

# Developing an e-learning tool for clinicians to take patient preferences into account in esophageal cancer treatment decision-making

## 1 | INTRODUCTION

Shared decision-making (SDM) has gained much attention in health care policy.<sup>1–3</sup> SDM is especially recommended when patients face preference-sensitive decisions about their treatment. In particular, when the evidence for superiority of one treatment over another is not available, the best treatment choice depends on how individuals value the risks and benefits of various treatment options- as is the case in esophageal cancer care.<sup>4–6</sup>

The standard treatment for patients with potentially curable advanced esophageal cancer in large parts of the world is neoadjuvant chemoradiotherapy (nCRT) followed by surgery.<sup>7</sup> Within the Dutch multicenter Surgery As Needed for Oesophageal cancer (SANO)-trial, overall survival after standard surgery is compared to an active surveillance approach. In active surveillance, surgery is only performed in patients with residual cancer or cancer recurrence after nCRT.<sup>8</sup> The final results of the SANO-trial are expected late 2023. After completion of the recruitment phase of the SANO-trial, the request for this experimental treatment strategy from patients remained high. Furthermore, some patients were even willing to trade off chance of overall survival, to prevent surgery.<sup>9</sup> The Dutch organization for patients with esophagogastric cancer (SPKS), holds the view that patients should have the opportunity to make a well-informed decision for active surveillance, while awaiting the final outcome of the SANO-trial. These arguments, in combination with the currently available data on overall survival after active surveillance,<sup>10</sup> resulted in an agreement to continue offering active surveillance as an alternative to surgery after nCRT, within the context of the multicenter prospective cohort SANO-2 study. This new situation increases the need for dedicated skills in SDM to counsel patients in their choice of treatment.

For clinicians it can be challenging to guide patients in making a treatment decision between active surveillance and surgery, as the decision depends on individual patient preferences. The NOSANO study gained insight in patient preferences for either active surveillance or standard surgery by conducting in-depth interviews with patients who refused participation (NO-SANO) in the SANO-

trial. For example, if participation would mean that patients would be assigned to the “active surveillance”-arm, some patients refused participation as they preferred standard surgery or vice versa. These patients were asked for participation in the NOSANO study.<sup>11</sup> These insights resulted in a conceptual model that showed that “dealing with threat of cancer” was a central theme for all patients as common starting point of the decision. However, how patients tend to deal with this threat differed, and resulted in a preference for active surveillance or surgery. This conceptual model can help clinicians to determine patient preferences for treatment, wherein coping style and mind-set seem to be determining factors. Therefore, one of the deliverables of the NOSANO-study was an e-learning for clinicians with the aim to help them counseling esophageal cancer patients by taking patient preferences on treatment into account.

E-learning reaches a wide target audience at limited costs and it seems to be as effective as traditional learning.<sup>12</sup> Besides, it provides learning through materials that can be easily updated if necessary. This is relevant for our purpose; esophageal cancer treatment is subject to ongoing changes in management and using e-learning allows us to provide updated versions in the future.<sup>13</sup>

The goal of this brief communication is to report on the development and evaluation of an e-learning tool with the aim to help clinicians in counseling esophageal cancer patients by taking the patients' individual preferences on their treatment into account.

## 2 | METHODS

### 2.1 | Designing the e-learning tool

The e-learning tool consisted of a theoretical and a practical part.

The theoretical part provided information about: the current standard management of esophageal cancer; current state of affairs regarding research into esophageal cancer treatments; the experimental active surveillance approach in esophageal cancer as well as in other cancers; and the relevance of SDM in this context.

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The practical part aims to incorporate a learning aspect, by transferring theoretical knowledge into practice exercises. For this purpose, we used video-based simulation in the e-learning tool. We included videos of realistic and common clinician-patient interactions that occur during the SDM process.<sup>14</sup> We invited an actor to pose as a patient, as research demonstrates that role-play with actors enhances the realism of clinical simulations.<sup>15</sup> The clinician's role was played by two gastrointestinal surgeons from the Erasmus MC Cancer Institute [B. W., S. L.]. Every video-scenario focused on a "pitfall" that clinicians encounter on a regular basis, when employing SDM in situations where active surveillance is offered as an alternative to surgery. The scenarios were based on the results of our NOSANO study into esophageal cancer patient treatment preferences.<sup>11</sup> During the development-phase of the e-learning tool, we asked gastrointestinal surgeons from four different hospitals to give feedback on the scenario-scripts to ensure that the scenarios were realistic for clinicians.

Microsoft PowerPoint for Mac Version 16.61 was used. The e-learning consists of Microsoft PowerPoint slides with embedded videos. This e-learning is based on data from the NOSANO-study, which was approved by The Erasmus MC Medical Ethical Committee (MEC-2018-1526). Informed consent was obtained from all patients who participated in the NOSANO-study.

## 2.2 | Distribution and evaluation

We distributed the e-learning tool among members of the SANO-research group ( $n = 91$ ). Additionally, we brought the e-learning tool under the attention of health professionals who treat esophageal cancer patients, during congresses and meetings. The e-learning tool ends with an evaluation in a survey-style questionnaire. Clinicians were asked to rank statements on a 5-point Likert scale, ranging from "completely disagree" to "completely agree." The statements used for the evaluations were aimed to assess the effectiveness and user satisfaction of the learning tool and were derived from the learning objectives that were presented at the onset of the e-learning tool. See Table 1 for the statements used. Additionally, the following

demographics of the clinicians were gathered: gender, age, profession, years of work experience.

## 3 | RESULTS

### 3.1 | E-Learning tool

#### 3.1.1 | Theoretical part

The theoretical part consists of eight slides: 1. Background information about the SANO study; 2. Experiences with active surveillance in other cancer types; 3. Active surveillance in esophageal cancer; 4. NOSANO-study results: the patient motives for treatment preferences; 5. NOSANO-study conclusions; 6. What is SDM; 7. The importance of SDM; 8. Factors from patient- and clinicians perspective that influence decision-making. These slides consisted of text and were supported by videos in which a team member elaborates on the content of the slide. For example, for slide 2, we invited a professor of Urology to share his experiences with offering active surveillance to patients in relation to SDM, because active surveillance is already an established treatment option for prostate cancer.

#### 3.1.2 | Practical part

The practical part consists of eight video-scenarios with the titles: 1. Patient immediately has a preference; 2. Patient does not want to make a decision and leaves the decision to the doctor; 3. Patient-doctor relationship is not working/countertransference; 4. Patient finds it hard to make a decision; 5. Patient is suggestive; 6. Patient has misinterpreted the information; 7. Get the patient to actively think what is important to him; 8. Patient is influenced by his or her partner. All video-scenarios were followed by either a multiple-choice question including a video showing the correct answer, or by textual explanation and explanatory video-example on how to handle the situation.

**TABLE 1** Responses to e-learning survey among 35 clinicians.

Statements	Answers in percentage (n)				
	Completely disagree	Disagree	Neutral	Agree	Completely agree
1. I think the topic is relevant	-	-	-	60% (21)	40% (14)
2. I gained knowledge about the reasons patients do or do not opt for active surveillance	-	2.9% (1)	5.7% (2)	80% (28)	11.4% (4)
3. I gained tools to guide patients in the decision-making process for treatment	-	2.9% (1)	8.6% (3)	77.1% (27)	11.4% (4)
4. I gained tools to consider the patient preferences in deciding on treatment	-	2.9% (1)	8.6% (3)	77.1% (27)	11.4% (3)
5. The practical examples (clinician-patient videos) are recognizable and realistic	-	-	8.6% (3)	65.7% (23)	25.7% (9)
6. I would recommend the e-learning to colleagues	-	5.7% (2)	14.3% (5)	57.1% (20)	22.9% (8)

### 3.1.3 | Evaluation

In total 35 clinicians completed the survey, of whom 27 were male and eight female. The average age was 49 years (range: 25–62) and average years of work experience was 14 (range: 2–35). Professions were: surgeon, radiotherapist, nurse (in training), medical oncologist, gastroenterologist. Survey results are summarized in Table 1. In general, clinicians consider the e-learning as a helpful tool to take patient preferences into account.

## 4 | DISCUSSION

In deciding between active surveillance or standard surgery, the “best option” depends largely on patients’ individual preferences instead of evidence-based medicine. SDM is highly recommended in such preference-sensitive treatment decisions where the evidence for superiority of one treatment over another is not available. We recognized this need and developed an e-learning tool for clinicians to perform SDM in that context, and reported on the evaluation by the clinicians. By integrating both theory and practice, we tried to maximize the chances that clinicians can improve their SDM skills. The feedback we received from the clinicians who evaluated the e-learning tool was favorable: the majority of clinicians (30/35) found it relevant and helpful. They gained recognizable and realistic insights to guide patients in the decision-making process, and to consider patients’ preferences during this process. A small number of clinicians (5/35) were not convinced, but we failed to collect their arguments, as the evaluation lacked a feedback opportunity. For the future, we will incorporate an additional feedback option, in the form of a comment box that allows clinicians to elaborate on their evaluation. Besides, we aim at a larger sample size to evaluate the e-learning and its effect on SDM skills and the perception of these skills by the patient.

## 5 | CONCLUSION

This e-learning tool is a response to the emerging challenge to guide esophageal cancer patients in choosing between the still experimental option of active surveillance versus standard surgery. The majority of clinicians in the present study responded positive to the e-learning tool. By integrating this tool, chances for improving SDM skills are increased.

### KEYWORDS

active surveillance, esophageal cancer, learning tool, patient preferences, treatment decision-making

### AUTHOR CONTRIBUTIONS

**Merel Hermus:** Conceptualization; data curation; formal analysis; writing—original draft. **Berend J. Wilk:** Conceptualization; writing—review and editing. **Jan Willem T. Dekker:** Writing—review and editing. **Grard A. P. Nieuwenhuijzen:** Writing—review and editing.

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### CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

### DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author.

### TRANSPARENCY STATEMENT

The lead author Merel Hermus affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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