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Patients' experiences of intracavity brachytherapy treatment for gynaecological cancer

Clare Warnock*

Directorate of Cancer Services, Sheffield Teaching Hospitals, NHS Trust, Weston Park Hospital, Sheffield S10 2SJ, UK

KEYWORDS
Brachytherapy;
Radiotherapy;
Gynaecological cancer;
Patient information;
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Summary Intracavity brachytherapy for gynaecological cancer presents patients with a wide range of physical and psychological challenges. Previous research into women's experiences of this treatment has been limited. This study explores the experiences of patients before, during and after treatment. 32 patients completed questionnaires or interviews before and after treatment and symptom checklists at two hourly intervals during treatment. Nurses also completed two hourly assessments of their perceptions of the degree of difficulty patients were experiencing. While patients reported feeling fully informed and supported they had many concerns before treatment. During treatment there was a wide variation in the degree of difficulty patients experienced particularly in relation to pain. One-third of nurses' assessments of patients' pain were underestimations of a mean greater than two. Coping strategies, post-treatment concerns and the characteristics of patient information were identified. Patients experienced a range of physical and psychological difficulties as a result of their treatment. Patient information played an important role in helping patients cope, but could not allay all of their fears. The approach taken by patients towards brachytherapy was something to be endured for future benefits. Many of the findings may be relevant to both low-dose, and high-dose, rate brachytherapy patients.

Zusammenfassung Gezielte Strahlenbehandlung auf kurze Distanz (Brachytherapie) bei Krebsarten in der Gynäkologie stellt an die Patientinnen eine Menge an physischen und psychischen Herausforderungen. Die bisherige Forschung über die Erfahrungen von Frauen mit dieser Behandlungsmethode ist nur begrenzt. Die vorliegende Studie untersucht die diesbezüglichen Erfahrungen von Patientinnen vor, während und nach der Behandlung. 32 Patientinnen füllten vor und während der Behandlung Fragebögen aus bzw. unterzogen sich Interviews, zudem vervollständigten sie während der Behandlung in Zweistundenintervallen Checklisten. Daneben führten Pflegekräfte ebenfalls alle zwei Stunden Bewertungen über den Grad an Beschwerden durch, den sie bei den Patientinnen wahrnahmen. Während die Patientinnen berichteten, sie fühlten sich gut informiert und unterstützt, äußerten sie vor der Behandlung vielfach Befürchtungen. In der Behandlungsphase selbst gab es eine große Bandbreite hinsichtlich der Stärke an Beschwerden, die die Patientinnen vor allem in Bezug auf Schmerzen empfanden Ein Drittel der Messungen, die Pflegekräfte dem Schmerzniveau der Patientinnen zurordneten, lag im Durchschnitt mehr als zwei Einheiten darunter. Strategien zum Umgang mit der Behandlung,

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*Tel.: +44-114-226-5311.
E-mail address: clare.warnock@sth.nhs.uk (C. Warnock).

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Besorgnisse über Auswirkungen der Behandlung und charakteristische Kriterien der Information von Patientinnen wurden in der Untersuchung ermittelt. Patientinnen erfuhren eine Reihe von physischen und psychischen Beschwerden als Auswirkung ihrer Behandlung. Die Information der Patientinnen spielte eine wesentliche Rolle dafür, wie sie mit der Behandlung zurecht kamen, genügte aber nicht, alle ihre Befürchtungen zu vermindern oder zu zerstreuen. Sie nahmen Brachytherapie als notwendiges Übel zugunsten zukünftiger Vorteile hin. Viele der Untersuchungsergebnisse mögen für Patientinnen, die sich Brachytherapie unterziehen, von Bedeutung sein, egal ob es sich um niedrige oder hohe Strahlenbelastung handelt.

Introduction

Over 8,400 new cases of cancer of the cervix or uterus are diagnosed in the UK each year (Cancer Research UK, 2003). Women with these cancers potentially face being treated with surgery, chemotherapy and/or radiotherapy and each of these treatments is associated with considerable disruption in physical and psychological functioning (Walker, 1990; Andersen and Van der Does, 1994; Steginga and Dunn, 1997). Brachytherapy forms part of the treatment protocol for many of these women.

Brachytherapy is a method for delivering radiotherapy close to the site of a cancer through the use of radioactive sources. It enables the administration of a high dose of radiotherapy directly to the cancer while sparing the adjacent tissues and structures from the effects of radiation (Nag et al., 2002). Brachytherapy can be delivered as an intracavity treatment where the radioactive source is placed in an applicator inserted into a body cavity (Colyer, 2003). This can be given at a high-dose rate where a relatively high dose of radiotherapy is delivered over a short period of time, usually 10–15 min. This is often given as an outpatient treatment (Fieler, 1997). Brachytherapy can also be given as low-dose rate where the radiotherapy is delivered at a lower dose over a longer period of time that typically varies from 12 to 30 h (Gosselin and Waring, 2001). This study explores the experiences of women with cancer of the cervix or endometrium who received continuous low-dose rate intracavity brachytherapy.

Low-dose rate brachytherapy presents patients with gynaecological cancer with a distinct set of challenges as can be seen from the description of the treatment process contained in Fig. 1. Many of these challenges relate to the measures taken to ensure the treatment is given safely and accurately. For example,

- To ensure correct positioning the applicators are inserted in an operating theatre while the patient receives a general or spinal anaesthetic.
- Radiation protection precautions dictate that patients are in isolation while the radiotherapy is being administered. The treatment is delivered using a remote afterloading system. When anyone other than the patient enters the room the treatment is halted and the radioactive sources return to the afterloading machine. Once that person leaves the room treatment is restarted. In order to minimise the time taken to deliver the radiotherapy visitors are discouraged and nurse patient interactions aim to be brief.
- Accurate delivery of radiotherapy requires that patients remain supine on bed rest for the duration of their treatment.

Despite these challenges women's experiences of this treatment have received relatively little attention in previous research (Velji and Fitch, 2001). Those studies that have explored this subject have found that it is associated with negative physical and psychological sequelae.

Andersen et al. (1984) identified a high level of anxiety among women receiving intracavity brachytherapy for gynaecological cancer and concluded that "internal radiation therapy can produce significant anxiety, psychological arousal, discomfort and fatigue" (p. 549). Nail (1993) and Rollison and Strang (1995) found that moderate to high degrees of pain, anxiety, nausea, stress and sleeping problems were associated with this treatment. Each of these studies used predetermined instruments, such as the Profile of Mood States, to establish the incidence and degree of concern women experienced in relation to selected measures. They did not aim to capture patients' descriptions of, or their feelings about, treatment.

This perspective was central to Velji and Fitch's (2001) study that explored the experiences of 10 women receiving brachytherapy for gynaecological cancer. Veltji identified a range of contextual factors that shaped patients' experiences of brachytherapy including patient information and the routines and environment of treatment. Velji and Fitch (2001) collected their data 1 week after participants had received brachytherapy and noted

Time	Activity
Day before treatment	❑ Patient is admitted to the ward ❑ Explanation of treatment from doctors, ward nurse, theatre nurse, anaesthetist ❑ Preoperative assessment (e.g. ECG, Chest X ray, blood tests) ❑ Enema given in an effort to prevent bowel actions during treatment
Day of treatment Applicator insertion	❑ The patient goes to the operating theatre and receives general/spinal anaesthetic ❑ Urinary catheter inserted for duration of treatment ❑ Consultant examines patient to plan the radiotherapy prescription ❑ Treatment applicators* are inserted and their position is checked by X ray ❑ Patient recovers from anaesthetic, taken to brachytherapy treatment suite
During treatment	❑ The applicator(s) are connected to the afterloading machine, ❑ "Routine" nursing care is delivered every two hours. This includes relieving pressure areas, providing symptom relief, providing food and drinks ❑ Patients can contact the nurses via an intercom and are monitored on CCTV ❑ The applicators are removed by a nurse in the treatment room on completion ❑ Patient recovers from treatment and is discharged home **Note** ** Two types of applicator are used. The first is a cylinder that sits in the vagina held in place by external straps. This is used when patients have had a hysterectomy. The second consists of hollow rods (tandem and oviods) placed below the cervix and in the uterus through the cervical opening. These applicators are kept in place by vaginal packing and are used when patients have not had a hysterectomy*

Figure 1 Description of treatment procedure used at the centre where treatment was given.

that patients were asked to recall their experiences. This current study aimed to build on previous research by capturing women's descriptions of their experiences of brachytherapy throughout the treatment process.

Study design

The research is a prospective, descriptive study. The issues it aimed to explore were clearly defined and open-ended questionnaires were designed to collect patients' descriptions of their experiences. The questionnaires addressed the following themes: feelings about treatment, concerns about treatment, ways of coping, satisfaction with information and support and examples of helpful and unhelpful care. The questions are presented in Fig. 2. To explore the experiences of a group of patients in greater depth an interview schedule was designed that covered the same themes addressed by the questionnaires.

Pre-treatment data was collected the day before brachytherapy after the patient had received the "routine" pre-treatment preparation. This included being shown the brachytherapy room and being provided with information about the treatment procedures. The actual information provided by the staff was not controlled. All patients had

Questionnaire content

Pre treatment questionnaires

- "Please write down how you feel about having selectron* treatment",
- "Please list any concerns or worries you have about selectron treatment",
- "Have you done anything to help you cope with coming in for treatment"
- "Do you feel the doctors and nurses have given you enough information and support to prepare you for treatment?"
- "Please write down any aspects of care that you have found helpful or unhelpful"

Post treatment questionnaires

- "Please write down how you feel about your selectron treatment"
- "Please write down anything you found difficult about your selectron treatment",
- "Did you do anything to help you cope with your treatment? Please list any ways of coping you used"
- "Please write down any aspects of care which you found helpful or unhelpful during treatment",
- "Looking back was there anything you could have been told about your treatment that would have helped"
- "Please write down any worries or concerns you have now you have completed your selectron treatment"

**Selectron is the term commonly used to describe this treatment by staff and patients*

Figure 2 Questionnaire content.

received a written information leaflet prior to admission which described the typical pre, during and post-treatment events and suggests strategies to cope with particular issues (e.g. eating, positioning and loneliness/boredom during treatment). Post-treatment data was collected before patients were discharged home (usually the day of treatment completion).

Selection of interview patients was a convenience approach. When both researcher and patient were available before and after treatment patients were interviewed. Interview participants did not complete the questionnaires.

A symptom checklist was used to examine patients' experiences during treatment. The checklist consisted of rating scales that asked patients to record the severity of problems experienced in relation to three items: pain, anxiety and difficulty coping. Patients recorded 0 if they were not experiencing the problem and 10 if the degree of difficulty was the worst they could imagine. These were completed at two hourly intervals during treatment. The nurses also completed symptom-rating assessments at the same time points. These recorded the nurses' perception of the degree of difficulty the patient was experiencing in relation to the same three items using a 0–10 rating scale. Factors that might influence ratings during treatment were identified after consultation with the nursing and medical staff.

Setting and sample

The study took place at a regional cancer centre in England that is part of a large NHS Trust. Data collection took place on the ward where treatment is given. Interviews were conducted in a private room and were taped.

All patients who received brachytherapy during the 9-month data collection period were asked to participate in the study. 32 patients took part, 26 completed questionnaires while six were interviewed. The numbers completing each stage of data collection were: 32 pre-treatment, 25 during treatment and 21 post-treatment. (5 questionnaire, and 1 interview participant, did not go on to receive brachytherapy following assessment in theatre.) Nurse symptom checklists were completed on 23 patients. The age range of patients was 27–83, the mean age was 54.5. Disease and treatment data is presented in Table 1. Information about the duration of treatment is contained in Table 2.

Table 1 Disease and treatment information.

	Number of patients
Cancer of the cervix	15
Cancer of the endometrium	10
Type of brachytherapy applicator[a]	
Vaginal cylinder	12
Tandem and ovoids	13
Adjuvant treatments	
Surgery only	8
Surgery and external beam radiotherapy Pre-treatment	2
Surgery, external beam radiotherapy, weekly cisplatin chemotherapy pre-treatment	2
External beam radiotherapy and weekly cisplatin chemotherapy pre-treatment	6
External beam alone	3
To have external beam post-brachytherapy	4

Radiotherapy—4500 cGy in 25 fractions.

[a] See description in figure one.

Table 2 Mean and range of treatment duration.

	Mean (h:min)	Range (h:min)
Prescribed length	19:8	11:4–25:40
Time taken to deliver brachytherapy	20:39	12:58–27:34
Difference between actual and prescribed time[a]	1:31	0:31–3:51

[a] Represents average time for direct nursing care during treatment.

Data analysis

Questionnaire analysis focused on identifying patterns of response in relation to each of the questions. Patients' responses were collated, those with shared characteristics were grouped together and the frequency of types of response was identified. The interviews were transcribed and analysed by reading through the transcript and coding each unit of meaning. A unit of meaning was identified as a new subject or a different theme within a subject. The coded units of meaning were grouped according to shared characteristics to build categories. The themes and issues within each category were identified. Descriptive and correlation statistics were used to analyse the rating scales.

Results—pre-treatment

Feelings and concerns

Thirty-one patients described their feelings about their forthcoming treatment. The majority (27) provided responses that contained negative elements. Words used by patients to describe their feelings included: anxious, worried or nervous (12), scared or frightened (7), "not happy" (3), concerned (3).

Eight patients described only negative feelings about treatment. These responses tended to be short statements. For example "very nervous", "I don't feel very happy, scared". 19 patients provided a context for their negative thoughts. Sixteen referred to the potential benefit to be gained from having treatment, for example, "I'm not looking forward to the treatment but it is something I must have if I want to get well". Five described how their concerns had been reduced by the information and support they had received since admission to the ward. Two patients used both contexts.

Twenty-two patients described concerns about treatment. These were: the length of treatment (11), being alone (10), lying still (9), the unknown (8), side effects (6), pain (5), the anaesthetic (4) and being in a "cancer hospital" (3). Ten patients reported more than one concern, for example "I do not relish being lain on my back on my own for 24 h." Twelve patients had concerns about the outcome of treatment and whether it would work for their cancer.

Information and support

Patients were asked if they felt that they had received enough information to prepare them for brachytherapy. All responded to this question with 29 patients providing positive responses. While the questionnaires only evaluated satisfaction with treatment, the interviews explored patients' knowledge in greater depth. All of the interview participants were able to describe the pre-, during and post-treatment procedures in detail demonstrating a good understanding of the events and experiences they were likely to encounter over the next 24–48 h.

Eight patients related their concerns about treatment to fear of the unknown. However, all eight also reported satisfaction with the information they had received. The unknown appeared to be related to the difference between having a theoretical understanding of brachytherapy compared with the actual experience of receiving it. Some insight into this phenomenon is provided by the following interview extract:

> The leaflets are very clinical, they try to explain things as they know them, but nobody can tell you until you've been on the machine and then you know what it's really like

For some patients the gap between the theoretical and the actual experience was widened by the challenging characteristics of brachytherapy. An element of this was seen in an interview with a patient who having expressed concerns about the unknown described her feelings on being told about brachytherapy as follows:

> I said it's barbaric, I'll tell you. I know it sounds awful but I did, honestly it's how I felt. I think it's like star wars. I said how do you expect me to lay all that time

Some attributes of helpful information were described. All of the interview patients volunteered that being shown the treatment room had played a positive role in preparing them for brachytherapy. Three interview patients explained that they preferred information that emphasised the support available, or ways of coping, when potentially difficult aspects of treatment were described. One patient saw this as information given "in a good way". This approach to information was found elsewhere in the data when six questionnaire participants combined a description of an aspect of treatment that was worrying with reassuring information they had been given about measures that could minimise it. This can be seen in the following extract, "the level of pain if any—although I have been reassured I will be offered pain relief and can contact the staff at any time".

A further example of a preference for positive information is provided by the pre-treatment experiences of four women who had talked to former brachytherapy patients. Two women had received reassuring information from their informants and felt this had reduced their anxiety. The informants for the other two women had described the problems they encountered during treatment. This resulted in an increase in anxiety and fear for the patients about to have treatment. This is clear in the following extract:

> I've been sat with a lady here who has had what I'm going to have tomorrow but I wouldn't say she's been very comforting at all. I mean if I had had treatment that wasn't nice I wouldn't turn round and say Oh it's this, oh you get that. I'd just say it's alright…What she has told me I shall have nightmares

Ways of coping

Patients were asked if they had done anything to help them cope with coming in for treatment. Twenty-nine patients answered this question. Five simply replied no. Ways of coping described by the remaining patients could be grouped into five categories: support from family and friends (12), seeking information (13), avoiding thinking about it —for example, "I have tried to keep myself busy and divert my thoughts to other activities" (7), faith (5), and positive thinking (4).

Twelve patients reported using support from family and friends, for example: "Family and friends have been very helpful by talking it through and being very supportive". While the questionnaire participants simply stated that they used support from others as a coping strategy the interview findings suggested that this support had complex characteristics and was something that had to be managed. Two factors appeared to influence this. Firstly, patients wanted to avoid causing distress to others, for example, "it doesn't always help to talk to other people because you sometimes end up upsetting them". This was seen clearly in an interview where a patient described how she had adopted a "matter of fact" and "accepting" approach with her family, rather than talking about her feelings and fears, as she felt she needed to "be positive" to support them.

Secondly, talking to others about their situation could be upsetting for the patient. A sympathetic approach from others was singled out by five interview participants as particularly difficult to cope with, for example, "I don't want anyone to sympathise with me 'cos that upsets you worse than ever". The problems associated with sympathy can be seen in the following extract:

> When I found out I said to everybody I don't want no sympathy or I want you to be positive—I want you to come and just pretend everything is normal because that's how I want to feel even though I don't

During treatment

Twenty-five patients completed symptom checklists. The mean ratings in relation to each symptom are presented in Fig. 3. Twenty-two patients reported experiencing a degree of pain during treatment. However, this varied greatly with six (24%) having a mean rating between 0.1 and 1.9, nine (36%) between 2 and 3.9, and seven (28%) recording a mean score over four. Analysis of analgesia provided to patients during treatment showed that for seven patients their low ratings were due to an absence of discomfort (rather than the provision of adequate analgesia). Three patients did not report any pain and required no analgesia; a further four had consistently low ratings with their pain being controlled by one dose of oral mild opioid analgesia (e.g. dihydrocodeine 30 mg). (14 patients received strong opioid analgesia during treatment, e.g. diamorphine.)

Fifteen patients reported a degree of anxiety during treatment. Five recorded mean scores between 0.1 and 1.9, four had ratings between 2 and 3.9, while six had a mean rating over four. 14 patients reported they had difficulty coping, seven had ratings between 0.1 and 1.9, two between 2 and 3, while five reported a mean score over four.

Table 3 shows the relationships between the factors that were identified as having a potential influence on patients' symptom ratings. There were no significant relationships between the factors and any of the symptoms. There was a moderate relationship between pain and anxiety and pain and difficulty coping. There was a strong relationship between anxiety and difficulty coping. The difference between nurse and patient mean scores are presented in Fig. 4. The difference between nurse and patient symptom ratings assessed using a paired *t*-test were statistically significant only for pain ratings ($t = 2.446$, $P > 0.02$).

Post-treatment

Feelings and concerns

Twenty-one patients described their feelings about brachytherapy after treatment completion. Most

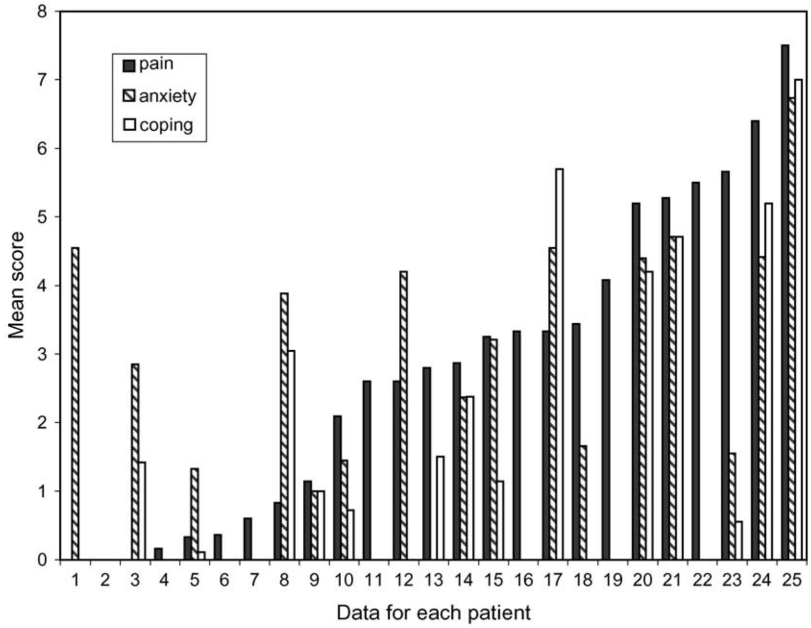

Figure 3 Patients' mean ratings of pain, anxiety and difficulty coping (ranked by ascending pain ratings).

Table 3 Relationship between factors influencing treatment.

Factors	Pain	Anxiety	Coping
Pearson's correlation			
Age	0.215 ($P<0.151$)	0.006 ($P<0.976$)	0.122 ($P<0.565$)
Duration of Treatment	0.133 ($P<0.268$)	0.180 ($P<0.200$)	0.22 ($P<0.460$)
Pain		0.53 ($P<0.001$)	0.58 ($P<0.001$)
Anxiety			0.85 ($P<0.001$)
Independent t-tests			
Type of applicator	0.457 ($P<0.653$)	1.514 ($P<0.145$)	1.045 ($P<0.310$)
Received external beam radiotherapy	0.645 ($P<0.526$)	1.026 ($P<0.317$)	0.736 ($P<0.458$)

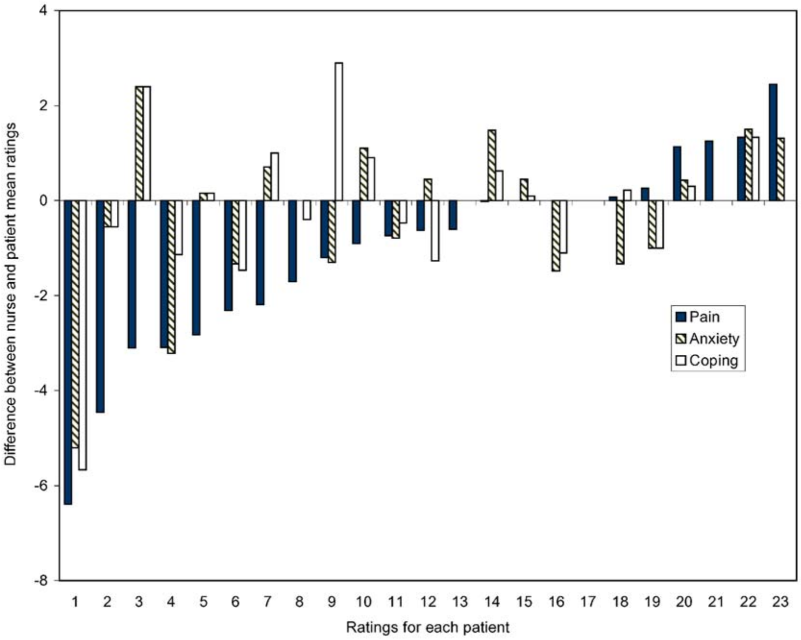

Figure 4 Difference between the means of nurse and patient ratings for each item (ranked by ascending difference between mean pain rating).

responses were categorised as either positive or negative. Fourteen reported negative experiences, examples included "Horrible, far worse than I expected" and "I was in agony a lot of the time because of having to stay in one position". Four patients reported a more positive experience, for example "I felt no problem with my selectron treatment and coped well". Three patients provided descriptions that fitted neither category, such as, "I thought I was very fortunate to be able to have further treatment for my cancer".

Twenty-one patients described problems they had experienced during treatment, most identified more than one concern. Frequently reported difficulties were lying still (13), pain (10), backache (10), length of treatment (9), pain/discomfort on applicator removal (7), difficulty eating (6), nausea (4), abdominal "wind" (4) and being alone (4). Extracts from two questionnaires provide some examples of patients concerns: "Being in a room alone, unable to move freely made me feel like a prisoner." "Lying still in bed for all these hours was very hard, and waiting for the hours to go by". Time emerged as a key issue for many patients. Some described watching the clock, while others felt time passed slowly. One interview patient describes her feelings as treatment started:

> I lay there and I thought I've got to stick this out for the rest of the evening, all through the night and morning and it really gets to you

Ways of coping

Patients were asked if they had done anything during treatment to help them cope. Twenty-one used distraction activities such as watching television, reading and listening to music. Nine patients used cognitive approaches including positive thinking (3), thinking of ''nicer things'' (2), hoping for the best (2) and praying (2).

Twenty patients described aspects of nursing care that had been helpful during treatment. These included being turned every 2 h (8), analgesia (7), visits from the nurses reducing loneliness (4), back massage (3) and sedation (2). Six patients described unhelpful care. Four felt their pain had been poorly controlled and two felt they had not been accurately informed about the length of treatment as the radiotherapy prescription was longer than the doctors had predicted.

Information and support

Sixteen patients responded to the question asking if the information they had been given before treatment had helped, or could be improved. Nine replied that they had received adequate information. A further five felt that while they were well informed this could not have prepared them for the actual experience of treatment. For example, ''a lot of folks can tell you about these things, but until you experience these things yourself you don't know what it's all about. You're still in the dark''.

Sixteen patients described their concerns after completing treatment. Three issues were identified. Thirteen were anxious about the outcome of treatment and whether it had worked. Three were concerned about the side effects of treatment—two of these were concerned about the impact of treatment on their sexual relationships with their partners, and three were worried about future treatment.

Approach to treatment

A description of patients' approach to brachytherapy was identified. No patients were looking forward to receiving treatment; nearly all of them expressed negative feelings about it. However, they were prepared to have brachytherapy in order to increase their chances of successful cancer treatment. In this context brachytherapy was seen by many as something to be endured for future benefit. This approach is captured succinctly in this post-treatment interview extract where a patient is describing her approach to coping during treatment ''You're there and you know you've got to have it and you have to accept it and that's it. You hope it's done its job''. One of the predominant concerns of patients was ''would the treatment work'', in this context brachytherapy was seen as one more way of increasing the chances of success.

Discussion

The importance of providing patients with information prior to radiotherapy is well established (Long, 2001). Brandt (1991) found that 59% of patients experienced moderate to high levels of fear and anxiety before brachytherapy and identified a significant relationship with unmet informational needs. In this current study the majority of patients described feeling satisfied with the information they had been given, yet they continued to express negative feelings about their forthcoming treatment. The data suggests three possible explanations for this. Firstly, patients' concerns were related to those aspects of treatment that are inherently unpleasant such as the length of treatment, lying still and being alone. Secondly, for many patients a theoretical knowledge about treatment could not remove their anxieties about what it might be like to actually experience it. Thirdly, the gap between theoretical knowledge and actual experience was widened by the unfamiliar and challenging nature of treatment. These three factors appear to have contributed to patients having residual negative feelings despite feeling well informed about treatment.

Positive outcomes, such as reduction in anxiety, have been identified in patients who have been provided with concrete, objective information about the procedural and sensory aspects of treatment prior to, and during, a course of external beam radiotherapy (Poroch, 1995; Johnson et al., 1997). The information provided in the patient information leaflet to patients in this study (and recounted by the interviewed patients) fits within a definition of concrete, objective information (Christman et al., 2001). During treatment ratings of anxiety and difficulty coping were relatively low, for example, 18 out of 25 patients reported no problems coping or had a mean score of less than 2. Previous research would suggest that the information patients received before treatment may have contributed to this; however it is not possible to draw any definite conclusions about this for this study as there were no comparison groups.

Patient information emerged as a key issue for patients; it helped to reduce anxiety and was used by many as a coping strategy. There was evidence that patients preferred information that included ways of coping, or the support available, when challenging aspects of treatment were described. Specific aspects of treatment that were a source of concern to many of the women were identified. This included their perception of a gap between a theoretical understanding of treatment and the actual experience of it which patient information alone was unable to bridge. A systematic exploration of patient information in relation to women's experiences of gynaecological brachytherapy could identify if the positive findings for external beam radiotherapy (Poroch, 1995; Johnson et al., 1997) also apply to this group of patients.

A range of coping strategies were identified by the women in this study. Using support from others as a way of coping emerged as a complex process. This complexity has been described in the literature exploring the impact that a diagnosis of cancer has on relationships between the patient and those close to them. Flanagan and Holmes (2000) note the contradiction that many cancer patients face as they look to others for support while simultaneously trying to protect them. They propose that this can shape how people with cancer communicate with family and friends. Lugton (1997) describes how the need to feel "normal" can prevent people with cancer talking with those close to them about their feelings. Both of these phenomena were described by the patients during their interviews suggesting that social support is not a simple coping strategy but is something that has to be worked at, or managed, by patients if benefits are to be gained.

During treatment symptom ratings varied greatly, particularly in relation to pain. Variability in experiences of pain during this type of brachytherapy has been suggested by previous research. For example, Rollison and Strang (1995) found that 13 out of 20 patients reported moderate to severe pain during brachytherapy (suggesting that 7 had lower ratings). A number of factors were examined to assess whether they influenced the incidence and severity of pain but none of these were found to be statistically significant. This might be due in part to the small sample size; it could also be related to the limited range of potential influencing factors that were explored. For example, previous history of back problems was not explored as a factor yet 10 participants described their pain as backache. It was also not possible to draw conclusions about psychological factors that may have influenced pain ratings.

There was a relationship between pain and anxiety and pain and difficulty coping during treatment, however, it is not known which factor influenced the other. Was anxiety raised in the presence of pain or was pain raised by anxiety? The mix of qualitative and numerical approaches to data collection precluded identifying causal relationships between pain ratings and the psychological issues explored in the study. Using data collection methods that could achieve this, and considered a wider range of psychological factors, including ways of coping, would be required in future research that attempted to explain the variation in symptom incidence and distress experienced during treatment.

In a third of cases nurses underestimated the degree of pain experienced by patients. A number of treatment-related factors may partly account for this. During brachytherapy the nurses spend a relatively small amount of time with the patients making it difficult to assess them. The degree of difficulty experienced by patients also shows wide variations making it hard for nurses to establish a picture of a "normal" or expected response to treatment. Patients are monitored on CCTV, however, the visual image is of the whole bed area making it difficult for the nurse to evaluate key visual clues, such as facial expression, between care delivery. The onus is therefore on the patient to inform the nurse when they are experiencing difficulties.

The way that many patients approached brachytherapy was described as something to be endured for future benefit. This approach could play a role in coping as it focuses on the reason for treatment, placing the challenges in a positive context. It also sets limits to the experience that may make it more manageable. However, it is possible that this approach could lead to some patients accepting problems, such as pain, as part of the treatment to also be endured. This is an important issue to be addressed in pre-treatment information and during treatment care.

After treatment patients concerns related to their uncertainty about the outcome of treatment and whether it had worked. Only three patients reported other concerns and these were related to possible side effects. The small number with concerns about side effects contrasts with Steginga and Dunn's (1997) finding that 48% of patients reported that side effects had been a major concern during treatment for gynaecological cancer. The low incidence of reported concerns about side effects could be attributed to the timing of the post-treatment questionnaire. Patients may have been focusing on the actual treatment rather than its possible consequences. This finding may also be related to pre-treatment information. Patients are informed about side effects by the medical staff before consenting to treatment, but the current brachytherapy information leaflet, and information provided by the nurses, focuses on the actual events and procedures associated with the treatment phase.

Similarly, radiotherapy treatment for gynaecological cancer frequently results in difficulties with sexual functioning (Andersen and Van der Does, 1994; Lancaster, 2004). However, only two patients described concerns about resuming or continuing sexual relationships with their partners. The low incidence of reports of concerns with sexual issues could also be related to the study design. There were no specific prompts relating to sexual issues and due to the sensitive nature of this subject patients might be less likely to volunteer this as a concern. (Patients are provided with pre-treatment written information about the impact of treatment on sexual function, and ways that this can be minimised.)

This paper has focused on low-dose rate brachytherapy, however many patients receive high-dose rate treatment. High-dose rate brachytherapy is delivered over a shorter period of time (10–15 min) and is often given as an outpatient treatment. While there are many differences between low-dose and high-dose rate treatment, it is possible that some of the findings in this study, particularly the issues relating to patient information, ways of coping and variations in difficulties experienced, may be relevant to both groups of patients. Further research into low- and high-dose rate treatment could help build a picture of the range of women's experiences of intracavity brachytherapy for gynaecological cancer.

Study limitations

The key limitations are as follows:

1. Open-ended questionnaires provided an insight into patients' experiences; however, it was not possible to explore issues further with these patients. By comparison the interviews provided an opportunity to explore issues in much greater depth. Unfortunately, it was not possible to interview a larger number of patients due to the constraints on researcher and patient availability at two time points.
2. The study focused on the actual treatment experience. In doing so it overlooked possible longer term issues such as the consequences of a negative experience of treatment, the experience of side effects and the impact of treatment on sexual function.
3. The relatively small sample size and local factors, such as information provision and characteristics of nursing care, limits the ability to generalise these findings to other centres. However, similar concerns and issues have been identified in previous studies (for example Velji and Fitch, 2001) suggesting these experiences may be shared by many patients receiving this treatment.

Conclusion

This study has demonstrated that women receiving brachytherapy face a wide range of physical and psychological challenges before, during and after treatment. For some women treatment is accompanied by feelings of fear and anxiety, while the procedure itself requires women to cope with isolation, immobility and discomfort. The incidence and severity of problems experienced during treatment varies, presenting nurses with particular challenges in providing care for these patients.

The study identified issues that provide a focus for improvements in patient care and a number of initiatives have been introduced at the centre where the research was carried out as a result of this work. Further research into this little explored aspect of radiotherapy is needed to build a greater understanding of women's experiences of treatment.

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