The relationship between perceived social support and mood of testicular cancer patients

By Susan Ord-Lawson and Margaret Fitch

Abstract

A descriptive correlational study was conducted to investigate the relationship between perceived social support and mood of testicular cancer patients two to three months post-diagnosis. The conceptualization for the study was based on the cognitive-phenomenological theory of psychological stress (Lazarus and Folkman, 1984). A convenience sample of 30 young adult males with testicular cancer was interviewed. Data were collected using the Demographic Data Sheet, MOS Social Support Survey, Importance of Social Support Questionnaire, Profile of Mood States and two open-ended interview questions. Data indicated subjects felt well-supported, especially in areas that they thought were important. No significant relationship was found between perceived social support and mood in this sample. The findings suggest the need for the nurse's individualized assessment regarding the testicular cancer patient's number of close friends/relatives and the importance placed on different types of support.

Each year more than 115,000 Canadian people are diagnosed as having cancer (National Cancer Institute, 1996). Testicular cancer, although less than two per cent of cancer in overall incidence, is the most prevalent neoplasm in men between the ages of 16 and 35 years. The physical, social and psychological impact of testicular cancer on this group of young men is potentially stressful. The possible loss of family and career aspirations as well as productive years of life heightens the significance of testicular cancer (Higgs, 1990). Coping effectively with this illness experience has the potential to influence the individual's quality of life and mood (Brock, Fox, Gosling, Haney, Kneebone, Nagy & Qualitza, 1993; Hawkins & Miaskowski, 1996; Hearth, 1989). Nurses play a significant role in the promotion of effective coping, but to do so nurses must have an adequate understanding of ways to intervene appropriately.

Social support has been identified by theorists and researchers as a key element in how people manage and cope with their illness (Thoits, 1986). The fears and uncertainties experienced by a person diagnosed with testicular cancer are likely to result in an enhanced need for social support. Having people from whom one receives social support may reduce a person's vulnerability to a stressful illness, and in this way social support

Susan Ord-Lawson

facilitates effective coping. It is hypothesized that people who perceive social support is available when needed have better adaptational outcomes, specifically improved morale or mood, than those who do not have such perceptions (Lazarus & Folkman, 1984). Nurses may intervene and influence mood of patients with testicular cancer through the provision of social support. Both providing and facilitating access to various types of support (e.g. emotional support, informational support, tangible support) are specific roles performed by nurses.

Although understanding of social support has increased during recent years (Lazarus & Folkman, 1984), gaps in knowledge remain which hinder the theoretical development and clinical application of social support concepts in some groups of patients. Most research on coping with cancer has focused on selected female adult cancer patients including those with breast and gynecological cancer. Far less research has explored the impact of cancer on young adult men and how this specific age group copes with the illness. In addition, there is an absence of literature specific to testicular cancer patients regarding social support and mood of these patients.

Literature review

The physical, social and psychological stressors that are unique among this 16 to 35-year-old age group of men with testicular cancer have been described (Brock et al., 1993; Edwards, DiClemente & Samuels, 1985; Fiore, 1979; Gorzynski & Holland, 1979; Hawkins & Miaskowski, 1996; Higgs, 1990; Johansson, Steineck, Hursti, Fredrikson, Furst & Peterson, 1992; Moreland, 1982). These stressors include altered fertility, sexuality and self-concept; discomfort; physical debilitation and interruption of career goals. Problems with psychological outcome, including mood, during various phases of illness have also been reported for patients with testicular cancer (Kaasa, Aass, Mastekaasa, Lund & Fossa, 1991; Gorzynski, Lebovits, Holland & Vugrin, 1981; Malec, Romsaas & Trump, 1985).

The types of support most likely to be beneficial for the cancer patient may depend on the severity of the cancer or the stage in treatment

ABRÉGÉ

RAPPORT ENTRE LE SOUTIEN SOCIAL PERÇU ET L'HUMEUR DES PATIENTS ATTEINTS DE CANCER DU TESTICULE

On a mené une étude corrélationnelle descriptive afin d'explorer la relation entre le soutien social perçu et l'humeur des patients atteints de cancer du testicule, deux mois et trois mois après le diagnostic. La conceptualisation de l'étude trouve son origine dans la théorie cognitive-phénoménologique du stress psychologique (Lazarus & Folkman, 1984). Selon l'échantillonnage accidentel, on a interviewé 30 jeunes hommes ayant le cancer du testicule. Les données ont été recueillies à l'aide d'un formulaire de données démographiques, d'un sondage sur le soutien social, d'un questionnaire sur l'importance du soutien social, du profil de l'humeur et de deux questions ouvertes. D'après les résultats, les répondants estiment qu'ils jouissent d'un bon appui social, particulièrement dans les domaines qu'ils jugent importants. On n'a relevé, dans cet échantillon, aucune relation significative entre le soutien social perçu et l'humeur. Les résultats poussent l'infirmière à effectuer une évaluation personnalisée du nombre d'amis intimes et de parents proches du patient atteint de cancer du testicule et de l'importance qu'il accorde aux divers types de soutien.

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(Smith, Redman, Burns & Sagert, 1985; Dunkel-Schetter, 1984). Particularly among cancer patients who are very ill or experiencing physical changes, emotional support may be especially important. Instrumental support is regarded as beneficial when chronic illness imposes needs for help with household tasks (Smith et al., 1985). When treatment is initiated shortly after the cancer diagnosis, informational support may be helpful (Dunkel-Schetter, 1984).

Despite the majority of studies reporting cancer patients' perceptions of their social support as adequate (Dunkel-Schetter, 1984; Kesseling, Lindsey & Lovejoy, 1986; Lindsey, Ahmed & Dodd, 1985; Lindsey & Dodd, 1985; Smith et al., 1985), others have shown that some patients do not have such perceptions (Litchman, Taylor & Wood, 1987; Peters-Golden, 1982). Peters-Golden (1982) reported 72% of the breast cancer patients felt they were "misunderstood" and 52% said they were "avoided" or "feared". Appropriate analysis across studies is difficult, however, because of the lack of agreement regarding the definition and measurement of perceived social support.

Experiencing high levels of expressive support, including affect and affirmation, have been related to positive adjustment outcomes for cancer patients (Bloom, 1982; Bloom & Spiegel, 1984; Dunkel-Schetter, 1984; Zemore & Shepel, 1989). However, investigation regarding the relationship between tangible support and health status has yielded mixed results. Baranowski, Nadir, Dunn and Vanderpool (1982) and Primomo, Yates and Woods (1990) did not find a relationship between tangible support and health status, but other investigators (Dunkel-Schetter, 1984; Funch & Metlin, 1982; Wethington & Kessler, 1986) documented a significant relationship. Additionally, these studies focused on selected older female adult cancer patients. There remains a real need to look at perceived social support in relation to mood in a group of young adult males.

The purpose of this study was to explore perceived social support and mood of testicular cancer patients and to examine the relationship between their perception of social support and mood. It was anticipated that this study would contribute to the body of knowledge related to perceived social support and mood of testicular cancer patients. Increased understanding of this relationship could help the nurse effectively plan, implement and evaluate interventions to help patients cope with their illness.

The theory of psychological stress and coping was used to conceptualize the research problem (Lazarus & Folkman, 1984). Lazarus and Folkman (1984) hypothesize that, in a stressful situation, the resource of social support will affect the adaptational outcome of mood. It is anticipated that persons with low levels of perceived social support will have more negative mood than persons with high levels of perceived social support. The following research questions guided the investigation:

1. What is the perceived social support of testicular cancer patients who attend an outpatient cancer centre approximately two to three months after initial diagnosis?
2. What is the importance of social support to testicular cancer patients who attend an outpatient cancer centre approximately two to three months after initial diagnosis?
3. What is the mood of testicular cancer patients who attend an outpatient cancer centre approximately two to three months after initial diagnosis?
4. What are the relationships between perceived social support and mood of testicular cancer patients who attend an outpatient cancer centre approximately two to three months after initial diagnosis?

Methods

Design, setting and sample

This descriptive correlational study was conducted at the outpatient cancer clinics of two major teaching hospitals in a large urban centre. Testicular cancer patients came to the outpatient cancer centre following initial surgery (orchidectomy), for treatment such as chemotherapy, radiation, surveillance or other surgery (retroperitoneal lymph node dissection).

A nonprobability convenience sample of 30 testicular cancer patients was obtained. To be eligible for inclusion in the study, subjects had to be:

- (A) Experiencing their first diagnosis of cancer
- (B) Aware of their diagnosis
- (C) Diagnosed with cancer for a minimum of two months and a maximum of three months. Lazarus and Folkman (1984) state that we cannot understand social support and coping with illness without reference to the point in the encounter at which it is observed (p.174). There is some evidence that within three months of a stressful event, an individual has moved beyond the immediate crisis of the diagnosis and is able to give an accurate illustration of his/her perception of the social support available to him/her (Lewis, 1979; Aquillera & Messick, 1981).
- (D) A patient registered at one of two large comprehensive cancer centres
- (E) Able to read, write, understand and converse in English
- (F) Mentally and physically able to participate in the study as judged by the physician/primary nurse in the clinic.

Instruments

Data were gathered through the administration of a newly developed self-report questionnaire (DDS), previously developed self-report questionnaires (the POMS and the MOS social support survey), an adapted self-report questionnaire (ISSQ), and open-ended interview questions developed for the study.

The investigator designed a demographic data sheet (DDS) consisting of 10 questions regarding the subject's personal and background factors. The DDS information was used to describe the sample.

The MOS social support survey, designed by Sherbourne and Stewart (1991), was used to measure perceived social support. The MOS social support survey consists of a 19-item survey of perceived social support, set on a five-point Likert scale. The survey represents multiple dimensions of support: emotional/informational, tangible, affectionate and positive social interaction. For each item, respondents are asked to indicate how often each kind of support is available to them if they need it. Since little is known about how structural measures are related to perceived social support, the number of close friends and relatives is also assessed by the questionnaire. A score for each social support subscale is computed by averaging across individual items. Scale scores are then transformed so that the lowest possible score is 0 and the highest possible score is 100. The higher scores indicate more frequent perceived availability of different types of support if needed. This tool has been tested for reliability and validity with 2,987 adult patients with one or more of four chronic illnesses (major depression, hypertension, diabetes and coronary heart disease) (Sherbourne & Stewart, 1991).

The Importance of Social Support Questionnaire (ISSQ), adapted by the investigator from the MOS social support survey, was used to measure the importance of social support. Subjects were given the ISSQ and asked to rate the importance of each of the 19 items from the MOS social support survey on a five-point Likert scale. A score for each social support subscale is computed by averaging across individual items. Scales are then transformed so that the lowest possible score is 0 and the highest possible score is 100. The higher scores indicate greater importance of different types of support. The assumption that the ISSQ has content validity is supported by its derivation from the MOS social support survey (Sherbourne & Stewart, 1991), and by a review of the instrument for face validity by two experts in oncology nursing.

The Profile of Mood States (POMS) (McNair, Lorr & Droppleman, 1981) was used to measure the subject's mood. This instrument was originally developed for use with psychiatric outpatients but has been used widely with cancer outpatients (Cassileth, Lusk, Brown & Cross, 1985; Graydon, 1988; Lichtman, Taylor & Wood, 1987; Spiegel, Bloom & Gottheil, 1983; Spiegel, Bloom & Yalom, 1981; Sutherland, Lockwood & Cunningham, 1989; Sutherland, Walker & Till, 1988; Watson, 1983). The POMS has been reported to be reliable and valid when used with cancer patients (Derogatis, 1977; McNair et al., 1981; Sutherland et al., 1988; Sutherland et al., 1989). The instrument is comprised of 65

adjectives. The subject is asked to rate on a five-point Likert scale the extent to which the adjectives describe how they have been feeling during the past week. Six moods are measured: tension-anxiety, depression-dejection, anger-hostility, vigour-activity, fatigue-inertia and confusion-bewilderment. A factor score for each mood is obtained by adding the scores of the responses for the adjectives defining the mood. A total score for the POMS is obtained by adding the factor scores obtained for each mood, with vigour weighted

negatively. The higher scores indicate a greater level of mood disturbance. The POMS in this study measured the testicular cancer patient's typical mood reactions to his stressful situation of being diagnosed with testicular cancer.

Two open-ended interview questions were used to gain additional insight regarding the findings of the MOS social support survey. To identify any areas not included on the MOS social support survey, the following question was posed, "When you look over all these items in the social support survey, is there anything left out that you think should be included?" To identify the potential roles for health care professionals, the question, "When you look over the items in this social support list, or the other things you have mentioned, are there any you would like health care professionals such as doctors and nurses to be doing?" was posed. The investigator circled the numbers of the items identified on the MOS social support survey by the subjects and wrote any additional areas discussed by the subject. Face validity of the two open-ended questions was assessed by two experts in oncology nursing.

Table One: Demographic data of subjects (n=30)

Characteristic	Frequency	(Per cent)
Type of treatment		
surveillance	12	(40%)
radiation	10	(33.3%)
chemotherapy	6	(20%)
surgery	2	(6.7%)
Age (in years)		
16-19	1	(3.3%)
20-23	2	(6.7%)
24-27	9	(30%)
28-31	12	(40%)
32-35	6	(20%)
Marital status		
single	17	(56.7%)
married or living commonlaw	10	(33.3%)
divorced	3	(10%)
Living arrangements		
with parents	11	(36.7%)
with wife or partner	9	(30%)
on own	7	(23.3%)
with friends	3	(10%)
Education		
partial high school	1	(3.3%)
high school	8	(26.7%)
partial community college or university	5	(16.7%)
community college or university graduate	14	(46.7%)
post graduate education	2	(6.7%)
Employment status		
employed full-time	19	(63.3%)
employed part-time	6	(20%)
unemployed	4	(13.3%)
full-time student	1	(3.3%)

Table Two: Selected descriptive statistics of the perceived social support subscales and the overall support scale of the MOS social support survey

Subscale	Median	Mean	Standard Deviation	Range of Scores
Emotional/ informational support	89.06	77.50	24.45	0-100
Tangible support	87.50	82.92	20.23	25-100
Positive social interaction	91.67	81.39	26.41	0-100
Affectionate support	91.67	81.39	26.69	0-100
Overall perceived social support	83.55	79.96	21.76	5.26-100

Table Three: Descriptive statistics of the importance of the social support subscales and the overall importance of social support scale of the ISSQ

Subscale	Median	Mean	Standard Deviation	Range of Scores
Affectionate support	79.17	78.33	21.06	16.67-100
Positive social interaction	75.00	70.83	23.85	16.67-100
Emotional/ informational support	75.00	69.79	21.11	18.75-100
Tangible support	68.75	66.88	19.43	25.00-100
Overall importance of social support	73.68	70.62	16.96	27.64-100

Table Four: Selected descriptive statistics of the six mood dimensions of the POMS

Subscale	Median	Mean	Per cent Mean	Standard Deviation	Possible Range	Range of Scores
Vigour-activity	14.50	15.60	48.75	5.51	0-32	7-32
Tension-anxiety	12.00	12.57	34.89	6.74	0-36	0-26
Confusion/bewilderment	7.50	7.63	27.26	4.32	0-28	1-16
Fatigue/inertia	5.50	6.97	24.88	5.23	0-28	0-18
Anger/hostility	7.50	10.27	21.39	9.92	0-48	0-44
Depression/dejection	7.50	10.27	17.12	9.77	0-60	0-41

Procedures

Following ethical approval from the university and the two teaching hospitals, subjects were recruited into the sample. Physicians/primary nurses initially identified patients who met the sample inclusion criteria. Once permission had been obtained from the patient for the investigator to speak with him, the investigator approached the patient, gave a verbal explanation of the study, and asked if he was willing to participate. Written consent was obtained from those willing to participate in the study.

Statistical analysis

The data were analyzed utilizing the SPSS/PC+ Studentware statistical package. The statistical tests used were the Spearman Rank Correlation Analysis to determine relationships and the Mann-Whitney test to determine differences between groups. The critical level of significance for all statistical tests was 0.05.

Results

Thirty-two male patients who met the inclusion criteria were approached regarding participation in the study. Of this number, two patients declined to speak to the investigator about the study without giving a specific reason for refusal. No one declined to participate in the study after speaking to the investigator. The final sample consisted of 30 men. The background and personal characteristics of the sample are presented in Table One. The mean age of the sample was 28.5 years.

Description of perceived social support

The range of scores, median, mean and standard deviation of the perceived social support measures of the MOS social support survey are presented in Table Two. The mean scores of three of the perceived social support dimensions, specifically tangible support (82.92), positive social interaction (81.39), and affectionate support (81.39) are similar. The mean score of the emotional/informational subscale (77.50) is somewhat lower than the rest.

Subjects who did not live alone tended to rate their perception of total social support ($z=2.65$; $p=0.0079$), positive social interaction ($z=2.5$; $p=0.0044$) and affectionate support ($z=3.37$; $p=0.0008$) as higher than subjects who lived alone. A statistically significant positive relationship was found between the number of close friends and relatives and the four perceived social support dimensions and the overall perceived social support index ($r=0.42-0.65$, $p<0.05$).

Description of importance of social support

The range of scores, median, mean and standard deviation of the importance of social support measures are presented in Table Three. The highest mean importance score was for affectionate support (78.33). The mean scores of the three other perceived social support dimensions, specifically positive social interaction (70.83),

emotional/informational support (69.79) and tangible support (66.88) were similar but lower.

A statistically significant positive relationship was found between the importance of social support scales and the perceived social support scales ($r=0.39-0.57$, $p<0.05$), except between the importance of affectionate support and perceived affectionate support ($r=0.15$; $p=0.443$).

Description of mood

The range of possible scores, range of actual scores, median, mean and standard deviation for each of the six moods are presented in Table Four. The mean scores for the six mood dimensions were standardized to per cent mean scores to compare the six dimension of mood scores (Table Four). The highest per cent mean score was vigour-activity, followed by tension-anxiety and confusion-bewilderment. The total mood scores of the POMS for the sample in this study ranged from -13-128, with a median of 21.50, a mean of 32.10 and a standard deviation of 34.16.

Relationship between perceived social support and mood

There was no statistically significant relationship between the perceived social support scales and the total mood scale (Table Five).

Qualitative findings

Ten subjects suggested additional aspects to include in the questionnaire. Most of the responses pertained to emotional/informational support ($n=9$). Of those responses, the most common response ($n=5$) was to add "someone who you can talk to who has gone through the same experience". Two responses pertained to tangible support, while no responses were related to positive social interaction and affectionate support. The detailed responses are presented in Table Six. With regards to the roles that health care professionals should be playing, the emotional/information items were chosen most frequently. The three most frequently identified items from the emotional/informational subscale included "someone to give you information to help you understand a situation" ($n=21$), "someone to

Table Six: Suggested additional items to include in the MOS social support survey

Item	Frequency of responses
Emotional/information support	
Someone who you can talk to who has gone through the same experience	5
Someone to provide support for my significant other	1
Someone to give you direction as to where you can find the correct information	1
Someone to reassure you that everything is okay	1
Someone who is unconditionally concerned about your fears and problems	1
Someone to support your drive and determination	1
Someone to make sure that the people you are with do not feel sorry for you	1
Someone to always be positive and realistic	1
Someone to make sure that you do not worry about things you do not have control over	1
Tangible support	
Someone to help you with your financial concerns	2
Someone to help you feel comfortable	1

Table Five: Correlations between perceived social support scales and total mood scale

Variable	Correlation coefficient-Spearman Rank (Rho)	Probability Level
Emotional /informational support with total mood	-0.01	0.954
Tangible support with total mood	0.23	0.215
Positive social interaction with total mood	-0.11	0.565
Affectionate support with total mood	0.03	0.877
Overall perceived social support with total mood	-0.02	0.924

give you good advice about a crisis" (n=14) and "someone you can count on to listen when you need to talk" (n=10). Of the tangible support, positive social interaction and affectionate support items, the tangible support item "someone to help you if you were confined to bed" (n=6) was identified more frequently than the other items.

Discussion

Insight regarding the somewhat lower mean score for emotional/information support was provided by the open-ended questions. Subjects most frequently identified emotional/informational items as potential roles for health care professionals. Also most of the suggestions regarding additional aspects to include in the MOS social support survey pertained to emotional/informational items.

Of those suggestions for additions to the survey, the most common was to add "someone who you can talk to who has gone through the same experience". This finding suggests testicular cancer patients may receive a different type of support from their peers than from their family or friends. There is growing evidence to suggest that when other types of cancer patients (e.g. breast, gynecological, lymphoma) are undergoing distress, those who have similar experiences may be in a position to provide effective support (Cain, Kohorn, Quinlan, Latimer & Schwartz, 1986; Degrasse & Hugo, 1996; Ganz, 1995; Spiegel, Bloom & Yalom, 1981; Van Den Borne, Pruyn & Van Den Heuvel, 1987; Wortman, 1984).

The scores for importance of social support may be explained in terms of the developmental stage and tasks of young men. The high mean importance score for affectionate support may reflect the developmental task of developing and maintaining an intimate and loving relationship (Havinghurst, 1952). The lower mean importance score for positive social interaction may reflect a comparative importance of interaction with peers. Lower tangible support scores are likely a reflection of a sample with little physical disability or dependence needs. Combining emotional and informational support when studying the importance of social support in a group of young adult males with cancer who are not physically dependent may have clouded the results.

The highest per cent mean mood score for vigour-activity was not surprising since the adjectives used in the POMS for this subscale reflect the vigour-activity normally found in young adult males. This young adult population (18-35 years) has had to take on a number of roles and responsibilities as a result of their cancer diagnosis while, at the same time, having had to maintain their normal developmental tasks. For instance, the majority of testicular cancer patients (82.3%) in this study were employed at the time of the interview. That tension-anxiety received the second highest score could reflect the assumption that testicular cancer is a stressful illness (Blackmore, 1988; Brock et al., 1993; Edwards et al., 1985; Hawkins & Miskowski, 1996; Johansson et al., 1992; Malec et al., 1985). All of the subjects were newly diagnosed, an aspect which could contribute to their confusion-bewilderment as well as the mood of tension-anxiety.

The lack of relationship between perceived social support and mood could be linked to a number of factors. According to Lazarus and Folkman (1984), the significance of an encounter "is appraised differently at different stages and calls for different modes of coping" (Lazarus & Folkman, 1984, p.147). Although subjects may have appraised the environment as being supportive, social support may not have been the coping resource that enhances mood two to three months post-diagnosis. Other resources such as health and energy, positive beliefs, problem-solving skills and material resources (Lazarus & Folkman, 1984) may affect mood at this point in the cancer experience.

Whether or not specific coping resources are utilized depends on their availability and the constraints that inhibit their use (Lazarus & Folkman, 1984). Even though social support was readily available, in areas testicular cancer patients felt were important, these young men may have been hesitant to utilize this resource. They may have been socialized to believe that it could lead them to feel that they are a burden on their families or experience feelings of decreased self-esteem. The tool used to measure perceived social support in this study did not examine the elements of utilization and constraints.

The assumption underlying the use of social support as a coping resource is that individuals who receive, or believe they will receive, social support when it is needed will have better morale or mood and health and function better (Lazarus & Folkman, 1984). The POMS provided a measure of short-term adaptational outcome of mood. Many previous studies that reported significant relationships between perceived social support and adaptational outcomes have used multiple measures of outcomes (Bloom, 1982; Bloom & Spiegel, 1984; Dunkel-Schetter, 1984; Funch & Metlin, 1982; Primomo et al., 1990; Zemore & Shepel, 1989). The complexity of the relationship between morale or mood, social functioning and somatic health may necessitate a combination of outcome measures that look at each area and how it affects, or is affected by, the coping resource of social support.

Implications for nursing

Nursing practice

Nurses are in a position to influence the testicular cancer patient's perceived social support and help them cope with their illness. Nurses must understand the need for individualized assessment regarding the number of close friends and relatives as well as the importance placed on different types of social support for this group of patients. Individuals with low perceptions of social support must then be a target for nursing interventions.

Emotional/informational areas are potential roles for nurses. In particular, the nurse should assess the patient's knowledge of testicular cancer, provide teaching and anticipatory guidance, and act as a resource person for the patient. The implementation of formalized patient education programs and booklets could be important for this cancer group. The nurse should also provide emotional support by being an empathetic listener and giving testicular cancer patients an opportunity to explore their concerns.

Establishing a support group for testicular cancer patients could give the patients an opportunity to share their concerns with other testicular cancer patients and draw emotional support from each other. Another suggestion is to have visits from men recovered from testicular cancer, as breast cancer survivors do, or to have letters/stories describing the experience of recovery from testicular cancer available at the clinic.

During each clinic appointment, the nurse should continuously assess, monitor and evaluate the patients' activity in relation to their present roles and responsibilities. The nurse should help testicular cancer patients identify their strengths and identify actions which would be anxiety-reducing for them (Burish, Carey, Redd & Krozel, 1983; Burish & Lyles, 1981; Donovan, 1980). When appropriate, the nurse should initiate referrals to stress management sessions.

Research

This study is initial work and future research is needed to provide further insight into testicular cancer patients' coping with illness. For instance, a phenomenological study could be performed to explore the meaning of the illness in these young men. Replication of the study with a larger sample size and utilizing a combination of adaptational outcomes (e.g. health, functioning) in order to provide a more comprehensive measure of adaptational outcomes is required. A prospective time series design study (at diagnosis, 3, 6 and 12 months after diagnosis) to identify testicular cancer patients' perceptions of social support and other coping resources (e.g. health and energy, positive beliefs, problem-solving skills, material resources) at various phases of the illness experience may be indicated. Finally, a comparative study is necessary to examine perception of social support, importance of social support, utilization of social support and constraints inhibiting social support in young adult men with cancer (testicular cancer) and adult women with cancer (breast cancer).

Limitations of the study

The study has several limitations. The nonprobability sampling method and the relatively small sample size limits generalizability of the study findings to the sample. Extraneous variables (e.g. job loss, divorce) which could have affected the subjects' responses were not controlled. Mood and social support were measured only at one time.

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