Chapter VI

SUMMARY AND CONCLUSION

This chapter presents a brief summary of the study, major findings, recommendations and conclusions drawn. It also gives the implications for nursing practice, nursing education, nursing administration and nursing research.

One of the principles laid down by the International Council for Nurses (ICN, 2000) is that, “The fundamental responsibilities of the nurse is to alleviate suffering; failure to comfort the person is therefore the failure to fulfill the professional commitment to nursing”.

There are a number of non-pharmacological interventions that might reduce pain and that can be used in combination with pharmacological measures (Titler and Rakel, 2001). Many non-pharmacological measures exist. Of all measures, music therapy is one of the best methods, which helps to relieve the pain and provide comfort to the patients (Potter and Perry, 2005). One effective diversional therapy is music, which decreases physical and
psychological symptoms by diverting the patient’s concentration away from the symptoms and creating relaxation response.

Head and neck cancer diagnosis is often accompanied by much fear because they face difficulties in eating, chewing, drinking, breathing, speaking as well as changes in appearance. Simultaneously, the burden of head and neck cancer is often manifested in psychosocial dysfunction, which can have a negative impact on quality of life like music therapy, there is an opportunity for further research to develop and appropriate clinical intervention program for such patients.

The present study was carried out to assess the effectiveness of the selected interventions on reduction of holistic symptoms and prognosis of patients with head and neck cancer in selected hospital.

**OBJECTIVES**

- To assess the holistic symptoms and quality of life of patients with head and neck cancer in Group I and Group II before interventions.

- To assess the effect of counselling, financial support and oral care in patients of Group I.

- To assess the effect of music therapy, counselling, financial support and oral care in patients of Group II.
To compare the holistic symptoms and quality of life of patients between Group I and Group II after interventions.

To associate the holistic symptoms and quality of life with demographic and clinical variables of patients with head and neck cancer.

The study was conducted at International Cancer Centre, Neyyoor for a period of thirteen months from November 2007 to November 2008. The research design chosen by the investigator was pre-test, post test control group design with control group (Group I) - 100 patients and experimental group (Group II) - 100 patients.

Two hundred patients who fulfilled the inclusion criteria were selected for the study. To allot the patients to Group I (100 patients) and Group II (100 patients) random allotment of weeks was followed. Patients admitted in 1st and 3rd week were allotted to Group I and patients admitted in second and fourth week were allotted to Group II. All the available samples during the data collection were selected. All assessments were done before starting the intervention on the first day. Counselling was given on the day one and day seven. On day 1 it took around 40-45 mts but on day 7 it took only 30 mts. The procedure
was explained to the patients. Oral care was given Q2H when the patient was awake with tantum solution. Financial assistance was provided for all patients. Music therapy was given for Group II every day half an hour 8.30 – 9.00 p.m. after completing the routine care.

The following tools were used to collect the data from the participants. The final tool consisted of 6 sections such as

**Section 1** - Socio Demographic and Clinical Data- Prepared by the investigator.

**Section 2** - Symptoms Check List - prepared by the investigator.

**Section 3** - Universal Pain Assessment Scale- Standard tool.

**Section 4** - Sleep and Physiological Parameter Assessment Scale - Prepared by the investigator.

**Section 5** - Modified University of Washington Quality of Life Questionnaire - Standard tool modified by the investigator.

**Section 6** - Radiation Mucositis Scale- Standard tool.

The collected data was analysed, and organized using descriptive and inferential statistics. The analysis was done based on the objectives and hypotheses of the study.
MAJOR FINDINGS OF THE STUDY

Findings related to socio demographic characteristics of the patients in both groups (Table 3)

- 95.5% of the patients were in the age group of 41-80 years.
- 68% of the patients were female.
- 94% of the patients were married.
- 52.5% of the patients had the monthly family income of Rs. 2001-3000 per month.
- 78% of the patients had primary and secondary education.
- 92% of the patients were doing skilled and unskilled occupation.
- 58.5% of the patients were from rural.
- 61% of the patients were from joint family.
- 63.5% of the patients were Christians.
- 89% had social support from family and relatives.

Findings related to clinical characteristics of the patients on both groups (Table 4)

- 55.5% had diagnosis as cancer cheek.
- 80.5% were diagnosed within 1-2 years of time.
- 62% of the patients had stage I cancer.
- 42% of the patients were admitted for combination of therapy (i.e. chemotherapy and radiation-therapy).
83% of the patients had previous hospitalization less than five times.

74.5% of the patients had previous experience of counselling.

Findings related to physiological symptoms of patients in Group I and Group II on Day 1 (Table 5)

- 26% of the patients in Group I and 11% of the patients in Group II had severe restlessness.
- 95% of the patients in Group I and 100% of the patients in Group II had severe difficulty to swallow.
- 91% of the patients in Group I and 97% of the patients in Group II had severe loss of sleep.
- 88% of the patients in Group I and 98% of the patients in Group II had severe loss of speech.
- 94% of the patients in Group I and 55% of the patients in Group II had severe disfigurement.
- 94% of the patients in Group I and 90% of the patients in Group II had severe difficulty in chewing.
- 33% of the patients in Group I and 82% of the patients in Group II had severe palpitation.
- 42% of the patients in Group I and 89% patients Group II had severe fatigue.
78% of the patients in Group I and 91% of the patients in Group II had severe oral mucositis.

86% of the patients in Group I and 95% of the patients in Group II had severe loss of appetite.

Findings related to psychological symptoms of the patients in Group I and Group II on Day 1 (Table 6)

73% of the patients in Group I and 14% of the patients in Group II had severe impaired concentration.

77% of the patients in Group I and 24% of the patients in Group II had severe irritability.

65% of the patients in Group I and 89% of the patients in Group II had severe anxiety.

25% of the patients in Group I and 42% of the patients in Group II had severe forgetfulness.

85% of the patients in Group I and 93% of the patients in Group II had severe worry.

Findings related to spiritual symptom of the patients in Group I and Group II on Day 1 (Table 7)

93% of the patients in Group I and 96% of the patients in Group II had severe spiritual distress.
Findings related to perception of health status of patients in Group I on day 1

The Perception of patients in Group I about their health status on day 1 were: have severe pain not controlled by regular medication (93%); significantly disfigured appearance and limited activities (85%); tired and activities slowed down still getting out (67%); limitation to recreation outside (62%); ability to swallow liquid food, but feels goes wrong way (41%); able to chew only soft solids and not semi solids (51%); ability to make only relatives and friends to understand the speech (42%); do their hobbies with limitation (26%); ability to taste only limited foods (48%); too little saliva (50%); little depressed about by cancer (31%); very anxious about cancer (48%); sleep 3-4 hours (55%); worried about finance (58%); social groups gives half support (41%); no peace (42%); counselling not at all useful (55%) and over all perception of quality life very poor (49%) (Table 8 - 27).

The Perception of patients in Group II about their health status on day 1 were: have severe pain not controlled by regular medication significantly (67%); disfigured appearance which limit activities (59%); tired and activities slowed down still getting out
(85%); severe limitations to outside recreation (51%); only swallow liquid foods (54%); chew soft solids but cannot chew semi solids (54%); able to make only relatives and friends to understand (55%); pain or weakness in shoulder change work or hobbies (49%); taste only limited foods (56%); little saliva (33%); little depressed about cancer (24%); little anxious about cancer (38%); sleep 3-4 hours (36%); worried about their finance (26%); never had social support (45%); no peace (63%); counselling not at all useful (68%) and over all perception of quality of life poor (59%) (Table 8 - 27).

**Effects of interventions in both Group I and Group II between day 1 and day 7 on physiological symptoms**

- Severe restlessness decreased from 26% to 11% in Group I and in Group II it decreased from 11% to 2% (Table 30).

- Severe difficulty in swallowing decreased from 95% to 55% in Group I and Group II it decreased from 100% to 32% (Table 31).

- Severe loss of sleep decreased from 91% to 66% in Group I and Group II it decreased from 97% to 15% (Table 32).
Severe loss of speech decreased from 88% to 38% in Group I and in Group II decreased from 98% to 46% (Table 33).

Severe disfigurement decreased from 94% to 48% in Group I and Group II absence of disfigurement increased from 23% to 34% (Table 34).

Severe difficulty in chewing decreased from 94% to 48% in Group I and in Group II decreased from 90% to 21% (Table 35).

Severe palpitation decreased from 33% to 24% in Group I and in Group II decreased from 82% to 19% (Table 36).

Severe fatigue decreased from 42% to 24% in Group I and Group II decreased from 89% to 23% (Table 37).

Severe oral mucositis decreased from 78% to 27% in Group I and in Group II decreased 91% to 18% (Table 38).

Severe loss of appetite decreased from 86% to 61% in Group I and in Group II it decreased 95% to 24% (Table 39).

**Effects of interventions in both Group I and Group II between day 1 and day 7 on psychological symptoms**

Severe impaired concentration decreased from 73% to 49% in Group I and Group II absence of impaired concentration increased from 71% to 88% (Table 42).
Absence of irritability increased from 3% to 9% in Group I and in Group II increased 35% to 76% (Table 43).

Severe anxiety decreased from 65% to 43% in Group I and Group II decreased 89% to 12% (Table 44).

Severe forgetfulness decreased from 25% to 9% in Group I and in Group II absence of forgetfulness increased from 28% to 52% (Table 45).

Absence of worry increased from 3% to 7% in Group I and in Group II increased from 1% to 16% (Table 46).

Severe spiritual distress decreased from 93% to 11% in Group I and in Group II decreased from 96% to 7% (Table 47).

Oral mucositis ulceration decreased from 89% to 1% in Group I and in Group II it decreased from 62% erythema 33% (Table 50).

Effects of interventions on physiological parameters in both Group I and Group II

Increase in quality of life score was significantly higher (34.09 to 51.74) in Group II than Group I (26.68 to 29.44). p value <0.001 (Table 55).

Decrease in pain score was significantly higher (7.70 to 2.51) in Group II than Group I (7.76 to 6.28). p value <0.001 (Table 57).
Decrease in systolic blood pressure score was significantly higher (115.90 to 110.02) in Group II but in Group I it was increased (114.60 to 116.40). p value <0.001 (Table 52).

Decrease in diastolic pressure score was significantly higher (75.50 to 70.90) in Group II but in Group I it was increased (77.20 to 77.90). p value <0.001 (Table 52).

Decrease in pulse rate was significantly higher (81.50 to 77.10) in Group II but in Group I it was remained the same (79.21). p value <0.001 (Table 53).

Increase in duration of sleep significantly higher (4.48 to 7.02) in Group II than Group I (4.13 to 4.41). p value <0.001 (Table 54).

Decrease in physiological symptoms were significantly higher (17.25 to 11.25) in Group II than Group I (17.22 to 13.82). p value <0.001 (Table 41).

Decrease in psychological symptoms were significantly higher (6.28 to 3.32) in Group II than Group I (7.98 to 6.49). p value <0.001 (Table 49).

Association of pain, quality of life, oral mucositis and holistic symptoms after adjusted with demographic and clinical characteristics

There was a non-significant interaction between the age, occupation and total physiological scores (Table 80, 81, 82).
There was non-significant interaction effect between education, occupation, type of family and total psychological scores (Table 83, 84, 85, 86).

There was significant interaction effect between income, education and total quality of life scores (Table 87, 89, 90).

There was non-significant interaction effect between marital status, type of family, number of previous hospitalization and total quality of life scores (Table 87, 88, 91, 92).

There was non-significant interaction effect between number of previous hospitalization and pain scores (Table 93, 96).

There was significant interaction effect between residence, type of family and pain scores (Table 93, 94, 95).

There was significant interaction effect between education, residence and oral mucositis scores (Table 97, 99, 100).

There was non significant interaction between income, religion, diagnosis and oral mucositis scores (Table 97, 98, 101, 102).

CONCLUSION

Demographic and clinical data revealed that majority of patients with head and neck cancer were males and married. Cancer cheek was
the most common diagnosed cancer among head and neck cancer (Table 3 and 4).

In head and neck cancer patients on day 1 the commonly presented physiological symptoms were restlessness, difficulty to swallow, loss of sleep, loss of speech, disfigurement, difficulty in chewing, palpitation, fatigue, oral mucositis, loss of weight, loss of hair, and loss of appetite. Psychological symptoms were impaired concentration, irritability, anxiety, forgetfulness, worry and spiritual distress (Table 5, 6, 7).

The patients after receiving counselling financial support and oral care showed reduction in scores on holistic symptoms, but patients those who received music therapy in addition to counselling, financial support and oral care had significantly more reduction in holistic symptoms especially the psychological symptoms (Table 58, 59).

Music therapy in addition to counselling, financial support and oral care had significantly reduced the holistic symptoms, systolic and diastolic blood pressure, pain, oral mucositis and significantly increased the duration of sleep and quality of life (Table 41, 49, 52, 53, 54, 55, 57).
From the above result it can be concluded the music therapy significantly reduced holistic symptoms such as physiological psychological, spiritual symptoms, pain, blood pressure, pulse rate, and increased the duration of sleep, and quality of life. It can be concluded that music therapy significantly reduces the holistic symptoms and improve the prognosis.

**IMPLICATIONS**

Many patients would like to avoid pharmacological and invasive methods of therapies to reduce pain and side effects. The investigator has drawn the following implications from the study, which is of vital concern for nursing practice, nursing education, nursing administration and nursing research.

**NURSING PRACTICE**

- Cancer pain is crucial and need pharmacological assistance. The findings of the present study can be utilized by practice nurses in alleviating suffering of patients in cancer.
- Nurses can provide music therapy in additional to other nursing interventions.
- Nurses can encourage the patients to listen music as an diversional therapy.
Nurse led counselling service for oncology ward can be effective in reducing patients psychological distress.

Nurses can develop evidence based practice on alternative therapies.

Care to be taken to avoid unnecessary stress for oncology patients by providing holistic nursing care.

Nurses can find available resources for cost effective treatment.

Nurses can educate the benefits of mouth care and assist for practice properly.

Nurses must practice learned alternative therapies in their service.

**NURSING EDUCATION**

The updated nursing curriculum should emphasize more on various alternative therapies and its advantages.

Nurses with special training and up-to-date knowledge will provide cost effective and quality nursing care.

Special courses on alternative therapies can be started for nurses, so as to enable them to function independently.

Organise periodical short sessions to educate and train complementary alternative medicine therapies.

Community health nurse can conduct mass education programmes on alternative therapies in the community setting.
In service education should be organized periodically for nurses to update the knowledge and skill in various types of alternative therapies.

Seminars, workshops and symposium arranged regarding alternative therapies to make nursing professionals competent enough to meet the ever changing needs of the society.

**NURSING ADMINISTRATION**

- Nurse administrators need to facilitate the utilization of research based nursing intervention in alternative therapy methods and to formulate polices and necessary changes in the institution.

- Nurse administrator should ensure that the alternative therapies are incorporated in the nursing interventions.

- Nurse administrator must take necessary policies to implement alternative therapies.

- Nurse administrator try to change the present polices of the hospital and formulate new policies to have light instrumental music in the critical care unit, intensive care unit, surgical and palliative care unit.

- Nurse administrator must make sure to provide music listening facilities in oncology care unit as well as wherever stress are more.
Nurse administrator must make necessary arrangement to implement music therapy as an effective method for sleep and pain management modalities.

Nurse administrator should help to organize in-service education programme on alternative therapies.

Nurse administrator should make arrangement to see that sufficient man power, money and materials are available to provide uninterrupted quality alternative therapies care.

**NURSING RESEARCH**

- A similar study can be conducted instead of patient with head and neck cancer any other sites of the cancer and different methods of alternative therapies.

- A similar study can be conducted in various types of settings with different geographic regions with large samples at the same time.

- A study can be conducted with different types of music in different group of people based on their choice of music instead of instrumental music alone.

- A similar comparative study can be conducted only on chemotherapy or radiation therapy or combination of therapy.

- A study can be conducted to find out the effectiveness of some other type of mouth care instead of tantum solution, for oral mucositis.
A comparative study can be conducted to evaluate the effectiveness of alternative therapies in reduction of holistic symptoms and prognosis between patients with head and neck cancer in urban and rural population.

A study can be conducted to evaluate the effectiveness of music therapy in reduction of stress and anxiety among care givers.

A follow up extensive study can be conducted to evaluate the effectiveness of music therapy in quality of life of patients in advanced cancer.

A comparative study can be conducted to evaluate the effectiveness of music therapy and other alternative therapy among cancer patients as a long term study and home based study.

**RECOMMENDATIONS**

Based on the findings of the study the following recommendations were made.

- Ongoing facility to be provided to listen music in oncology ward and other stressful areas.

- Present study was provided counseling on day 1 and day 7. Continuous counselling and financial facilities to be provided.

- Facilities to be provided to update nursing researchers knowledge by seminars, workshops and other form of in-service programmes.
Alternative therapies can be included in the policy of the hospital by changing the present policy of the hospital.

Routine counselling department can be established and counselling can be arranged for not only oncology patient, but also for other stressful departments like intensive care unit, post-operative ward and palliative care unit.

Present study was limited to short period but long term follow-up studies on quality of life can be done because cancer is not an acute disorder.

Nursing research can be conducted on other alternative methods of therapies to improve quality of life of the cancer patients.

Other alternative methods can be adopted for reduction of pain and increase of sleep.

The findings of the study need to be published so that other members of the nursing community can utilize the findings.

Possible financial assistance should be introduced because oncology patients need long term care.

Present study was limited to head and neck cancer. It can be conducted on other cancers also.