



THE EUROPEAN  
SOCIETY FOR  
CLINICAL  
NUTRITION AND  
METABOLISM

# ESPEN Congress Florence 2008

## **Nutritional consequences of cancer therapy**

*Nutritional support and monitoring during chemo-  
and radiotherapy*

*M. Larsson (Sweden)*



# Nutritional consequences of cancer therapy



## Nutritional support and monitoring during chemo- and radiotherapy

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# Disposition of the lecture

- Causes and consequences of malnutrition
- Screening and monitoring
- Nutritional support
- Nurse-led clinics as a way of organising high quality care that meet patients' needs of knowledge, care and support both concerning practical measures related to the disease and its treatment, and emotional needs.



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# Prevalence of malnutrition

- Malnutrition is seen in 40-85% of patients with cancer during some part of the cancer trajectory
- Patients with head and neck, oesophageal, lung and gastrointestinal cancers are most at risk for nutritional problems



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# Causes to malnutrition

- The aetiology of malnutrition in patients with cancer is multifactorial (Capra, 2001)
- Tumour can depending on tumour site, size, type and stage cause
  - systemic effects such as anorexia and altered metabolism
  - local effects such as obstruction, malabsorption, vomiting, and diarrhoea
- Side-effects of treatment
- Psychological and emotional stress
- Existential crisis caused by the cancer diagnosis



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# Chemotherapy and radiotherapy

- Chemotherapy
  - Systemic therapy – affects the whole body
  - Interfere with cellular metabolism and replication
- Radiotherapy
  - Local therapy – affects within the treatment field
  - Damage the DNA
- Toxic to both normal (especially with a rapid cell turnover) and malignant cells. However, normal healthy cells recover more quickly than malignant.



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# Nutrition related side-effects of chemotherapy

- Nausea
- Vomiting
- Anorexia
- Mucositis, oesophagitis
- Fatigue
- Altered bowel habits – diarrhoea, constipation
- Bone marrow suppression – anaemia, neutropenia, and thrombocytopenia



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# Chemotherapy and nutrition

- Severity of side-effects depends on:
  - Single or combination therapy
  - Dose administration
  - Number of cycles
  - Individual response
  - Other medications
  - Health status



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# Nutrition related side-effects of radiotherapy

- Head and neck
  - – mucositis, xerostomia, dysphagia, pain, taste changes, alteration of smell, anorexia
- Thorax area
  - – dysphagia, heartburn
- Abdominal and pelvic area
  - – nausea, vomiting, anorexia, diarrhoea, gas and bloating, acute colitis and enteritis



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# Radiotherapy and nutrition

- Severity of side-effects depends on:
  - Delivered dose
  - Treatment volume
  - Used technique
  - Combined treatment
  - Individual response
  - Other medications
  - Health status



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# Consequences of malnutrition during cancer treatment

- Weight loss
- Impaired immune function
- Reduced resistance to disease
- Increased morbidity and mortality
- Increased complications and side-effects of cancer treatment
- Reduction of treatment efficacy
- Increased overall cost of care



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# Consequences of malnutrition during cancer treatment

- Weakness and troublesome tiredness
- Experiences of loss of togetherness and sociability
- Deteriorated Health Related Quality of Life
- Experiences of life itself threatened also due to impaired ability to eat
- Constant reminder of the cancer disease



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# Nutritional management

- Early screening
- Individual adjusted interventions
- Continuous evaluation and reassessment
- Careful documentation
- Provide holistic care and ensure continuity of care



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# Nutritional screening

- Identify patients at risk of malnutrition – tumour type, stage of the disease and planned treatment
- Weight loss
- Dietary intake
- Presence of nutrition impact symptoms
- Functional capacity



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# Assess percentage of weight loss

- All weight loss shall be avoided during treatment for cancer
- Limits for significant weight loss (Ottery, 1994, 1995)
  - 1-2% in a week
  - 5% in a month
  - 7% in three months
  - 10% in six months



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# Nutritional screening tools

- Patient-Generated Subjective Global Assessment, PG-SGA (Ottery, 1994)
- Scored PG-SGA (Ottery, 2000)



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# Nutritional support

- Individual tailored nutritional interventions should take into consideration the patient's prognosis, treatment, gut function, ability to eat and personal preferences
- The care provided must focus on the patients multitude of needs

(Ottery 1994; Bauer et al. 2002; Larsson, 2007; Ravasco et al. 2007)

- Aggressive treatment of nutrition related symptoms
- Address psychosocial and emotional needs





# Nutritional support

- Individualized dietary counselling
- Oral supplementations
- Enteral tube feeding
- Parenteral nutrition



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# Nurse-led clinics

- Nurses specialised in cancer related nutrition
- Focus on impact of disease and treatment on the patient's well-being and functioning in daily life
- A way to increase continuity and quality of care

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# Example of a supportive nursing care clinic for patients with head and neck cancer



- Focus of care
  - Symptom control
  - Nutritional care
  - Psychosocial and emotional support
- The principal aim was to improve the patients' nutritional status and life situation

(Larsson et al. 2007)

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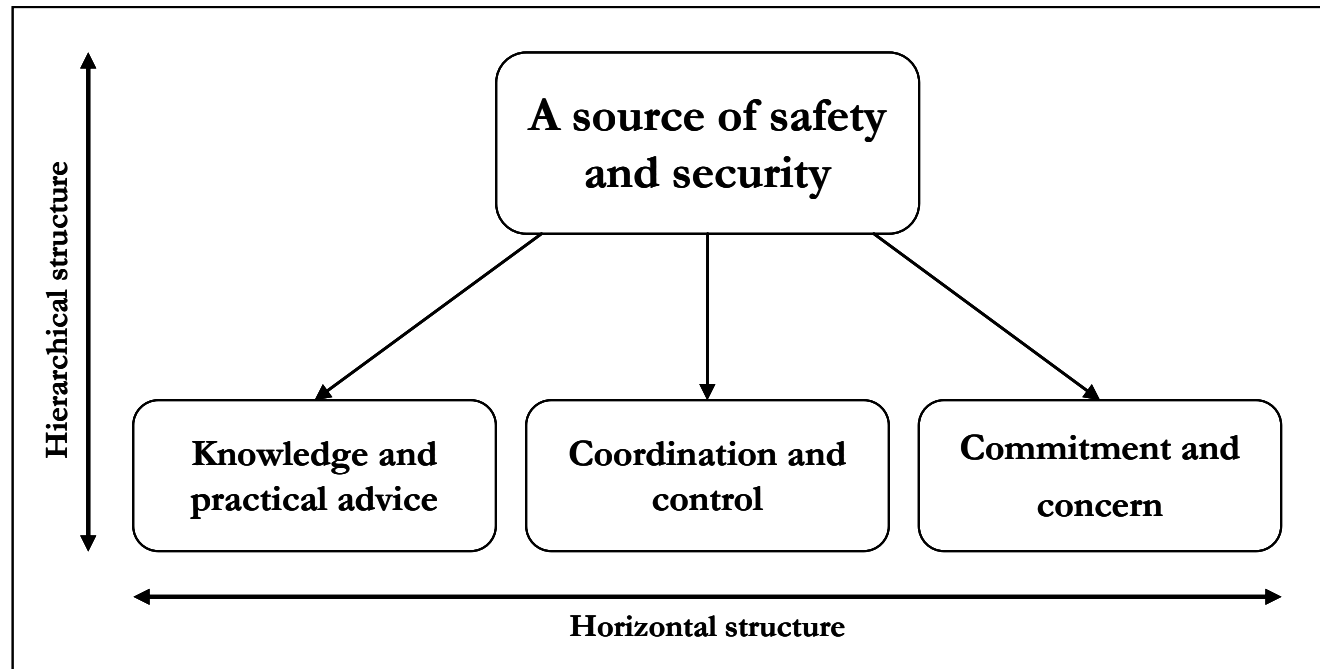
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# Experienced significance of the supportive nurse-led clinic (Larsson et al. 2007)



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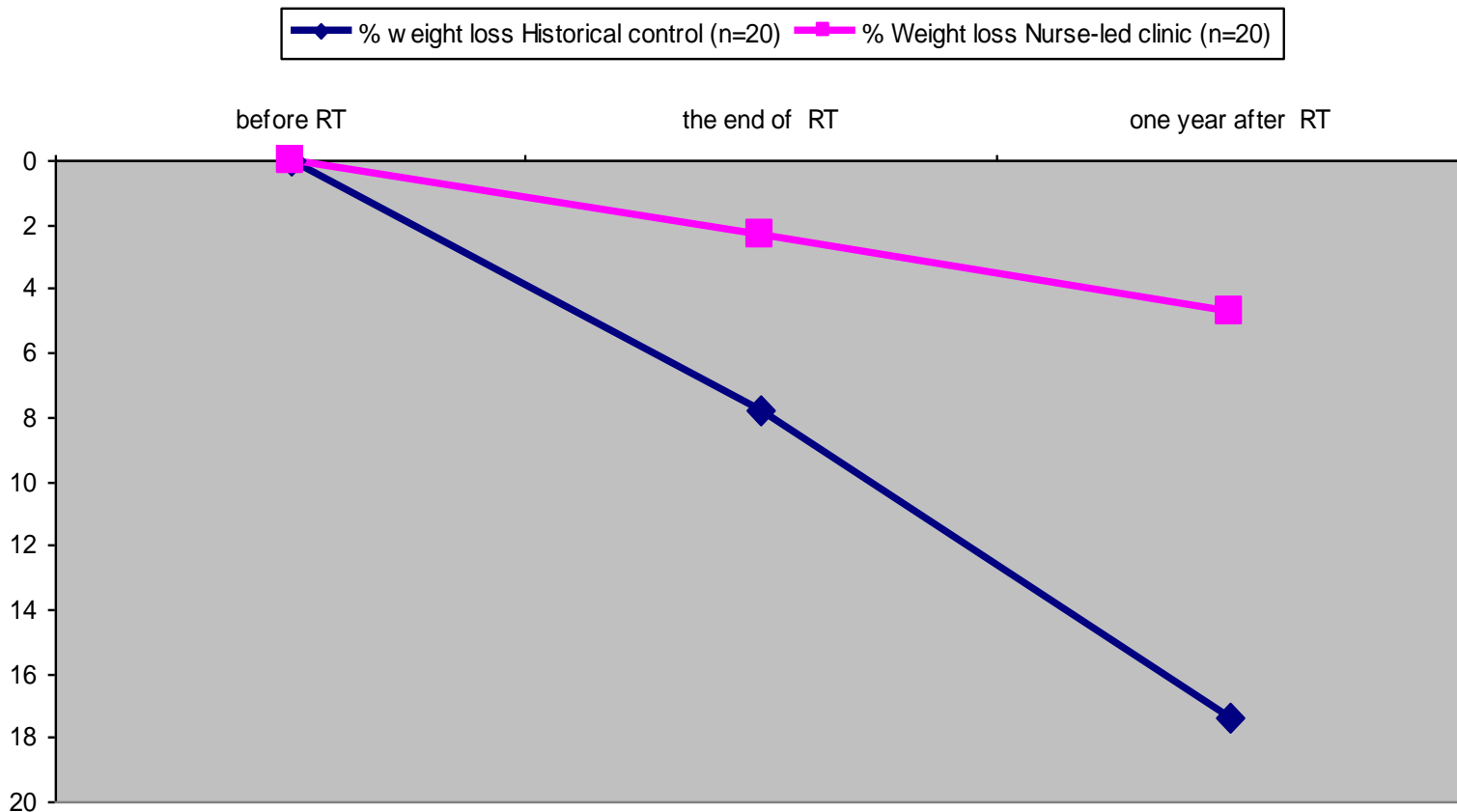
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# Changes in percentage of weight loss



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# Summary and implications

- Malnutrition should be avoided as far as possible in patients treated with radio- or chemotherapy
- Individualized nutritional interventions should be initiated early and incorporated in treatment plans in order to be successful
- In order to achieve this should all patients be screened for eating problems and weight loss before start of treatment and thereafter followed on an regular basis



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# Summary and implications

- A supportive nurse clinic can provide a care that meet the needs of patients with cancer, both concerning practical things related to the disease and its treatment, and to human-oriented needs.



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➤ Thank you for your attention!

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