Using the International Classification of Functioning, Disability and Health to study quality of life after colorectal cancer: The EnCoRe study

Roekel EH van, Bours MJL, Wijckmans N, Wisselink P, Vanlingen YLL, Gielen CMJ, Kant I, Lima Passos V, Brandt van den PA, Sanduleanu S, Beets GL, Weijenberg MP.
Using the International Classification of Functioning, Disability and Health to study quality of life after colorectal cancer: The EnCoRe study

Eline van Roekel (eline.vanroekel@maastrichtuniversity.nl)
Objective
To investigate the influence of physical activity (PA) and diet on the health-related quality of life (HR-QoL) of colorectal cancer survivors using the International Classification of Functioning, Disability and Health (ICF)\(^1\)

Design
1. Cross-sectional study of CRC survivors 2-10y post-treatment (N≈216)
2. Prospective cohort study of CRC patients (N≈240):
   - Diagnosed at Maastricht University Medical Center\(^+\)
   - Follow-up from diagnosis until 2y post-treatment:

\[\begin{array}{c}
\text{Measurements} \\
\text{at diagnosis:} \\
\text{Diet, PA} \\
T_{-1}
\end{array}\]  \[\begin{array}{c}
\text{Post-treatment measurements:} \\
\text{Diet, PA and HR-QoL} \\
T_0 \quad 6 \text{ weeks} \\
T_1 \quad \frac{1}{2} \text{ year} \\
T_2 \quad 1 \text{ year} \\
T_3 \quad 2 \text{ years}
\end{array}\]


Eline van Roekel (eline.vanroekel@maastrichtuniversity.nl)
Health condition
Colorectal cancer

Body structure and functions
Nutritional status
Bowel complaints
Fatigue
Depression and anxiety

Activities
Physical activity (PA)
Activities of daily living
Sports

Participation
Social participation
Labour participation

Health-related quality of life (HR-QoL)

Environmental factors
Diet
Social support
Smoking
Anti-cancer treatment

Personal factors
Gender
Age
Coping
Co-morbidities

Primary outcome/exposure variables:
- **HR-QoL**: EORTC QLQ-C30/CR-29\(^1\)
- **PA**: Accelerometers and SQUASH\(^2\)
- **Diet**: Food diaries (FFQ at diagnosis)

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Eline van Roekel (eline.vanroekel@maastrichtuniversity.nl)
Abstract # 18

Ethics and Quality of Life (QoL) of Head and Neck (H&N) Cancer Patients during Radiotherapy

Jussila Aino-Liisa, Holmström Anneli, Perttu Johanna, Vinkka Tiina
Materials and methods

- **The purpose** of the research was to describe H&N patients’ QoL and its possible changes during radiotherapy.
- **The aim** for this experimental research was to test how results collected by the EORTC QLQ-30 instrument could be applied for the basis of ethical decision making among H&N patients undergoing radiotherapy.
- **Data were collected** by EORTC QLQ-30. Its variables were divided into physical, psychological and social dimensions. The patients (n=10) answered to the questionnaire in the beginning and at the end of the radiotherapy.
- **Data were analyzed** by the SPSS Statistics 19.0 software.
Results

– The results showed that patients’ QoL got worse in all three dimensions.
– Most negative changes were reported in H&N cancer symptoms and physical wellbeing.
– The most severe side effects were dry mouth, sticky saliva, loss of appetite and eating difficulties.
– Patients reported also taste changes, fatigue and weight-loss.
– H&N cancer affected strongly to eating, speaking and breathing.
– Therefore patients’ QoL became soon and drastically weaker during the radiotherapy.
Conclusions

– Assessing the QoL has become more important when the staff makes care decisions concerning the cancer patients’ radiotherapy.

– The results show that EORTC QLQ-30 instrument can advise the staff in decision making and conduct the staff to pay attention to the ethical points of view during H&N patients’ radiotherapy.

– Thus it is a challenge to support patients during their demanding radiotherapy.

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Kiviharjuntie 8, FIN 90220 Oulu, Finland.
Longitudinal assessment of quality of life in patients treated with protons at the Italian National Centre for Oncological Hadrontherapy (CNAO)

Anurita Srivastava, Barbara Vischioni, Maria Rosaria Fiore, Viviana Vitolo, Alberto Iannalfi, Piero Fossati, Cristina Testa, Jeffrey Tuan, Roberto Orecchia
Patient & Treatment details

- Period: Jan-May 2012
- N=10 (60% M: 40% F)
- Histology
  - Chordoma 80%
  - Chondrosarcoma 20%
- Site:
  - Skull base 70%
  - Paraspinal 30%
- Previous surgeries: Average 1, (0-4)
- Previous RT: None
- Proton Dose: 70-74 GyE/35-37#, 5 days/week
- Validated Italian translation of the EORTC QLQ-C30 ver 3.0
- Self completed questionnaires

<table>
<thead>
<tr>
<th>Physician assessed status</th>
<th>% of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>70:10:20</td>
</tr>
<tr>
<td>No:Some:Severe problem</td>
<td></td>
</tr>
<tr>
<td>Self-care</td>
<td>80:0:20</td>
</tr>
<tr>
<td>No:Some:Severe problem</td>
<td></td>
</tr>
<tr>
<td>Pain/discomfort</td>
<td>70:20:10</td>
</tr>
<tr>
<td>No:Some:Severe problem</td>
<td></td>
</tr>
<tr>
<td>Anxiety/depression</td>
<td>60:30:10</td>
</tr>
<tr>
<td>No:Some:Severe problem</td>
<td></td>
</tr>
</tbody>
</table>
## Results

<table>
<thead>
<tr>
<th></th>
<th>Pre-treatment (Mean ±SD)</th>
<th>End-of-treatment (Mean ±SD)</th>
<th>Pre- versus End-of-treatment scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Clinically meaningful Wilcoxon test p value</td>
</tr>
<tr>
<td>Global health status</td>
<td>66.66 ± 28.6</td>
<td>65.83 ± 21.68</td>
<td>No 0.81</td>
</tr>
<tr>
<td>Physical functioning</td>
<td>78.66 ± 38.34</td>
<td>77.33 ± 36.14</td>
<td>No 0.6</td>
</tr>
<tr>
<td>Role functioning</td>
<td>80 ± 35.83</td>
<td>75 ± 37.89</td>
<td>No 0.18</td>
</tr>
<tr>
<td>Emotional functioning</td>
<td>71.66 ± 35.18</td>
<td>85 ± 26.3</td>
<td>Yes 0.07</td>
</tr>
<tr>
<td>Cognitive functioning</td>
<td>83.33 ± 33.33</td>
<td>90 ± 21.08</td>
<td>No 0.18</td>
</tr>
<tr>
<td>Social functioning</td>
<td>85 ± 31.87</td>
<td>75 ± 34.47</td>
<td>No 0.11</td>
</tr>
<tr>
<td>Fatigue</td>
<td>35.55 ± 35.06</td>
<td>35.84 ± 37.79</td>
<td>No 0.89</td>
</tr>
<tr>
<td>Pain</td>
<td>15 ± 22.84</td>
<td>15 ± 19.95</td>
<td>No 0.89</td>
</tr>
<tr>
<td>Financial difficulty</td>
<td>26.66 ± 30.63</td>
<td>40 ± 37.84</td>
<td>Yes 0.34</td>
</tr>
</tbody>
</table>
Conclusions

- Quality of Life is not worsened at the end of a standard course of proton therapy treatment
- Sample size is too small to demonstrate statistical significance
- Longer follow-up is needed to document long term effects

Centre:* Radiation Oncology, $ Nursing department, Fondazione CNAO, Italy;
# PARTNER project
Postoperative sleep disturbance affects global quality of life after esophagectomy for esophageal cancer

Marco Scarpa, Eleonora Pinto, Luca M. Saadeh, Matteo Parotto, Rita Alfieri, Matteo Cagol, Fabio Baratto, Teresa Nardi, Ermanno Ancona, Carlo Castoro
Postoperative sleep disturbance affects global quality of life after esophagectomy for esophageal cancer

Marco Scarpa, Eleonora Pinto, Luca M. Saadeh, Matteo Parotto, Rita Alfieri, Matteo Cagol, Fabio Baratto, Teresa Nardi, Ermanno Ancona and Carlo Castoro

Department of Oncological Surgery, Veneto Oncological Institute (IOV-IRCCS), via Gattamelata 64, 35128, Padova, Italy

BACKGROUND

Esophagectomy is still the main treatment for esophageal cancer but esophagectomy postoperative course imply a relatively long intensive care unit (ICU) stay and, often, a difficult pain control [1, 2] that can alter normal sleep rhythm [3].

Aim of the study: analyze how sleep disturbance after esophagectomy may affect postoperative quality of life in oncological patients

METHODOLOGY

Sample: 62 consecutive patients have been enrolled in this prospective study, in 2010, 2011 and 2012.

Instruments: -Italian version of the European Organization for Research and Treatment of Cancer (EORTC) QLQ-C30
  global quality of life (QL2 item) and sleep disturbance (SL item) were the primary endpoint
  -retrieval of data about perioperative management, postoperative complications, ICU stay, hypnotic drugs and painkillers

Method: Univariate and multivariate analysis

RESULTS-1

<table>
<thead>
<tr>
<th></th>
<th>univariate analysis</th>
<th>Standard multiple regression model</th>
<th>stepwise forward regression model</th>
</tr>
</thead>
<tbody>
<tr>
<td>QL2 at discharge after surgery</td>
<td>Kendall's τ  p-level BETA p-level</td>
<td>0,16</td>
<td>0,13</td>
</tr>
<tr>
<td>Total need of alopentol</td>
<td>-0,234 0,009 -0,246 0,069</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total need of morphin</td>
<td>-0,173 0,055 -0,088 0,523</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total need of lormethazepam</td>
<td>-0,189 0,036 -0,074 0,612</td>
<td></td>
<td></td>
</tr>
<tr>
<td>duration of fentanyl adminisration in ICU</td>
<td>-0,199 0,028 -0,071 0,605</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SL at discharge after surgery</td>
<td>-0,186 0,041 -0,178 0,243</td>
<td></td>
<td>-0,260 0,047</td>
</tr>
<tr>
<td>duration of dopamin adminisration in ICU</td>
<td>-0,208 0,022 -0,140 0,307</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
RESULTS-2

<table>
<thead>
<tr>
<th>Case</th>
<th>Kendall’s t</th>
<th>p-level</th>
<th>BETA</th>
<th>p-level</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL at discharge after surgery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>psychiatric comorbidities</td>
<td>0.245</td>
<td>0.007</td>
<td>0.230</td>
<td>0.051</td>
</tr>
<tr>
<td>Total need of lormethazepam</td>
<td>0.372</td>
<td>0.000</td>
<td>0.402</td>
<td>0.001</td>
</tr>
<tr>
<td>Total need of morphin</td>
<td>0.182</td>
<td>0.045</td>
<td>0.217</td>
<td>0.056</td>
</tr>
<tr>
<td>wake up day</td>
<td>-0.227</td>
<td>0.012</td>
<td>-0.196</td>
<td>0.087</td>
</tr>
<tr>
<td>previous use of benzodiazepin</td>
<td>0.260</td>
<td>0.004</td>
<td>0.226</td>
<td>0.054</td>
</tr>
<tr>
<td>duration of dopamin administration in ICU</td>
<td>0.198</td>
<td>0.031</td>
<td>0.256</td>
<td>0.024</td>
</tr>
</tbody>
</table>

Sleep disturbance after esophagectomy is associated to high need of benzodiazepin in the early postoperative course, to the duration of dopamin administration in ICU, psychiatric comorbidities, previous use of benzodiazepin and postoperative pain.

Short-term quality of life after esophagectomy is negatively influenced by sleep disturbance.

Further studies aimed to improve this aspect.
The DietCompLyf Study: quality of life in patients following a breast cancer diagnosis

Ruth Swann, Annie Perkins, Sarah Brennan, Louiza Velentzis, Jayne Woodside, Marie Cantwell, Susan Dutton, Anthony Leathem, Claire Robertson, Miriam Dwek
The DietCompLyf Study: quality of life in patients following a breast cancer diagnosis

Ruth Swann¹, Annie Perkins¹, Sarah Brennan², Louiza Velentzis³, Jayne Woodside², Marie Cantwell², Susan Dutton⁴, Anthony Leathem⁵, Claire Robertson¹, Miriam Dwek¹

¹ School of Life Sciences, University of Westminster, London, UK, ² Centre for Public Health, Institute of Clinical Science, Queen’s University Belfast, UK, ³ Cancer Epidemiology Research Unit, Cancer Council New South Wales, Sydney, Australia, ⁴ Oxford Clinical Trials Research Unit, Centre for Statistics in Medicine, University of Oxford, UK, ⁵ Department of Surgery, Royal Free and University College London Medical School, London, UK

Introduction

• DietCompLyf is a multi-centre prospective longitudinal cohort study aimed at elucidating links between breast cancer recurrence and survival with diet, lifestyle factors and quality of life.

• The primary aim is to examine the relationship between breast cancer progression and the dietary intake and excretion of the plant compounds, phytoestrogens.

• Patients’ quality of life and general health scores are investigated to ascertain the influences of treatment and modifiable factors such as dietary and lifestyle.
Study Design

- Patients with histologically confirmed breast cancer were recruited onto the study 9-15 months post-diagnosis on completion of all - except hormonal - treatment.

- 3,159 women (ages 27 – 75 yrs) with a grade I-III breast cancer were recruited from 56 UK centres between 1997 until 2010. Information was collected from each patient throughout the study at annual follow-ups, up to 6 years post-diagnosis.

- Functional, global health and symptom scores have been assessed with tumour characteristics, treatment and lifestyle factors (using t-test, Anova, linear regression by univariate analysis).

EORTC QLQ-C30 v2.0 measured at recruitment
GHQ-12 measured annually
Results

- Baseline data and at least one year of follow-up with completed questionnaires and samples have been collected. Of 3,159 patients recruited, 2,917 (92.3%) completed the EORTC QLQ-C30 v2.0 questionnaire at baseline.

<table>
<thead>
<tr>
<th>Higher quality of life (higher functional and global health score, lower symptom score) is associated with the following variables: assessed by univariate analysis, all p&lt;0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increasing age at diagnosis†</td>
</tr>
<tr>
<td>Patients not taking anti-depressants*</td>
</tr>
<tr>
<td>Those who drank alcohol compared to non-drinkers*</td>
</tr>
<tr>
<td>No lymph node involvement*</td>
</tr>
<tr>
<td>Lower BMI†</td>
</tr>
<tr>
<td>Those who had the practical and emotional support they needed†</td>
</tr>
<tr>
<td>Those who didn’t have chemotherapy*</td>
</tr>
<tr>
<td>Patients who exercised more than once a week*</td>
</tr>
</tbody>
</table>

Key: Analysed by * t test, ^ ANOVA, † linear regression

- Patients perception of how alone they felt following diagnosis was most associated with quality of life. ANOVA, all p<0.001. Functional score F (3, 2900) = 312.7, Symptom scale score F (3, 2900) = 161.2, Global health status score F (3, 2900) = 159.4.

- The results support existing evidence and future analysis will evaluate associations of quality of life with recurrence and survival. The DietCompLyf study contains a depth of data which will enable quality of life to be considered more fully.
Ultra-short questionnaire on patients distress and coping with a radiotherapy simulation procedure

Vincent Vinh-Hung, Mohamed Laouiti, Odile Fargier-Bochaton, Gloria Lee, Frank Grozema, Olivier Rinaldi, Madeleine Mary-Bruttin, Yung-Eae Lee
Introduction

• Radiological procedures are often under tight scheduling constraints.

• The workflow does not incite to evaluate how patients cope.

• We applied “on the fly” an ultra short questionnaire:
  – 4 items: pain, nervousness, fear, positioning difficulties
  – 4 grades scoring: 0 (no complaint), 1 (minor), 2 (moderate), 3 (unbearable).
## Results

<table>
<thead>
<tr>
<th>Mean score</th>
<th>Before procedure</th>
<th>After procedure</th>
<th>T-test P-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>0.35</td>
<td>0.33</td>
<td>0.853</td>
</tr>
<tr>
<td>Nervousness</td>
<td>0.67</td>
<td>0.22</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td>Fear</td>
<td>0.36</td>
<td>0.14</td>
<td>&lt; .0001</td>
</tr>
<tr>
<td>Positioning difficulty</td>
<td>0.21</td>
<td>0.17</td>
<td>0.181</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Incidence of scores changes</th>
<th>Higher score before procedure</th>
<th>Higher score after procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>Nervousness</td>
<td>44</td>
<td>1</td>
</tr>
<tr>
<td>Fear</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>Positioning difficulties</td>
<td>10</td>
<td>4</td>
</tr>
</tbody>
</table>
Discussion

• Feasibility of implementing a QOL-like evaluation within an intensive workflow.

• Results indicate significant anticipatory discomfort.

• Limitations of the study:
  – No prior validation.
  – Language issues not evaluated.
  – 4-grade scores possibly non-optimal, responses are skewed toward low scores.
Body image and sexual experience impact in the quality of life of women with breast cancer

Remondes-Costa, S., Rocha, M., Pais-Ribeiro, J.L., Jiménez, F.
**Theoretical framework:**
Experiences of effective or anticipatory lost distress in illness have been associated to several different personal dimensions (McIntyre & Gameiro, 1999). However, there is virtually no empirical research on the impact of Sexuality (as measured by the QLQ-BR23) and of Body Image (also as measure by the QLQ-BR23) into Distress’ representations as assessed by McIntyre and Gameiro’s five dimensions model. The main goal of this study was exactly to fulfill this research gap.

**Sample:**
N=104; Range=29-82 (M=55.22, SD=13.07)

**Instruments:**
Fayers et al., 1999
Quality of Life Questionnaire (EORTC-C30)
Supplementary Questionnaire Breast Cancer Module – QLQ-BR23
McIntyre, T. M., & Gameiro, M., 1999
Illness Subjective Experiences Inventory (IESSD)

Body image and sexual experience impact in the quality of life of women with breast cancer
Re mond es-Costa, 1,4, S., Roch a1,2,3, M., Pais-Ribeiro2, J.L., & Jiménez4, F.
ANOVA’s for impact of sexuality and body image into Psychological distress dimensions:

**Psychological Distress***;

**Physical Distress**;

**Socio-relational Distress**;

**Existential Distress**;

**Positive Distress Experiences**.

*Only significant results were found for this dimension; for a $p \leq 0.05$

**Tests of between-subjects effects**

<table>
<thead>
<tr>
<th></th>
<th>Sexuality:</th>
<th>Body Image:</th>
<th>Sexuality*Body Image:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F(1, 100)=4.84, p=.03, \eta^2=.59$</td>
<td>$F(1, 100)=.79, p=.38, \eta^2=.14$</td>
<td>$F(1, 100)=.87, p=.36, \eta^2=.15$</td>
</tr>
</tbody>
</table>

**Psychological Distress**

- with High levels of sexuality functioning ($M=32.09, SD=10.13$)
- with Low levels of sexuality functioning ($M=40.78, SD=6.80$)

**Physical, Socio-relational, Existential and Positive Experiences Distress:**

- with High levels of sexuality functioning
  - No significant results were found
- with Low levels of sexuality functioning

Body image and sexual experience impact in the quality of life of women with breast cancer
Conclusions

Sexuality, as assessed by EORTC-BR23 has a significant impact only at the Psychological distress level of women with breast cancer (as assessed by IESSD);

- Women with breast cancer with high levels of sexuality seem to have lower levels of Psychological distress when compared women with breast cancer and low levels of sexuality;
- No interactional results were found concerning sexuality and body image, or significant outcomes of impact of body image into any of the five Distress dimensions assessed;

- Therefore, sexuality seems to have a positive impact into Psychological distress levels.


Do body image and Sexuality interact to influence the quality of life in patients with breast cancer?

Remondes-Costa, S., Rocha, M., Pais-Ribeiro, J.L., Jiménez, F.
**Theoretical framework:**
Some studies have shown that breast cancer has a major impact into patients’ health status as well as in their functionality, and additionally into patients’ self perception, self-esteem and mental health when compared with other types of cancer patients’ representations (Sendersky, Gaus, & Sung, 2002). Breast cancer triggers changes into the person’s biopsychosocial functioning, including the need for intrapsychic experiences readjustment since cancer is a potentially deadly disease; furthermore, for women it is a very stigmatizing illness (Dias, Manuel, Xavier, & Costa, 2001). Fear of being "incomplete" is a specter that plagues the femininity of these women. The treatments' side effects such as nausea, vomiting, anemia, changes in mood, temporary amenorrhea, vaginal dryness, hair loss and weight gain are also associated negatively with self-image and sexuality (Bertero, 2002, Marques, 1994; Parker, Baile, Moor, & Cohen, 2003; Pérez San Gregório & Martín Rodrígues, 2002; Rebelo, Rolim, Carqueja, & Ferreira, 2005).

**Sample:**
N=104; Range=29-82 (M=55.22, SD=13.07)

**Instruments:**
Fayers *et al.*, 1999
Quality of Life Questionnaire (EORTC-C30)
Supplementary Questionnaire Breast Cancer Module – (QLQ-B

Do body image and Sexuality interact to influence the quality of life in patients with breast cancer?
Remondes-Costa¹,⁴, S., Rocha¹,²,³, M., Pais-Ribeiro, J.L.², Jiménez⁴, F.
**Results**

**MANOVA**

**MULTIVARIATE TESTS**

Body Image*Sexuality: $F(15, 85)=.97$, $p=.50$, $\eta^2=.60$

Body Image: $F(15, 85) = .89$, $p=.58$, $\eta^2=.55$

Sexuality: $F(15, 85)=1.88$, $p=.03$, $\eta^2=.93$

**TESTS OF BETWEEN-SUBJECTS EFFECTS**

Global Quality of Life: $F(1, 100)=18.55$, $p=.00$, $\eta^2=.99$

Physical function: $F(1, 100)=7.96$, $p=.01$, $\eta^2=.80$

Fatigue: $F(1, 100)=6.91$, $p=.01$, $\eta^2=.74$

Pain: $F(1, 100)=5.52$, $p=.02$, $\eta^2=.64$

Do body image and Sexuality interact to influence the quality of life in patients with breast cancer?
Sexuality, as assessed by EORTC-BR23 has a significant impact into the Quality of Life of women with breast cancer (as assessed by QLQ);

• Women with breast cancer with high levels of sexuality seem to have a lower overall quality of life than women with breast cancer and low levels of sexuality;
• Women with breast cancer with high levels of sexuality seem to present lower levels of physical quality of life, fatigue and pain than women with breast cancer and low levels of sexuality;

• Therefore, sexuality seems to have a negative impact into quality of life levels, i.e., women feel that they don’t want to have intercourses during their illness period.

Conclusions

Do body image and Sexuality interact to influence the quality of life in patients with breast cancer?