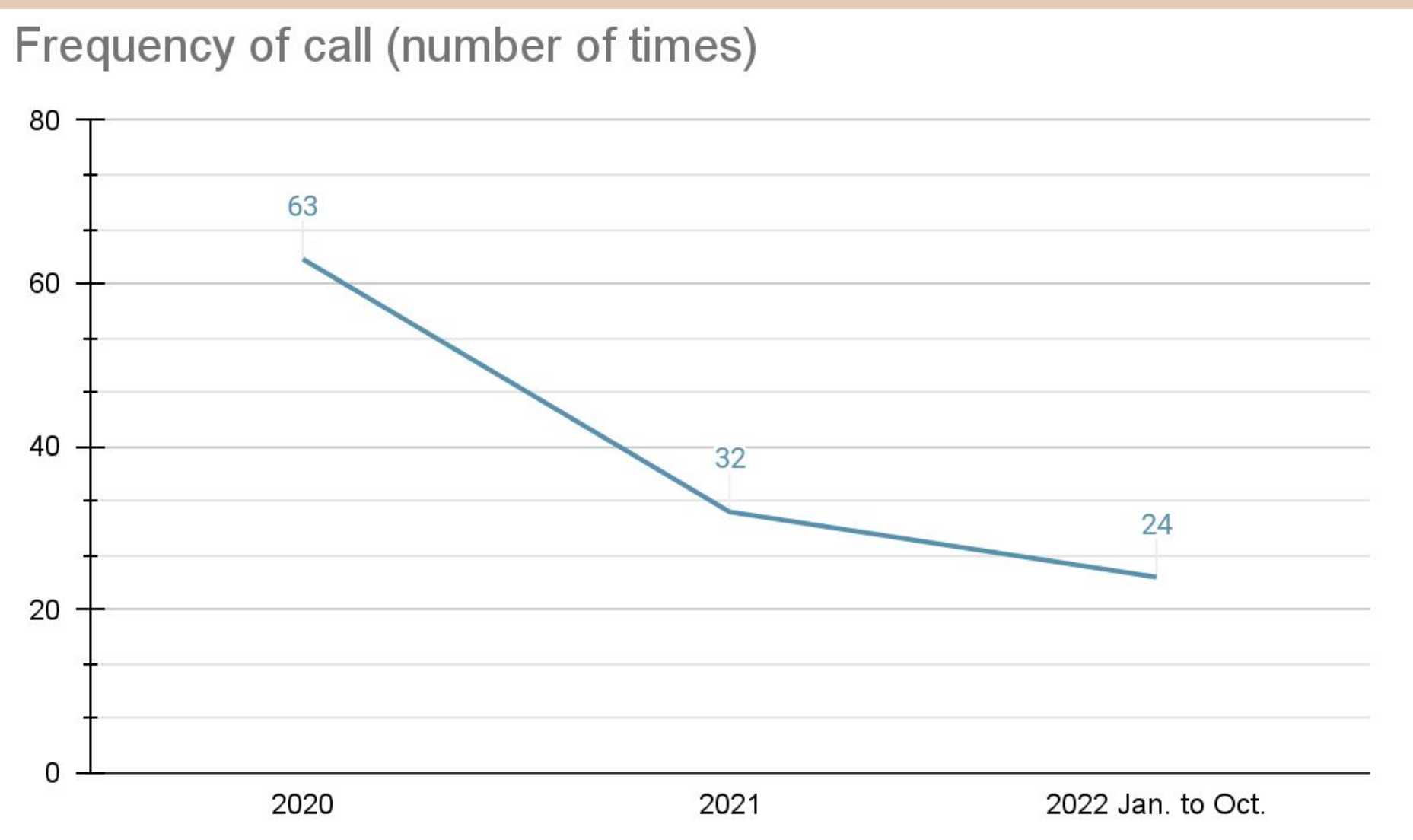


Chart 1. Average of Call Frequency from 2020 to 2022 January to October.

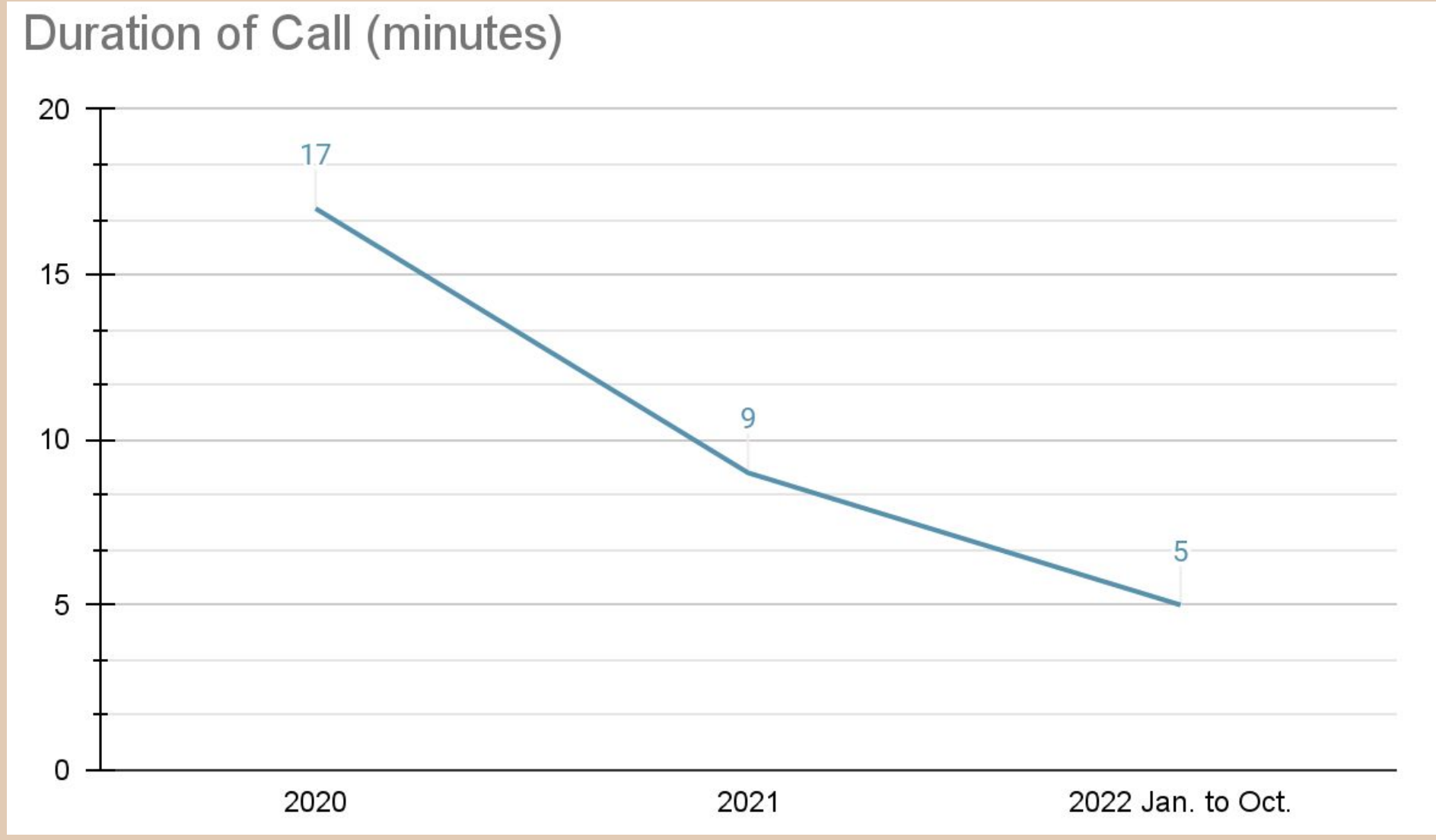


Chart 2. Average of Call Duration from 2020 to 2022 January to October.

Moreover, according to the Aronchick Scale, the quality of bowel preparation is divided into four levels, including excellent, good, fair, and poor. Along with the scale, the American Society for Gastrointestinal Endoscopy suggested that 85% of the patient shall be excellent or good. By utilizing the video, the

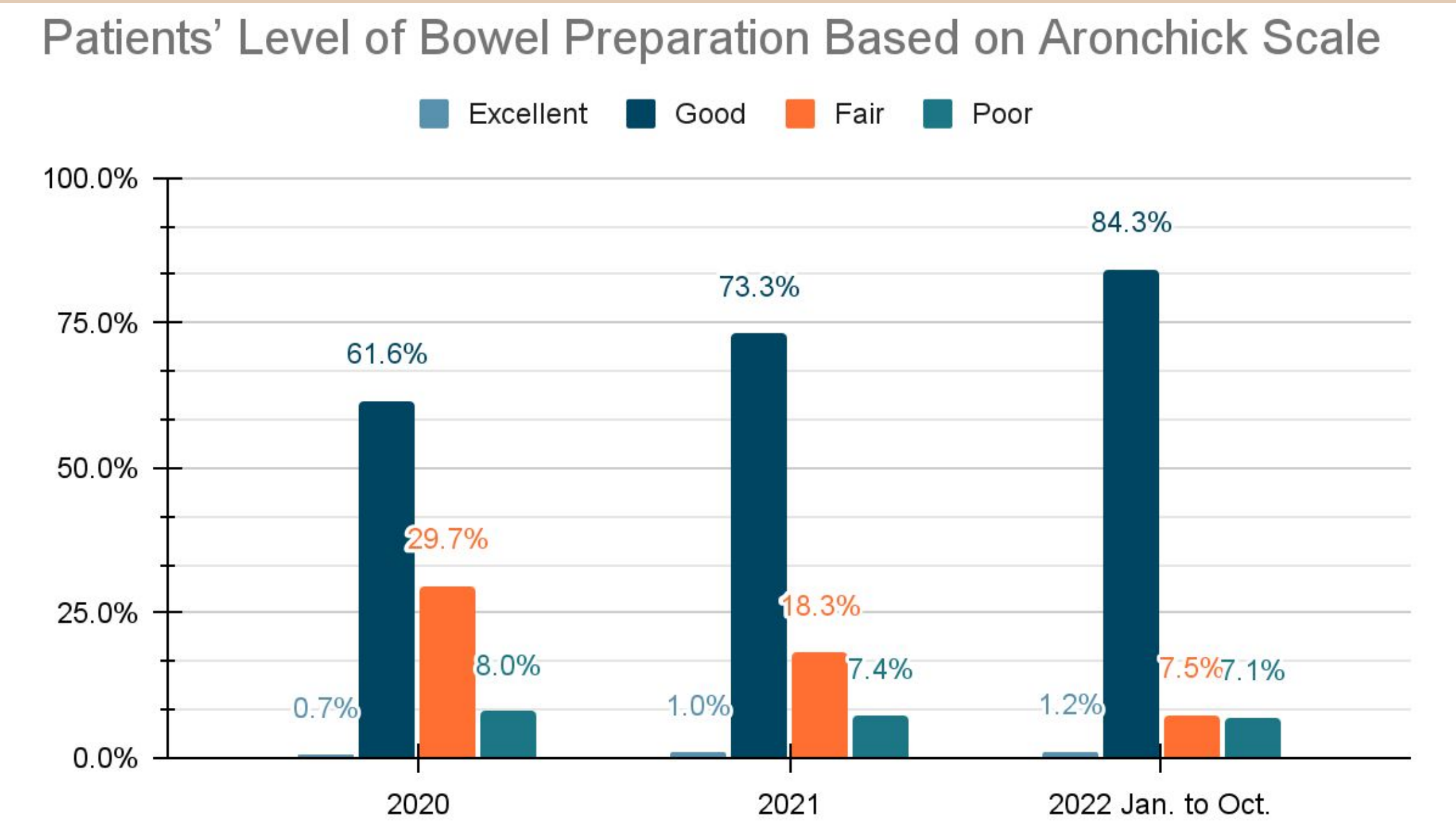


Chart 3. Statistics of the Patients' Quality Level of Bowel Preparation Based on Aronchick Scale.

cleanness of patient preparation has been comparatively improved. Specifically, patients in Excellent and Good has risen from 62.3% to 85.5% (Chart 3). The detailed patient education video is attached through the following QR code:



QR code for patient education video

CONCLUSIONS

With the outcomes above, two improvements are proved with the implementation of digital material in patient education. For one, the improvement in reducing the inquiry calls has enabled the team to put most of the resources toward the colonoscopy procedure and the quality of post healthcare. For another, the medical team can diagnose the data with high accuracy with qualified quality of bowel preparation. Furthermore, to pursue advanced steps, the staff will utilize various digital forms in patient education to consistently improve efficiency and quality in healthcare.

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CONTACT INFORMATION

Ms. Jo Fang Liao
Head Nurse
E-mail : Y00201@ms1.ylh.gov.tw
Tel: +886 5 5323911