

# Symptom Clusters in Thai Gynecologic Oncology Patients Receiving the First Cycle of Carboplatin and Paclitaxel

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## Abstract

**Aims and Background:** Gynecologic oncology patients have been suffering from cancer and a set of symptom cluster from treatment. To pass the suffering from the first cycle of chemotherapy is meant that patients can pass all the left five cycles of them. Purposes of this study were to examine (1) symptom occurrence and severity after chemotherapy day 1 to 14 and (2) the change of symptom cluster occurrences in Thai gynecologic oncology patients receiving first cycle of carboplatin and paclitaxel at day 1, 3, 7, and 14.

**Methods:** This was descriptive study. One hundred and ten women were recruited from gynecologic oncology department in a hospital affiliated university. The National Cancer Institute Symptom Severity Diary and the Demographic, Disease, and Treatment Questionnaires were used to collect data. The National Cancer Institute Symptom Severity Diary was recorded from the 1<sup>st</sup> day to 14<sup>th</sup> day after the first cycle of chemotherapy. Factor analysis was used for analyzing data.

**Results:** Results reporting top five of the most symptom occurrences were fatigue, numbness, anorexia, pain, and constipation. Top 5 most symptom severity were pain, numbness, fatigue, anorexia, and alopecia. These symptoms changed from day 1-14 after receiving the first cycle of carboplatin and paclitaxel. There were 2 clusters of symptom occurrence at day 1 after receiving chemotherapy which were neuropathy side effects and gastrointestinal effects. At day 3, there were gastrointestinal effects and sleep pattern change. At day 7, there were gastrointestinal effects, neuropathy side effects, and sleep pattern change. Lastly, at day 14, there were gastrointestinal effects and neuropathy side effects.

**Conclusions:** Findings provided evidence-based data for side effects' appropriate management within the context of gynecologic oncology patients receiving the first cycle of carboplatin and paclitaxel.

**Keywords:** gynecologic oncology patients, symptom cluster, chemotherapy, carboplatin, paclitaxel

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## Introduction and Purposes

Carboplatin and paclitaxel have been widely used to treat women with gynecological cancer. It is a mainstay of treatment for women with ovarian cancer, endometrial cancer, and recurrent cervical cancer. Each woman receives 6 cycles of this chemotherapy. Up to date from literature review, it has evidenced that side effects are determined by the types of treatment.<sup>(1,2)</sup> In general, side effects of carboplatin and paclitaxel were bone marrow suppression, thrombocytopenia, anemia and bleeding. Gastrointestinal tract, for example, involves oral mucositis, nausea, vomiting, constipation, diarrhea, fatigue, anorexia, and neuropathy side effects, for example include numbness and muscle or joint pain. These symptoms usually occur during 7-14 days and they may affect the physical, psychosocial, and spiritual aspects of those women receiving carboplatin and paclitaxel. However, there is no study of patients' perception of these symptom occurrences and severity. Listening to patients' report of their symptom is the gold standard for symptom study.<sup>(3-6)</sup> In addition, knowing what symptoms will occur after receiving each cycle of carboplatin and paclitaxel is necessary for health care providers to manage these symptoms day by day. As we have known if the patients can easily pass the symptoms severity in the first cycle of treatment, these women will continue receiving another 5 cycles left of chemotherapy. Continuing and complete treatment of chemotherapy will be effective for cancer treatment. To know symptom occurrence and severity is necessary for health care providers to manage these symptoms each day in women who receive the first cycle of carboplatin and paclitaxel. However, a set of symptoms usually occurs at the same time, and to examine the symptom cluster at each day after chemotherapy is also

necessary. Thus, the purposes of this study were to examine the symptom occurrence and severity in the first cycle of carboplatin and paclitaxel from day 1 to day 14 and the cluster of symptom occurrence in the first cycle of carboplatin and paclitaxel in Day 1, 3, 7, and 14.

## Material and Methods

### Design and setting:

This descriptive research was used to assess side effect diary from day 1 to day 14. Participants included 110 women with gynecologic oncology recruited from university hospital. Data were collected in women with gynecologic oncology received the first cycle of carboplatin and paclitaxel provided by gynecologic oncologists during January - December 2013. Approval to conduct the study, prior to data collection, was granted by the Institutional Review Board of Faculty of Medicine Ramathibodi Hospital, Mahidol University.

### Sample

Participants were 110 gynecologic cancer patients assessed for the first cycle of carboplatin and paclitaxel in gynecologic oncology clinic in a university hospital during January - December 2013. Sample sizes were determined by proportion of symptom occurring from previous study<sup>(7)</sup>, with 10% error, level of alpha 0.05. Sample sizes were 97 with 10% attrition rate. The total number of participants included for this study was 110. Before data collection, the investigator reviewed each potential subject's chart, to determine if the patient met the inclusion criteria, while the patient was being examined by her physician in gynecologic oncology clinic. The inclusion criteria were women who were 20 years of age or older, diagnosed with gynecologic oncology patients,

receiving the first cycle of carboplatin and paclitaxel provided by gynecologic oncologists; determined to have European Cooperative Oncology Group (ECOG) scores<sup>(8)</sup> less than or equal to two (ambulatory, capable of all self-care, unable to carry out work activities, up and about more than 50% of waking hours), able to speak Thai and willing to participate. The investigator informed the purposes of the study to those women who met the criteria. It included the confidentiality and anonymity of their data and they could withdraw from the study at any time.

### Instruments:

Data were collected from two self-report instruments. They were the Demographic, Disease and Treatment questionnaire, and the Symptom Severity Diary.

The Demographic, Disease and Treatment questionnaire was developed by investigators by obtaining those data from literature review. It included the information about age, education level, marital status, occupation, income, diagnoses, cancer staging, pathology, and ECOG Status.

The Symptom Severity Diary is a two-scaled symptom assessment instrument that measures one's occurrence and severity associated with 13 symptoms. In addition, open-ended questions are provided for symptoms not listed. In this study, the researchers reviewed the literature and included 13 symptoms found in cancer patients receiving carboplatin and paclitaxel. Participants determined the symptom occurrence by assessing the symptom. If it occurs respond "yes" or "no" in case of symptom not occurring. Then participants were asked to assess the level of symptom severity by responding on a 4-point Likert-like scale, ranging from "0 = slight to

4 = very severe". Symptom occurrence and severity were calculated by summing and averaging the scores of each scale. Reliability of symptom severity was determined among 20 subjects during treatment, via three days of test-retest, and found to be 0.70.

## Results

Descriptive characteristic data of gynecologic oncology patients receiving the first cycle of paclitaxel and carboplatin are shown in Table 1. Participants reported that the top 5 most symptom occurrences were fatigue, numbness, anorexia, pain, and constipation. Top 5 most symptom severity were pain, numbness, fatigue, anorexia, and alopecia. These symptom occurrences and severity were changed from day 1-14 after receiving the first cycle of carboplatin and paclitaxel. Majority of symptom occurrences were slightly increased from day 1 to peak during day 3-5 and then slightly decreased after day 7. Only 3 symptoms (numbness, pain, and alopecia) were frequently occurred until day 14 (Table 2). The majority of symptom severity was slightly increased from day 1 to peak during day 3-5 and then slightly decreased after day 7. Four symptoms (numbness, alopecia, difficulty sleeping, and pain) were highly severe until day 14 (Table 3).

Results also found two symptom clusters at day 1 after chemotherapy: neuropathy side effects and gastrointestinal effects. Two symptom clusters after chemotherapy at day 3 were gastrointestinal effects and sleep pattern change. Three symptom clusters after chemotherapy at day 7 were gastrointestinal effects, neuropathy side effects, and sleep pattern change. Finally, two symptom clusters after chemotherapy at day 14 were gastrointestinal effects and neuropathy side effects (Table 4).



**Table 1** Descriptive characteristic data of gynecologic oncology patients receiving the first cycle of paclitaxel and carboplatin (N=110)

| Personal data         | n  | %     | Personal data          | n  | %     |
|-----------------------|----|-------|------------------------|----|-------|
| <b>Age (year)</b>     |    |       | <b>Income (baht)</b>   |    |       |
| ≤ 30                  | 2  | 1.80  | ≤ 5,000                | 7  | 6.36  |
| 31-45                 | 18 | 16.40 | 5,001-10,000           | 17 | 15.46 |
| 46-60                 | 51 | 46.50 | 10,001-15,000          | 22 | 20.00 |
| > 60                  | 39 | 35.30 | 15,001-20,000          | 24 | 21.82 |
| <b>Marital status</b> |    |       | > 20,000               | 40 | 36.36 |
| Single                | 21 | 19.10 | <b>Diagnosis</b>       |    |       |
| Married               | 67 | 60.90 | Ovarian cancer         | 43 | 39.10 |
| Widow, separate       | 22 | 20.00 | Endometrial cancer     | 35 | 31.80 |
| <b>Education</b>      |    |       | Cervical cancer        | 23 | 20.90 |
| Primary school        | 42 | 38.20 | Recurrent cancer       | 9  | 8.20  |
| Secondary school      | 13 | 11.80 | <b>Stage of cancer</b> |    |       |
| Diploma               | 6  | 5.45  | Stage I                | 31 | 28.20 |
| Bachelor degree       | 32 | 29.10 | Stage II               | 19 | 17.30 |
| Master degree         | 14 | 12.70 | Stage III              | 45 | 40.90 |
| No formal education   | 3  | 2.75  | Stage IV               | 15 | 13.60 |
| <b>Occupation</b>     |    |       | <b>Pathology</b>       |    |       |
| Government            | 32 | 29.10 | Serous tumor           | 29 | 26.40 |
| Employee              | 10 | 9.10  | Mucinous tumor         | 6  | 5.40  |
| Merchant              | 8  | 7.26  | Endometrioid tumor     | 19 | 17.30 |
| Agriculture           | 5  | 4.54  | Clear cell             | 18 | 16.40 |
| Housewife             | 32 | 29.10 | Others                 | 38 | 34.50 |
| Others                | 23 | 20.90 | <b>ECOG score</b>      |    |       |
|                       |    |       | ECOG = 0               | 44 | 40.00 |
|                       |    |       | ECOG = 1               | 64 | 58.20 |
|                       |    |       | ECOG = 2               | 2  | 1.80  |

ECOG, the Eastern Cooperative Oncology Group

**Table 2** Number and percentage of symptom occurrences in the first cycle of paclitaxel and carboplatin in gynecologic oncology patients from day 1 - day 14 (N=110)

| Symptoms                       | Day after the 1 <sup>st</sup> cycle of paclitaxel and carboplatin |      |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------|-------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                                | 1                                                                 | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   |
| <b>Nausea (N)</b>              | 9                                                                 | 38   | 54   | 55   | 54   | 46   | 38   | 32   | 28   | 22   | 17   | 12   | 12   | 11   |
| %                              | 8.2                                                               | 34.5 | 49.1 | 50.0 | 49.1 | 41.8 | 34.5 | 29.1 | 25.5 | 20.0 | 15.5 | 10.9 | 10.9 | 10.0 |
| <b>Vomiting (N)</b>            | 2                                                                 | 9    | 19   | 29   | 29   | 23   | 17   | 13   | 11   | 9    | 5    | 6    | 4    | 4    |
| %                              | 1.8                                                               | 8.2  | 17.3 | 26.4 | 26.4 | 20.9 | 15.5 | 11.8 | 10.0 | 8.2  | 4.5  | 5.5  | 3.6  | 3.6  |
| <b>Aphthous (N)</b>            | 2                                                                 | 5    | 9    | 8    | 12   | 12   | 10   | 10   | 8    | 6    | 7    | 9    | 12   | 14   |
| %                              | 1.8                                                               | 4.5  | 8.2  | 7.3  | 10.9 | 10.9 | 9.1  | 9.1  | 7.3  | 5.5  | 6.4  | 8.2  | 10.9 | 12.7 |
| <b>Constipation (N)</b>        | 31                                                                | 59   | 60   | 62   | 57   | 57   | 46   | 42   | 45   | 43   | 42   | 41   | 37   | 32   |
| %                              | 28.2                                                              | 53.6 | 54.5 | 56.4 | 51.8 | 51.8 | 41.8 | 38.2 | 40.9 | 39.1 | 38.2 | 37.3 | 33.6 | 29.1 |
| <b>Diarrhea (N)</b>            | 4                                                                 | 5    | 15   | 17   | 23   | 20   | 21   | 15   | 14   | 14   | 15   | 9    | 9    | 10   |
| %                              | 3.6                                                               | 4.5  | 13.6 | 15.5 | 20.9 | 18.2 | 19.1 | 13.6 | 12.7 | 12.7 | 13.6 | 8.2  | 8.2  | 9.1  |
| <b>Difficulty sleeping (N)</b> | 38                                                                | 50   | 62   | 68   | 64   | 62   | 61   | 58   | 59   | 56   | 53   | 48   | 47   | 46   |
| %                              | 34.5                                                              | 45.4 | 56.4 | 61.8 | 58.2 | 56.4 | 55.5 | 52.7 | 53.6 | 50.9 | 48.2 | 43.6 | 42.7 | 41.8 |
| <b>Pain (N)</b>                | 33                                                                | 56   | 88   | 97   | 94   | 92   | 84   | 81   | 71   | 69   | 63   | 64   | 63   | 60   |
| %                              | 30.0                                                              | 50.9 | 80.0 | 88.2 | 85.5 | 83.6 | 76.4 | 73.6 | 64.5 | 62.7 | 57.3 | 58.2 | 57.3 | 54.5 |
| <b>Numbness (N)</b>            | 22                                                                | 36   | 57   | 70   | 81   | 82   | 83   | 86   | 86   | 81   | 83   | 80   | 78   | 80   |
| %                              | 20.0                                                              | 32.7 | 51.8 | 63.6 | 73.6 | 74.5 | 75.5 | 78.2 | 78.2 | 73.6 | 75.5 | 72.7 | 70.9 | 72.7 |
| <b>Rash (N)</b>                | 10                                                                | 10   | 14   | 17   | 17   | 16   | 23   | 26   | 24   | 27   | 27   | 20   | 20   | 14   |
| %                              | 9.1                                                               | 9.1  | 12.7 | 15.5 | 15.5 | 14.5 | 20.9 | 23.6 | 21.8 | 24.5 | 24.5 | 18.2 | 18.2 | 12.7 |
| <b>Fatigue (N)</b>             | 34                                                                | 71   | 86   | 94   | 91   | 85   | 79   | 77   | 73   | 71   | 65   | 63   | 58   | 54   |
| %                              | 30.9                                                              | 64.5 | 78.2 | 85.5 | 82.7 | 77.3 | 71.8 | 70.0 | 66.4 | 64.5 | 59.1 | 57.3 | 52.7 | 49.1 |
| <b>Alopecia (N)</b>            | 6                                                                 | 7    | 14   | 18   | 24   | 28   | 32   | 42   | 54   | 63   | 70   | 79   | 93   | 99   |
| %                              | 5.4                                                               | 6.4  | 12.7 | 16.4 | 21.8 | 25.5 | 29.1 | 38.2 | 49.1 | 57.3 | 63.6 | 71.8 | 84.5 | 90.0 |
| <b>Fever (N)</b>               | 1                                                                 | 2    | 2    | 4    | 5    | 3    | 6    | 4    | 6    | 4    | 6    | 7    | 7    | 2    |
| %                              | 0.9                                                               | 1.8  | 1.8  | 3.6  | 4.5  | 2.7  | 5.45 | 3.6  | 5.5  | 3.6  | 5.5  | 6.4  | 6.4  | 1.8  |
| <b>Anorexia (N)</b>            | 21                                                                | 41   | 72   | 82   | 84   | 75   | 67   | 65   | 58   | 45   | 40   | 39   | 38   | 35   |
| %                              | 19.1                                                              | 37.3 | 65.5 | 74.5 | 76.4 | 68.2 | 60.9 | 59.1 | 52.7 | 40.9 | 36.4 | 35.5 | 34.5 | 31.8 |



**Table 3** Mean and standard deviation of symptom severity in the first cycle of paclitaxel and carboplatin in gynecologic oncology patients from the day 1 - day 14 (N=110)

| Symptoms                       | Day after the 1 <sup>st</sup> cycle of paclitaxel and carboplatin |      |       |      |      |       |      |      |      |      |      |      |      |      |
|--------------------------------|-------------------------------------------------------------------|------|-------|------|------|-------|------|------|------|------|------|------|------|------|
|                                | 1                                                                 | 2    | 3     | 4    | 5    | 6     | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   |
| <b>Nausea (m)</b>              | 0.10                                                              | 0.43 | 0.670 | 0.75 | 0.72 | 0.570 | 0.46 | 0.38 | 0.34 | 0.27 | 0.20 | 0.13 | 0.13 | 0.11 |
| <b>SD</b>                      | 0.36                                                              | 0.64 | 0.78  | 0.85 | 0.84 | 0.76  | 0.71 | 0.66 | 0.64 | 0.59 | 0.50 | 0.39 | 0.39 | 0.34 |
| <b>Vomiting (m)</b>            | 0.02                                                              | 0.09 | 0.25  | 0.41 | 0.36 | 0.30  | 0.21 | 0.15 | 0.13 | 0.12 | 0.05 | 0.07 | 0.05 | 0.05 |
| <b>SD</b>                      | 0.13                                                              | 0.32 | 0.61  | 0.77 | 0.67 | 0.66  | 0.54 | 0.47 | 0.43 | 0.44 | 0.26 | 0.32 | 0.30 | 0.25 |
| <b>Aphthous (m)</b>            | 0.02                                                              | 0.05 | 0.08  | 0.08 | 0.13 | 0.13  | 0.12 | 0.13 | 0.11 | 0.08 | 0.08 | 0.11 | 0.15 | 0.16 |
| <b>SD</b>                      | 0.13                                                              | 0.21 | 0.27  | 0.31 | 0.39 | 0.39  | 0.40 | 0.45 | 0.44 | 0.39 | 0.36 | 0.41 | 0.47 | 0.48 |
| <b>Constipation (m)</b>        | 0.38                                                              | 0.83 | 0.83  | 0.98 | 0.93 | 0.84  | 0.65 | 0.57 | 0.60 | 0.52 | 0.51 | 0.54 | 0.53 | 0.42 |
| <b>SD</b>                      | 0.66                                                              | 0.85 | 0.84  | 0.99 | 1.04 | 0.93  | 0.89 | 0.83 | 0.79 | 0.71 | 0.71 | 0.81 | 0.86 | 0.75 |
| <b>Diarrhea (m)</b>            | 0.05                                                              | 0.05 | 0.19  | 0.18 | 0.25 | 0.22  | 0.25 | 0.16 | 0.16 | 0.16 | 0.16 | 0.09 | 0.08 | 0.11 |
| <b>SD</b>                      | 0.25                                                              | 0.26 | 0.53  | 0.45 | 0.53 | 0.49  | 0.54 | 0.44 | 0.46 | 0.42 | 0.44 | 0.32 | 0.27 | 0.39 |
| <b>Difficulty sleeping (m)</b> | 0.45                                                              | 0.58 | 0.82  | 0.91 | 0.86 | 0.82  | 0.76 | 0.70 | 0.62 | 0.61 | 0.60 | 0.54 | 0.53 | 0.52 |
| <b>SD</b>                      | 0.71                                                              | 0.75 | 0.88  | 0.90 | 0.90 | 0.88  | 0.82 | 0.80 | 0.65 | 0.69 | 0.72 | 0.70 | 0.70 | 0.70 |
| <b>Pain (m)</b>                | 0.42                                                              | 0.80 | 1.39  | 1.74 | 1.51 | 1.45  | 1.26 | 1.09 | 0.89 | 0.84 | 0.77 | 0.75 | 0.74 | 0.69 |
| <b>SD</b>                      | 0.78                                                              | 1.0  | 1.05  | 1.11 | 1.03 | 1.04  | 0.98 | 0.89 | 0.83 | 0.82 | 0.83 | 0.79 | 0.79 | 0.77 |
| <b>Numbness (m)</b>            | 0.25                                                              | 0.46 | 0.72  | 0.98 | 1.10 | 1.16  | 1.15 | 1.14 | 1.12 | 1.06 | 1.06 | 1.02 | 1.00 | 1.02 |
| <b>SD</b>                      | 0.54                                                              | 0.79 | 0.86  | 0.99 | 0.91 | 0.98  | 0.92 | 0.84 | 0.82 | 0.84 | 0.80 | 0.83 | 0.86 | 0.85 |
| <b>Rash (m)</b>                | 0.09                                                              | 0.11 | 0.14  | 0.17 | 0.18 | 0.16  | 0.23 | 0.26 | 0.27 | 0.29 | 0.30 | 0.24 | 0.23 | 0.17 |
| <b>SD</b>                      | 0.29                                                              | 0.37 | 0.37  | 0.42 | 0.45 | 0.42  | 0.46 | 0.50 | 0.57 | 0.55 | 0.58 | 0.56 | 0.54 | 0.50 |
| <b>Fatigue (m)</b>             | 0.37                                                              | 0.80 | 1.12  | 1.49 | 1.39 | 1.25  | 1.15 | 1.03 | 0.95 | 0.89 | 0.84 | 0.79 | 0.72 | 0.69 |
| <b>SD</b>                      | 0.65                                                              | 0.76 | 0.82  | 1.02 | 1.01 | 1.01  | 1.02 | 0.94 | 0.92 | 0.90 | 0.90 | 0.87 | 0.82 | 0.85 |
| <b>Alopecia (m)</b>            | 0.06                                                              | 0.07 | 0.15  | 0.17 | 0.23 | 0.27  | 0.32 | 0.44 | 0.55 | 0.64 | 0.71 | 0.85 | 1.05 | 1.15 |
| <b>SD</b>                      | 0.28                                                              | 0.29 | 0.40  | 0.40 | 0.44 | 0.49  | 0.52 | 0.60 | 0.60 | 0.60 | 0.60 | 0.62 | 0.60 | 0.58 |
| <b>Fever (m)</b>               | 0.01                                                              | 0.02 | 0.02  | 0.04 | 0.05 | 0.03  | 0.05 | 0.04 | 0.05 | 0.04 | 0.05 | 0.06 | 0.06 | 0.02 |
| <b>SD</b>                      | 0.09                                                              | 0.13 | 0.13  | 0.19 | 0.21 | 0.16  | 0.23 | 0.19 | 0.23 | 0.19 | 0.23 | 0.24 | 0.24 | 0.13 |
| <b>Anorexia (m)</b>            | 0.21                                                              | 0.45 | 0.80  | 1.06 | 1.09 | 0.95  | 0.81 | 0.74 | 0.65 | 0.51 | 0.44 | 0.41 | 0.42 | 0.37 |
| <b>SD</b>                      | 0.45                                                              | 0.63 | 0.67  | 0.77 | 0.77 | 0.78  | 0.75 | 0.71 | 0.70 | 0.69 | 0.64 | 0.59 | 0.63 | 0.59 |

m, mean; SD standard deviation

**Table 4** Symptom cluster occurrence in the first cycle of paclitaxel and carboplatin in gynecologic oncology patients at day 1, day 3, day 7, and day 14 (N=110)

| Symptom cluster occurrence | Day 1                    | Day 3                    | Day 7                    | Day 14                   |
|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Set of symptom cluster     | <b>Cluster 1</b>         | <b>Cluster 2</b>         | <b>Cluster 2</b>         | <b>Cluster 2</b>         |
| occurrence at each day     | neuropathy side effects  | gastrointestinal effects | gastrointestinal effects | gastrointestinal effects |
|                            | <b>Cluster 2</b>         | <b>Cluster 3</b>         | <b>Cluster 1</b>         | <b>Cluster 1</b>         |
|                            | gastrointestinal effects | sleep pattern change     | neuropathy side effects  | neuropathy side effects  |
|                            |                          |                          | <b>Cluster 3</b>         |                          |
|                            |                          |                          | sleep pattern change     |                          |

## Discussion

This is a preliminary study to describe symptom occurrence, severity, and clusters in gynecologic patients receiving carboplatin and paclitaxel. Results presented top five most symptom occurrences which were fatigue, numbness, anorexia, pain, and constipation, while top 5 most symptom severity were pain, numbness, fatigue, anorexia, and alopecia. The symptoms occurred resulting from carboplatin and paclitaxel adverse effects<sup>(9)</sup>, because there were evidence supports underlying metabolic, cytokine, neurophysiologic, and endocrine changes associated with chemotherapy. The results also revealed that symptoms were changed from day 1-14 after receiving the first cycle of carboplatin and paclitaxel. The results demonstrated that even women experienced the number of symptoms, and it did not mean that they had the severity of those symptoms. Health care providers must know what symptom is meant by these women with gynecological cancer. In addition, these symptoms were changed at each day after chemotherapy. Some findings of symptoms were congruent with previous studies<sup>(7,10)</sup>, but it was not congruent with the study of the adverse effects of paclitaxel and carboplatin chemotherapy in epithelial gynecologic

cancer.<sup>(11)</sup> This might occur from the different instruments used and the person who assessed the symptoms. It is common that health care providers assess different symptom severity level. There are evidences that patients themselves reported higher symptoms' severity than the assessment from health care providers.<sup>(3)</sup> Health care providers should be concerned with what symptom severity reported by patients to be intervened. On the other hand, the majority of symptom occurrences were slightly increased from day 1 to peak during day 3-5 and then slightly decreased after day 7. Only 3 symptoms, numbness, pain, and alopecia, were highly frequent until day 14. Symptoms severity also changed at each day after chemotherapy. The majority of symptom severity were slightly increased from day 1 to peak during day 3-5 and then slightly decreased after day 7. Four symptoms, numbness, alopecia, difficulty sleeping, and pain, were highly severe until day 14. It can be explained that these symptoms were side effects of carboplatin and paclitaxel and health care providers need to be concerned and help the patients manage these symptoms that usually occur and have high severity. This study results provide the appropriate data for symptom severity intervening in



the context of gynecologic cancer patients receiving the first course of carboplatin and paclitaxel.

There were 2 clusters of symptom occurrence at day 1 after receiving chemotherapy which were neuropathy side effects and gastrointestinal effects. At day 3, there were gastrointestinal effects and sleep pattern change. At day 7, there were gastrointestinal effects, neuropathy side effects; and sleep pattern change. Lastly, at day 14, there were gastrointestinal effects and neuropathy side effects. Findings revealed the different numbers of symptom cluster at each day along two weeks after chemotherapy. This part of results was partly similar to previous studies.<sup>(12,13)</sup> It can be noticed that number of symptom clusters occurrence were increased during day 3 and day 7. Thus, health care providers should focus to reduce these symptom clusters occurring during day 3 to day 7. In addition, they have to manage not only gastrointestinal effects and sleep pattern change but also neuropathy side effects which usually occurred since the beginning of treatment until after treatment. It may be noted that health care providers have to manage both early and long term side effects from carboplatin and paclitaxel. They have to tailor which program is appropriate for each side effect along the cancer treatment with carboplatin and paclitaxel. If health care providers knew the onset, duration, and severity of symptom, including the symptom cluster following the illness trajectory,<sup>(14)</sup> this will direct the appropriate management in reducing the severity of the whole symptom cluster. Symptom cluster management is better than single symptom management, because it can relief the whole severity. Professional nurses need to focus and be concerned about it. This will help patients to receive chemotherapy as scheduled and increase the effec-

tiveness of treatment in chemotherapy.

## Strength and Limitations

This research has strength that the symptom occurrences and severity were measured only in gynecologic oncology patients receiving carboplatin and paclitaxel. In addition, all symptoms were measured at the same day after chemotherapy and all data were obtained by self-report. It can be assumed to be truthful. The findings also provided an evidenced data for side effects' management appropriate within context of gynecologic oncology patients receiving the first cycle of carboplatin and paclitaxel which can improve the quality of nursing care.

## Conclusions and Recommendations

The research results provide the pattern of symptoms' occurrences and severity in gynecological cancer patients receiving carboplatin and paclitaxel. To know these symptoms' patterns and cluster occurrence at each day of chemotherapy treatment is helpful in guiding health care providers to provide effective symptom management during day 1 to day 14 after receiving carboplatin and paclitaxel. This will help women with gynecological cancer patients continue and tolerate the whole treatment which can increase the effectiveness of their cancer treatment.

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## References

1. Sumdaengrit B. The symptom experience and self care in Thai women with cervical cancer receiving treatment. [dissertation]. Bangkok: Mahidol University; 2008.
2. Sumdaengrit B, Hunucharunkul S, Dodd MJ, Wilailuk S, Vorapongsathorn T, Pongthavornkamol K, Factors predicting the change of symptom distress among Thai Women with cervical cancer. *Rama Med J* 2011; 34:45-57.
3. Dodd MJ, Janson S, Facione N, Faucett J, Frolicher ES, Humphreys J, et al. Advancing the science of symptom management. *J Adv Nurs* 2001;33:668-76.
4. Barsevick AM, Whitmer K, Nail LM, Beck SL, Dudley WN. Symptom clusters research: conceptual, design, measurement, and analysis issues. *J Pain Symptom Manage* 2006;31:85-95.
5. Xiao C. The state of science in the study of cancer symptom clusters. *Eur J Onco Nurs* 2010;14:417-34.
6. Chen ML, Tseng HH. Identification and verification of symptom cluster in cancer patients. *J Support Oncol* 2007;37:28-46.
7. Thamnipa P, Konsue P, Therasakvichya S. Perception of symptoms and symptom management of side effects in ovarian cancer patients receiving chemotherapy. *J Nurs Sci* 2014;32:28-38.
8. The Eastern Cooperative Oncology Group (ECOG) Performance Status 2016 [cite 2016 February 26] Available from: [www.npcrc.org/files/news/ECOG\\_\\_performance\\_\\_status.pdf](http://www.npcrc.org/files/news/ECOG__performance__status.pdf).
9. Shirakul K, Trakoolpiankit P, Tantaensook K. Pharmacology of cancer chemotherapy. In: Leenasmith W., Srisupan S, editors. *Gynecologic Oncology*. 2<sup>nd</sup>ed. Bangkok: Holistic Jones and Bartlett publishers; 2005. p. 313-40.
10. Phianmongkhol Y, Suwan N. Symptom management in patients with cancer of the female reproductive system receiving chemotherapy. *Asian Pac J Cancer Prev* 2008;9:741-5.
11. Kietpeerakool C, Suprasert P, Srisomboon, J. Adverse affects of paclitaxel and carboplatin combination chemotherapy in epithelial gynecologic cancer. *J Med Assoc Thai* 2005;88:301-6.
12. Karabulu N, Erci B, Ozer N, Ozdemir S. Symptom clusters and experiences of patients with cancer. *J Adv Nurs* 2009;1011-21.
13. Chan CW, Richardson A, Richardson J. An investigation of a symptom cluster in Chinese patients with lung cancer receiving radiotherapy. *Contemp Nurse* 2013;45:164-73.
14. Skerman HM, Yates PM, Battistutta D. Cancer-related symptom clusters for symptom management in outpatients after commencing adjuvant chemotherapy, at 6 months, and 12 months. *Support Care Cancer* 2012;20:95-105.



## ชุดของอาการในผู้ป่วยมะเร็งนรีเวชที่ได้รับการรักษาด้วย คาร์โบพลาตินและแพคลิแทกเซลรอบที่หนึ่ง

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### บทคัดย่อ

**บทนำและวัตถุประสงค์:** ผู้ป่วยมะเร็งนรีเวชได้รับความทุกข์ทรมานจากโรคมะเร็งและชุดของอาการจากการรักษา การที่ผู้ป่วยสามารถผ่านความทุกข์ทรมานของอาการข้างเคียงจากการรักษาด้วยเคมีบำบัดรอบที่ 1 ได้จะทำให้ผู้ป่วยสามารถทนกับอาการข้างเคียงกับเคมีบำบัดรอบที่เหลืออีก 5 รอบ การศึกษานี้จึงมีวัตถุประสงค์เพื่อสำรวจ (1) อุบัติการณ์การเกิดและความรุนแรงของอาการที่เกิดขึ้นในผู้ป่วยมะเร็งนรีเวชที่ได้รับเคมีบำบัดชนิดคาร์โบพลาตินและแพคลิแทกเซล ในวันที่ 1 ถึง 14 และ (2) ชุดของอาการที่เกิดขึ้นในผู้ป่วยมะเร็งนรีเวชที่ได้รับเคมีบำบัดชนิดคาร์โบพลาตินและแพคลิแทกเซลในวันที่ 1, 3, 7 และ 14

**วิธีการ:** การวิจัยแบบบรรยายนี้ ศึกษาในผู้ป่วยมะเร็งนรีเวชจำนวน 110 คนที่มารับเคมีบำบัดชนิดคาร์โบพลาตินและแพคลิแทกเซลรอบที่ 1 ในหน่วยตรวจมะเร็งนรีเวช โรงพยาบาลสังกัดมหาวิทยาลัย เก็บข้อมูลโดยใช้ (1) แบบสอบถามข้อมูลส่วนบุคคล โรคและการรักษา และ (2) แบบบันทึกอุบัติการณ์การเกิดและความรุนแรงของอาการที่สร้างจากการทบทวนวรรณกรรมของผู้วิจัยและประเมินความรุนแรงของอาการโดยใช้เกณฑ์ของสถาบันมะเร็งแห่งชาติ โดยให้ผู้ป่วยบันทึกอาการตั้งแต่วันที่ 1 ถึง 14

**ผลการวิจัย:** อาการที่มีอุบัติการณ์เกิดสูงสุด 5 อันดับแรก ได้แก่ อาการเหนื่อยล้า เหน็บชา เบื่ออาหาร อาการปวด และท้องผูก ส่วนอาการที่มีความรุนแรงมากที่สุด 5 อันดับแรก ได้แก่ อาการปวด เหน็บชา เหนื่อยล้า เบื่ออาหาร และผื่นร่วน โดยอาการมีการเปลี่ยนแปลงตามวันที่รับเคมีบำบัด นอกจากนี้ผลการศึกษายังพบว่า ชุดของอาการข้างเคียงมีความแตกต่างกันไปในแต่ละช่วงวันของการรับคาร์โบพลาตินและแพคลิแทกเซล โดยชุดอาการหลังรับเคมีบำบัดวันที่ 1 ได้แก่ ระบบประสาทและทางเดินอาหาร หลังรับเคมีบำบัดวันที่ 3 ได้แก่ ระบบทางเดินอาหารและการนอน หลังรับเคมีบำบัดวันที่ 7 ได้แก่ ระบบทางเดินอาหาร ประสาทและการนอน หลังรับเคมีบำบัดวันที่ 14 ได้แก่ ระบบทางเดินอาหารและประสาท

**สรุปผล:** ผลการศึกษานี้สามารถนำไปใช้เป็นข้อมูลพื้นฐานในการวางแผนจัดการกับอาการข้างเคียงในบริบทของ ผู้ป่วยมะเร็งนรีเวชที่ได้รับการรักษาด้วยเคมีบำบัดชนิดคาร์โบพลาตินและแพคลิแทกเซลรอบที่ 1

**คำสำคัญ:** ผู้ป่วยมะเร็งนรีเวช ชุดของอาการ คาร์โบพลาติน แพคลิแทกเซล เคมีบำบัด

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