CAN A LOWER LIMB AMPUTATION BE APPRAISED AS A POSITIVE EXPERIENCE?

Mélanie Couture, M. A., Ph.D.
Chantal D. Caron, inf., Ph.D.
Johanne Desrosiers, erg., Ph.D.

AQIPA-OAAC
1-2 MAI 2009

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Introduction

- Studies have demonstrated that benefits can emerge from major health issues
  - Heart attack, multiple sclerosis, lupus or cancer
- Research on psychological aspects of amputation focuses on negative aspects
  - Depressive symptoms, anxiety
- Can a lower limb amputation be appraised as a positive experience?

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Transactional theory of stress and coping

(Lazarus and Folkman, 1984)

Cognitive appraisal is "the process of categorizing an encounter and its various facets with respect to its significance for well-being" (p.31)

Transactional theory of stress and coping

(Lazarus and Folkman, 1984)

1. **Irrelevant**
   - No impact on well-being
2. **Benign-positive**
   - Maintains or increases well-being
3. **Stressful**
   - Loss
   - Threat
   - Challenge

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Literature review

- **Amputation can be appraised as a positive experience**
  - Dunn (1996) → 77%
  - Gallagher and MacLachlan (2000) → 46%
- **Positive appraisal is related to better adjustment following lower limb amputation:**
  - ↓ Depressive symptoms (Dunn, 1996; Phelps et al., 2008)
  - ↑ Health (Gallagher & MacLachlan, 2000)
  - ↑ Physical capabilities (Gallagher & MacLachlan, 2000)

Literature review

- **Benefits from the amputation :**
  - Meeting new people (Gallagher & MacLachlan, 2000; Oaksford, 2005)
  - Direct financial benefits (Gallagher & MacLachlan, 2000; Oaksford, 2005)
  - ↓ visits to the doctor or hospitalizations (Jones, 1993)
  - ↓ pain (Gallagher & MacLachlan, 2000; Oaksford, 2005)
  - ↑ independence (Gallagher & MacLachlan, 2000)
  - ↑ psychological resources (Gallagher & MacLachlan, 2000)

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Literature review

- **Prior studies:**
  - Samples that comprised individuals with different causes of amputation
    - Vascular disease → older patients, presence of other health problems, vascular disease persists following surgery
  - No information for the first few months after the amputation

Aim of the study

- Explore the cognitive appraisal of dysvascular lower limb amputation :
  - T1 : First two weeks of hospitalisation
  - T2 : 2 to 3 weeks before discharge from rehabilitation
  - T3 : 2 to 3 months post-discharge from rehabilitation

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Participants

- Participants were recruited in a University hospital in Sherbrooke, Québec, Canada, during the first two weeks following their amputation.
- <u>Admission criteria for the study</u>
  - 18 years or older (medical record)
  - Unilateral dysvascular amputation (above- or below-knee) (medical record)
  - No moderate to severe cognitive deficits (MMSE)
  - French or English speaking (clinical judgment)

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Data collection procedures

- **Physical rehabilitation therapist :**
  - Verification of admission criteria
  - Explained the general scope of the study
- **First author :**
  - Explained the purpose of the study in more detail
  - Administered the MMSE (Folstein et Folstein, 1975)
  - Filled out consent form
  - Questionnaires + Qualitative interview

Data collection procedures

Quantitative data (n = 16)

- Sociodemographic and clinical characteristics of the participants
- **General appraisal of the amputation**
  - « Would you say that this event (the amputation) had a positive or a negative effect on your life?
  - Participants assigned to groups for comparison :

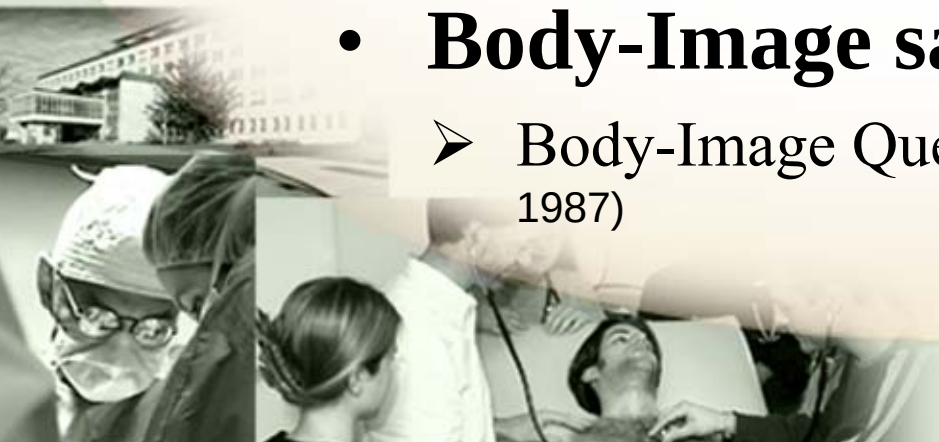
    G1 : Individuals who had a positive appraisal

    G2 : Individuals who had a negative appraisal

Data collection procedures

Quantitative data (n = 16)

- Adjustment
  - **Functional independence**
    - Functional Autonomy Measurement System (SMAF) (Hébert et al., 1998)
  - **Depressive symptoms**
    - Beck Depression Inventory (BDI) (Beck et al., 1978)
  - **Body-Image satisfaction**
    - Body-Image Questionnaire (BIQ) (Bruchon-Schweitzer, 1987)



Data collection procedures

Qualitative data (n = 10)

- **Identification of the perceived benefits of amputation**
  - Individual semi-structured interviews
  - "What are the positive changes in your life resulting from your amputation?"
  - General follow up questions (ex. Can you tell me a little more about it?)
  - Average duration: 1 hour

Data analysis

Quantitative data (n = 16)

- Mean (SD) or frequency (%)
- Comparison
  - Fisher exact test (categorical)
  - Mann-Whitney's U (continuous)

Qualitative data (n = 10)

- Miles and Huberman (1994)
- Coding + matrices

Quantitative results

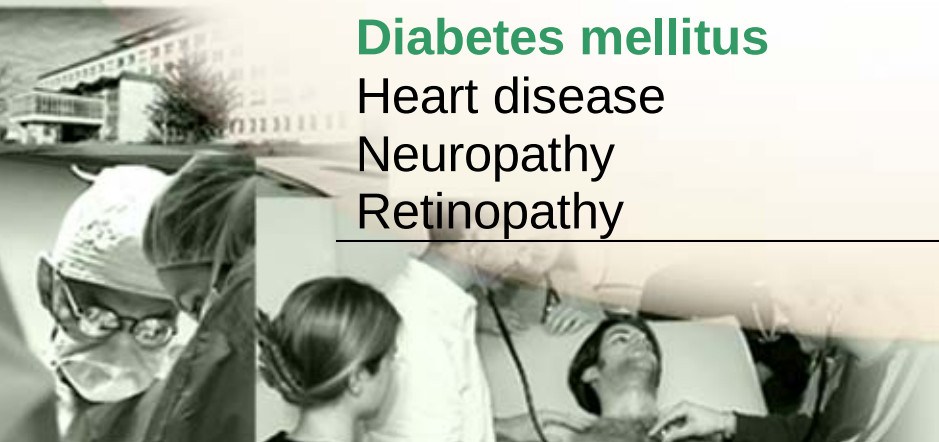
General appraisal of amputation

- Positive experience
  - T1 → 69%
  - T2 → 63%
  - T3 → 69%
- Stability through T1-T2-T3
  - 50% maintained a positive appraisal
  - 20% maintained a negative appraisal
  - 30% fluctuated between positive and negative appraisal

Quantitative results

SOCIODEMOGRAPHIC AND CLINICAL VARIABLES	POSITIVE (n = 11)	NEGATIVE (n = 5)
Age	63.6 (13.9)†	70.0 (13.3)†
Schooling	9.9 (3.9)	10.6 (1.8)
Gender		
• Men	7 (63.6)‡	2 (40.0)‡
Side of amputation		
• Right	8 (72.7)‡	3 (60.0)‡
• Left	3 (27.3)	2 (40.0)
Level of amputation		
• Below knee	10 (90.9)	2 (40.0)
• Above knee	1 (9.1)	3 (60.0)
Diabetes mellitus	**8 (72.7)**	**5 (100)**
Heart disease	8 (72.7)	3 (60.0)
Neuropathy	4 (36.4)	0 (0.0)
Retinopathy	4 (36.4)	1 (20.0)

† : mean (SD)
‡: frequency (%)



UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Quantitative results

Adjustment

- Positive experience
  - Hospitalisation (T1)
    - Higher levels of independence in ADL (p = .05)
    - Greater body image satisfaction (p = .08)
    - Lower levels of depressive symptoms (p = .10)
  - End of rehabilitation (T2)
    - No statistical differences between groups
  - 2 to 3 months post-discharge (T3)
    - Greater body image satisfaction (p = .05)

Qualitative results

- **Lower levels of pain (T1-T2-T3)**
  - Experience of the consequence of leg pain prior to the amputation

"Sometimes I would walk 50 feet and had to stop because I couldn't walk anymore and it [leg] would hurt."

  - Anticipating that the pain would subside

"When they amputated my leg, it didn't bother me… I was even happy about it… because I would feel no more pain."

  - Additional side benefits
    - Improvement in sleep quality
    - Less pain medication

Qualitative results

- **More social contacts (T1-T2-T3)**
  - Increase of social contacts with family and friends

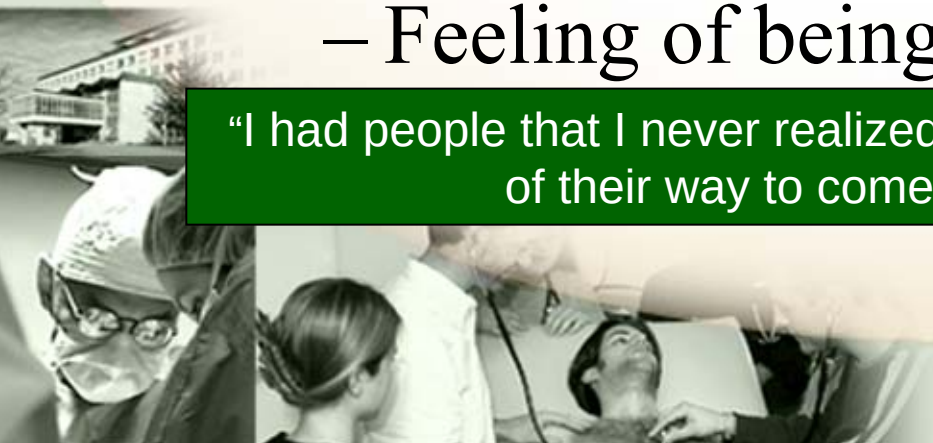
"During the time I was here [rehabilitation unit], all of my children came."

  - More contacts with health care workers

"Since the amputation, I am happy to be here [the hospital] because I have nothing to think about but my health and I have a lot of help to get better."

  - Feeling of being important to others

"I had people that I never realized would even bother with me that went out of their way to come and see me in the hospital."



Qualitative results

- **Fewer health concerns (T1-T2-T3)**
  - Feelings of relief

"Now that it's done, I feel happier, more relieved because I'm no longer afraid the gangrene will spread."

  - Impact of amputation on leg but also on overall health

"The positive side is that it is probably going to give me 10 years longer to live."

  - Had to be convinced that level of amputation is sufficient to promote healing

Qualitative results

- **Fewer demands from family and friends (T1-T2)**
  - Family and friends became less demanding

> "What is positive? Nobody will ask me to do things as much as before."

  - Excuse to avoid obligations

> "I felt obligated to go to my aunt's house for at least three or four days a month. Now I can't go there anymore. (…) For me, that's an improvement."

  - Individuals who were previously prone to helping others

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

Discussion

- General appraisal and benefits stable across time

- Relationships between positive appraisal and better adjustment

Clinical implications

- Investigate the person's perception of the amputation
- Stability across time
  - May need help to see benefits
- Focus on the positive
- Interventions to change appraisal

SPECIAL THANK YOU

- For financial support :
  - Institut de recherche en santé du Canada (IRSC)
  - Fonds de la recherche en santé du Québec (FRSQ)
  - Réseau provincial de recherche en adaptation-réadaptation (REPAR)

UNIVERSITÉ DE SHERBROOKE
Faculté de médecine et des sciences de la santé

UNIVERSITÉ DE SHERBROOKE

Faculté de médecine
et des sciences de la santé