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## Resilience and unmet supportive care needs in patients with cancer during early treatment: A descriptive study

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## A B S T R A C T

## Keywords:

Supportive care needs  
Resilience  
Cancer  
Psychological stress

**Purpose:** The concept of resilience is gaining increasing importance as a key component of supportive care but to date has rarely been addressed in studies with adult cancer patients. The purpose of our study was to describe resilience and its potential predictors and supportive care needs in cancer patients during early treatment and to explore associations between both concepts.

**Methods:** This descriptive study included adult cancer patients under treatment in ambulatory cancer services of a Swiss hospital. Subjects completed the 25-item Connor-Davidson-Resilience Scale and the 34-item Supportive Care Needs Survey. Descriptive, correlational and regression analysis were performed.

**Results:** 68 patients with cancer were included in the study. Compared to general population, resilience scores were significantly lower ( $74.4 \pm 12.6$  vs.  $80.4 \pm 12.8$ ,  $p = .0002$ ). Multiple regression analysis showed predictors (“age”, “metastasis”, “recurrence” and “living alone”) of resilience (adjusted  $R^2 = .19$ ,  $p < .001$ ). Highest unmet needs were observed in the domain of psychological needs. Lower resilience scores were significantly and strongly associated with higher levels of unmet psychological needs ( $Rho = -.68$ ,  $p < .001$ ), supportive care needs ( $Rho = -.49$ ,  $p < .001$ ) and information needs ( $Rho = -.42$ ,  $p = .001$ ).

**Conclusion:** Ambulatory patients with higher levels of resilience express fewer unmet needs. Further work is needed to elucidate the mechanism of the observed relationships and if interventions facilitating resilience have a positive effect on unmet needs.

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## Introduction

Patient self-management is recognized as a crucial aspect for addressing unmet supportive care needs of patients with cancer (Carlson et al., 2012) and improving health outcomes (McCorkle et al., 2011). Despite the strong evidence on unmet supportive care needs of patients with cancer, effective interventions are lacking, including interventions to develop and enhance self-

management (Carey et al., 2012). Patients experiencing similar stressors (such as a cancer diagnosis and treatment) demonstrate wide variability in resilience against such adversity (Carver, 2005). Protective factors and processes affect one's capacity for resilience. These factors could explain some of the disparate outcomes (Szanton and Gill, 2010) and explain differences in supportive care needs. Although self-management and self-efficacy are important elements in the process of resilience, other protective factors of resilience have been identified, including personal factors (e.g. hope, optimism, active coping), environmental systemic factors (e.g. social support systems including peers, family, supportive significant others, feelings of connectedness with one's environment) and biologic factors (e.g. developmental changes of brain structure, function and neurobiologic systems) (Szanton and Gill, 2010). But resilience may not be adequately explained by a

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simple balance of protective against risk factors. Such a protection is contextual and may derive from factors that are neutral or even risky in the absence of adversity (Rutter, 2006). Accordingly, such factors merit assessment and represent potential targets for nursing-sensitive interventions to enhance patient outcomes (Haase, 2009; Szanton and Gill, 2010).

In nursing science, resilience is defined as resistance, recovery, or rebound of mental and physical health after a challenge (Szanton and Gill, 2010). For adult cancer nursing, resilience is a dynamic process of facing adversity related to a cancer experience. It may be facilitated through nursing interventions after people affected by cancer have been confronted with the significant adversity posed by diagnosis, treatment (long-term) symptoms, and distress (Eicher et al., 2015). As both a process and an outcome, resilience is congruent with the goal of extending cancer treatment beyond mere survival to include enhanced quality of life.

A comprehensive patient assessment of their needs aims to identify specific issues related to individual needs while taking into account the subjective cancer experience (Wen and Gustafson, 2004). An unmet supportive care need is defined as a necessary or desired action/resource required to achieve optimal well-being (Carey et al., 2012). Notably, a systematic literature review on unmet needs of newly diagnosed older cancer patients undergoing active cancer treatment revealed that the level of unmet needs after the start of treatment is high with the most common needs being psychological and information needs (Puts et al., 2012). Several longitudinal studies have demonstrated that unmet supportive care needs decrease over time yet may persist over months or years, and that individual patient needs change during treatment and later phases of survivorship (Armes et al., 2009; Liao et al., 2012; McDowell et al., 2010; Minstrell et al., 2008).

Little is known about resilience of cancer patients during early treatment and its potential association with supportive care needs. Despite its potential to positively impact patient outcomes, developing programs to support individual resilience requires further insight into resilience among a particular target population (Bonanno et al., 2011). To our knowledge, the only study investigating resilience and supportive care needs in adult cancer patients during early treatment published so far was an observational study of 239 patients during radiotherapy (RT). Higher resilience scores at the beginning of RT were associated with less need for psychosocial support (Brix et al., 2008). Therefore, the aim of the present study was to describe resilience and supportive care needs in cancer patients during early treatment and to explore potential associations and possible moderators between resilience and supportive care needs.

## Methods

### *Study design, sample and setting*

This descriptive study was conducted in an outpatient oncology clinic at a cantonal hospital in Switzerland. Following ethics approval (Commissions Cantonales Fribourgeoise et Vaudoise: 194/11) patients with newly diagnosed cancer were invited to participate in the study (October 2011–February 2012). All patients were French or German speaking adults (18+ years) within 4–15 weeks of receiving an initial diagnosis (or recurrence) of a solid cancer. Those patients considered mentally and physically able to participate in the study by their oncologist were included.

Patients qualifying for the study received a detailed explanation of the study aims and procedures by their oncologist and provided written informed consent. Subsequently, they were contacted by a study investigator (CD, JDM) to respond to questions or concerns and complete the study questionnaires. Per the ethics committee

requirement, all participants were given the option to have their unmet needs communicated directly to their oncologist and nurses. Based on the work of Cohen (1987) we estimated 61 participants would be needed to determine correlation between resilience and unmet supportive care needs (power = 0.80, alpha = 0.05, effect (r) = 0.35).

## Instruments and variables

Socio-demographic variables (i.e. age, gender, educational background and living arrangements) were gathered and information on the site of primary tumor, the presence of metastasis, the history of recurrence, the goals of treatment and the treatment modality were collected from medical charts by two investigators (CD, JDM). Resilience was assessed using the 25-item Connor-Davidson Resilience Scale (CD-RISC 25). Items are rated on a five-point Likert-type scale ranging from 0 (not at all true) to 4 (true nearly all of the time). Scores range from 0 to 100, with higher scores reflecting greater resilience. The psychometric properties were tested in a general population and patient samples showed adequate internal consistency, test-retest reliability, and convergent and divergent validity. The CD-RISC has been validated in French and German. The mean resilience score of the general population in a national random digit dial sample was  $80.4 \pm 12.8$  (Connor and Davidson, 2003). To gather information about perceived unmet supportive care needs the 34-item version of the Supportive Care Needs Survey (SCNS-SF34) was used. The SCNS 34 contains five domains: (1) psychological needs, (2) physical and daily living needs, (3) patient care and support needs (needs related to health care providers showing sensitivity to physical and emotional needs, privacy and choices), (4) health system/information needs (needs related to the treatment center and obtaining information), and (5) sexual needs. Responses are recorded using a five-point scale. For each item, participants indicate either “no need” (1 = “not applicable”, 2 = “satisfied”) or some need (3 = “low need”, 4 = “moderate need” and 5 = “high need”). Items rated 3, 4, or 5 were considered to be an unmet supportive care need (Bonevski et al., 2000). The SCNS-SF 34 has been found to have good psychometric properties with a high construct validity and high internal consistency (domain Cronbach's  $\alpha = 0.86–0.96$ ) (Boyes et al., 2009) and has been previously culturally adapted and validated in French and German (Bredart et al., 2012; Lehmann et al., 2012). A random sampling (20%) of the questionnaires were double entered and checked to ensure data quality with a resulting data entry error rate of <1%.

## Statistical analyses

Socio-demographic, medical, SCNS 34 and CD-RISC 25 data were analyzed using descriptive statistics. The resilience scores of this study were compared to the scores of a general population (Connor and Davidson, 2003). Missing values in the CD-RISC ( $n = 6$ ) and SCNS 34 ( $n = 63$ ; mainly in the sexuality domain) were treated as random missing datapoints and replaced by the rounded average of the other items of the questionnaire or domain. Mean scores were calculated per item over all patients for the SCNS 34 and for the summed score of the 25 items of the CD-RISC. We also examined the association between resilience/supportive care needs and age, gender, educational level, living arrangements, site of primary tumor, presence of metastasis, presence of recurrence, treatment goal and treatment modality using Student's t-test. Logistic regression model was used to determine the predictive power of selected variables (gender, age, living conditions, education, performance status, tumor type, tumor stage, treatment modalities, recurrence, and metastatic disease) on resilience. To determine the relative

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