IRISH ASSOCIATION FOR NURSES IN ONCOLOGY

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CONTENTS **Page**

INTRODUCTION LETTER

Dear Member,

Welcome to the summer2001 edition of cancernursing news.

The national executive committee consists of:

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Nicki Dezeeuw, Oncology nurse co-ordinator, Tallaght Hospital,D24.
Rosemary Mc Mahon, Clinical nurse specialist in head and neck oncology, Beaumont Hospital,D9.

In this edition we feature;

1. A literature review, 'Chemotherapy Induced Stomatitis' submitted by Tracy Rodgers.
2. A case study, 'The Pain Experience' submitted by Dora Woods.
3. 'Innovative nursing roles within the Pharmaceutical industry', submitted by Lorna Hampson
4. Preliminary Notice ofourannual conference.

I hope all our readers are benefiting from all articles printed to date.

Yours sincerely,
Sheila Clarke.

CHEMOTHERAPY INDUCED STOMATITIS

By: Tracy Rodgers (R.G.N. Dip. Pharmacology, Dip. Oncology)
Staff Nurse, Regional Oncology/ Haematology Unit, Midland Health Board

A LITERATURE REVIEW

Introduction.

This paper is a review of the literature on stomatitis in the patient receiving chemotherapy. The purpose of this study was to examine the literature and to identify the advances made in oral care in nursing practice. Oral complications commonly effect the patients undergoing chemotherapy, this presents a challenge to the nursing profession to prevent complications leading to altered daily functioning and decreased quality of life. Crucial differences in the outcome of a patients oral status depend on nursing intervention and this is the rationale for this review.

Information was collected from a computer search of the CINAHL database and the relevant articles retrieved were further evaluated for referencing. This paper reviews the structure of the mouth, the physiology of mucositis and the factors influencing oral cavity status. The side effects of chemotherapy on the oral cavity, the symptoms and staging ofstomatitis are also discussed.

Oral care procedures are examined and the issue of nurse administered oral hygiene is analysed. Evidence that a theory practice gap exists is explored. Use of mouthwashes and research to support their use is investigated. Chemotherapy agents and drugs that potentiate theiraction causing stomatitis are discussed.

The review will conclude with the psycho-social aspects of stomatitis and their effects on quality oflife. Current supportive therapies for stomatitis are discussed and the nurses role in implementing these therapies. Patient education is addressed because of its major influence on self care activities of the patient receiving chemotherapy. The nurse occupies a key position with regard to oral assessment, evaluation and education of the patient. This ensures that meticulous mouth care is maintained preventing complications and promoting a beneficial response to chemotherapy.

CHAPTER 1

Overview Of Stomatitis.

1:1 Physiology Of Stomatitis.

The mouth is the part of the body which is adapted for taking in food and water. Salivary glands in the walls of the mouth produce saliva which becomes mixed with our food as we chew it and helps digestion. The entire mouth is lined with mucous membrane. The top of the mouth known as the roof consists of a a bony front part called the hard palate and a softer part to the rear called the soft palate. A flexible bundle of muscles extends from the floor of the mouth to form the tongue, one of the most useful muscles in the body. The tongue helps us to eat, drink, swallow and talk and contains all the sense organs of taste. The oral cavity is an excellent breeding place for germs because it is warm and moist at all times.
The epithelial cells lining the inside of the mouth renew rapidly which enables them to replace cells lost from general 'wear and tear' that occurs when food is chewed and digested in the mouth. Mucositis results when these cells damaged by chemotherapy are unable to adequately repair and replace normal cell loss (Goodman et al 1997). Mucositis is a general term that describes the inflammatory response of mucosal cells to the cytotoxic effects of chemotherapy (Groenwald et al 1997). Mucositis is further defined from its location and occurrence in the oral cavity is referred to as stomatitis. Stomatitis is defined as inflammation of the oral mucosa due to local or systemic factors which may involve the buccal and labial mucosa, palate, tongue, floor ofmouth and the gingivae (Dorland 1988).

Chemotherapy induced stomatitis effects the oral mucosa directly or indirectly at cellular level. Direct stomatotoxicity occurs where the drug is destroying proliferating cells and indirect stomatotoxicity results from the drugs myelosuppressive action (Goodman et al 1997). The stem cells of the oral mucous membranes are found deep in the squamous epithelium which lies above the basement membrane. These cells have a life span of 3 - 5 days with the outer epithelial layer being entirely replaced every 7 - 14 days. Unfortunately chemotherapy agents can not distinguish between malignant and normal frequently dividing cells therefore mucosal stem cells are injured directly (Wilkes 1996). Chemotherapy interferes with cell growth, maturation and replication directly causing changes in the mucosa. Stomatitis occurs 5 - 7 days after administration of chemotherapy, in non myelosuppressed patients healing takes place in 2 - 3 weeks. The soft palate, buccal and labial mucosa are the sites most

often involved. The ventral surface of the tongue and the floor of the mouth may also be effected (Dose 1995).

1:2 Factors Influencing Oral Cavity Status.

Stomatitis has been identified as a major component to therapy related complications however upon searching the literature, little research has been conducted in revealing factors that contribute to this debilitating condition. Berger& Eilers (1998) in theirstudy examining factors influencing oral cavity status during high dose anti neoplastic therapy revealed components that exacerbated stomatitis. They identified that patients who received both radiotherapy and chemotherapy were at greater risk of experiencing severe stomatitis. Decreased renal function and elevated urea and creatinine also correlated with stomatitis. Lower granulocyte counts were associated with increased severity ofstomatitis as the neutropenic patienthad a higher risk ofinfection to existing oral lesions. Older age was identified as a factor influencing stomatitis because slower cellular repair in olderindividuals interfered with mucosal recovery.

To prevent infection it is imperative that the mouth is kept clean during chemotherapy treatment. Field (1998) identified a number of factors that may result in poor oral hygiene including insufficient cleaning, continuous mouth breathing and un-humidified oxygen therapywhich has a drying effect on the oral mucosa. Risk factors leading to the development of stomatitis have been grouped as patient related and drug related (Wujcik 1992). Patient related factors that increase the incidence of stomatitis include type of malignancy, patient age, and pre-therapy oral health. Therapy related factors include the type and dose of drug and the combination of chemotherapy and radiotherapy to the head and neck region. The use of alcohol and tobacco have also been implicated in increasing the risk ofstomatitis (Coleman 1995).

1:3 Side Effects Of Chemotherapy On The Oral Cavity.

Chemotherapy has emerged as an important component in the fight against cancer. Nurses must be constantly aware of the traumatic side effects of this modality of treatment can present to the oral cavity. Treatmentcurrently focuses on maximising dosage to achieve bettercurative response this also brings about a higher possibility of developing side effects. The patient faces an assault on oral health from chemotherapy and other associated complications such as nausea, vomiting and altered nutritional status. Stomatitis resulting from chemotherapy

shows considerable variation however the extent of stomatitis is usually related to the dose and type of drugs received. Foltz et al (1996) in their retrospective study examining the patients rating of side effects following chemotherapy found that stomatitis affected 45% of the patients and 66% experienced taste changes. The study demonstrated that these side effects were problematic for patients following discharge from hospital. The patients kept a self care diary and this was an excellent tool to identify side effects following chemotherapy however a major limitation of the data collection was the sample size and the education level of the participants.

After chemotherapy mild erythema and oedema develop along the lips followed by dryness of the mouth and a burning sensation in the lips. The patient may or may not experience discomfort and pain with the presence of mouth ulcers. Pain on swallowing is indicative of pharyngitis and oesophagitis. The saliva may become thick and the tongue coated which leads to an alteration in taste. Mucosal ulcers and blistering develop in severe stomatitis and bleeding is common (Daeffler 1990). Stomatitis is managed on the basis of its severity. Assessment and evaluation of the patients oral status may be performed using a grading system. The oral mucosa should be bright pink, smooth and moist. Any deviation from this should be carefully documented and appropriate changes made to the plan of care (Raybould et al 1994). There are many grading systems for stomatitis, the World Health Organisation base their system on comfort level, presence of blisters and functional status related to eating and drinking. Severity of mucosal damage may be identified using the following scale:

Grade 1: Erythema of oral mucosa.
Grade 2: Isolated small ulceration's.
Grade 3: Confluent ulceration's covering > 25% of oral mucosa.
Grade 4: Haemorrhagic ulceration. (Goodman et al 1993)

These staging systems are only as good as the people who use them. There will be subjective differences of opinion among the people staging stomatitis, therefore it is important that nurses are given proper tuition prior to the use of these staging systems to ensure that effective clinical decisions are made for the patient.

Porter (1994) states that cytotoxic drugs will cause a degree of myelosuppression secondary to therapy. The resultant neutropenia and thrombocytopenia will put the patient at risk of infection and haemorrhage. Infections of the oral cavity may arise from commensal organisms or introduced pathogens. Common infections of the oral cavity include fungi such as candidia albicans, viruses such as herpes

simplex and bacteria such as pseudomonas aeruginosa. These infections can cause catastrophic problems in the oral cavity leading to systemic sepsis and death. These complications are preventable if proper nursing assessment, intervention and education are achieved ensuring that correct clinical decisions are made for the benefitof the patient.

1:4 Chemotherapy Agents Associated With Stomatitis.

The effects ofchemotherapy on highlyproliferative cells can resultin alterations of the oral cavity. Stomatitis is a dose related, biological effect of the cytotoxic drug administered. Chemotherapy interferes with cell production and maturation. Therefore the basal layers of the oral mucosa are inhibited from replacing the superficial epithelium and stomatitis develops. Nieweg et al (1992) state that the incidence of altered mucosa is influenced by the cytotoxic drug used, the dosage and the administration schedule.

The toxicities of 5- Fluorouracil (5-FU) result from action on rapidly dividing cells with high growth fraction. The oral mucosa falls into this category. 5-FU is an anti-metabolite drug which acts as a pyrimidine antagonist. Administration of 5-FU with folinic acid is a currentstrategy to increase cytotoxicity. Stomatitis is a major dose limiting toxicity associated with 5-FU especially when it is administered in 5 day bolus courses with concurrent folinic acid (Loprinzi et al 1995).

The severity of stomatitis often leads to dose reduction in subsequent cycles. Iwamoto (1996) outlines the anti tumour antibiotics dactinomycin, daunorubicin, doxorubicin and bleomycin for their toxic effects on the oral mucosa. The anti tumourantibiotics interfere with D.N.A synthesis and D.N.A directed production of R.N.Aand D.N.A. Pre- therapyliverdysfunction may contra indicate theiruse or lead to dose reduction. The oral health status of patients receiving chemotherapy will vary greatly. Dose (1995) records methotrexate as a chemotherapy agent that has been associated with stomatitis. Methotrexate is most effective in highly reproductive cells therefore stomatitis is a common complication of this agent.

All chemotherapy agents have the potential to cause stomatitis due to their myelosuppressive action and direct stomatotoxicity. Stomatitis development is dependent on the type , dosage and the intensity of treatment. It is therefore essential that nurses have a knowledge of the specific toxicities associated with chemotherapyand foresee when stomatitis is likely to occur.

CHAPTER 2

Nursing Management Of Stomatitis.

2:1 Advent Of The Oral Assessment Guide.

Oral hygiene regimens include oral assessment. A variety of oral assessment guides are used to evaluate the incidence and severity of stomatitis, and the necessity of regular assessment can not be over emphasised. Ezzone et al (1993) performed a survey to examine oral hygiene regimens among bone marrow transplant centres. The survey found that many of the existing oral assessment tools used in these centres, were complex and not very user friendly, and that oral assessment guidelines were diverse. Eilers et al (1988) conducted a studyto develop and test an oral assessment guide. The process included development, testing, and implementation ofa tool that was clinicallyuseful in assessing oral cavity changes in individuals receiving cancer treatment. Theiraim was to explore the usability of the oral assessment. Findings demonstrated that the oral assessment guide was a clinically useful tool to obtain, record, and communicate oral cavity status and to determine changes expected with stomatotoxic treatments. There is controversy and difference of opinion in the validity and reliability of oral assessment guides. This can be observed in the studies mentioned above.

Anderson et al (1999) evaluated oral status in a group of patients with haematological malignancies undergoing chemotherapy using a modified version of Eilers assessment guide. They identified an important purpose for using the guide was the early detection of alterations in the oral cavity. In this respect the tool demonstrated that it was an excellent guide to indicate the need for oral care measures. Reliability of the oral assessment guide can only be ensured if there is proper training and supervision of personnel prior to its use. Holmes & Mountain (1993) evaluated three oral assessment guides. They found that it must be recognised that oral assessment by an observer will always be difficult and will reflect the subjective opinion of the observer. On evaluation of the oral assessment guides they found none of them entirely satisfactory for use in clinical practice or clinical research. They recommend the guide devised by Eilers et al for use until such time as a more appropriate tool becomes available. On exploration of the literature there is no doubt that the oral assessment guide devised by Eilers et al the most frequently used guide by nurses. The guide assesses oral status in eight categories: voice, swallow, lips, tongue, saliva, mucous membranes, gingiva and teeth. Numerical values of 1-3 are allocated to each of these categories. A score of 8

indicates normality, a score of 24 is representative of severe oral problems. This guide is relatively effective however it is clear that there is a lot of conflicting positions in the literature and that further work is required to develop a suitable tool for assessment of oral status in the oncology setting.

2:2 Oral Hygiene: A Theory Practice Gap.

Adequate oral hygiene has been shown to be important in prevention of oral complications and is an essential role for nursing staff. Performing mouth care for hospitalised patients is common practice and is seen by many nurses as a ritual, a task carried out without individual assessment because "that is the way it has always been done".

Turner & Lawler (1999) while examining the historical background to contemporary mouth care practices evaluated instructional textbooks from the last 120 years. They found that there had been some variation in the types of equipment and preparations recommended but the description of the actual practices themselves had not varied greatly. There is a progressive increase in references to research since the 1970's however the instructional style in which mouth care is discussed reflects an approach to mouth care that is relatively unchanged in over a century. Boyle (1992) examined the current reported practices of mouth care by nursing staff and the knowledge and beliefs of nurses concerning oral health in a care of the elderly setting. He found that nurses received little or no mouth care instruction during their basic training. The study demonstrated the need for the development of a health promotion strategy involving nursing management, dental services and the occupational therapy service. He concludes that there is a need for research methods which can examine processes and procedures at the level of the individual patient and the members of the nursing team. Hatton-Smith (1994) reviewed the knowledge of oral health among nurses on a general medical ward. She found that while all respondents thought oral hygiene was important in promoting patient comfort only 50% were able to correctly dilute mouthwashes. Additionally 50% said that frequency of oral care depended on the patients condition although their was no formal assessment tool on which to base this rationale. The remainder advocated 2 hourly oral care regardless of the patients needs. This is unacceptable practice and represents nursing as irrational and inconsistent. These results further compound Boyles findings that a health promotion strategy involving oral assessment criteria, oral standards and a continuing education program for all grades of staff be implemented.

Oral complications develop in the majority of patients undergoing chemotherapy and nurses need to be aware of current scientific rationales that underpin good practice so that the most effective strategy is delivered. Mouth care is considered one of the most basic nursing activities. Macleod-Clark & Hockey (1979) state "it is often the simplest of procedures that are most in need of scrutiny for these are the aspects of nursing practice which are taken for granted and have become formally incorporated into the routinised fabric of nursing". It is widely recognised that research findings are integrated into the fundamentals of mouth care practice but Turner & Lawler (1999) point out that nursing practices are still represented as decontextualised and procedurally oriented. Much of the literature suggests that oral care is ritualised and nurses are inadequately trained to consider patients dental needs (Longhurst 1998). The nurse must see oral care as an integral part of patient care and its frequency based on individual need. The literature contains many references to the lack of research concerning tools employed in nurse administered oral care suggesting that tradition continues to play a major role (Barnett 1991).

2:3 Selecting A Mouthwash Solution.

Mouthwashes can be divided into 4 categories: non-specific (e.g. Sodium bicarbonate), antibacterial (e.g. Chlorhexidine), anti-fungal and anti-viral (Coleman 1995). There is little research into the comparative effectiveness of different mouthwashes. Holmes (1991) states that agents employed should be selected for their ability to control the development of plaque and for their bacteriostatic effect. While reviewing the literature on nurses knowledge of oral health care the need for advice on the positive and the negative effects of frequently used oral care products is highlighted (Hatton-Smith 1994). The preparations may be used in any number of combinations regardless of the patients condition. This is haphazard and is not conducive to safe practice. Guidelines are essential to promote safe practice to ensure that the correct agent is used when and where applicable.

Chlorhexidine has been scrutinised by many researchers. Studies have found products containing chlorhexidine to have the best antibacterial effects. Raybould et al (1994) looked at the emergence of gram-negative bacilli in the mouths of bone marrow transplant patients using chlorhexidine. These immunosuppressed patients displayed the benefits of using chlorhexidine mouthwash including preservation of the oral mucosa and broad spectrum antibacterial and anti-fungal activities. Chlorhexidine used for rinsing is absorbed by the oral mucous membrane and released in the mouth over a 24 hour period. This prolonged

effectiveness is not demonstrated by any other agent (Laursen 1997). A controlled clinical trial conducted by Dodd et al (1996) examining the efficacy of chlorhexidine and a placebo mouthwash demonstrated that chlorhexidine was no more effective than water in preventing chemotherapy induced stomatitis. They also advocate that nurses should encourage the use of water mouth rinses as a means of reducing costs. One can extract from these studies that chlorhexidine is beneficial and necessary for highlyimmunosuppressed patients and watermouth rinses are acceptable for less toxic chemotherapy regimes. Chlorhexidine is associated with black staining of the teeth which a lot of patients find unacceptable. Administration of chlorhexidine to patients with pre-existing oral lesions can be very painful. Many chlorhexidine preparations contain alcohol and there is a high incidence of alcohol related problems among patients with oropharyngeal tumours thus Sautter (1997) advises avoidance of agents containing alcohol for patients who have been identified as alcoholics.

Studies have not evaluated the optimal dilution of saline or sodium bicarbonate mouth washes therefore a variety ofmouthwashes are used. There is no significant difference in stomatitis when comparing the two agents. Both saline and sodium bicarbonate are inexpensive and effective for rinsing the mouth but do not demonstrate any antibacterial properties.

Hydrogen peroxide made into a solution with saline or water decomposes to water and oxygen on contact with the oral mucosa. Heals (1993) states that while hydrogen peroxide is an effective cleansing agent it will not penetrate a thickly coated tongue. It has been found to damage the oral mucosa by extensivelyaltering the normal flora of he mouth therefore it is not recommended for mouth care particularlyin immunosuppressed patients.

Holmes (1991) is of the opinion that in nursing and dental literature there is little agreement about the agents to be employed in preventing oral complications although both are emphatic about the need for regular and effective oral care in patients receiving chemotherapy. There is no general agreementabout the value or the efficacy of oral care agents. This issue should be resolved if care is to be maximised and the incidence of complications reduced.

CHAPTER 3

Psycho-Social Effects Of Stomatitis.

3:1 Effects Of Stomatitis On Quality Of Life.

Oral status is of immense importance to a patients well being. Ineffective oral procedures and development of stomatitis can have an adverse effect on a patients physical, psychological and sociological status. Ferrans (1990) defines quality of life as 'a subjective and multi dimensional construct and includes physical, functional, social and psycho-spiritual aspects'. The ultimate goal of health care is to help patients function in their daily activities and feel as good as possible within the constraints of their illness.

Body Image:

The mouth has an important effect upon body image. It is intimately involved with romantic and sexual expression, speech, social activities such as eating and our earliest memories of pleasurable body experiences. Problems in the mouth are magnified in the mind so that dentures, halitosis, and stained or unattractive oral cavities become a source of embarrassment. The patient experiencing oral discomfort is inhibited from conversing or even from smiling (Price 1990). Meticulous mouth care is essential to maintain a good quality of life (Coleman 1995). Halitosis may lead to avoidance between the patient and a loved one. Dry and cracked lips may lead to difficulties in speaking and expressing intimate affection. In the absence of intimate gestures crucial comfort and support is lost. Dentures are worn by many patients. They enable chewing but may cause local irritation to the oral mucosa (Ezzone et al 1993). Dentures may incorporate plates with a complete top or bottom set of teeth or may only involve a singular tooth. They are a cosmetic appendage and inability to wear them can have a profound effect on the patients body image and self esteem.

Taste And Nutrition:

The major purpose of oral care is the maintenance of a functional and comfortable oral cavity. Roper et al (1990) devised their model of nursing on a model of daily living. Eating and drinking are essential activities. Adverse effects of chemotherapy can greatly effect nutritional and fluid intake. Wickham et al (1999) in their study examining quality of life associated with taste changes following chemotherapy

found that 68% of their study sample experienced taste changes. This correlates with previous studies. Taste changes were associated with modest negative effects on quality of life in their sample. Subjects reported that taste changes altered enjoyment of food, decreased appetite and led to weight loss, nausea and limited enjoyment of family social events. Food intake is affected by chemotherapy. It causes stomatitis which can make chewing and swallowing difficult. It also causes nausea and anorexia. As many as one third of all patients receiving chemotherapy develop painful mouth sores, an oral complication that makes eating painful (Dreizen 1990). Nurses must endeavour to improve oral hygiene status, ensure dietary intake is maintained and avoid having to resort to measures such as enteral feeding. Bruya (1975) clearly outlines that the anorexic patient resulting from stomatitis may benefit from such nursing measures as mouth care before meals, offering food in an attractive manner, provision of smaller portions and screening the patient from offending sights and smells in the environment. Houston (1997) believes that oncology nurses are in a unique position to educate patients and families regarding the potential side effects of chemotherapy. Nurses close contact with patients allows them to focus on the patients quality of life concerns and priorities. They serve as liaisons between the oncologist and the patient to ensure that quality oflife needs are addressed.

Pain:

Stomatitis is a well known side effect of chemotherapy. Stomatitis and its associated pain are patient problems which can greatly affect quality oflife. These problems concern oncology nurses who as part of their practice develop preventative measures, identify side effects as early as possible and initiate appropriate interventions. Mc Guire et al (1993) in their study examining the patterns of stomatitis and pain in patients receiving preparative chemotherapy for bone marrow transplantation found that 86% of the sample with stomatitis reported pain. The pain occurred most frequently on the soft palate, the floor of the mouth and the tongue. Key findings of this study suggest that patients with severe stomatitis did not always report significantly more pain than those with mild stomatitis. Nurses must keep this finding in mind as pain is subjective to each patient regardless of the severity of their stomatitis. The pain resulting from stomatitis can be continuous and may require narcotics for treatment. Madeya (1996) believes that management of oral pain resulting from stomatitis should include the use of anaesthetic agents available in sprays, rinses and gels. These agents have a five minute onset of action and a duration of less than one hour. Medications should be administered one to two hours before meals to maximise

pain relief. Meals should be soft in consistency to ensure that there is less mechanical trauma in the mouth.

Adequate pain management supports patient independence in the activities of daily living, promotes coping and facilitates the progression of treatment. The prevention of oral complications and maintenance of precise mouth care can promote enhanced comfort and quality oflife for the patient.

3:2 Supportive Therapies For Stomatitis.

Supportive therapies are modes of treatment that have been developed specifically to treat the side effects of chemotherapy, not the cancer itself. On examining the literature it is clear that there have been major advances in the area of supportive therapies for stomatitis.

Allopurinol mouth washes have been demonstrated as an effective therapy to counteract stomatitis. Briggs (1998) evaluated that allopurinol mouth washes used 4-6 times daily were effective as a prophylaxis against stomatitis resulting specifically from the action of 5-Fluorouracil.

Cryotherapy, or rapid cooling of the oral cavity using ice chips, causes local vasoconstriction of the oral mucosa vasculature and reduction of the blood flow to the oral mucosa. Loprinzi et al (1995) support the use ofcryotherapy as a cheap and effective method of minimising stomititis induced by bolus 5-Fluorouracil, but state that it is not effective for continuous infusions as the peak serum levels of 5-FU. would be impossible to predict. Cryotherapy is only useful when toxic serum levels of 5-FU. are foreseeable. Mahood et al, (1991) in their randomised study to determine if local cryotherapy administered at the time of 5-FU. injections would reduce stomatitis document that oral cryotherapy can impressively inhibit the development of stomatitis. This effective prophylatic treatment can benefit large numbers of patients who are at risk of developing 5-FU. induced stomatitis. Alleviating side effects may allow patients to return to work and the responsibilities of daily living sooner, so providing a sense of normality and reducing the burden on families that cancer can often impose.

The use of colony stimulating growth factors decrease the nadir period of the neutrophil count. This puts the patient at less risk of secondary infection as oral ulceration in the neutropenic patient provides a portal for bacterial and fungal flora to invade the body. Usage of colony stimulating factors reduces the infection

risk during treatment induced neutropenia and consequently the number of days in the hospital and the need for antibiotic therapy (Fazio et al 1991).

The use of chamomile oral rinse prepared from the flowerof the chamomile plant and warm waterhas been shown to reduce the intensity of stomatitis in patients receiving chemotherapy. The solution has an anti inflammatory action and appears to accelerate re-epithelialisation of desquamated tissue (Madeya 1996).

Oncology nurses work closely with patients during the course of their treatment. They are in an ideal position to monitor side effects, advocate the use ofsupportive therapies where appropriate, and bring quality oflife concerns and priorities to the attention of oncologists so that they can be considered when treatment regimens are being planned (Houston 1997).

3:3 Oral Hygiene, Patient Education.

Many oncology patients will receive a chemotherapyagent at some stage of their treatment that will be toxic to the oral mucous membrane. Educational activities are central to the role of the oncology nurse. Educating patients and families about treatmentmodalities and the cytotoxic effect of chemotherapy on normal cells is a major component in the role of oncological nursing. Developing mutually agreeable goals between the nurse and the patient is an important aspect of care.

The nurse will be involved in supportive care and interactive patient education while the patient is receiving chemotherapy. Heals (1993) supports he view that appropriate patient teaching and counselling are given before discharge to improve the quality of self care. She further elaborates that it is important to combine written information with verbal counselling. Educating patients and relatives about good oral hygiene can prevent complications associated with stomatitis such as pain, local infection and decreased nutritional intake. Information, education and involvement in their own oral hygiene will encourage feelings ofautonomy and promote confidence. Larson et al (1997) devised a pro-self mouth aware program which demonstrated a reduction in the incidence of chemotherapy induced stomatitis. The program had three dimensions; information giving, development of self care exercises and supportive interaction with the nurse. The pro-self mouth aware program was time and cost effective as the nurse initiated and monitored the program when patients had their treatment appointments. The patients the used the program at home. Patients had the information, skill and the support they needed to prevent stomatitis and

the likelihood of their chemotherapy being reduced or stopped. Patient education is paramount for effective information gathering to manage side effects and maximise patient compliance with the treatment protocol.

Any oral care regimens success depends on patient compliance. Nurses play a vital role in nurturing compliance through education and positive reinforcement. This approach allows the patient to demonstrate their ability to perform correct oral care and incorporate this care into their daily routine prior to discharge. Raybould et al (1994) feel that educating the patient about oral care is an important step in initiating a regimen. Direct nursing supervision of the patient performing oral care provides assurance that the patient understands the importance of the procedure. Oncology nurses have a primary responsibility to educate their patients regarding the importance of proper oral hygiene as they have the most consistent contact with patients and their family caregivers.

Conclusion.

Oral complications are a significant problem in the clinical management of the patient receiving chemotherapy. Protective mechanisms such as the mucous membranes protect the body from foreign substances and invading organisms but chemotherapy alters this protective mechanism. This literature review indicates that definitive therapy must be implemented at this crucial time. Oncology nurses must have an understanding of the pathophysiology of oral complications due to chemotherapy and the insight that these complications may be severe or even life threatening. Nurses need to be aware of the concepts and the various rationales that have been advanced, the types of preparations and equipment used to constitute good mouth care practice. The thorough training of nurses with relation to oral side effects and the appropriate interventions will ultimately lead to improvements in the quality of life of patients with cancer.

This study reveals that nurse training establishments must recognise the theory practice gap in oral care and implement a specially designed education program to assist in the improvement of nursing practice. Patient and family education are of paramount importance and emphasis must be given to regular and systematic mouth care to prevent or minimise oral complications. Consistent application of oral care can prevent damage to the oral mucosa and alleviate pain so tolerance and response to chemotherapy can be improved.

Recommendations.

Knowledge is needed for selection of, and appropriate timing of oral care agents in order to decrease breakdown and to support repair in the oral cavity. A consistently preferred agent if identified would benefit the management of stomatitis. A strategy for the education of nurses regarding oral care is warranted as they are front line caregivers. More time invested in co-ordinating the efforts among nursing, medicine and dentistry could help to minimise the risk for or resolve oral complications associated with chemotherapy. Future research is needed to identify interventions with a greater potential to resolve oral complications associated with this mode of treatment.

References.

Anderson, P., Pearson, L., Ingalill, R.H., Renvent, S. (1999) Testing an oral assessment guide during chemotherapy treatmentin a swedish care setting: A pilot study. Journal Of Clinical Nursing. 8:pp 150-158.

Barnett, J. (1991) A reassessmentof oral healthcare. Professional Nurse 6(12) pp. 703-708.

Berger, A.M., Eilers, J. (1998) Factors influencing oral cavity status during high-dose antineoplastic therapy: a secondary data analysis. Oncology Nursing Forum. 25(9) pp.1623-1626.

Boyle, S. (1992) Assessing mouth care. Nursing Times. 88(15) pp. 44-46.

Briggs, J. (1998) Bestpractice: prevention and treatmentof oral mucositis in cancer patients. International Journal Of Nursing Practice. 2(3) pp. 1-6.

Bruya, M.A.,Madeira, N. (1975) Stomatitis after chemotherapy. American Journal Of Nursing. 75(8) pp. 1349-1352.

Chabner, B.A. (1993) Anti cancer drugs. In Devita, V.T., Hellman, S., Rosenberg, S.A.,(eds.) Cancer Principles And Practice Of Oncology. Philadelphia:Lippincott.

Coleman, S. (1995) An overview of the oral complications of adult patients with malignant haematological conditions who have undergone radiotherapy or chemotherapy. Journal Of Advanced Nursing. (22) pp. 1085-1091.

Daeffler, R. (1990) Impaired mucous membranes. In Daeffler, R., Petrosino, B., (eds.). Manual Of Oncology Nursing Practice: Rockville, Maryland: Aspen Publishers, Inc.

Dodd, M.J., Larson, P.J.,Dibble, S.L., Miaskowski, C., Greenspan, D.,MacPhail, L., Hauck, W.W., Paul, S.M., Ignoffo, R., Shiba, G. (1996) Randomised clinical trial of chlorhexidine versus placebo for prevention of oral mucositis in patients receiving chemotherapy. Oncology Nursing Forum. 23(6) pp. 921-927.

Dorland (1988) Dorlands mustrated Medical Dictionary Twenty Seventh Edition. Philadelphia: W.B. Saunders Co.

Dose, A.M. (1995) The symptom experience ofmucositis, stomatitis and xerostomia. Seminars In Oncology Nursing. 11(4) pp. 248-255.

Dreizen, S. (1990) Description and incidence of oral complications. National CancerInstitute Monographs. 9. pp. 11-15.

Eilers, J., Berger, A.M., Peterson, M.C. (1988) Development, testing, and application of the oral assessment guide. Oncology Nursing Forum. 15(3) pp. 325-330.

Ezzone, S., Jolly, D., Replogle, K., Kapoor, N., Tutschka, P.J. (1993) Survey of oral hygiene regimens among bone marrow transplant centres. Oncology Nursing Forum.20(9) pp 1375-1381.

Fazio, M.T., Glaspy, J.A. (1991) The impact of granulocyte colony stimulating factor on quality oflife in patients with severe chronic neutropenia.Oncology Nursing Forum. 18(8) pp. 1411-1414.

Ferrans, C.E. (1990) Developmentofa quality oflife index for patients with cancer.
Oncology Nursing Forum. 17(3) PP. 15-19.

Field, D. (1998) Practical procedures for nurses mouth care 1 & 2. Nursing Times. 94(7).

Foltz, A.T., Gaines, G., Gullate, M. (1996) Recalled side effects and self care actions of patients receiving inpatient chemotherapy. Oncology Nursing Forum.2 3(4) pp. 679-684.

Goodman, M. (1989) Managing the side effects of chemotherapy. Seminars In Oncology. 16(5) pp. 29-52.

Goodman, M., Hilderley, L.J., Purl, S. (1997) Integumentary and mucous membrane alterations. In Groenwald, S.L., Hansen Frogge, M., Goodman, M., Henke Yarbro, C. (eds.).Cancer Nursing. Principles And Practice. Sudbury: Jones & Bartlett.

Hatton-Smith, C. (1994) A last bastion of ritualised practice?, a review of nurses knowledge of oral healthcare. Professional Nurse. Feb. PP. 304-308.

Holmes, S. (1991) The complications ofspecific anti cancer therapy. International Journal Of Nursing Studies. 28(4) pp. 343-360.

Holmes, S., Mountain, E. (1993) Assessment of oral status: evaluation of three oral assessment guides. Journal Of Clinical Nursing. (2) pp. 35-40.

Houston, D. (1997) Supportive therapies for cancer chemotherapy patients and the role of the oncology nurse. Cancer Nursing. 20(6) pp. 409-413.

Iwamoto, R.R. (1996) Alterations in oral status. In McCorkle, R., Grant, M., Frank-Stromborg, M., Baird, S.B. (eds.) Cancer Nursing A Comprehensive Textbook. Philadelphia: Saunders.

Larson, P.J., Miaskowski, C.,MacPhail, L., Dodd, M.J., Greenspan, D., Dibble, S.L., Paul, S.M. (1998) The pro-self mouth aware program:an effective approach for reducing chemotherapyinduced mucositis. Cancer Nursing 21(4) Pp. 263-268.

Laursen,H.B., Sautter, T. (1997) Should chlorhexidine be used in minimalising mucositis associated with anti cancer treatment. Oncology Nurses Today. 2(4) pp. 21-23.

Longhurst, R. (1998) Down in the mouth. Nursing Times. 18(94) pp. 24-25.

Loprinzi, C.L., Foote, R.L., Michalak, J. (1995) Alleviation of cytotoxic therapyinduced normal tissue damage. Seminars In Oncology. 22(2) pp. 95-97.

Macleod-Clark, J., Hockey, L. (eds.) (1979) Research For Nursing. Aylesbury: HM&M Publications.

Madeya, M.L. (1996) Oral complications from cancer therapy: part 2 nursing implications for assessment and treatment. Oncology Nursing Forum. 23(5) pp. 808-819.

Mahood, D.J., Dose, A.M., Loprinzi, C.L., Veeder, M.H., Athmann, L.M., Therneau, T.M., Sorensen, J.M., Gainey, D.K., Mailliard, J.A., Gusa, N.L., Finck, G.K., Johnson, C., Goldberg, R.M. (1991) Inhibition of fluorouracil-induced stomatitis by oral cryotherapy. Journal Of Clinical Oncology. 9(3) pp. 449-452.

McGuire, D.B., Altomonte, V., Peterson, D.E., Wingard, J.R., Jones, R.J., Grochow, L.B. (1993) Patterns ofmucocitis and pain in patients receiving preparative chemotherapyand bone marrow transplantation. Oncology Nursing Forum. 20(10) pp. 1493-1502.

Nieweg, R., Van Tinteran, H., Poelhuis, E.K., Abraham-Inpijn, L. (1992) Nursing care for oral complications associated with chemotherapy. Cancer Nursing. 15(5) pp. 313-321.

Porter, H. (1994) Mouth care in cancer. Nursing Times. 90(14) pp. 27-29.

Price, B. (1990) BodyImage. Nursing Concepts And Care. Hertfordshire: Prentice Hall.

Raybould, T.P., Carpenter, A.D., Ferretti, G.A., Brown, A.T., Lillich, T.T., Henslee, J. (1994) Emergence of gram-negative bacilli in the mouths of bone marrow transplant recipients using chlorhexidine mouthrinse. Oncology Nursing Forum. 21(4) pp. 691-696.

Roper, N., Logan, W.W., Tierney, A.J. (1990) Nursing and the activities ofliving, eating and drinking. In Roper, N., Logan, W.W., Tierney, A.J. (eds.). The Elements Of Nursing. Edinburgh: Churchill Livingstone.

Taplin, S.C., Blanke, C.D., Baughman, C. (1997) Nursing care strategies for the managementofside effects in patients treated for colo-rectal cancer. Seminars In Oncology. 24(5) pp. 64-70.

Turner, C., Lawler, J. (1999) Mouth care practices in nursing and research based education:an historical analysis of instructional nursing texts. 1870-1997. International History Of Nursing Journal. 4(3) pp. 29-35.

Wickham, R.S., Rehwaldt, M., Kefer, C., Shott, S., Abbas, K., Glynn-Tucker, E., Potter, C., Blendowski, C. (1999) Taste changes experienced by patients receiving chemotherapy. Oncology Nursing Forum.

Wilkes, G. (1996) Potential toxicities and nursing management. In Barton Burke, M., Wilkes, G., Ingwersen, K. (eds.). Cancer Chemotherapy A Nursing Process Approach. Sudbury: Jones & Bartlett.

World Health Organisation (1979) Handbook For Reporting Results Of Cancer Treatment. World Health Organisation. Geneva.

Wujcik, D. (1992) Current research in side effects ofhigh dose chemotherapy. Seminars In Oncology Nursing. 8(2) pp. 102-112.

INNOVATIVE NURSING ROLES WITHIN THE PHARMACEUTICAL INDUSTRY

In this article the author will discuss the impact of a new role within the pharmaceutical industry in improving the educational requirements of patients and staff.

In the past few years cancer has been placed high on the political agenda with the implementation of the National Cancer Strategy (Dept. of Health, 1996) and more recently with documents such as 'Cancer Support Services in Ireland, Priorities for Action' (Dept. of Health, 1999).

A diagnosis of cancer invokes fear in all individuals. The causes of most cancers are still unknown, although occurrence increases with age and multiple risk factors have been identified in it, s development. The aforementioned document (Dept. of Health, 1999) highlights that information is a basic form of support for cancer patients. Although this factor appears to be widely recognised it was felt that it was an unmet need for these patients. The document reviewed studies that attributed such benefits as improved coping mechanism and enhanced general well being to well informed patients. Comments were made about the absence of comprehensive literature both within the hospital and the community settings. It was recommended that information on drugs and their side effects among many other issues should be developed and readily available for these patients. It is interesting to note that pharmaceutical companies have recognised this need and responded by placing structures to improve service provision in this area.

The cornerstone vision and mission statement of Aventis Pharma for whom I now work is the desire to improve the health and well being of individuals. Drugs formulated within their oncology portfolio can significantly enhance the quality of care for cancer patients. The company's vision links strongly with patient satisfaction which in turn correlates with the effectiveness of patient and family education. Therefore underlying in their mission statement is the importance of teaching patients and families.

With this in mind the company set about facilitating an innovative new role of oncology Nurse Advisor. The challenge of setting up such a role was offered to me. This prompted both apprehension and excitement within. The journey from novice to expert faced me yet again, forcing me out of my "comfort zone" within the

paediatric oncology/haematology setting where I had worked for years to an uncertain pathway ahead.

My first task within this multifaceted role was to review a nursing service currently being offered by the company and to shape its development to a more effective 'seamless' one. This service involved teaching patients in the safe self administration of a subcutaneous injection, Granocyte. Granocyte is a growth factor used in conjunction with chemotherapy treatments to enhance the production and release ofneutrophils to fight infection.

Empowerment is a buzz word used frequently within the world of people management and business. It has been applied more recently in the educational field and within the realm of patient and staff education. It's origins within education stem from the work of Paula Friere, a Brazilian educator (Rankin and Stallings, 1996). I find myself using this term frequentlyand share the viewpoint of Vella (1994) who states that

> "Teachers do not empower adult learners, they encourage the use of power that learners were born with" (P.8)

With this in mind, I perceive my current role as facilitator, in encouraging and guiding patients to meet the latest challenge that faces them in their journey through various cancer treatments. I recognise that by sharing the responsibilities of patient and family education between disciplines the teaching becomes more meaningful to the patient. It is therefore my intention to build relationships with clinical nursing staff and those within the community in an effort to promote continuity of patient education through them.

In reviewing the current level of service provision, I set about using a four step approach of :

1. Assessment
2. Planning
3. Implementing
4. Evaluating

During the assessment phase I sought active consumer feedback from providers and recipients of the service. I am in the process of reviewing current patient literature ensuring that it is relevant, appropriate for readership, accurate, complete and effectively presented. When planning teaching sessions it is

paramountto focus on the needs of the patients and staff. When teaching patients, factors to be borne in mind include:

1. Patients readiness to learn
2. Ability to motivate patient
3. Their level of knowledge and ability

I recognise the need to individualise the teaching plan to suit the patient and ensure that they environment is condusive to learning. During the implementation stage I intend to use such teaching tools as models and educational videos which will hopefully enhance the learning process. Again, I must re-iterate that this programme will only be successful if carried outin 'partnership' with otherhealth-care professionals, therefore it is of vital importance for me to link up with them and share the patients teaching progress with them.

The final stage of the four step approach will be in the evaluation of the service. It is important to evaluate the effectiveness of educational programmes to demonstrate their usefulness, to improve them and to justify continued or additional funding.

On a final note, a diagnosis of cancer will always invoke fear in individuals. It is my intention with such initiatives as this "add on" service provided by private industry that the right level ofsupport and education will be catered for. It is hoped that this customised service provision will enhance patient satisfaction and in turn lead to an improvementin self care, responsibility, compliance and outcomes.

LORNA HAMPSON
RGN, RSCN, BNS(HONS), MSC
ONCOLOGY NURSE ADVISOR
AVENTIS PHARMA

References

Department of Health (1996) National Cancer Strategy.
Dublin: Stationary office

Department of Health (1999) CancerSupport Services in Ireland Priorities for Action.Dublin: Stationary office

Rankin, S.H;Duffy Stallings, K. (1996)
PatientEducation: Issues, Principles, Practices Philadelphia:Lippincott.

Vella, J. (1994) Learning to listen, learning to teach: The poweroff dialogue in educating adults. San Francisco: Jossey - Bass.

THE PAIN EXPERIENCE:

A Case Study

Presented By: Dora Woods, RNMH, RGN, CERT COUNC, CERT ONC, DIP ONC
Regional Onc/Haem Service, Midland Health Board, Tullamore General Hospital

Introduction

Pain has been described as an experience that overwhelms the individual and consumes every aspect of life (Ferrell 1995). This case study is an in depth investigation of a gentleman T.M. with a diagnosis of Prostatic cancer and bone metastases, focusing on his pain experience and the impact and meaning of pain on his quality oflife.

The choice of research design is critical to the outcome of a study in that the findings are shaped by its design. Qualitative designs are compatible with the values supported in nursing. Concepts associated with the qualitative method are holism, naturalistic settings, perception, subjective or lived experiences, interactions, communication and patterns (Tuck 1995). A case study was therefore the mostsuitable strategy to employ for this research study.

The desc~riptive method was used whereby the conceptual framework was identified. Data collection was achieved by unstructured interview and patient self reporting diary. The data was content analysed and reported in narrative form. The study was conducted in St. Francis Hospice Raheny over a five-day period. The participant was given verbal information regarding the study. The choice to participate was free from coercion or the threat of harm. The participanthad the choice to withdraw from the studyanytime and the privacy and confidentiality of the participant was maintained. Permission to interview the participant and review the patients' nursing and medical notes was obtained from the Palliative care consultant, the ward managerand the patient.

Case History

1987 - February 2000.

In 1987 Mr. T.M. had symptoms of a prostatic obstruction and had a transurethra prostatic operation carried outin Australia where he was living. He was diagnosed

with carcinoma of the prostate. He was treated with radical radiotherapy and responded well. In l 989 due to personal circumstances he decided to move back home to Ireland. At the end of the summer of 1999 he attended his G. P. and told him of the chest pains he was experiencing. He referred him for a bone scan. The results of the bone scan showed that he had metastatic bone disease relative to his prostate and he was referred to a radiationoncologist. He was due to take a planned trip to Australia. His notes were forwarded with him to his original oncology-centre. He attended there when he got to Australia but his condition became very uncomfortable. T.M.'s analgesia was adjusted according to his pain, as suggested by the W. H. o analgesic ladder for the management of cancer pain. The dose of morphine the most well known and widely used strong opioid was titrated upwards using immediate release preparations until pain relief was achieved. T.M. was then given sustained release preparation of M.S.T. a twice daily preparation. T.M. decided to cut short his trip and returned to Dublin. He had gone to meet up with his six children and had done so. once returned he had radiotherapy to his left ribs with effect and reduction of pain for short periods only. His medication was reviewed and he was admitted to St Francis Hospice Raheny for pain management.

Social History

T.M. went to Australia as a young man and settled there. He married an Australian and they had a family of six children, four daughters and two sons. In l 986 he and his wife separated. Their relationship was at first acrimonious but now this has improved. T.M. found himself living alone and his children were all in relationships and independent, so after his diagnosis he decided to come home to Ireland. He has taken part in some part-time work as a greenkeeper since returning and lives in council accommodation. He has also met a lady A.Y. and established an eight year relationship. Until recently she was looking after him in her home but due to the decline in his general condition and inadequate pain relief T.M. is currently a patient in St Francis Hospice Raheny for pain 'management. He does take weekend leave when his physical condition permits and stays with his partner.

Literature Review

A literature review was conducted in order to define pain and quality of life. To examine the theory of pain and its classification and assessment, and to discuss the impact of pain on quality of life as found in recent studies.

Definition of Pain.

Pain is not easy to define: it is neithera purely physical phenomenon, nor can it be said to be purelypsychological, as triggerstimuli can usually be identified (Walding 1991). Pain is a subjective experience, and therefore it can not be measured by an observer. It is essentially what the person experiencing pain says it is. Roger Woodruff(1997) defined pain as "what the patient says hurts. It is what the patient describes and not what others thinkitought to be."

The Theories of Pain.

There are many theories of pain but one theory in par ticular is considered to be verified by anatomical and physiological knowledge, that is the (late Control Theory (Melzack and Wall 1982 cited by Walding). Melzack and Wall attempting to identify pain reject other theories as simplistic in their discussion of former work and advocate the gate-control theory. This is a very complex theory that basically defines a mechanism that increases and decreases the sensory impulses generated by injury-sensitive nerve cell receptors called nociceptors. Nociceptor-generated impulses are interpreted as pain in the cerebral hemisphere by the individual suggesting both a physical and or psychological response. The gate-control theory acknowledges the influence of external forces and expands its interpretation of pain to include the existence of sensory, affective and cognitive dimensions (Montes-Sandoval 1999).

Classification of Pain.

Pain does not existin a single state (Walding 1991) Physiologically pain is classified as acute, chronic or cancer pain, and cancer pain is further classified as somatic, visceral or neuropathic pain.

Acute Pain is pain associated with tissue damage having a rapid onset and short duration and itusually resolves as tissue damage heals.

Chronic Pain persists for more than three months and may be intermittent or constant, difficultto relieve and have a debilitating effect on the person's life.

It is generally accepted by those studying pain that the experience is different when the pain is sudden and acute, compared to chronic pain,which becomes part of an individuals life (Lang and Pratt 1994). The sufferer becomes used to chronic

pain and shows behavioural adaptations, being more likely to become depressed, an indicator ofhuge psycho-social impact. In contrast the sudden and short-life of acute pain causes suffers to react by becoming anxious in the short-term.

Cancer Pain may be acute or chronic, or a combination of both, and is further classified as somatic, visceral or neuropathic pain.

Somatic Pain originates in the muscular-skeletal system and is sharp, aching, cramping or gnawing. It is usually localised and increased by movement. An example is bone pain,primary or metastatic.

Visceral Pain originates in the abdominal or thoracic organs but can be referred to different surface areas. It is intense, deep, squeezing or dull and aching. It is usually associated with tumours of the lowerabdomen and pelvis.

Neuropathic Pain is associated with peripheral or central nerve stimulation or actual damage/injury to nerves in the peripheral or central nervous system. This pain is often severe, poorly localised,burning, sharp or stinging and may be due to a tumour pressure or collapsed vertebrae.

A patients pain may be due to one or more of a number of factors—physical symptoms, psychological problems, social difficulties, cultural factors and spiritual concerns—or any combination of them. The sum of these may be referred to as Total Pain (Woodruff 1997). The concept of 'Total Pain' was first used by Cecily Saunders in 1989 and since then has been recognised as important in helping to understand the complexity of the feelings expressed by cancer patients.

The Assessment of Pain.

The assessment of pain must take into consideration the factors which are contributing to it. one of the most crucial sources of information during the assessment process comes from patient reports (Pargeon and Hailey 1999). Nurses should help patients describe the characteristics of their pain, including the type, location,intensity or severity, factors that seem to aggravate or alleviate pain,and patients' goals for pain management. Psychosocial functionings, a component of quality of life, should be evaluated initially and also used to assess the outcome of treatment. In a study by Sloan et al (1999) the skills of hospice nurses in assessing the severe pain of a cancer patient was evaluated. Hospice nurses did well in assessing pain intensity (85%), pain location (70%) and pain relieving factors (59%).

However only 48% of the nurses adequately assessed other symptoms the patient might be experiencing in relation to pain. These findings are consistent with other similar studies (McCafferty and Ferrell 1997).

The Impact of Pain on Quality of Life.

Definition of Quality ofLife

> "Broad concept encompassing extensive range of physical and psychological characteristics and limitations that describe an individuals' ability to function and to derive satisfaction in doing so."
>
> (Grant, Padilla, Ferrell,and Rhiner 1990)

Pain has been described as an experience that overwhelms the individual and consumes every aspect oflife (Fer rell 1995).Many studies have examined the impact of pain on quality of life of patients who are terminally ill with cancer and their caregivers. Relieving pain is fundamental to maintaining physical, psychological, spiritual and social functioning, and, thus, quality of life for patients who are terminallyill and their caregivers (Holzheimer et al 1999). In a study by Ferrell et al (1993) patients describe pain management as a struggle to balance pain relief and a loss of ability to maintain personal autonomy, personal dignity and sense of self. Family members describe the intense physical and psychological burden of caring for a loved one in pain. Georgesan and Dungan (1996) confirmed that the distress of pain negativelyaffects patients psychospiritual responses. Defining characteristics that confirmed spiritual distress related to pain included grief, questioning of meaning, withdrawal, powerlessness and anger at God. Patients with cancer who had pain were more anxious, depressed and hostile than patients with cancerwho did not have pain. (Zimmerman et al, 1996). Patients with pain also reported interference with sleep, activity and enjoyment oflife. Pain relief is associated with an overall increase in quality oflife for patients with cancer(Ferrell 1989).In a 1996 study by McMillan an examination of the correlation between pain relief and overall quality of life of 118 hospice patients with cancer was made. Pain relief was significantly correlated with quality of life, better sleep, more enjoyable activities, less fatigue and angerand greater satisfaction with care and greater hope.

Conceptual Framework

The conceptual model of the impact of pain on quality of life was used for this study. The model was developed and refined over the past decade as a result of

many studies, including those involving patients, family, care-givers and nurses. The model depicts the four dimensions ofquality oflife:
(1) Physical well being
(2) Psychological well being
(3) Social well being and
(4) Spiritual well being. (Ferrell 1995).

Figure 1

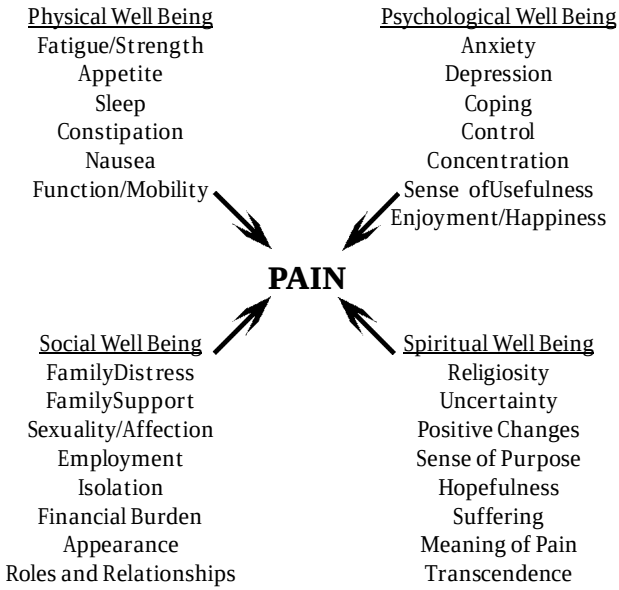

Figure 1 - The Impact of Pain on Quality ofLife
The Model ofQuality ofLife adapted for CancerSurvivors Q. o. L. C.
S. Ferrell 1995

For the purpose of this study following discussion with the participant relevant issues were extracted from each dimension which the participant felt were most importantto his life.

The dimension of physical well being captures the impact of pain on physical activity. Pain is known to create or increase many physical symptoms such as fatigue, immobility and sleeplessness (Ferrell 1995). Tumour invading bone is the most common cause of cancer pain, (Lang and Patt 1994) and impairment of function. The second dimension of the quality of life model is psychological well

being. Pain results in psychological effects, such as the sense of loss of control, or the feeling of fear or diminished usefulness. (Ferrell 1995). Research demonstrates that pain is an extremely frightening experience and that virtuallyall patients and family care-givers facing cancer believe that pain will become worse in the future (Woodruff 1997). It is this fear of worsening pain that perhaps best explains the overall influence of pain on psychological well being (Ferrell 1995). The third domain of the Quality ofLife model is social well being. Research reveals that pain does not impact one individual but rather has a profound influence on the entire family (Ferrell, Cohen, Rhiner et al 1991). Pain creates distress in family members. Pain interferes tremendously with relationships and roles and with the ability to interact with loved ones, ithas an influence on sexuality, intimacy and or affection. The fourth dimension of the pain quality of life model is spiritual well-being. Pain has a tremendous influence on spirituality and particular religious traditions influence pain. Pain creates a sense ofuncertainty and pain is a metaphor for death for both patients and family members (Ferrell 1995).

Analysis

The first step in the analysis was to identify the content revealed in the interview and self-reporting diary kept by the patient. The emerging themes are described with the descriptions reflecting current understanding of the data.

Physical Dimension.

> "I guess your whole life changes. Because, mostly the things that you used to do you can't do anymore, its just too painful."

A concern involving the inability to do usual things, and carry on a normal lifestyle. Tension focused on the idea of "letting things go" or not trying or being able to meet the usual standard due to pain intensity This might mean doing something less frequent or not at all. The tension resulted from feeling the need to care for oneself and being deBendant on his partner. T.M is no longer able to maintain independence at home. The pain he experiences to his chest and pelvis has caused reduced mobility and the activities of daily living have posed as obstacles to him. Going to the local shop and carrying out his personal affairs is unachievable. "I do onlywhat I am able to do with the mosttolerable pain rather than what I am used to doing". Throughout the interview T.M made comments reflecting a loss of control over his own function and those close to him. The pain T.M experiences increases with activity during the course of the day. Peaking usually at lunch time

and again in the late evening He feels at times he has no will to get up some mornings as he anticipates the pain he will experience. During the course of this five day study T.M. attended St Lukes hospital for "systemic" radiotherapy Strontium-89 for his multiple painful sites of bone metastasis which has proven beneficial. T.M. had considered possible weekend leave whereby he would spend time with his partner. Yet a further tension revolved around trying to keep things as normal as possible on weekend leave, not wanting his partner to have to do things for him that he feels he should be able to do.

Psychological Dimension.

> "It frightens me to think sometimes of my future. I try to live life day to day, sometimes when I think past this I become apprehensive. If my pain gets worse will I become a burden to A.Y?"

Fear is pervasive in these circumstances, fear of the unknown, of pain, of rejection by his partner, and of his future. T.M. expresses that every time a new pain or symptom surfaces, a fresh wave of fear sweeps over him. He does not want to burden his partner or family by discussing his fears, yet being afraid is bad enough - but handling it alone makes it especially hard.

Social Dimension.

> "I'm lucky to have met A.Y. Having someone to go home to. But I feel the strain and I know that she does too. I'm not the man I used to be—believe me. oh, things have changed . . . I just don't feel secure anymore."

A rather consistent pattern emerged concerning the fragile relationship between T.M and A.Y. The role changes, particularly the inability to do what was normally done created tension for this gentleman. He expressed the tensions around several ideas. one tension involved feeling that he was not giving enough to his relationship. He struggled with the following thoughts . . . "Due to my increasing pain and hospitalisation I am not always there for her, to keep her company, to be HER strength. I feel as though I have failed her." A second concern involved his increased dependence on A.Y. Having to move into her home, being looked after by A.Y., and his loss of control. He felt a large depth of gratitude for her help and at times guilt for needing the help. He declared positively his appreciation. "She's always there, says the right things and always understanding. She is a hundred, thousand percent, I'll never get over what she means to me."

Issues regarding family communication revolved around telling his ex-wife and children about his worsening condition and deciding how much to share with them. "When I was diagnosed I told them everything, but it was different then. Now I am here I feel distanced, isolated, I don't want to burden them, it scares me". This in turn creates demands on relationships. Emotions still need to be expressed and communication lines opened.

T.M. had to retire from his part-time employment as a greenkeeper. "As if things weren't bad enough." He expresses feeling of reduced self esteem and powerlessness with alteration in his meaning of life. There are also financial implications involved in ceasing employment and now "depending on the state" is something he felt he would never have to do.

Spiritual Dimension.

> "I had so many dreams when I came back to live, and that's all they ever will be."

T.M. described how frustrating and saddening it had become to find that hopes and plans for the future had been overturned by illness. Even very short term plans had become difficult to make as he was unsure from one day to the next whether he would feel fit enough to carry them out. He sensed a lack of control and expressed fears and anxieties about the progress of his illness and at times these fears, he felt seemed to dominate his thoughts for every wakening moment. T.M however did not make a direct reference to death or dying. It was as if he would let his thoughts run and then take hold of his emotions quickly. The future he describes as vague but so too is his expression of feelings, as if to protect himself or shelter me. T.M. however has not discussed these fears of the future with anyone, particularly his partner as he is uncertain of the reaction and how to cope with it

Discussion

The findings of this study investigating the pain experience of a cancer patient and the impact on his quality of life suggest that a person may experience pain which is not expressed freely but ultimately it impedes on every aspect of his being. The treatment of pain needs to be part of a holistic and multi-disciplinary approach to patient care. Successful management of pain requires assessment of all aspects of a patient's suffering and treatment must be part of a co-ordinated plan of total care.

Nursing Implications

Poor pain relief is well documented and has been noted in nursing literature for over 20 years (Zalon 1995) This reflects the incompleteness of the nursing process. Suffering pain needlessly physically, psychologically, socially or spiritually raises ethical concerns and is a barrier to nursings' goal of enhancing an individuals quality of life. (Montes Sandoval 1999) Pain cannot be assessed adequately if it remains unexplored. A holistic perspective of pain must be viewed examining pain from all angles.

To improve pain management, it is essential that nurses Recognise that they are often the cornerstone of the team approach and that they have direct responsibilities related to pain assessment. Because nurses are more often present with patients with pain than otherhealth team members it is through nurses that most patients have the greatest opportunity to express the meaning of their pain, and the impact it has on their daily lives. Nurses must be encouraged to expand their knowledge and perception of patients pain and the variables which influence it as it extends beyond the physical.

Analgesic drugs form the mainstay of managing cancer pain from the physical perspective. It must be recognised that cognitive-behavioural therapies can be effective non-medical treatments for the alleviation of pain related suffering in the patient with advanced cancer (Fishman 1992). Such techniques include cognitive restructuring, coping self-statements, distraction, visualisation, guided imagery, desensitisation and relaxation therapy. Some techniques are primarily cognitive in nature, focussing on perceptual and thought process and others are directed at modifying patterns of behaviour that help cancer patients cope with pain (Hagopian 1993).

Limitations

Limitations of this studyneed to be acknowledged. The time frame was very short due to the authors placement in St Francis Hospice consisting ofa five day period. It was felt by the author that a rapport with the participant was emerging by the fifth day and it was only then that the participant was beginning to express the psychological and spiritual dimensions of his pain freely. Therefore these dimension would require further exploration.

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References

Ferrell, B.R.,(1995) The impact of pain on quality oflife. A decade of research. Nursing Clinics of North America 30(4),pp 609-615.

Ferrell, B.R., Cohen, M., Rhiner, M.,(1991) Pain as a metaphor for illness. Oncology Nursing Forum 18, pp 1315-1321

Ferrell, B.R., Johnston-Taylor, E., Grant, M., Fowler, M., Corbisiera, R.M.,(1993) Pain management at home. Cancer Nursing, 16, pp 169-178.

Ferrell, B.R., Wisdom, C., Wenzl, C.,Brown, J.,(1989) Effects of controlled-release morphine on quality oflife for cancer pain. Oncology Nursing Forum, 16, pp 521 -526.

Fishman, B.,(1992) The cognitive behaviour perspective on pain managementin terminal illness. Hospice-Journal:- Physical - Psychosocial - and - Pastoral - Care - of- the Dying. 8, (1/2) pp 73-88.

Georgesan, J.,Dungan, Y.M.,(1996).Managing spiritual distress in patients with advanced cancer pain.Cancer Nursing. 19, pp 376-383

Hagopian,G.A.,(1993) Cognitive Strategies used in Adapting to a CancerDiagnosis. Oncology Nursing Forum 20(5),pp 759-763.

Holzheimer, A., McMillan, S.C., Weitzner, M., (1999) Improving pain outcomes of hospice patients with cancer. Oncology Nursing Forum 26 (9),pp 1499-1054

Lang, S., Pratt, R.B.,(1994) Understanding Cancerand Pain in Lang, S., Pratt, R.,(eds) You don't have to suffer. A Complete guide to relieving cancer pain for patients and their families. New York-Oxford University Press.

McCafferty, M., Ferrell, B.R.,(1997) Nurses' knowledge of pain assessmentand management: How much progress have we made? Journal of Pain and Symptom Management 14(3),pp 175- 186

McMillan, S.C.,(1996) Pain and pain relief experienced by hospice patients with cancer. Cancer Nursing, 19, pp 298-307

Monten-Sandoval, L.,(1999) An analysis of the concept of pain. Journal of Advanced Nursing, 29(4),pp 935-941

Padilla,G., Ferrell, B., Grant, M., Rhiner, M.,(1990) Defining the content domain ofquality oflife for cancer patients with pain. Cancer Nursing, 13, pp 108-115

Pargeon, K.L., Hailey, B.J.,(1999) Barriers to effective cancer pain management. Journal of Pain and Symptom Management, 18(S),pp358-367

Sloan, P.A., Vanderveer, B.L., Snapp, J.S., Johnson, M., Sloan, D.A., (1999) Cancer pain assessment and management recommendations by hospice nurses. Journal of Pain and Symptom Management, 18(2),pp 103-110

Tuck, I.,(1995) Qualitative Designs. In Talbot, L.A.,(ed) Principles and Practices of Nursing Research St. Louis, Missouri-Mosby.

Walding, M.F.,(1991) Pain,anxiety, and powerlessness. Journal of Advanced Nursing, 16, pp 388-397.

Woodruff, R.,(1997) Definitions, classifications, and causes. In Woodruff, r.,(ed) Cancer Pain Victoria, Australia: Asherula Pty Ltd.

World Health organisation:Cancer Pain Relief and Palliative Care, 9(804). Geneva

Zalon, M.L.,(1995) Pain managementinstruction in nursing cirricula. Journal of Nursing Education, 34(6),pp 262-267

Zimmerman, L., Story, K.T., Gaston-Johansson, J., Rowles, J.R.,(1996) Psychological variables and cancer pain.Cancer Nursing, 19, pp 44-53

THE HEAD & NECK NURSES ASSOCIATION (H.A.N.N.A.)

invites you to their first Annual Conference and AGM

on
Saturday, 22nd September 2001

at
Tullamore Court Hotel, Co. Offaly

£40 Members / £50 Non Members
(Speakers to be announced)

For information contact:

Anne Murphy
St. Luke's Hospital,
Rathgar, Dublin 6

Tel: 01 406 5038 (Voicemail)

Rosemary McMahon
Beaumont Hospital,
Dublin 9

Tel: 01 809 3000 (Bleep 458)

PRELIMINARY NOTICE

THE 19th ANNUAL CONFERENCE OF THE IRISH ASSOCIATION FOR NURSE IN ONCOLOGY

Will be held on

Saturday 13th October 2001

in the

Newpark Hotel, Castlecomer Road, Kilkenny.

Subject

"EMERGING TOPICS IN CANCER NURSING - PROFESSIONAL DEVELOPMENT, CLINICAL ISSUES"

Speakers to be announced

(Please note the Annual General Meeting is on Friday 12th October 2001 at 7.00pm.)

For further information please contact Mary Kennedy: tel: 01 231 0529
Irish Association for Nurse in Oncology, PO Box 1499, Dublin 4.

Abbreviated Prescribing Information

Presentation: Zofran injection ampoules containing 4mg ondansetron in 2ml aqueous or 8mg in 4ml aqueous solution. Zofran 4mg tablets each containing 4mg ondansetron. Zofran 8mg tablets each containing 8mg ondansetron. ***Uses:*** Nausea and Vomiting due to chemotherapy or radiotherapy. Postoperative nausea and vomiting. ***Dosage:*** Emetogenic chemotherapy and radiotherapy: Either, 8mg i.v. as a slow injection or i.m. immediately before treatment, or 8mg orally 1 to 2 hours before treatment, followed by 8mg orally twelve hourly for up to 5 days to protect against delayed emesis. Highly emetogenic chemotherapy: A single dose of 8mg i.v (as a slow injection) or i.m. immediately before chemotherapy, this dose may be followed by 2 further i.v. or i.m. doses of 8mg two to four hours apart, or by constant infusion of 1mg/hr for up to 24 hours. Doses of greater than 8mg and up to 32mg of zofran may only be given by infusion diluted IN 50-100ml of saline or other compatible infusion fluid infused over not less than 15 minutes. The efficacy of Zofran over the first 24 hours of highly emetogenic chemotherapy may be enhanced by the addition of a single i.v. dose of 20mg dexamethasone immediately before treatment. *Children:* A single i.v dose of 5mg/m2 immediately before chemotherapy, followed by 4mg orally twelve hours later and twice daily for up to 5 days. *Postoperative nausea and vomiting: Prevention in adults:* At induction of anaesthesia, single 4mg dose by i.m. or slow i.v. injection.. Alternatively 16mg orally one hour prior to anaesthesia. *Treatment in adults:* Single 4mg dose (slow i.v. injection or i.m.) *Prevention in children:* Prior to, at or after induction of anaesthesia, 0.1mg/kg as a slow i.v. injection up to a maximum of 4mg. *Treatment in children:* Slow i.v. injection at dose of 0.1mg/kg up to a maximum of 4mg. *Elderly and patients with renal impairment:* No alteration of dosage, dosing frequency or route of administration is required. Patients with hepatic impairment: In patients with moderate or severe hepatic impairment, a total daily dosage of 8mg should not be exceeded.

Contraindications: Hypersensitivity to components. ***Precautions:*** Pregnancy or lactation,.hypersensitivity to other 5ht3 antagonists, subacute bowel obstruction *Side effects:* Headache, constipation, sensation of warmth or flushing, hiccups, occasional asymptomatic increases in liver function tests. Rare reports of immediate hypersensitivity reactions sometimes severe (see data sheet), transient visual disturbances, dizziness, local reaction, extrapyramidal reactions,seizures,chestpain,arrhythmias,hypotension and bradycardia

Product Authorisation holder: Glaxo Laboratories Ltd., Stockley Park West, Uxbridge, Middlesex, UB11 1BT. ***P.A. Numbers:***, Zofran 4mg tablets 44/90/1, Zofran 8mg tablets 44/90/2, Zofran injection 4mg 44/90/3, 8mg 44/90/4, Zofran Suppository 16mg 44/90/7, Zofran Syrup 50ml 44/90/8 ***Legal Classification:*** S1A Zofran is trademark of the Glaxo Wellcome group of companies. **Further information is available on request from:** Glaxo Wellcome Ltd., P.O. Box 700, Grange Road, Rathfarnham, Dublin 16. Phone (01) 4069200. ***Date of Preparation:*** January 2001.

References

1. Zofran tablets and injections. Summary of Product Characteristics.
2. Cunningham D. et al, Ann Oncology 1996; 7(3): 277-282
3. Du Bois A et al. Oncology 1997; 54(1); 7-14
4. Ruff P et al, Oncology 1994; 51(1): 113-118
5. Hirsch JD et al, AM. Soc. CL. Oncology, 17-19 May 1992. Abs 1368