Site-specific Education Using Digital Media to Improve Patients’ Understanding of the Radiotherapy Trajectory: An Intervventional Study

Hussain Almerdhemah, B.App.Sc-RT

King Faisal Specialist Hospital and Research Centre
Disclosure

• Disclosure: I have no conflicts of interest to disclose.

Author list:

• H. Almerdhemah¹, Z. Mulla¹, H. M. Muamenah¹, A. Weber¹, T. Boubakra¹, H. Taha¹, H. Habibullah¹, B. Albeirouti¹, and A. M. Ahmed¹,²; ¹King Faisal Specialist Hospital and Research Centre, Jeddah, Saudi Arabia, ²Department of Clinical Oncology, Sohag University Hospital, Sohag, Egypt
Background

• Access to radiation therapy in Saudi Arabia has grown extensively over the past decade

• Patients receive education at the time of diagnosis, but providers noticed that much of the information was not digested or retained

• Not many Arabic speaking centers use digital media for site-specific information on radiation therapy

• How can providers increase patients’ and families’ knowledge about radiation treatments?
The Patient’s Journey

**Day One**
- RO CLINIC

**CT-SIM**
- 5 days - 3 weeks waiting

**1st Treatment**
- 5 days - 3 weeks waiting

**Last Treatment**
- 1 - 39 #

**3 - 8 WEEKS**
- FU-RO

**MIND THE GAP!**
Impact of COVID-19

Role for Digital Media

REDUCING HOSPITAL VISIT

MODERN COMMUNICATION TECHNOLOGY
Site-Specific Education on Radiation Therapy

- Digital platform with general and site-specific information on radiation therapy, delivered via animated cartoon videos and a patient-friendly website
One Generic Animated Video

(4 min. length)

Introduction to radiation therapy for cancer treatment

Steps involved in radiation therapy

Concise overview of patient’s trajectory from referral to end of RT and follow-up
تحقق الأبحاث الطبية قفزات كبيرة
Site-specific Digital Media

• 3-to-4-minute animated videos and infographic information
Bladder and Bowel Preparation

Mouth Care during Radiotherapy

Thermoplastic Mask Formation
الإسهال:
قد يشعر بعض المرضى بانتقلات أو ألم في البطن أو الحوض، وذلك لأن غشاء المعدة والأمعاء معnets بتوتر للعلاج الأساسي. مما قد يؤدي إلى الإسهال.

في حالة الإسهال تتناول:
(اطعمة منخفضة الألياف والدهون):

1. البطاطس مسلوقة أو مقلوبة.
2. الخبز الأبيض.
3. اللحم، النبات، والأسمك مشوية أو مقلوبة.
4. الأرز والكعك.
5. الفواكه مثل التفاح، الموز، والجزائر.
6. الأسماك واللحوم.

الملاحظة:
إذا كانت الأعراض تستمر لفترة وجيزة، أو إذا كانت غير معتادة، أو إذا كانت معناها اقتصاد، ينصح بالاتصال بالطبيب.

الأعراض الجانبية المحتملة:
- تورم في الجلد، وقرحة المعدة.
- نزيف معدة.
- تغذية إضافية.
- مشاكل الأمعاء، مثل الانتفاخ.
- ضعف المعدة.
Patient Impact

• Of the 14 dimensions explored, 8 were observed to have remarkable improvement.

• Increased understanding and confidence score UCS.

• Gains were especially pronounced for specific dimensions, such as:
  • What to expect with radiotherapy
  • The purpose of pre-treatment tattoo marks
  • Reasons for daily or weekly imaging
Example: Understanding the purpose of the tattoo

• Mean knowledge improved by \(~0.5\) out of 1 as an effect of the intervention.
• By analyzing each dimension separately, we observed significant associations of reading ability across five dimensions.

**Pre- to post-intervention change in mean score by level of reading ability**

- Understanding what to expect with radiotherapy
- Understanding steps for RT process from consultation to the end of treatment
- Misbelief that RT is a painful procedure
- Understands overall information given about the start of radiotherapy
- Understands information about RT side effects management

![Bar chart showing change in mean score by level of reading ability across different dimensions.](chart_image)
Conclusions

• The use of digital educational material in radiation oncology meets an urgent need for concise and site-specific patient education, while sparing extra hospital visits to meet with education coordinators

• Further studies are needed to assess the clinical and long-term effectiveness of this educational material