

# Knowledge and Support of the Family as Factors Related to Chemotherapy Adherence of Clients with Breast Cancer

Ilya Krisnana<sup>1</sup>, Aria Aulia Nastiti<sup>1</sup> and Dwi Hartini<sup>2</sup>

<sup>1</sup>Faculty of Nursing Universitas Airlangga, Kampus C Mulyorejo, Surabaya, Indonesia

<sup>2</sup>Saiful Anwar Hospital, Malang, Indonesia

**Keywords:** Knowledge, Family support, Adherence, Breast cancer.

**Abstract:** Chemotherapy is part of managing clients with breast cancer. A long period of chemotherapy management requires commitment from the family. But there are still clients with breast cancer who did not run chemotherapy completely because there was no family support to be able to treat clients well. The purpose of this study was to analyse the correlation between knowledge and support from family to chemotherapy adherence in clients with breast cancer. This research used a cross-sectional design. The population of this study were 120 families who brought clients with breast cancer to the Oncology Outpatient Department to undergo chemotherapy and by simple random sampling 100 respondents were recruited. Data on knowledge and family support was collected by using questionnaires completed by the families. While data about chemotherapy adherence was obtained from the Hospital Medical Records data source. The data was analyzed by using Spearman Rank Correlation with  $\alpha=0.005$ . The results showed that family knowledge was strongly related to chemotherapy adherence ( $p=0.000$ ,  $r=0.817$ ). Family support was also associated with chemotherapy adherence ( $p=0.000$ ,  $r=0.389$ ). Families who understand about the benefits, side effects and treatment of clients with chemotherapy can support the client's health status to remain in a stable condition for chemotherapy to be completed.

## 1 BACKGROUND

Breast cancer is a public health problem both worldwide and in Indonesia and has become one of the leading causes of death throughout the world (Ministry of Health Republic of Indonesia, 2016). One of the management strategies for breast cancer is chemotherapy. However, chemotherapy can bring unpleasant effects to clients with breast cancer. Short-term side effects that can be experienced by clients undergoing chemotherapy include fatigue, nausea, vomiting, alopecia, myalgia and thrombosis etc. (Partridge, Burstein and Winer, 2001). These side effects can impair the clinical condition or the health status of the client so that chemotherapy is delayed.

The side effects and management of chemotherapy are very important for the family to understand. The success of clients in being able to adhere to the treatment of chemotherapy is strongly influenced by family support. The family's endurance to understand the client's circumstances is

a major source of care for clients undergoing chemotherapy (Carey *et al.*, 1991). Results of a preliminary survey in RSUD by Dr. Saiful Anwar Malang in March 2017, showed that from 15 clients with breast cancer who underwent chemotherapy at the oncology clinic there were 7 clients (46.7%) who said that they withdrew themselves from undergoing a chemotherapy program. 5 clients (33.3%) were taken by a husband, and 3 clients (20%) by nephews and neighbours. Results from interviews with family during initial data collection, show that from 5 families who escorted clients undergoing chemotherapy they still do not know about the program and side effects of chemotherapy and fewer know about the diets that may and should not be consumed by clients who undergo chemotherapy.

Family knowledge and support is an important aspect to establish client compliance to undergo chemotherapy. The results of the study in Egypt show that the factors that play an important role in achieving client compliance in the treatment include client knowledge and family support to be able to

undergo treatment (Shams and Barakat, 2010). Family support is expected to help improve motivation and adherence of clients with breast cancer who are undergoing treatment programs using chemotherapy at hospitals to improve health status (Arofah Assalamah and Izzah Priyogo, 2015). Research in Bangladesh showed reduced family support due to stigma as a barrier in caring for breast cancer patients (Steiness *et al.*, 2018). Therefore researchers are interested to establish the relationship of knowledge and family support with the compliance of breast cancer clients undergoing chemotherapy.

## 2 METHODS

### 2.1 Research Design

This research used a correlation design with a cross-sectional method. Data was observed in a single measurement.

### 2.2 Participants

The population of this study was 120 families of clients with breast cancer at the Oncology Clinic RSUD Dr. Saiful Anwar Malang in the period of October 2017. The sampling technique in this study used simple random sampling and obtained a sample size of 100 respondents.

### 2.3 Variables and Instruments

Independent variables were knowledge and family support, while the dependent variable was adherence to chemotherapy. The instruments in this study were questionnaires about family knowledge and family support. Questionnaires were completed by families while waiting in queues for chemotherapy; while, the instrument for chemotherapy adherence was obtained through observation of medical records.

### 2.4 Analysis

Data was collected through questionnaires and medical record observation, then analyzed using statistical analysis Spearman Rank Correlation with significance level  $\alpha = 0.05$ .

### 2.5 Ethical Approval

This research obtained approval of ethical eligibility from the Health Research Ethics Commission of the

Faculty of Nursing of Airlangga University number 529-KEPK and has obtained the ethical feasibility of the Health Research Ethics Commission Dr. Saiful Anwar Malang number 400/176 / K.3 / 302/2017.

## 3 RESULTS

Based on information from medical records 71% of clients adhere to the implementation of chemotherapy, while 29% are not adherent in the implementation of chemotherapy. Families of clients with breast cancer have sufficient knowledge about chemotherapy with the level of education as senior high school graduates (40%) (see Table 2). Family knowledge about the treatment and side effects of chemotherapy was strongly related to client chemotherapy adherence with  $p = 0.000 (<0.05)$  and  $r = 0.625$ . This can mean that adequate family knowledge has an important role in maintaining the health status of breast cancer clients to remain stable, so chemotherapy can be continued.

Table 1: Characteristics of breast cancer client demographics.

Characteristics	f
Age (years)	
20-40	18
41-65	76
>65 years	6
Level of education	
Uneducated	15
Elementary school	35
Junior high school	27
Senior high school	21
University graduate	2
Length of suffering (years)	
<1	43
1-2	49
3	3
4	1
5	2
6	2
Stadium	
Stadium I	2
Stadium II	21
Stadium III	61
Stadium IV	16
Therapy	
Surgical	66
Surgical + radiation	1
chemotherapy	26
chemotherapy+radiation	7

Table 2: Characteristics of family.

Characteristics	f
Age (years)	54
20-40	46
41-65	0
>65	
Level of education	
Elementary school	19
Junior high school	32
Senior high school	40
University graduated	9
Occupation	
Unemployed	6
Farmer	20
Housewife	13
Laborers	8
Traders	11
Private employees	40
Government employees	1
Fisherman	1
Relationship	
Husbands	48
Sons	43
Young sisters	8
Old sisters	1

Family support can also determine adherence in the implementation of chemotherapy in clients with breast cancer. Through the Spearman Rank Correlation statistical test, it was found that families with sufficient support were associated with chemotherapy adherence with  $p = 0.000$  and  $r = 0.236$ . The family members who have close relations with the clients are husbands and sons (see Table 2).

Families have adequate support for the clients with breast cancer to adhere to chemotherapy treatment. Most clients were diagnosed with breast cancer for 1-2 years and most were in stage III (Table 1).

Families were willing to take clients with breast cancer to the hospital regularly to undergo chemotherapy. Family became a place for clients to complain and share experiences that occurred during treatment.

Families who provide full support both psychologically and materially in the form of family willingness to deliver clients to the hospital to undergo chemotherapy determine the level of adherence in the implementation of chemotherapy.

## 4 DISCUSSION

### 4.1 The Relationship Between Knowledge and Chemotherapy Adherence

Based on the results of the study, the relationship between family knowledge and chemotherapy client adherence to breast cancer treatment with a positive correlation value means the better the family knowledge, the higher the compliance of breast cancer clients to undergo chemotherapy on schedule. Families who understand the benefits, side effects and treatment of clients with chemotherapy have a major contribution in achieving chemotherapy compliance through the willingness to deliver clients with breast cancer under chemotherapy at the hospital. Conversely, chemotherapy non-compliance can also result from family ignorance about treating clients with breast cancer, so that the health condition of the client can deteriorate which can result in a delay in the implementation of chemotherapy. Non-compliance of clients to undergo chemotherapy can also be caused by the unwillingness of families to take clients to hospital or can also be caused by transportation facilities difficult to access by family and clients. This is in line with the results of the study (Freedman *et al.*, 2017) which states that it can also be influenced by the degree of education regarding non-compliance with breast cancer caused by personal reasons e.g. child care and transportation difficulties.

Knowledge is closely related to education. A total of 37% of families have a secondary level of education. Low education may be associated with a low level of understanding of treatment. Knowledge of chemotherapy treatment is related to a client's compliance to undergo chemotherapy for breast cancer (Pertwi, Karini and Agustin, 2012).

### 4.2 The Relationship Between Family Support and Chemotherapy Adherence

Family support has an important role in compliance with breast cancer client treatment. Family support when caring for family members with breast cancer can maintain stable health. In addition to support in care, family support by delivering clients to the hospital is a very important aspect. Full support from the family can increase the client's motivation to follow the treatment activities thoroughly, in line with the research (Sari, Dewi and Utami, 2012). The

instrumental support that families provide to clients includes family willingness to help finance the care and treatment of clients. Another type of support provided by the family is emotional support. Emotional support provided by the family is able to provide a sense of comfort, feeling cared for and loved, giving help in the form of spirit, attention and individuals who receive the support feel valued. Instrumental support includes physical and material support, in tangible forms such as finance (Friedman, Bowden and Jones, 2010).

This support is shown by family assistance to clients when going to the hospital to meet the schedule of chemotherapy. Clients who gain family support can eliminate the temptation of disobedience and can often form support groups to achieve compliance (Kusumawardani, 2014). The husband is the closest family member to clients with breast cancer. Preparedness of the husband to be able to take clients to the hospital can be a factor that increases the client's spirit to heal and adhere to the treatment.

Husbands who pay less attention to the wife can impair the psychological behavior of clients post radical mastectomy. Conversely, a husband who gives full attention to the wife can trigger the emergence of the spirit and motivation of the client to heal (Anggraeni and Ekowati, 2010).

## 5 CONCLUSIONS

Family knowledge and support have a positive relationship with chemotherapy adherence. The better the knowledge and the higher the family support, the higher the chemotherapy compliance in the client with breast cancer. Family knowledge about treatment and side effects of chemotherapy plays a role in shaping support for clients with breast cancer to be able to adhere to chemotherapy management.

## REFERENCES

Anggraeni, M. D. and Ekowati, W. (2010) 'Peran Keluarga dalam Memberikan Dukungan terhadap Pencapaian Integritas Diri Pasien Kanker Payudara Post Radikal Mastektomi', *The Sudirman Journal of Nursing*, 5(2), pp. 105–114.

Arofah Assalamah, D. and Izzah Priyogo, N. (2015) 'Program Studi NERS STIKES Muhammadiyah Pekajangan Pekalongan'. Available at: <http://www.digilib.stikesmuh-pkj.ac.id/e->

skripsi/index.php?p=fstream&fid=1106&bid=1168 (Accessed: 12 March 2018).

Carey, P. J., Oberst, M. T., McCubbin, M. A. and Hughes, S. H. (1991) 'Appraisal and caregiving burden in family members caring for patients receiving chemotherapy.', *Oncology nursing forum*, 18(8), pp. 1341–8. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/1762974> (Accessed: 27 February 2018).

Freedman, R. A., Revette, A. C., Hershman, D. L., Silva, K., Sporn, N. J., Gagne, J. J., Kouri, E. M. and Keating, N. L. (2017) 'Understanding Breast Cancer Knowledge and Barriers to Treatment Adherence: A Qualitative Study Among Breast Cancer Survivors', *BioResearch Open Access*, 6(1), pp. 159–168. doi: 10.1089/biores.2017.0028.

Friedman, M. M., Bowden, V. R. and Jones, E. G. (2010) *Buku Ajar Keperawatan Keluarga: Riset Teori & Praktik Ed.5 - Toko Buku Online Murah & Lengkap, Support Penerbit Indonesia - Selamanya Diskon!* EGC Medical Book. Available at: <http://dutailmu.co.id/product45634-buku-ajar-keperawatan-keluarga-riset-teori--praktik-ed5.html#.WqX9bh3wa00> (Accessed: 11 March 2018).

Kusumawardani, F. (2014) *Hubungan dukungan sosial dengan kepatuhan penderita kanker dalam menjalani kemoterapi di rumah sakit ken saras semarang, Digital Library*. Available at: <http://digilib.unimus.ac.id/gdl.php?mod=browse&op=read&id=jtptunimus-gdl-fitrianaku-7609> (Accessed: 12 March 2018).

Ministry of Health Republic of Indonesia (2016) *Bulan Peduli Kanker Payudara*. Jakarta. Available at: [http://www.depkes.go.id/resources/download/pusdatin/infodatin/InfoDatin Bulan Peduli Kanker Payudara\\_2016.pdf](http://www.depkes.go.id/resources/download/pusdatin/infodatin/InfoDatin Bulan Peduli Kanker Payudara_2016.pdf) (Accessed: 12 March 2018).

Partridge, A. H., Burstein, H. J. and Winer, E. P. (2001) 'Side Effects of Chemotherapy and Combined Chemohormonal Therapy in Women With Early-Stage Breast Cancer', *JNCI Monographs*. Oxford University Press, 2001(30), pp. 135–142. doi: 10.1093/oxfordjournals.jncimonographs.a003451.

Pertiwi, M. P., Karini, S. M. and Agustin, R. widya (2012) 'hubungan antara resiliency dan pengetahuan tentang pengobatan kanker payudara dengan kepatuhan pasien di rsud dr. moewardi surakarta', *Wacana. Prodi Psikologi FK UNS*, 4(7). Available at: <http://jurnalwacana.psikologi.fk.uns.ac.id/index.php/wacana/article/view/29> (Accessed: 11 March 2018).

Sari, M., Dewi, Y. I. and Utami, A. (2012) 'hubungan dukungan keluarga terhadap motivasi pasien kanker payudara dalam menjalani kemoterapi di ruang cendrawasih i rsud arifin achmad provinsi riau', *Jurnal Ners Indonesia*. FIK UI, 2(2), pp. 158–166. Available at: <https://ejournal.unri.ac.id/index.php/JNI/article/view/2026> (Accessed: 11 March 2018).

Shams, M. E. E. and Barakat, E. A. M. E. (2010) 'Measuring the rate of therapeutic adherence among

outpatients with T2DM in Egypt', *Saudi Pharmaceutical Journal*. Elsevier, 18(4), pp. 225–232. doi: 10.1016/J.JSPS.2010.07.004.

Steiness, H. S., Villegas-Gold, M., Parveen, H., Ferdousy, T. and Ginsburg, O. (2018) 'Barriers to care for women with breast cancer symptoms in rural Bangladesh', *Health Care for Women International*, 39(5), pp. 536–554. doi: 10.1080/07399332.2018.1446958.

