RESEARCH ARTICLE

Outcome of the Gynecologic Oncology Patients Surveillance Network Program

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Abstract

  The gynecologic oncology patients surveillance network program was conducted with the collaboration of 5 provincial hospitals located in the north of Thailand (Chiang Rai, Lamphun Nan, Phayao and Phrae). The aim was to identify ways of reducing the burden and the cost to the gynecologic cancer patients who needed to travel to the tertiary care hospital for follow up. The clinical data of each patient was transferred to the provincial hospital by the internet via the website www.gogcmu.or.th. All the general gynecologists who participated in this project attended the training course set up for the program. From January 2011 to February 2014, 854 patients who were willing to have their next follow-up at the network hospitals close to their home were enrolled this project. Almost of them were residents in Chiang Rai province and the most common disease was cervical cancer. After the project had been running for 1 year, 604 of the enrolled patients and 21 health-care personnel who had participated in this project were interviewed to assess its success. Some 85.3% of the patients and 100% of the health-care personnel were satisfied with this project. However, 60 patients had withdrawn, the most common reason being the lack of confidence in the follow up at the local provincial hospital. In conclusion, it is possible to initiate a gynecologic oncology patients' surveillance network program and the initiation could reduce the problems associated with and the cost the patients incurred as they journeyed to the tertiary care hospital.

Keywords: Surveillance program - gynecologic oncology - Northern Thailand

Introduction

  Every gynecologic cancer patient needs a surveillance program after completing treatment to detect any recurrence and also detect any complications associated with treatment (Lajer et al., 2010). The program consisted of history taking, physical and pelvic examination, blood test for tumor markers in some cancers such as ovarian cancer and gestational trophoblastic tumor (GTT) and imaging when any recurrence was suspected. The interval between each follow up depends on each cancer center and is usually planned at 3-4 month intervals in the first 2 years, every 6 months after that for 5 years and then annually forever (Salani et al., 2011; Salani, 2013). In our institute, over 700 gynecologic cancer patients per year were enrolled on the surveillance program. Most of them lived in the Northern part of Thailand. They often expressed concern regarding the burden of a surveillance program and wanted to follow up at their provincial hospital (Suprasert and Manopunya, 2011). Thus, we initiated the surveillance gynecologic oncology patients' network program to address this problem. Use of an internet system enabled all the hospitals to be connected.

The network was started initially with the 5 hospitals in the provinces where most of the patients came from, namely: Chiang Rai, Lamphun, Nan, Phayao and Phrae. The aim of this study was to develop the surveillance network system by using the check list data to connect the hospitals via the internet system and then, finally, to test the success by interviewing the physicians and the gynecologic cancer patients who participated in this project.

Materials and Methods

Phase I: Development of the hospital network (year 2010)
  The internet website; www.gogcmu.or.th was developed to connect all participating institutions in the surveillance program. The clinical data and the follow up outcomes were recorded via this website. All the attending physicians could access the website using a personal user name and password. After the website was developed, we traveled to 5 target hospitals to invite them to join this project. The criteria of the network hospitals included having a general obstetrics and gynecology department and also an internet system. After an interest in the project was expressed by the hospitals all general

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gynecologic physicians of the network hospitals were invited to attend a meeting to review knowledge about gynecological cancers and also to participate in training for the surveillance network program.

Phase II: Invitation of the gynecologic cancer patients to follow up at their provincial hospitals

The gynecologic cancer patients who completed their course of treatment and lived in the area near one of the network hospitals were invited to join this project. If they were in agreement, their clinical data and surveillance planning were sent to the network hospital via the website. The patients were scheduled for the next follow up at their provincial network hospital and after they had been examined the follow up data were sent back to our center via the website. If the attending physicians at the provincial network hospital found any abnormal physical findings, they could consult with the tertiary care center via the website immediately.

Phase III: Survey of the efficacy of the system using feedback from both physicians and patients

After the gynecologic oncology patients' surveillance network program had been running for 1 year, the physicians and the patients who had participated in this project were interviewed. The physicians were requested to give feedback using paper questionnaires which were returned by mail while the patients were interviewed by the project officials over the telephone. The questionnaires of both physician and patients were about the satisfactory and the convenience of this project.

Results

Between January 2011 and February 2014, 854 patients were enrolled on this project as presented in Table1. Most of them were lived in Chiang Rai and the most common malignancy was cervical cancer, the next most frequent being uterine cancer and the ovarian cancer. Of these patients, 604 cases (70,4%) were randomly selected to interview by phone. The results of the feedback are noted in Table 2. Over 70% of the patients interviewed replied to the telephone questionnaire independently while the remainders were helped by relatives. The mean length of the telephone calls was 6.01 minutes. Almost all the interviewed patients graduated from primary school and about one third of the interviewed patients were general contractors and housewives. The mean income per month was 10,418 baht (about 329 US dollar). Over 70% of patients lived in the suburbs. The mean journey time to their provincial hospital was 1:03 hours. Regarding the total cost of surveillance program, the mean total cost was 204 baht (6 US dollar) and the mean treatment cost was 31.01 baht (1 US dollar). When compared to the follow up costs attending Chiang Mai University hospital, the mean saving cost was 836.90 baht (26 US dollar). In addition, the mean journey time to the provincial hospital was 1:03 hours and the mean waiting time to see the physician was 2:26 hours. There were 515 patients (85.3%) who were confident to check up at the provincial hospital. Only 21 patients (3.5%) were unconvinced. Moreover, 97% of the

interviewed patients were pleased with the convenience of follow up at the provincial hospital.

As regards the provincial providers, 21 health care personnel who were involved with this project filled in paper questionnaires. The details of the responses were noted in Table 3. The median age of them was 39 years old and most of them were physicians. Only 28% of these provincial providers had expertise in computer use. However, all of them were satisfied with this program as regards the data available about the patient referral in spite of 19% of the providers feeling the program was an inconvenience.

Only 60 patients (7.0%) withdrew from this project as

Table 1. The Number of Referred Patients According to Province and Disease

Province	CA Cervix	CA Ovary	CA Corpus	other	Total
Chiang Rai	224	63	66	24	377
Lamphun	113	22	22	4	161
Nan	54	17	37	4	112
Phayao	68	26	21	9	124
Phrae	20	21	31	8	80
Total	479	149	177	49	854

Table 2. Characteristics of the Interviewed Patients (N =604)

	N(%)
Province	
Chiang Rai	267 (70.82)
Lamphun	103 (63.98)
Nan	83 (74.10)
Phayao	93 (75.00)
Phrae	58 (82.86)
Mean telephone time (min)	6.01 (2-15)
Interviewed person	
Patients	451 (74.67)
cousin	153 (25.33)
Education	
Min. bachelor degree	13 (2.2)
Diploma degree	5 (0.8)
High school	16 (2.6)
Secondary school	27 (4.5)
Primary education	494 (81.8)
Not attending school	49 (8.1)
Occupation	
Agriculture	101 (16.7)
General Contractor	193 (32.0)
Housewife	240 (39.7)
Trade	37 (6.7)
Other	31 (5.5%)
Mean income per month (baht)	10,418 (2,000-50,000)
Accommodation	
In the city	135 (22.4)
Suburb	469 (77.6)
Mean Journey time (hour)	1:03 hr (0:05-4:00)
Mean cost	204 (0-1500)
Mean waiting time	2:26 (0:10-6:00) hr
Mean treatment drug cost	11.94 (0-1600)
Total treatment cost	31.01 (0-1600)
Mean cost saving (baht)	836.90 (100-3500)
The confidential of provincial check up	
Good	515 (85.3)
Fair	68 (11.3)
Poor	21 (3.5)

Table 3. The Character of Health Care Personals in the Network Surveillance Program (N = 21)

Province	
Chiang Rai	5
Lumphoon	3
Nan	5
Phayao	6
Phrae	2
Doctor	14
Nurse	7
Gender	
Male	6
Female	15
Mean/median age	41/39 (32-53)
Mean/ median working age(year)	12, 11 (1-31)
Expertize in computer using	
Fair	15
Good	6
Program convenience	
Good	17 (81%)
Difficult	4 (19%)
Satisfied the program	21 (100%)

Table 4. Withdrawal Reasons from Network Surveillance Program (N =60)

Reason	N (%)
Lost	15 (25.0)
Refused to follow up	1(1.7)
Private reason	2(3.3)
Unconvinced to follow up at province hospital	16(26.7)
Move address to Chiang Mai	12(20.0)
Preferred to follow up at other hospital	6(10.0)
Referred back to Chiang Mai due to recurrence	5(8.3)
Death	3(5.0)

shown in Table 4 which indicates the project had a high level of success. The 2 most common reasons given for withdrawal were a lack of confidence in the follow up at the provincial hospital after the first visit and secondly lost to follow up and unable to contact. However, 8.3% of the withdrawal patients had recurrence of their condition detected at the provincial hospitals and were referred back to the cancer unit at Chiang Mai University Hospital for further treatment.

Discussion

A post cancer surveillance program is essential and all cancer survivors need to follow up after completion of treatment. The survivorship care plan had 4 objectives: *i)* to prevent the growth of new and recurrent cancer, *ii)* check for cancer progression or recurrence, *iii)* to evaluate the cancer treatment and assess any adverse effects from the treatment, and *iv)* to coordinate the follow up in all aspects of care (Suprasert and Chalapati 2013; Salani 2013). However, the existing surveillance program was a burden to the cancer survivor especially when they lived in another province (Suprasert and Manopunya,2011). This network surveillance program was conducted to help relieve these problems. From the data collected from the interviewed patients it can be concluded that most of them were satisfied with the project and on average

saved about 26 US dollars per visit. The sum of this cost saving cost might have an impact on reducing community economic problems. Regarding the provincial physicians who attended this project, most of them were satisfied with the program even though the initially did not have expertise in using the computer and the project increased their workload.

Concerning the patients who withdrew from the project, nearly 25% of the reason given was lack of confidence in the general gynecologists who carried out the follow up after the first visit to the provincial hospital. The solution to this problem is to improve the quality of the general gynecologists by regular enhancement of their knowledge and skill in follow up the cancer survivors and also to convince the patients that they will have the same standard of care at their provincial hospital as they do at the tertiary care center.

Regarding the effectiveness of this program, the detection rate of recurrence of cancer in the patients who were sent back to our tertiary care center was only 8.3%. The true number of recurrence patients might be higher than this report presents. The underestimated number of recurrence patients in this program might be explained by the lack of detection by the general gynecologists or incomplete records of the program. To precede this network project needs the audit committee to evaluate the efficacy of this program.

In conclusion, this surveillance network project was an initial program to help cancer survivors to have followed up in their local provincial hospital to reduce the burden and stress of journey to the tertiary care hospital. Both the attending physicians and the surveillance patients seem to be satisfied this project. duct cancer.

Acknowledgements

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