

# **1 Study Limitations, Recommendations and Conclusions**

## ***1.1 Limitations of the Study***

### **1.1.1 Study Sample**

The allocation of patients to the study population was determined by their date of admission to a particular unit for treatment of a haematological cancer by chemotherapy. It constituted a convenience sample where all the patients who entered the hospital to be treated within the study period were invited to participate. The sample was not randomly chosen. This study was focussed on a very particular category of patients, and small numbers of potential participants, and constituted some 54% of the number of patients that might be expected to start treatment in a given year (2008 comparison). Nevertheless, it is a convenience sample of patients and offers only a limited validity.

### **1.1.2 Tools**

The tools used were Body Mass Index (B.M.I.) as the nutritional assessment tool, the Distress Thermometer as the distress measurement tool and questionnaires on perceived relationship between nutritional status and distress (data gathering point 3) prepared purposely for this study. B.M.I. is widely used to assess a person's weight for nutritional status, however it may turn out to be slightly inaccurate in certain cases, such as in:

- Body builders and competitive athletes – where muscle weighs more than fat. Hence unusually muscular people may have a high B.M.I. and not be obese or overweight (Cancer Research UK, 2007; Van Voorhees, 2006).

- Elderly – where a B.M.I. of 25 to 27 is usually better, rather than one of less than 25, to protect them from osteoporosis (Cancer Research UK, 2007; Van Voorhees, 2006).

Cancer Research UK (2007) also state that there are also slight variations in the B.M.I. thresholds for the two sexes and for different races. However, for the scope of this research study, I decided to assume that they would not influence the outcome of this study, although the sample population included some elderly people. Apart from that it did not include children, pregnant or breastfeeding women or body builders or athletes. There was only one patient who had been used to performing regular exercise (patient 2),

Although the Distress Thermometer was validated several times and in various studies (Ransom *et al.*, 2006; NCI, 2005; Patrick-Miller *et al.*, 2004) the fact that certain points of the tool were removed from the actual tool used (see Appendix 7.9 on dissertation page **Error! Bookmark not defined.**) could have influenced the reliability of the tool.

### **1.1.3 Treatment**

The patients studied were all under the care of the same Medical Consultant. This means that, the chemotherapy treatment and any other medication that they were given, the treatment cycle and program and other variables related to their care were according to the Consultant's choice. Although this could have made the sample population more homogenous, the side-effects of the patients could have been more elaborate and varied, associated with particular drugs and this would possibly have affected the correlations investigated and the results obtained. This calls for more in-depth research in this area.

## ***1.2 Study Results***

1. The study results identified no correlation between nutritional status and chemotherapy-induced distress at data-collection point 1, i.e. before the start of treatment. There is however a strong and statistically significant correlation between nutritional status and distress after 4 to 6 days of treatment (data collection point 2) and at the end of treatment (data collection point 3). This means that the distress is closely related to the start of chemotherapy.
2. With regards to the patients' nutritional status, there was a statistically significant difference between their perceived and their actual statuses. This merits a more in-depth research study to investigate the patients' perceptions and their accuracies in identifying these perceptions.
3. The strong correlation between a higher B.M.I. and levels of distress at data gathering point 2 and 3 suggests that some of these patients may be more prone to distress. However, the individual patient profile data suggests that shifts in distress level are relatively modest and not so readily associated with changes in B.M.I. over the period. More research therefore needs to be done on this correlation in order to ascertain whether additional psychological support is mandated.
4. The use of both correlation and patient profile data offers both opportunities and challenges in research use. One can be used to help interrogate the other. A significant correlation at a given data gathering point might not necessarily mandate

action or even be clear as to why the correlation occurs. Understanding individual patient profile data trends might assist us to identify what is happening in such circumstances. A caveat is needed though and this concerns the period over which data is gathered. Trends in data over a few weeks, as here, might not reflect longer term trends in data, those relating to B.M.I. or distress.

### **1.3 Recommendations**

1. It would be interesting if further research is conducted on:
  - a. Haematological patients to identify the major causes of distress in Maltese patients.
  - b. Colleagues to start monitoring patients with a high B.M.I. for incidence of significant distress associated with chemotherapy.
  - c. Other patients with the same diagnoses and treatment conditions abroad. These would provide very valuable data that would permit us to compare trends across different cultures and countries.
  - d. More in-depth analysis investigating other variables such as age, gender, diagnosis, initial cycle of treatment versus a second or third cycle of treatment, different diets, different support systems.
  - e. Developing a nutritional supplement strategy concerning haematological cancer patients and other patients with similar conditions.
2. A patient and relative support group run by a team of professionals, including a psychologist, nurse/s, doctor/s, Haematology Nurse Specialist, nutritionist and

patients/relatives could be set up. This would need to function on a regular basis from within the hospital or the community, and include patients starting treatment, receiving treatment (if physically possible) and after treatment. This would be very important to provide support to the patients and their families during the whole intra-treatment period, in order to make this difficult period as bearable as possible for them.

#### ***1.4 Conclusion***

Whilst there are statistically significant correlations between B.M.I. and distress at the chemotherapy treatment stage, the likely mediator here seems strongly associated with treatment rather than the nutritional status of the patient. It is worth though monitoring further those patients with a higher B.M.I. because they may be more prone to distress and we might target assistance there. The level and volume of intervention though needs to take account of individual shifts in patient distress levels and data in this study suggests that this is often modest.

Correlation studies have a key role to play in identifying areas for further scrutiny and research, but patient profile data helps us to determine what is then happening. This study did not identify any correlations that might suggest an insulating or protecting effect of

nutrition when we consider patient distress. Nevertheless, nutrition remains important for other physiological reasons, the combating of infections and similar. Whilst nutrition is comforting, its primary benefits may be physical.