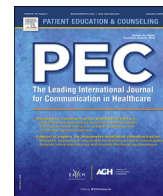




Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou



Effects of using WeChat-assisted perioperative care instructions for parents of pediatric patients undergoing day surgery for herniorrhaphy

Jun Liu^a, Xin Zheng^a, Shouxia Chai^b, Meirong Lei^b, Zehui Feng^a, Xuelin Zhang^{b,*}, Violeta Lopez^c

^a Department of General Surgery, Dongfeng Hospital, Hubei University of Medicine, Shiyan, Hubei, China

^b College of Nursing, Hubei University of Medicine, Shiyan, Hubei, China

^c Alice Lee Centre for Nursing Studies, Young Loo Lin School of Medicine, National University of Singapore, Singapore

ARTICLE INFO

Article history:

Received 8 December 2017

Received in revised form 10 February 2018

Accepted 16 February 2018

Keywords:

China

Day surgery

Herniorrhaphy

Inguinal hernia

Pediatric

Perioperative care

WeChat

ABSTRACT

Objective: This study examined the effects of WeChat-assisted perioperative instructions for parents whose children were to undergo herniorrhaphy.

Method: A randomized controlled trial was conducted in a day surgery center in China. Participants were randomly assigned to the intervention (WeChat) group (n = 209) and the control (Leaflet) group (n = 209). The primary outcomes of this study were parents' knowledge regarding hernia and rate of cancellation of children's surgery. The secondary outcomes were the rate of lost-to-follow-up and the rate of complications and adverse events during the seventh postoperative follow-up day.

Results: There was a significant difference in the rate of cancelling the surgery and the mean knowledge score between the WeChat group and leaflet groups. The lost-to-follow-up rate was significantly lower in the WeChat group (0.54%) than in the leaflet group (3.66%). The incidence of postoperative complications were higher in the control group.

Conclusions: WeChat-assisted perioperative care instructions enhanced parents' knowledge on perioperative instructions and promoted the preparation of their children for day surgery resulting in lower rate of cancelling the surgery.

Practice implications: WeChat has the ability to expand health services outside the hospital confines and could be used as an important low-cost health educational medium in China.

© 2018 Elsevier B.V. All rights reserved.

1. Introduction

With the great progress in anesthesia and surgical techniques, day surgery is becoming common for minor procedures that require less than 12 h of hospitalization, without overnight hospital stay [1]. In China, there has also been a recent dramatic increase in day surgery procedures for pediatric patients due to convenience, cost-effectiveness, and patients' preference for minimal hospital stay [2,3]. Worldwide, pediatric inguinal hernia is the most common problem in children and is mostly corrected through herniorrhaphy in day surgery center [4]. With this shift in practice, patients admitted to the day surgery center are transferred directly to the operating room from home and then

discharged after several hours of postoperative inpatient monitoring [5]. As such, the majority of perioperative preparation and postoperative recovery are conducted at home with little access to professional support [6].

As perioperative care is linked to optimal surgical outcome, health information should be provided to patients during the perioperative period in order to achieve better clinical outcomes [7–9]. Studies found that only 20% of children's hospitals offer preoperative preparation for day surgery [10] and more than half of the patients and their family did not receive any information at all [11]. The main reasons for this lack of preparation were time and location constraints [12] and heavy workload in medical staff [13]. The interactions between patients and medical staff are also limited in day surgery settings although it was widely accepted that such interactions reduce patients' apprehension of their impending surgery [14]. Many patients and their families also felt stressed or anxious and experienced difficulties with the information about perioperative home care preparation to manage unexpected events such as recognition of complications, unexpected hospital readmissions, and delayed recovery for patients

* Corresponding author.

E-mail addresses: lauheart@163.com (J. Liu), zhengxin19740912@163.com (X. Zheng), 44201040@qq.com (S. Chai), 365680322@qq.com (M. Lei), 779557213@qq.com (Z. Feng), 1040114891@qq.com (X. Zhang), nurvi@nus.edu.sg (V. Lopez).

<https://doi.org/10.1016/j.pec.2018.02.010>

0738-3991/© 2018 Elsevier B.V. All rights reserved.

[2,15–17]. Previous studies have focused mainly on pain management postoperatively [18–20] and difficulties of parents were ignored during the perioperative period [17], especially for pediatric patients. Thus, a perioperative care is needed for pediatric patients undergoing herniorrhaphy in day surgery center.

Recently, many different social media technologies have been widely used as educational health promotion strategies for disease management such as diabetes, hypertension, depression, and sexual health promotion [21]. In Europe, mobile applications are used to promote active and healthy aging [22] and adherence to antiretroviral treatment and decreasing anxiety levels in Swedish HIV patients [23]. In the United Kingdom (UK), mobile applications are used to actively engage cancer survivors to publicly available physical fitness programs [24]. In the United States of America (USA), mobile applications are used to promote adherence of patients to oral chemotherapy and symptom management. The use of telephone messages has also been used effectively to provide short messages in patients for bowel preparation before outpatient colonoscopy procedures [25,26] and to assess patient satisfaction after micrographic surgery in New Zealand and the UK [27]. All of these studies have provided support to the use of mobile applications as effective tools that result in improved clinical outcome [28].

WeChat (Tencent Ltd., Shenzhen, China), a popular smartphone-based social media application like Facebook, Twitter, and WhatsApp, also emerged as a great medium to deliver health education through an established interactive educational platform for patients. WeChat currently has 600 million active users out of the 1.12 billion registered users [29]. WeChat had been utilized as a tool for teaching-learning activity [30], collect research data [31,32] and deliver disease-related knowledge [33]. Furthermore, WeChat-based health educational programs have been found to be more effective than the conventional method of delivering information in terms of shortened time consumption, lower economic cost, improved adherence to treatment, lowered complication, increased follow-up rate and improved patients' satisfaction in patients with cancer [12], chronic illness [33,34], and patients with communicable disease [25,35]. However, the use of WeChat has not been evaluated in pediatric patients undergoing day surgery.

It has been acknowledged that smartphones have become acceptable worldwide, especially in China. Mobile devices can be seen everywhere and are used by both young and old people as an effective and faster way of communication. As health text messages are written simply and short, its readability has become more suitable, even for those with low health literacy [36]. Thus, the adoption of mobile applications in health education has become acceptable, especially in busy people who may not have the time to report to a healthcare institution or to listen to health talks [37]. However, to the best of our knowledge, the effectiveness of using a WeChat-based perioperative educational program has not been evaluated in pediatric patients undergoing day surgery for herniorrhaphy. Therefore, this study aimed to examine the effectiveness of using WeChat to prepare parents for their children's surgery in a day surgery center.

2. Methods

2.1. Design, setting and participants

A prospective randomized controlled trial (RCT) was used in this study and conducted at a pediatric hernia treatment center in a university-affiliated hospital in Shiyan, Hubei Province, China. At this study hospital, 1000 pediatric herniorrhaphies have been performed by three surgeons, two days per week each year since 2000. This study sample consisted of parents whose children

were about to undergo herniorrhaphy using minimal invasive operation procedure between April 2016 to November 2016. The inclusion criteria included parents of children: 1) under 18 years old; 2) diagnosed with unilateral inguinal hernia; and 3) scheduled for herniorrhaphy using minimal invasive operation procedure at the day surgery center. The parents should also: 4) be the primary caregiver; 5) own an Android or iOS smartphone; and 6) able to use WeChat properly. The exclusion criteria included parents with: 1) severe medical conditions; 2) a known history of major psychiatric illness; 3) children who suffered from recurring pediatric inguinal hernia; and 4) children who had other medical disease.

The sample size required for this RCT was calculated. Since the prevalence of day surgery cancellation was 13.9% in China according to Zhang's study [39], we assumed a 10% difference between two independent population at $\alpha = 0.05$, $\beta = 0.2$. Thus, 190 participants for each group were required. Assuming 10% subject drop out, the total sample size required was 418 (209 per group).

2.2. Intervention

The intervention group was provided the perioperative instructions for herniorrhaphy using WeChat. The WeChat group was informed to subscribe to the 'Pediatric Hernia' WeChat official account. After consultation with the surgeon and given the schedule for herniorrhaphy, all parents received a brief written instruction of how to access the educational module in the WeChat official account on the mobile application's interface. The education modules consist of information on pediatric inguinal hernia, pre-operative preparation for the children and post-operative information about any complications to observe at home. The parents were asked to review the education modules in the official account at home at any time convenient to them. They were also informed that they will receive reminders of their children's scheduled surgery and follow-up appointment. They were also instructed to send messages to the WeChat nurse manager if they have any concerns or clarifications about the modules. The WeChat nurse manager is a pediatric nurse with ten-years' clinical experience on herniorrhaphy and expertise in using internet educational technologies. During the study period, the WeChat manager answered the messages of the parents from 19:00 to 23:00 daily and all the interaction activities were recorded on the WeChat platform.

The control group was provided Leaflet with the same educational information provided to the WeChat group regarding perioperative care instruction including preoperative preparation and postoperative recovery. They were also informed that they can contact the day surgery center nurse via telephone as needed. After the surgery, they will be given a card indicating the date and time for their children's follow-up appointment.

2.3. Data collection

Randomization of eligible parents to the intervention group (WeChat group) or the control group (Leaflet group) was done according to computer-generated random numbers by a research assistant. The investigators were blinded to the randomization when the parents were enrolled in this study.

The research assistant screened eligible parents for the study and collected demographic data. (Fig. 1) The schedules of the surgery in the day surgery center were at different days of the week to avoid potential contamination of data. They were also informed not to disclose their grouping or share the materials to other parents. On the day of each patient's herniorrhaphy, they underwent physical examination by the surgeon and anesthetist and assessed that the children were preoperatively prepared.

Download English Version:

<https://daneshyari.com/en/article/8764779>

Download Persian Version:

<https://daneshyari.com/article/8764779>

[Daneshyari.com](https://daneshyari.com)