UNIVERSITI PUTRA MALAYSIA

QUALITY OF LIFE AMONG CANCER PATIENTS UNDERGOING CHEMOTHERAPY IN GOVERNMENT HOSPITALS IN PENINSULAR MALAYSIA

SUHASINEE SUBRAMANIAM

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QUALITY OF LIFE AMONG CANCER PATIENTS UNDERGOING CHEMOTHERAPY IN GOVERNMENT HOSPITALS IN PENINSULAR MALAYSIA

By

SUHASINEE SUBRAMANIAM

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirements for the Degree of Master of Science

May 2018
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DEDICATION

To
My parents, Mr Subramaniam and Mrs Indra Dewi
My siblings, Mr Thamodaran and Ms Darshnee
and my pillar of strength, my husband,
Mr Kumaresapathy,
Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

QUALITY OF LIFE AMONG CANCER PATIENTS UNDERGOING CHEMOTHERAPY IN GOVERNMENT HOSPITALS IN PENINSULAR MALAYSIA

By

SUHASINEE SUBRAMANIAM

May 2018

Chairman : Professor Sherina Mohd Sidik, MBBS, MMED, PhD
Faculty : Medicine and Health Sciences

INTRO: Cancer is an important health concern globally and is one of the leading causes of morbidity and mortality worldwide. According to the World Health Organization (WHO), cancer is the second leading cause of death globally. An analytic cross-sectional study was conducted to determine the predictors of quality of life among chemotherapy cancer patients in government hospital in Malaysia. Cancer patients undergoing chemotherapy treatment in ten state government hospitals in Peninsular Malaysia were included in this study. Patients who did not give consent to participate in this study or who were absent during the data collection period were excluded.

METHODS: The data were collected using self-administered questionnaires including socio-demographic characteristics, quality of life (WHOQOL), social support (Multidimensional Scale of Perceived Social Support (MSPSS)), hopelessness (The Beck Hopelessness Scale (BHS) and physical effect (Common Terminology Criteria for Adverse Events (CTCAE) version 4.0) Data were analyzed using the statistical computer software of SPSS version 23. Descriptive statistics were conducted to obtain frequency and percentage of variables. Independent sample T-test and One way ANOVA were used to determine the association between variables at level of significance, p<0.25. Continuous variables were presented as means with 95% Confidence interval (CI). Multiple linear regression model was used to determine the significant predictors. A p-value of less than 0.05 was considered statistically significant. The predictors of each domain was analysed separately.
RESULTS: Quality of life among cancer patients undergoing chemotherapy in this study was determined by four domains which were physical health, psychological, social relationships and environment. The overall mean score for physical health was 52.60, psychological was 52.55, social relationships was 50.79 and environment was 51.16. All 1333 chemotherapy patients completed the questionnaire in this study; giving a response rate of 100%. Majority (61.0%) of patients were Malay female patients. Meanwhile 1021 patients (51.2%) received high social support and 38.0% of patients had moderate level of hopelessness in determining quality of life in patients. Highest number of patients (51.5%) were affected due to mild skin nail changes during chemotherapy and (31.4%) was affected with mild anorexia and vomiting in chemotherapy.

DISCUSSION: The significant predictors of physical effect domain were monthly income, cancer stage, social support, nausea and vomiting. The significant predictors of psychological domain were race, marital status, cancer stage, nausea and vomiting. The significant predictors of social relationships domain were race, educational level, social support, nausea and vomiting. The significant predictors of environment domain were race, marital status, hopelessness level, nausea and vomiting.

CONCLUSION: The quality of life among chemotherapy cancer patients is important to be observed. Based on the predictors found in this study, appropriate interventions can be taken to improve the quality of life outcomes and the response towards the treatment.

Keywords: cancer, chemotherapy, quality of life, social support, hopelessness

KAEDAH: Kaedah soal selidik telah digunakan untuk mengumpul data termasuk ciri-ciri sosio-demografi, kualiti hidup (WHOQOLBREF), sokongan sosial (Multi-dimensional Scale of Perceived Social Support (MSPSS-M)), sikap putus harapan (The Beck Hopelessness Scale (BHS)) dan kesan fizikal (Common Terminology Criteria for Adverse Events (CTCAE) versi 4.0). Data yang dikumpul dianalisis dengan menggunakan perisian komputer statistik SPSS versi 23. Statistik deskriptif dijalankan untuk mendapatkan kekerapan dan peratusan pembolehubah. Ujian sampel T bebas (Independant sample T test) dan satu hala ANOVA digunakan untuk menentukan persamaan antara pemboleh ubah pada tahap yang bersignifikan, p <0.25. Pemboleh ubah berterusan telah dibentangkan dengan kadar purata 95% keyakinan data berselang (confidence interval). Model regresi linier berganda digunakan untuk menentukan peramal yang signifikan. Nilai p kurang daripada 0.05 dianggap signifikan secara statistik. Peramal bagi setiap domain dianalis secara berasingan.
KEPUTUSAN: Kualiti hidup di kalangan pesakit kanser yang menjalani rawatan kemoterapi dalam kajian ini ditentukan oleh empat domain iaitu kesehatan fizikal, psikologi, hubungan sosial dan persekitaran. Purata skor bagi kesehatan fizikal adalah 52.60, psikologi adalah 52.55, hubungan sosial adalah 50.79 dan persekitaran adalah 51.16. Kesemua 1333 pesakit kemoterapi telah melengkapkan soal selidik dalam kajian ini; memberikan kadar tindak balas sebanyak 100%. Majoriti (61.0%) pesakit adalah pesakit wanita Melayu. Manakala, 1021 pesakit (51.2%) menerima sokongan sosial yang tinggi dan 38.0% pesakit mempunyai tahap putus harapan yang sederhana dalam menentukan kualiti hidup pesakit. Kebanyakan pesakit (51.5%) telah terjejas akibat perubahan kuku kulit ringan semasa kemoterapi dan (31.4%) terjejas dengan anoreksia ringan dan muntah ketika kemoterapi.

PERBINCANGAN: Peramal signifikan domain kesan fizikal adalah pendapatan bulanan, peringkat kanser, sokongan sosial, rasa mual dan muntah. Peramal signifikan domain psikologi adalah bangsa, status perkahwinan, peringkat kanser, rasa mual dan muntah. Peramal penting domain hubungan sosial adalah bangsa, tahap pendidikan, sokongan sosial, rasa mual dan muntah. Peramal penting dalam domain persekitaran adalah bangsa, status perkahwinan, tahap perasaan putus harapan, rasa mual dan muntah.

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Last but not the least, I would like to thank my family members; my parents, husband and siblings for supporting me throughout this research masters journey. Not only that, I would like specifically thank my sister Kirbashini Kanesan for always being there throughout my master’s programme.
I certify that a Thesis Examination Committee has met on 28 May 2018 to conduct the final examination of Suhasinee a/p Subramaniam on her thesis entitled "Quality of Life among Cancer Patients Undergoing Chemotherapy in Government Hospitals in Peninsular Malaysia" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>i</td>
</tr>
<tr>
<td>ABSTRAK</td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>v</td>
</tr>
<tr>
<td>APPROVAL</td>
<td>vi</td>
</tr>
<tr>
<td>DECLARATION</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xv</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xvii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xviii</td>
</tr>
</tbody>
</table>

## CHAPTER

### 1 INTRODUCTION

1.1 Background 1  
1.2 Problem Statement 2  
1.3 Significance of the Study 3  
1.4 Research questions 3  
1.5 Study objectives 3  
  1.5.1 General Objective 3  
  1.5.2 Specific Objectives 4  
1.6 Research hypotheses 4

### 2 LITERATURE REVIEW

2.1 Cancer 5  
2.2 Epidemiology of Cancer 5  
2.3 Chemotherapy 7  
2.4 Quality of Life among chemotherapy cancer patients 7  
2.5 Socio-demographic characteristics and quality of life among chemotherapy cancer patients 8  
  2.5.1 Age 8  
  2.5.2 Gender 9  
  2.5.3 Race 9  
  2.5.4 Marital Status 10  
  2.5.5 Education level 10  
  2.5.6 Working and monthly income 10  
  2.5.7 Cancer stage, chemotherapy cycle and pain due to chemotherapy 11  
  2.5.8 Joined cancer support society 11  
  2.5.9 Worried of adverse effect due to chemotherapy 11  
2.6 Social support and quality of life among chemotherapy cancer patients 11
2.7 Hopelessness level and quality of life among chemotherapy cancer patients 12

2.8 Physical effects of chemotherapy and quality of life among chemotherapy cancer patients 13
  2.8.1 Nausea and Vomiting 13
  2.8.2 Anorexia 13
  2.8.3 Diarrhoea 14
  2.8.4 Constipation 14
  2.8.5 Anaemia 14
  2.8.6 Infection and fever 15
  2.8.7 Fatigue 15
  2.8.8 Bleeding 15
  2.8.9 Hair loss 15
  2.8.10 Mouth, gum and throat infection 16
  2.8.11 Skin and nail changes 16

2.9 Conclusion of Literature Review 16

2.10 Conceptual Framework 17

3 METHODOLOGY 18
  3.1 Study Location 18
  3.2 Study Design 18
  3.3 Study Duration 18
  3.4 Study Population 18
  3.5 Sampling frame 19
  3.6 Sampling Unit 19
  3.7 Study variable 19
    3.7.1 Dependent Variable 19
    3.7.2 Independent Variable 19
  3.8 Sample Size Estimation 20
  3.9 Sampling Technique 21
  3.10 Inclusion and Exclusion Criteria 22
    3.10.1 Inclusion criteria 22
    3.10.2 Exclusion criteria 22
  3.11 Data Collection 22
    3.11.1 Instruments of Study 22
  3.12 Quality Control 25
    3.12.1 Validity of Questionnaire 25
      3.12.1.1 Content Validity 25
      3.12.1.2 Face Validity 25
      3.12.1.3 Pretesting 25
    3.12.2 Reliability of Questionnaire 25
      3.12.2.1 Cronbach alpha 25
  3.13 Data Analysis 26
  3.14 Ethical consideration 26
  3.15 Flow chart 27
4 RESULTS

4.1 Response Rate 28
4.2 Socio-demographic characteristics of the chemotherapy cancer patients 28
4.3 Social support among chemotherapy patients 30
4.4 Hopelessness level among chemotherapy cancer patients 31
4.5 Physical effects of chemotherapy among chemotherapy cancer patients 31
4.6 Mean for quality of life among cancer patients on chemotherapy 34
4.7 Associations of Quality of life (Physical health) 34
  4.7.1 Association between socio-demographic characteristics and quality of life (Physical health) among chemotherapy cancer patients 34
  4.7.2 Association between social support and quality of life (Physical Health) among chemotherapy cancer patients 36
  4.7.3 Association between hopelessness level and quality of life (Physical Health) among chemotherapy cancer patients 36
  4.7.4 Association between physical effects of chemotherapy and quality of life (Physical health) among chemotherapy cancer patients, (cont.) 37
4.8 Associations of quality of life (Psychological) 38
  4.8.1 Association between socio-demographic characteristics and quality of Life (Psychological) among chemotherapy cancer patients 38
  4.8.2 Association between social support and quality of life (Psychological) among chemotherapy cancer patients 40
  4.8.3 Association between hopelessness level and quality of life (Psychological) among chemotherapy cancer patients 40
  4.8.4 Association between physical effects of chemotherapy and quality of life (Psychological) among chemotherapy cancer patients 41
4.9 Associations of quality of life (Social Relationships) 42
  4.9.1 Association between socio demographic characteristics and quality of life (Social relationships) among chemotherapy cancer patients 42
  4.9.2 Association between social support and quality of life (Social relationships) among chemotherapy cancer patients 44
  4.9.3 Association between hopelessness level and quality of life (Social relationships) among chemotherapy cancer patients 44
  4.9.4 Association between physical effects of chemotherapy and quality of Life (Social relationships) among chemotherapy cancer patients 45
4.10 Associations of quality of life (Environment) 46
4.10.1 Association between socio demographic characteristics and quality of life (Environment) among chemotherapy cancer patients 46
4.10.2 Association between social support and quality of life (Environment) among chemotherapy cancer patients 48
4.10.3 Association between hopelessness level and quality of life among chemotherapy cancer patients 48
4.10.4 Association between physical effects of chemotherapy and quality of life (Environment) among chemotherapy cancer patients 49

4.11 Predictors of quality of life (physical health, psychological, social relationships and environment) among chemotherapy cancer patients 50
4.11.1 Predictors of physical health domain in quality of life among chemotherapy cancer patients 50
4.11.2 Predictors of psychological domain in quality of life among chemotherapy cancer patients 50
4.11.3 Predictors of social relationships domain in quality of life among chemotherapy cancer patients 51
4.11.4 Predictors of environment domain in quality of life among chemotherapy cancer patients 52

5 DISCUSSION 53
5.1 Response rate 53
5.2 Quality of life among chemotherapy cancer patients 53
5.3 Association between socio-demographic characteristics and quality of life among chemotherapy cancer patients 53
5.3.1 Age 54
5.3.2 Race 54
5.3.3 Marital Status 55
5.3.4 Education Level 55
5.3.5 Working and Monthly Income 56
5.3.6 Cancer stage and Pain due to chemotherapy 56
5.4 Association between social support and quality of life among chemotherapy cancer patients 57
5.5 Association between hopelessness level and quality of life among chemotherapy cancer patients 57
5.6 Association between physical effects of chemotherapy and quality of life among chemotherapy cancer patients 58
5.6.1 Nausea and vomiting 58
5.6.2 Fatigue 58
5.6.3 Nail and skin changes 59
5.7 Predictors of quality of life (physical health, psychological, social relationships and environment domains) among cancer patients undergoing chemotherapy 59
5.7.1 Social demographic characteristics as a predictor of quality of life (physical health, psychological, social
relationships and environment domains) among cancer patients undergoing chemotherapy

5.7.2 Social support as a predictor of quality of life (physical health and social relationships domains) among cancer patients undergoing chemotherapy

5.7.3 Hopelessness as a predictor of quality of life (environment domain) among cancer patients undergoing chemotherapy

5.7.4 Physical effects as a predictor of quality of life (physical health, psychological, social relationships and environment domains) among cancer patients undergoing chemotherapy

6 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

6.2 Domains of Quality of life
   6.2.1 Physical health
   6.2.2 Psychological
   6.2.3 Social relationships
   6.2.4 Environment

6.3 Strength and limitations

6.4 Recommendations

REFERENCES
APPENDICES
BIODATA OF STUDENT
PUBLICATION
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Proportionate allocation to each hospital</td>
<td>21</td>
</tr>
<tr>
<td>3.2</td>
<td>WHOQOL-BREF Domains</td>
<td>23</td>
</tr>
<tr>
<td>3.3</td>
<td>Reliability test results of questionnaire items</td>
<td>25</td>
</tr>
<tr>
<td>4.1</td>
<td>Calculation of response rate</td>
<td>28</td>
</tr>
<tr>
<td>4.2</td>
<td>Socio-demographic characteristics of chemotherapy cancer patients (N=1333)</td>
<td>29</td>
</tr>
<tr>
<td>4.3</td>
<td>Social support among chemotherapy cancer patients (N=1333)</td>
<td>31</td>
</tr>
<tr>
<td>4.4</td>
<td>Hopelessness level among chemotherapy cancer patients (N=1333)</td>
<td>31</td>
</tr>
<tr>
<td>4.5</td>
<td>Physical effects of chemotherapy among chemotherapy cancer patients (N=1333)</td>
<td>32</td>
</tr>
<tr>
<td>4.6</td>
<td>Mean for quality of life among cancer patients receiving chemotherapy</td>
<td>34</td>
</tr>
<tr>
<td>4.7</td>
<td>Association between socio-demographic characteristics and quality of life (Physical health) among chemotherapy cancer patients</td>
<td>34</td>
</tr>
<tr>
<td>4.8</td>
<td>Association between social support and quality of life (Physical Health) among chemotherapy cancer patients</td>
<td>36</td>
</tr>
<tr>
<td>4.9</td>
<td>Association between hopelessness level and quality of life (Physical health) among chemotherapy cancer patients</td>
<td>36</td>
</tr>
<tr>
<td>4.10</td>
<td>Association between physical effects of chemotherapy and quality of life (Physical Health) among chemotherapy cancer patients</td>
<td>37</td>
</tr>
<tr>
<td>4.11</td>
<td>Association between socio-demographic characteristics and quality of life (Psychological) among chemotherapy cancer patients</td>
<td>38</td>
</tr>
<tr>
<td>4.12</td>
<td>Association between social support and quality of life (Psychological) among chemotherapy cancer patients</td>
<td>40</td>
</tr>
<tr>
<td>4.13</td>
<td>Association between hopelessness level and quality of life (Psychological) among chemotherapy cancer patients</td>
<td>40</td>
</tr>
<tr>
<td>4.14</td>
<td>Association between physical effects of chemotherapy and quality of life (Psychological) among chemotherapy cancer patients</td>
<td>41</td>
</tr>
</tbody>
</table>
4.15 Association between socio demographic characteristics and quality of life (Social relationships) among chemotherapy cancer patients 42
4.16 Association between social support and quality of life (Social relationships) among chemotherapy cancer patients 44
4.17 Association between hopelessness level and quality of life (Social relationships) among chemotherapy cancer patients 44
4.18 Association between physical effects of chemotherapy and quality of life (Social Relationships) among chemotherapy cancer patients 45
4.19 Association between socio demographic characteristics and quality of life (Environment) among chemotherapy cancer patients 46
4.20 Association between social support and quality of life (Environment) among chemotherapy cancer patients 48
4.21 Association between hopelessness level and quality of life (Environment) among chemotherapy cancer patients 48
4.22 Association between physical effects of chemotherapy and quality of life (Environment) among chemotherapy cancer patients 49
4.23 Predictors of quality of life (physical health) 50
4.24 Predictors of quality of life (psychological) 51
4.25 Predictors of quality of life (social relationships) 51
4.26 Predictors of quality of life (environment) 52
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Cancer Mortality Profile for 2014 in Malaysia (WHO, 2014)</td>
<td>6</td>
</tr>
<tr>
<td>2.2</td>
<td>Cancer Incidence Profile for 2014 in Malaysia (WHO, 2014)</td>
<td>6</td>
</tr>
<tr>
<td>2.3</td>
<td>Conceptual framework of quality of life among the cancer patients receiving chemotherapy</td>
<td>17</td>
</tr>
<tr>
<td>3.1</td>
<td>Research methodology process flow chart</td>
<td>27</td>
</tr>
</tbody>
</table>
### LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADEs</td>
<td>Adverse Drug Events</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence Interval</td>
</tr>
<tr>
<td>CTCAE</td>
<td>Common Terminology Criteria for Adverse Events</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>NCCN</td>
<td>National Comprehensive Cancer Network</td>
</tr>
<tr>
<td>NCI</td>
<td>National Cancer Institute</td>
</tr>
<tr>
<td>MNCR</td>
<td>Malaysia National Cancer Registry</td>
</tr>
<tr>
<td>EORTC</td>
<td>European Organization for Research and Treatment in Cancer</td>
</tr>
<tr>
<td>QOL</td>
<td>Quality of Life</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>CRF</td>
<td>Chemotherapy-related fatigue</td>
</tr>
<tr>
<td>CDR</td>
<td>Cytotoxic drug reconstitution</td>
</tr>
<tr>
<td>CID</td>
<td>Chemotherapy-induced diarrhea</td>
</tr>
<tr>
<td>NV</td>
<td>Nausea and vomiting</td>
</tr>
<tr>
<td>CIC</td>
<td>Chemotherapy induced constipation</td>
</tr>
<tr>
<td>CIT</td>
<td>Chemotherapy induced thrombocytopenia</td>
</tr>
<tr>
<td>CIA</td>
<td>Chemotherapy induced alopecia</td>
</tr>
<tr>
<td>BHS</td>
<td>Beck Hopelessness Scale</td>
</tr>
<tr>
<td>BDI</td>
<td>Beck Depression Inventory</td>
</tr>
<tr>
<td>MPSS</td>
<td>Multidimensional Scale of Perceived Social Support</td>
</tr>
</tbody>
</table>
CHAPTER 1

INTRODUCTION

This chapter provides an overview on quality of life among cancer patients undergoing chemotherapy and the significance of this study to be conducted among chemotherapy cancer patients. It clearly states the study objectives, research hypotheses and the conceptual framework of the study.

1.1 Background

Cancer is an important health concern at the global level as some new fourteen million cases were registered in 2012, thus emerging as one of the top reasons for the escalating rates of mortality and morbidity at the global scale (Ferlay et al., 2013). In 2015, cancer caused 8.8 million deaths making it the second leading cause of death globally (WHO, 2017). In 2008, cancer as a disease was responsible for 7.6 million deaths, which is about 13% of overall deaths making it a leading cause of death with most cancer deaths caused by breast, prostate, lung, stomach and colorectal cancers. Risk factors found to be common contributing factors for cancer are physical inactivity, use of tobacco, irresponsible use of alcohol and an unhealthy diet (WHO, 2017). The prevalence of cancer in low and middle income countries is quite high where nearly 70% of deaths happen in low and middle income countries (WHO, 2017).

Based on a Malaysian National Cancer Registry (MNCR) report a whopping 103,507 is the number of established new cases of cancer between 2007 and 2011 in Malaysia. This is made up of 46,794 (45.2%) in males and 56,713 (54.8%) in females and 1 in every 10 males is prone to get cancer while the probability in female is 1 in 9 (Manan, Tamin, Abdullah, Abidin & Wahab, 2016). The main cause of fatality among most females and males in Malaysia diagnosed with cancer has been breast cancer and colon cancers respectively (Manan et al., 2016). According to a report by The Star, death from cancer has increased from 20100 in 2008 to 21700 in 2012. The burden of new cancer cases in developing countries is estimated to reach 21.4 million cases per year by 2030 (The Star, 2014). In Malaysia, the prevalence of colon cancer and breast cancer was mostly recorded among the Chinese population (Manan et al., 2016; Hilmi, Hartono, & Goh, 2010).

Cancer related deaths are rising tremendously due to factors such as smoking and tobacco use, poor diet, alcohol, lack of exercise or being overweight (WHO, 2017). Due to lifestyle choices such as incorrect diet, irregular exercise and smoking, the incidence of cancer is increasing globally; poor life style choices doubles the risk of cancer (Huxley et al., 2009; Kamarudin & Hidayah, 2006; Yang, Jacobs, Gapstur, Stevens, & Campbell, 2015). The increasing cancer cases are counteracted by the survival rate of cancer which is also subsequently increasing, although the survival
rates of cancer differ worldwide depending on the stage of the cancer diagnosed and respective country’s development. When compared with other developed nations, cancer patients in Malaysia with 5 years of survival rate are relatively good (Muhamad et al., 2015; Veettil, Lim, Chaiyakunapruk, Ching, & Abu Hassan, 2017).

Patients’ quality of life can be impacted largely by diagnosis as well as treatment for cancer. The basic treatments for cancer can be: local treatments of surgery, radiotherapy, systemic treatments using biological agents (for example hormones, antibodies and growth factors) and chemotherapy (NCI, 2017). Chemotherapy, which appears to be a treatment that plays a vital role in mitigating cancer, can be carried out in isolation or combined with other treatments, such as radiotherapy and surgery. Chemotherapy side effects can worsen quality of life in cancer patients (Xiao et al., 2016). Side effects will be different according to the chemotherapy treatment. The most common side effects of chemotherapy are nausea and vomiting, anemia, hair loss, bleeding (thrombocytopenia), bone marrow depression, alopecia and mucositis (Rasool Hassan, 2012). Nevertheless, it is also the treatment that can improve quality of life in cancer patients (Dehkordi, Heydarnejad, & Fatehi, 2009). The effectiveness of treatment for cancer can be determined by looking into quality of life, which reflects the measure of one’s primary end-point, which also reflects patient’s opinion about the effect of cancer diagnosis and treatment on daily living (Velikova et al., 2008). Quality of life is also a significant predictor of survival for cancer patients according to studies conducted in Malaysia (Ainuddin, Ghani, Dahlan, & Ibrahim, 2016; Edib, Kumarasamy, Abdullah, Rizal, & Al-Dubai, 2016), China (Yan et al., 2016) and Nepal (Manandhar, Shrestha, Taechaboonsermsk, Siri, & Suparp, 2014).

1.2 Problem Statement

Cancer, a major health disease in Malaysia has been an increasingly important public health concern. Cancer is ranked as fourth in the list disease that causing deaths among Malaysians at government hospital (Farooqui et al., 2013). Studies on quality of life and chemotherapy treatments are broadly studied in the western countries/populations. A study on chemotherapy cancer patients reported cancer patients being more depressed when they are less content with their life than those with no chemotherapy treatment. Moreover, they experienced significantly a poor physical, emotional and social/family functional well-being (Hwang, Chang, & Park, 2013). In Malaysia, several local published research have investigated quality of life among cancer patients in Malaysia but limited studies exists on quality of life among chemotherapy cancer patients in government hospitals in Malaysia. A study among colorectal patients reported had low level of emotional, cognitive, and social functions which further reduced the quality of life Puteh et al., 2013). Moreover the study also reported majority of cancer patients were in younger age groups and presented at a late stage of cancer. Diagnosing and treating cancer impacts one physically, socially and also emotionally which is related to few factors and may differ for every individual. The presence of cancer diseases almost effects every aspect of life of the patients and their family. Patient's life will be directly affected with the worsening progression of their
illness. Hence, it is vital to measure patient’s quality of life of having diagnosed with cancer and the treatments that they will have to endure.

1.3 Significance of the Study

Study on quality of life conducted among chemotherapy cancer patients showed that chemotherapy treatment highly affects the quality of life among cancer patients compared to patients undergoing other treatments. Thus it is important to determine the quality of life in chemotherapy cancer patients progressively. This study will enhance our understanding of the association between chemotherapy treatment and how it is affecting patient’s quality of life. Cancer-specific quality of life is related to all stages of the disease. It is important for cancer patients to complete their chemotherapy cycles, because it holds a vital role in the treatment outcome and their quality of life. (Heydarnejad et al., 2011). Evidence suggests that improvements in psychological, social support and physical health for cancer patients result in increased quality of life (Isa, Ming, Razack, Zainuddin, & Zainal, 2012; Kashania, Vazirib, Akbaric, Jamshidifard, & Sanaeie, 2014; Rab, 2012). Results from this study can be used by health care professionals to identify and manage the affected chemotherapy patients. It can improve patient’s quality of life. Ultimately, information achieved from this research can be applied in management of health care of chemotherapy patients and to encourage self-care management of patients in future intervention researches. This will enable patients to understand about cancer and why it happens, cope better with their situation and be able to comprehend on the effects of their treatments on their life and hence comply better.

1.4 Research questions

1. What is the quality of life among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia?
2. What are the predictors of quality of life among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia?

1.5 Study objectives

1.5.1 General Objective

To determine the quality of life (physical health, psychological, social relationships and environment domains) among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia.
1.5.2 Specific Objectives

Based on the general objectives, the following are the specific objectives of the study:

i. To determine the socio demographic characteristics (age, gender, race, marital status, education level, working, monthly income, cancer stage, number of chemotherapy cycle, pain due chemotherapy, joined cancer support society and worried of adverse effect due to chemotherapy treatment) among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia.

ii. To determine the social support received among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia.

iii. To determine the hopelessness level among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia.

iv. To determine the physical effects of chemotherapy (nausea, vomiting, anorexia, diarrhoea, constipation, anaemia, fever, fatigue, infection, bleeding, hair loss, mouth, gum and throat infection also skin and nail changes) among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia.

v. To determine the association between socio-demographic characteristics, social support, hopelessness level, physical effects of chemotherapy and quality of life among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia.

vi. To determine the predictors of quality of life among cancer patients undergoing chemotherapy in government hospitals in Peninsular Malaysia.

1.6 Research hypotheses

The following are the hypotheses to be tested in the study:

1. There is significant association between socio-demographic characteristics (age, gender, race, marital status, education level, working, monthly income, cancer stage, number of chemotherapy cycle, pain due chemotherapy, joined cancer support society and worried of adverse effect due to chemotherapy treatment) and quality of life among cancer patients undergoing chemotherapy.

2. There is significant association between social support and quality of life among cancer patients undergoing chemotherapy.

3. There is significant association between hopelessness level and quality of life among cancer patients undergoing chemotherapy.

4. There is significant association between physical effects of chemotherapy (nausea, vomiting, anorexia, diarrhoea, constipation, anaemia, fever, fatigue, infection, bleeding, hair loss, mouth, gum and throat infection also skin and nail changes) and quality of life among cancer patients undergoing chemotherapy.
REFERENCES


