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Introduction

Following cervical screening within a primary healthcare setting, women and people with a cervix who have a cytology result which is indicative of a cervical pre-cancer or cancer, or who are persistently high-risk HPV positive with negative cytology results, are referred to a colposcopy clinic within secondary care*.

Colposcopy is an invasive examination of the cervix using a magnifying binocular colposcope and the application of mild acetic acid solution and the procedure is used to both diagnose and treat cell changes (abnormal cells). Many cell changes go away on their own, but some may develop into cervical cancer. Colposcopy helps identify whether cell changes need treatment to stop this happening. If treatment is needed, the patient may be diagnosed and treated during their first visit or be invited to a return appointment for treatment following a biopsy to confirm the disease status.

*UK triage, other countries may differ
Background

Along with the natural anxiety caused by a positive (abnormal) screening result, attending colposcopy can be an additional worry for patients and result in high levels of anxiety before and during colposcopy which can have adverse effects including pain and discomfort during the procedure and high rate of women not returning for follow-up examination.

Studies have been carried out to look at the effectiveness of different interventions during colposcopy on anxiety levels, and Galaal et al, 2011[1] assessed six existing randomised controlled trials to compare the efficacy of various interventions aimed at reducing anxiety during colposcopic examination in women. They concluded that “Anxiety appears to be reduced by playing music during colposcopy. Although information leaflets did not reduce anxiety levels, they did increase knowledge levels and are therefore useful in obtaining clinical consent to the colposcopic procedure.”

In general, studies have been inconclusive due to the subjectivity of patients’ negative emotional responses and methods used.

We wanted to look at the experience of patients undergoing a colposcopy examination with the ZedScan electrical impedance spectroscopy diagnostic device used as an adjunct, to assess if its use had a positive impact on patient experience and anxiety levels.

A patient questionnaire was developed with clinicians who perform colposcopy, alongside a patient information leaflet regarding the colposcopy examination with ZedScan. 4 NHS hospitals where ZedScan was in routine use participated in the study.

[1] Interventions for reducing anxiety in women undergoing colposcopy
Khadra Galaal et al
Version published online: 07 December 2011
https://doi.org/10.1002/14651858.CD006013.pub3
Study Overview

Patient information leaflets were provided to each colposcopy unit which included information about the colposcopy examination procedure and results, along with an introduction to the ZedScan device and results meaning. A short, multiple choice questionnaire was designed and structured to make the patient consider the whole experience of receiving information before the examination, having the ZedScan examination during their colposcopy and how they felt after the examination and upon seeing the ZedScan results at the point of care.

- The study was undertaken during the COVID-19 pandemic which may have increased patients’ anxiety in attending the hospital appointment, but questions around this were not included.
- No differentiation was made between new and returning patients being asked to complete the questionnaire.
- Data was collected anonymously with only the date and hospital name requested, although participants were invited to provide their contact details for inclusion in future studies or patient focus group.
- Caldicott principles were applied regarding data collection for informed consent to participate.

Participating Trusts

The study ran for a period of 5 months from March to July 2021 with 86 total completed questionnaires returned from 4 clinic sites and results collated for reporting by Zilico.

<table>
<thead>
<tr>
<th>Trust</th>
<th>Returns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medway Maritime</td>
<td>19</td>
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<tr>
<td>Royal Preston</td>
<td>16</td>
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<td>Bradford Royal</td>
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<td>Burnley General</td>
<td>40</td>
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<tr>
<td>Total Returns</td>
<td>86</td>
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Following early clinician feedback, the questionnaire was updated to version 2 to include an additional question about whether the information helped patients to understand what would happen. This has been added to the reporting.

One Trust requested posters to display in order to better inform patients of the study.
86 questionnaires were returned - 28 were version 1 and 58 were version 2 (with the additional question). 83 patients stated that they had received information ahead of the procedure - 77 had information discussed with them of which 9 had written information too, with an additional 6 receiving just written information.

- Patients who had a ZedScan examination – 82
- Patients who didn’t have a ZedScan examination – 3  (Asked how they felt about not being able to have ZedScan used, 1 felt pleased, 1 was disappointed and one ticked don’t know).
- 1 respondent did not know if ZedScan was used (this patient had been given written information only).
- All 58 completing version 2 said the information helped them to understand what would happen and when asked if the use of ZedScan gave them additional reassurance about their colposcopy examination, 46 said yes, 1 said no and 2 stated that there was no impact, with 2 answering that they don’t know. (The remaining 7 did not answer this question).
- The 28 patients completing version 1 were asked if the use of ZedScan was a positive experience and 23 said yes, 1 said they didn’t know and 4 did not answer this question.
- When asked how the ZedScan examination felt, there were 82 responses which were, couldn’t feel it (25), not uncomfortable (28), mildly uncomfortable (26), very uncomfortable (1) and don’t know (2).
- Asked if the use of ZedScan helped them to understand the outcome of the colposcopy examination, 75 said yes and 5 said they don’t know, (6 patients did not answer this).
- When asked if they would recommend ZedScan to other patients, 79 out of 80 respondents answered yes.
- Comments were invited on the questionnaire and all 25 comments left were of a positive nature.

99% of respondents would recommend the use of ZedScan to other patients.
Conclusions

Providing information ahead of the colposcopy examination helped patients to understand what would happen and offer reassurance about the procedure. With such a small number receiving written information only, it is not possible to compare the benefits of written with verbal information but the study indicates that verbal information ahead of the colposcopy and ZedScan examination has a positive impact on patient experience in terms of understanding what will happen, reassurance and understanding about the outcome of the examination and good tolerance to what is considered an invasive procedure.

Most patients found the use of ZedScan during their examination only mildly uncomfortable at worse, with just 1 finding it very uncomfortable and 99% of survey respondents who had ZedScan used said they would recommend it to other patients (including the patient who found it very uncomfortable). Seeing the ZedScan results at the point of care was also a benefit to patients with 94% of patients answering that the use of ZedScan had helped them to understand the outcome of their colposcopy examination and all feedback reflecting a positive experience.
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