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# Spiritual Care by Nurses in Curative Oncology: A National, Multicenter, Mixed Methods Study

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**Introduction:** Spiritual care by nurses is often linked to palliative and terminal care. It is hardly known whether SC is also considered vital among nurses who care for patients who are treated with curative intent. Therefore, we have explored the level of and the experiences with spiritual care by nurses in curative cancer care.

**Methods:** In this mixed-method study, nurses were recruited in eight hospitals in the Netherlands. A spirituality scale, a spiritual care competence scale and five questions on spiritual care were completed by 57 participants. Afterwards, the scores were quantitatively analyzed. Because of data saturation, qualitative analysis was limited to 31 semi-structured interviews, using content analysis.

**Results:** The great majority of nurses indicated on the questionnaire that they frequently provide spiritual care. However, in interviews, the nurses described few examples of spiritual care. Nurses also indicated that they had not learned so much in providing spiritual care in their educational program; rather, they had learned it in clinical practice.

**Conclusions:** As the questionnaire could be liable to socially desirable responding, we based our conclusions on the qualitative data, and concluded that spiritual care was rather modest among the nurses providing curative care in this study.



## INTRODUCTION

The diagnosis and treatment of cancer may not only cause physical complaints, discomfort in daily functioning, and emotional responses but may also raise questions such as: 'Why me?', 'do I have to change my life goals?', 'what do my personal relations mean to me?', and 'is God trying to tell me something through this disease?'. Nurses could help patients by listening and responding to these spiritual questions [1]. There is an increasing call among patients and medical professionals to supplement the biomedical focus in health care with attention to the psychological, social, and

spiritual dimensions of patients. This stems from the understanding that patients who experienced more spiritual care (SC) from hospital employees report higher satisfaction with the care they received from the hospitals [2, 3]. Guidelines have been developed to support health care professionals in taking care of their patients' spiritual needs [4, 5], in which nurses are given a central role [1]; International Council of Nurses (2012). In daily practice and research, SC by nurses is often linked to palliative and terminal care. It is hardly known whether SC is also considered vital among nurses who care for patients who are treated with curative intent. Although the state of spiritual care in nursing has been described in eight reviews [6-12], none of these reviews focused on curative care. This study aims to address this knowledge gap. In a concurrent study, we have investigated patients' experiences with SC by nurses [13]. Nurses themselves consider it significant to provide SC to their patients [14-16]. However, a recent quantitative study showed that nurses provide SC infrequently [17]. The practice of SC seems to lag behind the importance attached to it [16, 18, 19], which is attributed to lack of time, difficulties in perceiving spiritual needs, feeling inadequately trained in SC [14, 16, 19-21], and to a non-stimulating style of the department [19, 22, 23]. A difficulty facing nurses in spiritual evaluation is the lack of a generally accepted definition. Few formal definitions are provided in the existing literature, but operationalization of this construct shows that it is often conflated with psychosocial care [24, 25] by including interactions like 'laughing with the patient', and 'touching' [13]. The British National Council for Palliative Care (NCPC) defined psychosocial care as being concerned with the psychological and emotional well-being of the patient and their family/caregivers, including issues of self-esteem, insight into an adaptation to the illness and its consequences, communication, social functioning, and relationships [26]. Although psychosocial and spiritual care are likely intertwined in care practice, it is essential to make a distinction between them in research and training because that will facilitate an understanding of what it is about the patient that is being addressed. In the current study, we use the following guideline: The focus of psychosocial care is more on the immediate needs for coping with obvious problems such as pain, fatigue, depression, and relational problems, whereas the focus of spiritual care is more on meaning in life, feeling connectedness, hope, acceptance, and respect for life. The difference between psychosocial and spiritual care is the attention in SC paid to patients' expressions related to their life course, attitudes, and values. Therefore, we have used the following definition: "SC concerns the attitude, attention and care (of a professional caregiver) that result in the patient's feeling of 'being seen', in which there is attention for life issues and in which (re)finding balance, resilience and inspiration are considered to be important' [13]. Psychosocial care activities may lead to a discussion of spiritual topics, but they are not in themselves SC activities.

The present study contributes to the evaluation of this field by applying different methods (mixed-methods analysis), distinguishing as clearly as possible 'general' psychosocial care from SC and its focus on an understudied area; that is SC in curative care.

## METHODS

This study has a mixed-method design, using concurrent triangulation data analysis [27], which was chosen for the following reasons: 1) Some research questions could only be answered by qualitative analysis of interviews 2) Qualitative data may serve as an addition to quantitative data by presenting a richer and more concrete picture 3) Quantitative data are more easily collected in a large sample and can be interpreted more objectively. So, both sources are needed. The current study adopted the Good Reporting of a Mixed Methods Study (GRAMMS) framework by O'Cathain et al., [28]. The qualitative component consisted of semi-structured interviews analyzed through content analysis. We used descriptive statistics and determined relationship between measures in the quantitative part (see 'data analyses for more information). An extensive description of the methods can be found in another article published by Groot et al., [13].

### Participants and Setting

By purposive sampling, we aimed to promote the generalizability of the results [29]. The sample was stratified according to the size of the hospital (academic, and small or big regional hospitals), and the region (northern, mid, or southern parts

of the Netherlands) representing a certain cultural and religious orientation, e.g., southern parts of the Netherlands are more Catholic than other parts [30]. We aimed at recruiting each of the three types of hospitals for each of the three regions. Cooperation of one of the intended nine hospitals was not obtained, even after many attempts. So, the number of participating hospitals was eight. Within the hospitals, a head nurse was asked to select nurses available for an interview. This recruiter was explicitly instructed not to select on the basis of a nurse's special interest in spirituality or spiritual care. The inclusion criteria were: age > 18 years, having employment of ≥ 60%, having knowledge of and experience with chemotherapy treatment on a nursing ward as well as in an outpatient department, and being able to adequately speak and understand the Dutch language.

**Data Collection**

Three trained researchers (MG, AE, and HK) conducted individual face-to-face interviews with nurses. The two junior researchers (AE and HK) had received interview training and special training for this specific interview by the senior researcher (MG), who is specialized in qualitative research. An interview guide had previously been developed and tested with two nurses. Interviews were structured as follows: First, the nurses were asked to provide general information about the types of patients they looked after, at which departments they worked (daycare or clinic), and what the care trajectory of their patients was. Then, we explored the nurses' perceptions on how patients attached meaning to their disease, which sources of strength patients and nurses may have, and how nurses dealt with feelings and questions of patients. Finally, we presented our definition of spirituality and spiritual care (SC). Afterwards, we asked the interviewees whether they provided this form of care, how they did so, whether it was covered during their education or training, and which impeding or stimulating factors they experienced in providing spiritual care. Interviews were audio-recorded and held at the nurse's department. They lasted about 75 minutes. Five additional statements were presented at the end of the interview to cover the following topics: 1) attention to SC in the department, 2) importance of SC in cancer care, 3) provision of SC by the nurse, 4) discussing nurse's spirituality with colleagues, and 5) discussing patients' spirituality with the nurse's team (Supplementary File 1).

After the interview, all nurses were asked for demographics and to complete two questionnaires to assess their level of spirituality and competence in delivering SC. Their attitudes and interests toward spirituality were measured with the Spiritual Attitude and Involvement List (SAIL) [31], and their competence in delivering SC was measured with the Spiritual Care Competence Scale (SCCS) [32]. More information regarding these scales can be found in our study protocol [13].

**Data Analysis**

Qualitative data. Before starting the coding process, the researchers (MG, AE, and HK) read several transcripts to become familiar with the material. Thereafter, content analysis was performed in several steps: During the first deductive phase, four interviews were analyzed to arrive at a coding scheme. This scheme was then used to inductively analyze the remaining transcripts. The coding scheme was formed by deriving main themes from the research questions and using these to select text segments in four interview transcripts. Then, 'baby codes' were applied to these selected text segments, and the smallest codes were clustered into sub-codes. The coding scheme was adapted when new codes or descriptions emerged during the analysis of new interviews. A different researcher (BG) independently coded the interviews, using the previously developed coding book. Although the first step was deductive, the coding process was largely inductive and followed the conventional content analysis [33].

Interviews to be coded were chosen such that all eight hospitals were equally represented. In addition, gender, years of working experience as a nurse in oncology departments, and church membership were considered important to be largely equally represented in the choice of interviews. Due to data saturation, 31 out of 57 interviews were encoded. Data saturation was reached several interviews before this final number was attained. Quantitative analysis was based on all 57 participants. They were concerned with descriptive data to characterize the demographic and medical characteristics of the study group, their level of spirituality, and their involvement in SC. Also analyzed were the relationships between

demographic data and nurses' involvement in SC, and the relationships between their competence to deliver SC and nurses' involvement in SC. In determining these relationships, it seemed not appropriate or even inadequate to control for possible confounders such as age, gender, and level of education. For example, it is conceivable that younger nurses show more competence and feel more involved in SC. Controlling for age could yield a low correlation, and thus not provide a correct answer to the question of whether competence and involvement are related. Similar reasoning applies to the question if age of nurses – whether men or women – is associated with the involvement in SC. Controlling for gender would not give the right answer. The statistical analyses have been performed with SPSS-19, using nonparametric statistics to test the zero-order relationships. Missing values of a subscale were imputed if more than 75% of the responses were not missing (Supplementary File 2). Because the numbers in some cells were rather small, adjacent categories were combined (Supplementary File 2). In all tests, the critical P value was considered 0.05 (two-sided). A power analysis was only calculated afterwards, using the above-mentioned P value, a medium effect size of d=0.50 and N=57.

### Validity and Reliability/Rigor

In the qualitative part of the study, credibility was enhanced by postponing concrete questions about spirituality and SC till the end of the interview to avoid the possibility of a "quasi-understanding" and to stimulate the interviewee to use her/his own words in the early part of the interview. The interviewer also kept asking explanations about what was meant and to give concrete examples. In addition, triangulation by interviews and questionnaires contributes to the credibility of the conclusions. During data analysis, confirmability was obtained by plenary sessions with team members to discuss ambiguous text-fragments. Transferability was enhanced by using a sample that was stratified to include hospitals that are expected to differ in the level and character of the SC provided by their nurses. For the quantitative part, we used scales with established reliability and validity. See the protocol article for references [13]. In the present study, the Cronbach's alpha coefficient for all subscales of the SAIL and the SCCS appeared to be ≥70, except for the trust and meaningfulness subscales of the SAIL (α's=0. 66). These two subscales were not used in the analyses.

### Ethics

The study protocol was reviewed by the Ethical Review Committee of the University Medical Center Utrecht, which decided that it did not fall within the remit of the Dutch Act on Human Research. Before starting the interview, written informed consent was obtained. Data were stored in a locked and anonymous database.

## RESULTS

### Description of Group

Participants' mean age was 43 years, and they had on average fourteen years of working experience with cancer patients (Table 1). Most nurses worked in the day-care department, and some also at a clinical department. The great majority of the nurses were female (81%) and were highly educated (more than a secondary school; 80%). Most lived in a stable relationship (91%).

**Table 1:** Demographic and Medical Characteristics

| | Value |
|---|---|
| **Age, y, mean±SD** | 43±11 |
| **Age, range, y** | 23-61 |
| **Gender, %** | |
| **Male** | 19 |
| **Female** | 81 |
| **Post-Graduate Education, %** | 80 |
| **Respondents With Stable Relation, %** | 91 |
| **Denomination, %** | |
| **Catholic** | 21 |
| **Protestant** | 14 |
| **Humanistic** | 2 |
| **None** | 63 |
| **Region, %** | |
| **North** | 23 |
| **Middle** | 44 |
| **South** | 33 |
| **Type of Hospital, %** | |
| **Academic** | 28 |
| **Regional, Big** | 56 |
| **Regional, Small** | 16 |
| **Experience in Working With Cancer Patients, y, mean±SD** | 14±9 |
| **Experience in Working With Cancer Patients, range, y** | <1-42 |

**Qualitative Analysis**

An overview of themes, main codes and subcodes used in the qualitative analysis can be found in Supplementary File 3. Three themes have been combined under the heading factors influencing SC, namely: Stimulating and limiting factors, Work environment and Education.

**Psychosocial care**

Nurses indicated that they often provided psychosocial support to patients, despite their heavy workload. They did so by listening, offering support and comfort, creating trust and security, noticing problems, responding to emotions, offering explanations and information about medical aspects and advice on how to deal with emotions, and asking about sources of personal strengths. They also referred to a social worker or a chaplain/humanistic advisor, less often to a psychologist, and sometimes to institutions for psychological support and peer support, or homecare. Nurses also followed patients during their-often long - treatment period, thus building a supportive relationship:

"*The first thing I do is try to gain their trust by being open and telling them something about myself. And also, by asking what their hobbies or passions are, and they like that, especially when they come for the first time; trying to make them feel at ease. Yes, so you try to build up a relationship*" [No. 7]

Nurses' attitudes towards their patients were supporting, respectful, open, and optimistic. They used a personal approach and humor if that was in line with their personality:

"*They like it when we make jokes or have fun together. Yes, they appreciate that very much. Very often people think: there is laughter at the oncology department, is that allowed? But yes. That is just important that there is also still humor*" [No. 32].

Most nurses seemed to value their psychosocial care as even more important than their technical tasks:

"*Attention, yes ... I find that the most significant thing in oncological care, irrespective of what kind of chemotherapy they all get. Everyone can attach a drip, but the attention for the patient is so important*" [No. 37].

The empathic attitude of these nurses corresponds with their choice to work in an oncological department, which implies both medical-technical activities and personal contact with patients. Another basis for their empathic abilities is their own life experiences and the long period of working with cancer patients, which is – in their own words - conducive to the wisdom of life and experience in dealing with the problems of patients.

**Definition of spiritual care**

Based on their spontaneous remarks, it appeared that nurses rarely fully confirmed our definition. Sometimes they associated SC with an interest in patients' religious beliefs, and in a few cases, it was considered as identical to psychosocial care or good nursing care. Often mentioned was the association with an alternative or complementary medicine, often brought up because nurses indicated that patients attach value to it. Nurses had an open mind toward, for example, using herbs and healing stones by patients. Some nurses also considered SC as rather vague.

"*Often, people who also visit alternative healers ask me at some time: 'Can I have a sample of that medicine [= chemotherapy]?' Or they place, for instance, the bag with chemotherapy on their belly to make contact with. ... So, that is apparently something spiritual to which people hang on ... I do not understand which idea is behind it. But it is fine when people gain strength from it or feel safe with it*" [No. 9].

**Spiritual care in practice**

Nurses most often provided SC in response to what a patient did or said. These responses included paying attention to a patient's resources and meanings in life, assessing possible problems in this area, giving tips or information, and referral:

"*If someone is not religious at all, then I am looking for, just what then is one's spirituality… what they then see as their strength or personal resources*" [No. 42]

Nurses also often responded to religious topics brought forward by patients. Sometimes they played a more active role by asking a question about patients' religious backgrounds during the intake but did not further examine this area. Mentioning praying with a patient was virtually absent in the interviews. Nurses had an open attitude with respect to Christian, Islamic, or Buddhist

beliefs of patients and interests in alternative or complementary medicine. If a nurse noticed a spiritual need, a patient was often referred to a chaplain or humanistic counselor. This occurred especially with explicitly religious questions. The following quote illustrates when a nurse makes a referral:

"*Well, if it really is questions about 'What is my perspective in life?', which can be filled in by a religious faith, then I miss the expertise. ... I can very well go along with someone in a conversation – sometimes that is enough – but if I feel to fail, then I often choose to suggest*" [No. 10]

However, some nurses limited talking about this subject with patients or admitted to fully refraining from such discussions. Some nurses mentioned that spiritual topics were discussed at department meetings. None of the nurses applied a structured approach in delivering SC, except for asking "Are you a religious person?" as one of the questions of a questionnaire or intake form, which a few nurses used. Nurses differed in their involvement in SC. Below is an example of a nurse who seemed involved in SC. He is modest about his SC but provides it to his patients and he has given thought to its meaning:

Question: "View of life, spirituality, is that something that you … "

Answer: "Um, we are a Catholic hospital, anyhow, but I find it very difficult to give it always a concrete form… Someone else will always believe on their own and gain strength from that. I can stimulate it, I think…, but I will always be modest with my own convictions and the likes".

Question: "And how do you stimulate it?"

Answer: "Also again by speaking about it. 'What moves someone? What do you think of at this moment? What do you believe in? Then, you notice that people give very remarkable answers, or can indeed take firm hold of something and experience support from it" [No. 9].

The opposite is also a man, who is not very interested in spirituality or SC and associated it mainly with complementary medicine. He seems uncomfortable with a conversation about a difficult and very personal situation:

Question: "What does the word spirituality or spiritual care call up for you?"

Answer: "Rest, relaxation that is what it means to me. Very personal".

Question: "Does this notion mean something for yourself?"

Answer: "No. It means nothing to me. I do understand that people feel supported by it. I will not ridicule it" …

Question: "Well, how do you deal with that? When someone is sitting next to you and that drip lasts a quarter of an hour, and someone sits there 'Why me, tell me'"

Answer: "Yes, I cannot tell them. No, I wish I knew" [No. 36]

## Factors influencing provision of spiritual care

### *Education and training*

Some nurses remembered having received lessons in SC during their education. Other nurses said that there was no or little attention during their education for this type of care, at least that nothing had really stuck. Even if nurses said that the attention for SC had been rather modest, they did not express the wish that it had been more extensive. Some nurses expressed a rather skeptical impression of the attention for SC during their education and said to have learned how to deliver SC in practice:

"*But during our education, well then it was discussed. Then, they mention it now and then and in between something about a holistic view*" [No. 21].

"*I think everyone picks that up by himself, because it is something important in your work. ... So, I do not know whether it needs more attention*" [No 10].

Though spirituality was discussed incidentally during staff meetings, it very rarely received special attention in the form of in-service training or special meetings.

*Work environment*

The most hindering factor for providing adequate psychosocial and spiritual care is - according to nearly all nurses - lack of time. They perceived their department as having been changed into a production unit.

"*That does not make you happy, that you barely dare to address a patient. Or that you know that someone is long-winded, and think that you should not go there*" [No 21].

A nurse also remarked that some patients will refrain from seeking contact because they assume nurses are too busy. However, work pressure did

not completely limit all personal contacts. More time for such contacts was created by using the time spent on chats during breaks.

"*You rather quickly tend, when it is quiet, that you have cozy chats with your colleagues. Write your administration ... whereas it is perhaps also very good to sit down with a patient*" [No. 57].

Nurses also assumed that personal in-depth contacts sometimes did not occur because patients already had such conversations with their family, friends, or their own pastor. Whether or not personal conversations occurred also depended on the connection between nurses and patients.

### Spirituality and other personal resources of nurses

Nurses said to find strength and support in both their own life and in their work situation from their need for care, the usefulness of their job, feeling inspired or supported by their patients and/or colleagues, feeling connected to their social network, the ability to let go or to put things in perspective, hobbies, their common sense, and – sometimes - their faith or beliefs. In line with the quantitative data, the qualitative analysis showed that nurses very rarely considered religion as a source of personal support.

## Quantitative Analysis

### Spiritual care in practice

The great majority of the nurses said to frequently or very often provide SC to their patients (78%), to discuss their own spirituality with their colleagues (80%), to consider SC for cancer patients from important to very important (95%), and to consider SC at their department sufficient to very good (89%). They did not discuss their patients' spirituality often with their colleagues (59%). These results indicate that most nurses had a positive attitude towards SC and a high level of SC activities.

### Spirituality and other personal resources of nurses

Nurses had a rather high level of spirituality according to the scores on the first three scales of our spirituality questionnaire (a mean score of 4.3-4.8 on a 6-point scale) (Table 2). However, they did not often report transcendent experiences and spiritual activities. About 2/3 of the nurses said they were not a member of any religious denomination. The attitude toward SC and level of SC activities were unrelated to the nurses' level of spirituality, as measured with the SAIL: Of the 25 relationships tested (5 SAIL subscales×5 SC statements), only two were significant, which is probably a chance finding.

### Relationships of demographic data and nurses' spirituality with nurses' opinions about spiritual nursing care

The attitude towards SC and self-reported SC activities appeared to be unrelated to demographic characteristics of the nurses, except for providing SC (Table 3). Remarkably, those who were younger and reported not to be a member of any religious denomination more often said to provide SC. Self-reported SC activities were also provided more often in academic hospitals. Also, those who were not church members more often discussed their own spirituality with team members.

### Relationships between nurses' spiritual care competence and opinions about spiritual nursing care

Higher competence in delivering SC was often related to more self-reported SC activities and a positive attitude towards SC, with the exception of discussing one's own spirituality with colleagues (Supplementary File 4).

## DISCUSSION

Spiritual care (SC) seems common practice in palliative care [34]. Though one may guess that SC is less frequently delivered in curative care, it was actually unknown. So, one aim of the present study was to check this assumption. Psychosocial care formed the framework within which SC was delivered. Despite their heavy workload, all nurses described many examples of psychosocial care offered to their patients in addition to their main task to provide medical-technical care. Several nurses said that they valued their ability to offer psychosocial care to their patients higher than their technical skills. However, psychosocial guidance is not necessarily SC. Elements of SC most often mentioned in the interviews included openness, referral to a chaplain, and discussing personal resources and strengths. Openness most

**Table 2:** Spiritual Characteristics of the Participants

| | Scale Scores and Percentages | Theoretical Range | Cronbach's Alpha |
|---|---|---|---|
| **I Provide Spiritual Care to My Patients, mean±SD** | 4.0±0.9 | 1-5 | — |
| **Never, %** | 2 | — | — |
| **Rarely, %** | 2 | — | — |
| **Sometimes, %** | 18 | — | — |
| **Frequently, %** | 49 | — | — |
| **Very Often, %** | 29 | — | — |
| **I Discuss My Own Spirituality With My Colleagues, mean±SD** | 1.8±0.4 | 1-2 | — |
| **No, %** | 20 | — | — |
| **Yes, %** | 80 | — | — |
| **I Discuss My Patients' Spirituality in Team Discussions, mean±SD** | 3.3±0.7 | 1-5 | — |
| **Never, %** | 4 | — | — |
| **Rarely, %** | 4 | — | — |
| **Sometimes, %** | 52 | — | — |
| **Frequently, %** | 39 | — | — |
| **Very Often, %** | 2 | — | — |
| **Spiritual Care in the Care for Cancer Patients Is in My Opinion …, mean±SD** | 4.5±0.6 | 1-5 | — |
| **Not at All Important, %** | 0 | — | — |
| **A Little Bit Important, %** | 5 | — | — |
| **Important, %** | 43 | — | — |
| **Very Important, %** | 52 | — | — |
| **In My Opinion the Attention for Spiritual Care at My Department for People With Cancer Is …, mean±SD** | 2.2±0.6 | 1-3 | — |
| **Very Insufficient, %** | 11 | — | — |
| **Sufficient, %** | 59 | — | — |
| **Very Good, %** | 30 | — | — |
| **SAIL[a, b], mean±SD** | | — | — |
| **Acceptance** | 4.5±0.6 | 1-6 | 0.74 |
| **Care for Others** | 4.8±0.4 | 1-6 | 0.78 |
| **Connectedness With Nature** | 4.3±0.8 | 1-6 | 0.74 |
| **Transcendent Experiences** | 2.5±0.7 | 1-6 | 0.74 |
| **Spiritual Activities** | 2.7±1.0 | 1-6 | 0.85 |
| **SCCS[a, c], mean±SD** | | | |
| **Assessment and Implementation of Spiritual Care** | 3.9±0.4 | 1-5 | 0.84 |
| **Professionalization and Quality Improvement of Spiritual Care** | 3.2±0.7 | 1-5 | 0.89 |
| **Personal Support and Counseling** | 3.9±0.4 | 1-5 | 0.72 |
| **Referral** | 4.1±0.4 | 1-5 | 0.70 |
| **Attitude Toward Patient Spirituality** | 4.5±0.4 | 1-5 | 0.80 |
| **Communication** | 4.6±0.5 | 1-5 | 0.90 |

[a] Abbreviations: SAIL, spiritual attitude and involvement list; SCCS, spiritual care competence scale

[b] Higher scores mean higher level of spirituality

[c] Higher scores mean more self-assessed spiritual care competencies

often concerned openness towards complementary or alternative medicine, sometimes openness toward religion, but rarely openness to discuss life questions. If the nurses described conversations with patients about their personal resources, they most often mentioned that patients experienced strength from their family. Rarely, patient's faith was mentioned as a personal resource, and if non-religious spirituality was involved, it often appeared to be a belief in alternative medicine. A systematic approach to SC was never mentioned, and activities in this field were most often a response to what

**Table 3:** Relationships Between Demographic Data and Nurses' Opinions About Spiritual Nursing Care[a]

| | Type of Test | Statistical Parameters | | | | | P Value |
|---|---|---|---|---|---|---|---|
| | | R | U | \|Z\| | $Chi^2$ | df | |
| **Statement: I Provide Spiritual Care to My Patients** | | | | | | | |
| **Age** | SCC | -0.29 | — | — | — | — | 0.04 |
| **Gender (Male vs. Female)** | MWU | — | 167 | 1.71 | — | — | 0.09 |
| **Education** | SCC | -0.03 | — | — | — | — | 0.83 |
| **Marital Status (Stable Relation vs. Single)** | MWU | — | 53 | 1.69 | — | — | 0.09 |
| **Church Member (Yes vs. No)** | MWU | — | 230 | 2.02 | — | — | 0.04 |
| **Region** | KWA | — | — | — | 2.15 | 2 (n=55) | 0.34 |
| **Type of Hospital (Academic vs. Non-Academic)** | MWU | — | 188 | 2.50 | — | — | 0.01 |
| **Years of Experience Working With Cancer Patients** | SCC | -0.24 | — | — | — | — | 0.09 |
| **Statement: I Discuss My Own Spirituality With My Colleagues** | | | | | | | |
| **Age** | MWU | | 167 | 1.49 | | | 0.14 |
| **Gender (Male vs. Female)** | FET | — | — | — | — | 1 (n=56) | 0.67 |
| **Education** | MWU | — | 232 | 0.28 | — | — | 0.78 |
| **Marital Status (Stable Relation vs. Single)** | FET | — | — | — | — | 1 (n=55) | 0.57 |
| **Church Member (Yes vs. No)** | FET | — | — | — | — | 1 (n=55) | 0.04 |
| **Region** | $Chi^2$ | — | — | — | 0.20 | 2 (n=56) | 0.91 |
| **Type of Hospital (Academic vs. Non-Academic)** | FET | — | — | — | — | 1 (n=56) | 0.26 |
| **Years of Experience Working With Cancer Patients** | MWU | — | 209 | 0.70 | — | — | 0.49 |
| **Statement: I Discuss My Patients' Spirituality in Team Discussions** | | | | | | | |
| **Age** | MWU | — | 302 | -0.88 | | | 0.38 |
| **Gender (Male vs. Female)** | FET | — | — | — | — | 1 (n=56) | 1.00 |
| **Education** | MWU | — | 321 | -1.08 | — | — | 0.28 |
| **Marital Status (Stable Relation vs. Single)** | FET | — | — | — | — | 1 (n=55) | 0.39 |
| **Church Member (Yes vs. No)** | $Chi^2$ | — | — | — | 0.00 | 1 (n=55) | 1.00 |
| **Region** | $Chi^2$ | — | — | — | 1.59 | 2 (n=56) | 0.45 |
| **Type of Hospital (Academic vs. Non-Academic)** | $Chi^2$ | — | — | — | 2.13 | 1 (n=56) | 0.14 |
| **Years of Experience Working With Cancer Patients** | MWU | — | 335 | 0.56 | — | — | 0.57 |
| **Statement: Spiritual Care in the Care for Cancer Patients Is in My Opinion …** | | | | | | | |
| **Age** | MWU | — | 302 | 1.07 | — | — | 0.28 |
| **Gender (Male vs. Female)** | $Chi^2$ | — | — | — | 3.29 | 1 (n=56) | 0.07 |
| **Education** | MWU | — | 343 | 0.77 | — | — | 0.44 |
| **Marital Status (Stable Relation vs. Single)** | FET | — | — | — | — | 1 (n=55) | 1.00 |
| **Church Member (Yes vs. No)** | $Chi^2$ | — | — | — | 0.33 | 1 (n=55) | 0.56 |
| **Region** | $Chi^2$ | — | — | — | 1.26 | 2 (n=56) | 0.53 |
| **Type of Hospital (Academic vs. Non-Academic)** | $Chi^2$ | — | — | — | 1.82 | 1 (n=56) | 0.18 |
| **Years of Experience Working With Cancer Patients** | MWU | — | 297 | 1.35 | — | — | 0.18 |
| **Statement: in My Opinion the Attention for Spiritual Care at My Department for People With Cancer Is …** | | | | | | | |
| **Age** | SCC | -0.17 | — | — | — | — | 0.22 |
| **Gender (Male vs. Female)** | MWU | — | 228 | 0.47 | — | — | 0.64 |
| **Education** | SCC | -0.04 | — | — | — | — | 0.79 |
| **Marital Status (Stable Relation vs. Single)** | MWU | — | 122 | 0.10 | — | — | 0.92 |
| **Church Member (Yes vs. No)** | MWU | — | 303 | 0.79 | — | — | 0.43 |
| **Region** | KWA | — | — | — | 1.74 | 2 (n=56) | 0.42 |
| **Type of Hospital (Academic vs. Non-Academic)** | MWU | — | 304 | 0.07 | — | — | 0.94 |
| **Years of Experience Working With Cancer Patients** | SCC | -0.14 | — | — | — | — | 0.32 |

[a] Abbreviations: FET, Fisher Exact Probability Test; KWA, Kruskal-Wallis one-way Analysis; MWU, Mann-Whitney U test; SCC, Spearman Rank Correlation Coefficient

patients said. An interaction starting from the nurse was rarely brought up, and only on the basis of patients' responses to a questionnaire or intake form. The attitudes and activities with respect to SC may be enough for good nursing practice, and one may not expect more in-depth conversations given the workload, but this does not undo the impression that the SC delivered to patients in curative oncological care was rather modest.

The quantitative analysis gave a different picture. The great majority of nurses said to frequently or very often provide SC to their patients (78%), and to consider SC for cancer patients important to very important (95%). To scrutinize this discrepancy, one could take a look at the findings of the concurrent study in which patients' experiences were studied [13]. Although there was no one to one relationship between the participating nurses and patients, the patients were from the same departments as the nurses. Both quantitative and qualitative results of that study suggested that patients had experienced rather limited spiritual support from their nurses. The great majority of patients (80%) had rarely or never discussed spiritual themes with their nurses. For this reason, the qualitative findings of the current study seem more plausible. The discordance of the findings, points to a potential advantage of mixed methods research. When asked a direct question on a scale, i.e., about the sufficiency of SC at their department, nurses may give the socially desirable answer that SC is very good. However, when asked in the interview to give concrete examples of their activities and attitude in this field, SC may appear to be much more modest. Another reason for the discrepancy could be that we did not count psychosocial care as SC, while the nurses might have thought otherwise when completing the questionnaire.

In a recent study, nurses were asked to complete a questionnaire about specific SC activities during the last 72-80 hours of providing patient care [17]. The mean score was only 2.2 on a scale ranging from 1 to 5. In a later study from the same research group, an average of nurses provided each of the SC activities 1 or 2 times during this work period [35]. The authors concluded that their findings affirm previous research that suggests nurses provide SC infrequently. On the same line, Biag and Angeles found that psychosocial care was often or always given, whereas spiritual care was offered only occasionally [36]. Even among highly religious nurses, spiritual care therapeutics are rarely offered to patients [35]. These quantitative results are thus different from ours. Asking very specific questions about SC activities, as in these studies, will probably have reduced socially desirable responding, in contrast to the general written question in our study, which was "I provide SC to my patients" … "never" to "very often". If efforts are made through education, our findings suggest that practice-based learning is the most important way in which the nurses had learned how to provide psychosocial and spiritual care. Studies on spiritual care training also suggest that nurses need to apply what they have learned in the clinic before they can fully understand what they have studied at school [37]. Therefore, we recommend that any efforts at enhancing spiritual care focus on practices that can be easily implemented in existing routines and are based on in-service, bedside education.

Strengths of our study are the large number of interviews for the qualitative analysis and the recruitment of participants in different types of hospitals. Moreover, for qualitative analysis, interviews were selected in such a way that the voices of nurses with various backgrounds were heard. The sample size of the study (n=57) was rather small for the quantitative analyses, and the power of the tests was not sufficient. Though this does not pose an issue for the descriptive statistics, it might have done so for the inferential statistics. With a larger sample size, some associations might still have turned out to be significant. However, significant relationships that have been demonstrated are not subject to this criticism: Nurses said to supply SC more often if younger, not a member of a denomination and working in an academic hospital. Another limitation is the restriction to chemotherapeutic treatment. The situation may be different from radiotherapeutic and hormonal therapy. The outcome is also a characteristic for the Dutch situation, but will very likely differ from the situation in the USA and other more religious countries [38]. As this is the first study that focuses exclusively on SC in curative cancer care, new studies are necessary to confirm our findings. A reliable and valid instrument is needed for the assessment of the level

of SC activities among nurses. When reviewing the available questionnaires [13], we concluded that only the Nurse Spiritual Care Therapeutics Scale (NSCTS) shows sufficient quality [39]. To find out which importance is really attached to SC by nurses, they could be asked to prioritize nursing tasks [40]. To find out what nurses actually do when they provide SC, an action research design can be used to learn more about barriers and facilitating factors to SC by nurses.

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## CONFLICT OF INTEREST

The authors have indicated no conflicts of interest.

## ETHICS APPROVAL

The study protocol was reviewed by the Ethical Review Committee of the University Medical Center Utrecht, which decided that it did not fall within the remit of the Dutch Act on Human Research.

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**Supplementary File 1: Additional Statements**

1) In my opinion, the attention for spiritual care at my department is,
   - Very insufficient
   - Sufficient
   - Very good, perhaps too much
2) In my opinion, spiritual care in oncological care is,
   - Not at all important
   - Not very important
   - Somewhat important
   - Important
   - Very much important
3) I provide spiritual care to my patients,
   - Very often
   - Regularly
   - Sometimes
   - Rarely
   - Never
4) I discuss my own spirituality with colleagues
   - Yes
   - No
5) I discuss the spirituality of my patients in my team
   - Very often
   - Regularly
   - Sometimes
   - Rarely
   - Never

**Supplementary File 2**

## Imputation

We applied the two-way imputation method, advised by Van Ginkel (1).

No values were imputed for the "additional questions", as these were separate questions. Six values were missing, which is 2%.

One person had missing values for all items of the SAIL. After removing this person, six values were missing, which is 0.4%.

Two persons had missing values for all items of the SCCS. After removing these two persons, only one item was missing, which is 0,1%.

## Combination of Categories

Relation was divided into “stable relation” versus “no stable relation” (single, widowed, or divorced); denomination into “yes” (protestant or roman catholic) versus “no” (none or humanistic); type of hospital into academic versus non-academic (small or big regional hospital); region into south versus middle and north; work experience into more than ten years and shorter; “discuss patients’ spirituality” into often (frequently or very often) versus not often (never, rarely or sometimes); and “importance of SC” into not very important versus remaining categories.

**Supplementary File 3:** The Themes and Codes Used in the Qualitative Analysis

| Theme | Main Code | Subcode |
|---|---|---|
| **Psychosocial Care** | Attitude | Humor |
| | | Giving space |
| | | Person oriented |
| | | Respect/Openness |
| | | Positive attitude |
| | | Focused on psychosocial care |
| | Nursing activities | Reaction to emotions |
| | | Listening & giving attention |
| | | giving confidence & providing security |
| | | Exploring meaning & personal resources |
| | | Assessment & signalizing |
| | | Guiding |
| | | Explanation & information |
| | | Offer a referral |
| | Organization of Care | Availability for patients after stay in hospital |
| | | Time & frequency of contacts |
| | | Intra- & interdisciplinary cooperation |
| | | Setting/privacy |
| | | Situation of patient |
| **Definition of Spiritual Care** | Psychosocial | |
| | Religion/Philosophy of Life | |
| | Consensus definition | |
| | Alternative/complementary therapy | |
| | Woolly | |
| | Broad | |
| | Intrinsic aspect | |
| **Spiritual Care** | Attitude | Giving space |
| | | Open to conversations |
| | Nursing activities | Exploring meaning & sources of support in the spiritual field |
| | | Assessment & signalizing |
| | | Guiding |
| | | Explanation & information |
| | | Offer a referral |
| | | How strong are you with that? |
| | Organization of Care | Intra- & interdisciplinary cooperation |

| | | |
|---|---|---|
| **Stimulating and Limiting Factors** | Characteristics and preferences of nurses | Experience & interests |
| | | Personal situation |
| | | Have a click with a patient |
| | | Courage |
| | | It's none of my business. |
| | Characteristics and preferences of patients | Social or professional network available |
| | | Courage/openness |
| | | Too intimate |
| | | No interest |
| | | Situation of patient (old age, palliative phase) |
| | | Level of understanding |
| | Organization of Care | Intra- & interdisciplinary cooperation |
| | | Workload |
| | | Setting/privacy |
| **Work Environment** | Complementing each other | |
| | Attitude | Person oriented |
| | | Driven |
| | | Open |
| | | Positivity |
| | | Empathic |
| | | Homely and cozy |
| | | Fun with each other |
| | Mutual reflection and care | Advice & Intervision |
| | | Attention |
| **Education** | In practice | During education |
| | | Refresher courses |
| | Need | |
| **Personal Resources** | Detachment | Letting it go |
| | | Relativize |
| | Rest & distraction | Rest |
| | | Distraction |
| | | Stable home situation |
| | Internal force | Humor & Positivity |
| | | Openness |
| | | Work & life experience |
| | | Need to take care |
| | | Common-sense |
| | Transcendence | Religion/Philosophy of Life |
| | | Spiritual activities |
| | Work | Inspired by patients |

| | | |
|---|---|---|
| | | Colleagues |
| | | My actions mattered |
| | Close relationships | |

**Supplementary File 4:** Relationships Between Nurses' Spiritual Care Competence and Opinions About Spiritual Nursing Care[a]

| | Type of Test | Statistical Parameters | | | P Value |
|---|---|---|---|---|---|
| | | R | U | \|Z\| | |
| Statement: I Provide Spiritual Care to My Patients | | | | | |
| SCCS - Assessment and Implementation of Spiritual Care | SCC | 0.37 | — | — | 0.007 |
| SCCS - Professionalization and Quality Improvement of Spiritual Care | SCC | 0.45 | — | — | 0.001 |
| SCCS - Personal Support and Counseling | SCC | 0.40 | — | — | 0.003 |
| SCCS – Referral | SCC | 0.41 | — | — | 0.002 |
| SCCS - Attitude Toward Patient Spirituality | SCC | 0.23 | — | — | 0.10 |
| SCCS - Communication | SCC | 0.24 | — | — | 0.09 |
| Statement: I Discuss My Own Spirituality With My Colleagues | | | | | |
| SCCS - Assessment and Implementation of Spiritual Care | MWU | — | 209 | 0.14 | 0.89 |
| SCCS - Professionalization and Quality Improvement of Spiritual Care | MWU | — | 235 | 0.03 | 0.97 |
| SCCS - Personal Support and Counseling | MWU | | 183 | 0.75 | 0.45 |
| SCCS - Referral | MWU | — | 235 | 0.05 | 0.96 |
| SCCS - Attitude Toward Patient Spirituality | MWU | — | 191 | 0.56 | 0.58 |
| SCCS - Communication | MWU | — | 207 | 0.20 | 0.84 |
| Statement: I Discuss My Patients' Spirituality in Team Discussions | | | | | |
| SCCS - Assessment and Implementation of Spiritual Care | MWU | — | 232 | 2.26 | 0.02 |
| SCCS - Professionalization and Quality Improvement of Spiritual Care | MWU | — | 198 | 2.79 | 0.005 |
| SCCS - Personal Support and Counseling | MWU | — | 213 | 2.56 | 0.01 |
| SCCS - Referral | MWU | — | 260 | 1.80 | 0.07 |
| SCCS - Attitude Toward Patient Spirituality | MWU | — | 285 | 1.28 | 0.20 |
| SCCS - Communication | MWU | — | 286 | 1.38 | 0.17 |
| Statement: Spiritual Care in the Care for Cancer Patients Is in My Opinion … | | | | | |
| SCCS - Assessment and Implementation of Spiritual Care | MWU | — | 198 | 2.80 | 0.005 |
| SCCS - Professionalization and Quality Improvement of Spiritual Care | MWU | — | 194 | 2.96 | 0.003 |
| SCCS - Personal Support and Counseling | MWU | — | 216 | 2.43 | 0.02 |
| SCCS - Referral | MWU | — | 209 | 2.88 | 0.004 |
| SCCS - Attitude Toward Patient Spirituality | MWU | — | 246 | 1.90 | 0.06 |
| SCCS - Communication | MWU | — | 315 | 0.70 | 0.48 |
| Statement: In My Opinion the Attention for Spiritual Care at My Department for People With Cancer Is … | | | | | |
| SCCS - Assessment and Implementation of Spiritual Care | SCC | 0.38 | — | — | 0.005 |
| SCCS - Professionalization and Quality Improvement of Spiritual Care | SCC | 0.40 | — | — | 0.003 |
| SCCS - Personal Support and Counseling | SCC | 0.36 | — | — | 0.008 |
| SCCS - Referral | SCC | 0.34 | — | — | 0.01 |
| SCCS - Attitude Toward Patient Spirituality | SCC | 0.29 | — | — | 0.03 |
| SCCS - Communication | SCC | 0.32 | — | — | 0.02 |

[a] Abbreviations: MWU, Mann-Whitney U test; SCC, Spearman Rank Correlation Coefficient; SCCS, Spiritual Care Competence Scale

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