*Original Article*

# Working Situation and Problems in Practice of Thai Gynecologic Oncologists: Thai Gynecologic Cancer Society Survey

Tangjitgamol S, MD[1], Chanpanitkitchot S, MD[2], Charoenkwan K, MD, MSc[3], Srisomboon J, MD[3], Kasemsarn P, MD[4], Temrungruanglert W, MD[5], Linasmita V, MD[6], Thai Gynecologic Cancer Society (TGCS)[7]

[1] Department of Obstetrics and Gynecology, Faculty of Medicine Vajira Hospital, Navamindradhiraj University, Bangkok, Thailand
[2] Department of Obstetrics and Gynecology, Rajavithi Hospital, College of Medicine, Rangsit University, Bangkok, Thailand
[3] Department of Obstetrics and Gynecology, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand
[4] Gynecology Unit, Samitivej Sukhumvit Hospital, Bangkok, Thailand
[5] Department of Obstetrics and Gynecology, Faculty of Medicine, Chulalongkorn University, Bangkok, Thailand
[6] Department of Obstetrics and Gynecology, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand
[7] Thai Gynecologic Cancer Society (TGCS), Bangkok, Thailand

***Objective:*** To assess working situation and problems related to work of Thai gynecologic oncologists.

***Materials and Methods:*** The present study was a part of the Thai Gynecologic Cancer Society (TGCS) survey about clinical practice of the Thai gynecologic oncologists who had been in practice in Thailand for at least 1 year. A web-based survey was opened for response between August and October 2019. This study abstracted general data of the gynecologic oncologists, hospital features, working features and problems related to work or personal problems.

***Results:*** Among 258 gynecologic oncologists who met inclusion criteria, 170 responded to the questionnaires (65.9%). The mean age was 41.1±8.25 years, with nearly two thirds (63.5%) being female. Median duration of practice was 5 years (range 1 to 42 years). Majority (over 80%) worked in the government or tertiary-level hospitals. Approximately half (50.6%) were hospitals involving gynecologic oncology fellowship training. The number of gynecologic oncologists in each hospital ranged from 1 to 19 (median 6), with 28.2% of the respondents reporting inadequacy. The inadequacy was reported to be significantly more frequent in service-only hospitals (especially in government and tertiary-level hospitals) compared to training hospitals. Among 75.9% of the respondents who reported having problems, the most common was work-related (68.2%) especially over-workload or inadequate colleagues. Financial problem was encountered more frequently in government or training hospitals.

***Conclusion:*** Most respondents worked in government or tertiary hospitals, whereas half involved in fellowship training. A wide range of numbers of gynecologic oncologists was reported in each institution of the respondents, with slightly more than one-fourth reporting inadequacy. Approximately three-fourths of the respondents reported one or more problems, being work-related as the most common.

***Keywords:*** Gynecologic oncologist, Gynecologic cancer, Practice, Survey

**J Med Assoc Thai 2020;103(Suppl. 7): 3-11**
**Website:** http://www.jmatonline.com

The global cancer incidence and mortality in 2018 reported age-standardized incidence per 100,000 women of cancers in female in order of frequency were breast cancer (46.3), followed by cancers of cervix uteri (13.1), corpus uteri (8.4), ovary (6.6), vulva (0.9), and vagina (0.4)[1]. In Thailand, female cancer incidence per 100,000 women was in line with the global trend: cancers of the breast (31.4) followed by the cervix (11.7) with an alternating order of ovary (5.7) and corpus uteri (4.5)[2].

The scope of gynecologic oncology in Thailand does not include breast cancer in our service but embraces mainly cancers and pre-cancerous lesions of cervix, uterus, adnexa, vulva, vagina, and peritoneum. Most of these lesions are managed by the gynecologic oncologists and few by the general gynecologists or surgeons. The formal 2-year gynecologic oncology fellowship training program was initiated in 1993 and is currently conducted in 13 institutions all over the country. The pre-requisites to have the certified board in gynecologic oncology by the National Medical Council are ones must have achieved a 3-year course of Obstetrics and Gynecology training, subsequently, finish the 2-year course of Gynecologic Oncology training[3]. The contents were revised periodically according to the national

**Correspondence to:**
Tangjitgamol S.
Department of Obstetrics and Gynecology, Faculty of Medicine Vajira Hospital, 681 Samsen Road, Dusit District, Bangkok 10300, Thailand.
**Phone:** +66-86-3791431, **Fax:**+66-2-2437907
**E-mail:** siriwanonco@yahoo.com, siriwanonco@nmu.ac.th

**How to cite this article:** Tangjitgamol S, Chanpanitkitchot S, Charoenkwan K, Srisomboon J, Kasemsarn P, Temrungruanglert W, Linasmita V, Thai Gynecologic Cancer Society (TGCS).Working Situation and Problems in Practice of Thai Gynecologic Oncologists: Thai Gynecologic Cancer Society Survey. J Med Assoc Thai 2020;103(Suppl.7): 3-11.

context and to conform to other international training organizations, and recently the World Federation for Medical Education. Approximately over 20 fellows graduate annually from all training institutions. They may have their practice in the government or private hospitals, in teaching university or service hospitals, and in secondary or tertiary hospitals. From the database of the Thai Gynecologic Cancer Society (TGCS) in 2019, 305 have registered as the members working in different regions of the country[4].

Generally, type and stage of cancer are major determinants of treatment modalities. These may include surgery, chemotherapy, radiation therapy, or any of them in combination. One or more of these treatments may be used in the primary, adjuvant, salvage, or palliative settings. These wide varieties of treatment certainly mandate adequate knowledge and competency in gynecologic oncology and related fields of the gynecologic oncologist or gynecologist taking care of this group of patients. Not of lesser importance is co-operation among the medical and para-medical personnel in a multidisciplinary manner to achieve the optimal holistic care for the patient.

Regarding the lines of treatment, many international organizations involving cancer care have released organ-, specific, or problems-specific practice guidelines aiming to reduce cancer incidence and death. These are, for example, the National Comprehensive Cancer Network, the US Society of Gynecologic Oncology, European Society for Medical Oncology[5-7]. Generally, the guidelines are based on the level of information preferably evidence-based data from trials followed by other types of studies or expert comments from the authorities in any circumstances of limited data from the studies. The Thai Gynecologic Cancer Society has also released practice guidelines of gynecologic cancer care (Thai version) to guide the gynecologists and gynecologic oncologists for their medical care of the patients. These are based mainly on evidence-based data and guidelines of international organizations. However, some issues were modified to fit the context of the country regarding the prevalence and epidemiology of diseases, availability of resources as well as the economic conditions.

Despite having international and national guidelines, variations in medical practices in a real situation may exist. Factors that certainly influence the practice, aside from the patients and their diseases, are the context of the hospital setting, availability of the instruments, aptitude, experience, attitude, and workload as well as supporting colleagues or team. For example, laparoscopic or robotic surgery, which has important role in gynecologic oncology surgery in the current era, is not commonly practiced in our country. Another example is the use of targeted therapy. Although this agent may yield a survival benefit in selected patients with some types of gynecologic cancer, it has been used infrequently. Problems that might have slowed the pace of advance in practice may be from the medical care providers/setting e.g. gynecologic oncologist, colleagues, equipment as well as other non-medical issues e.g. financial status of the patients themselves, hospital administrative tasks, and the coverage of reimbursement systems[8].

The TGCS in collaboration with the Gynecologic Oncology Committee of The Royal Thai College of Obstetricians and Gynaecologists conducted this survey to assess the current working situation and practice of gynecologic oncologists or gynecologists taking care of gynecologic oncology patients in Thailand. The information would certainly be useful for policy makers to contemplate a work-support planning and to improve the quality of gynecologic oncology fellowship training. This work focused on the working situation and problems related to work or personal issues which might influence the work of the individuals. The other parallel studies involving assessment of clinical practice for each cancer would be presented elsewhere.

## Materials and Methods

This cross-sectional survey study was initiated by the TGCS in 2019. The research subcommittee of the TGCS concerned about the current clinical practice and working situation as well as work-related and personal difficulties of the Thai gynecologic oncologists. The questionnaire to collect data in several aspects was constructed and discussed. A series of modifications were made before the questionnaire was considered valid for the study. The questionnaire was then created on the Google Forms platform. An approval from the Ethics Committees for Human Research of each collaborating institution was independently obtained (COAs/IRBs: Faculty of Medicine Vajira Hospital, 097/2562; Rajavithi Hospital, 104/2562; Faculty of Medicine Chiang Mai University, OBG-2562-06506).

Inclusion criteria were Thai gynecologic oncologists or gynecologists taking care of patients with gynecologic cancer (collectively called gynecologic oncologists in this study) who had been practicing in this field for at least 1 year. Exclusion criteria were individuals who were not currently practicing in the country at the time of this survey and those who were registered members but performed only benign gynecologic conditions.

The objectives of the project were solicited among Thai gynecologic oncologists in the 2019 TGCS annual scientific meeting. A brief introduction to the background, the objective of the study, and instruction on how to respond to questions in the questionnaire were explained to the attending members, and subsequently at the society website. A web-based anonymous survey, which was available at https://forms.gle/e1WsBLcX5jVsXVgG8, was opened for a response during August and October 2019. Reminder message was also sent via electronic media (electronic mail and LINE system; Naver Corporation) in September 2019 to the TGCS members who met inclusion criteria.

The 66-item questionnaire, which required e-mail to verify the existence of each respondents, was comprised of 2 major parts: 1) Fifteen questions about personal and demographic data related to work including age, gender, years of practice, the setting of the main hospital of practice, total

number and adequacy of gynecologic oncologists, adequacy of other colleagues in related fields as well as their co-operation, and problems either of work-related or personal issues; 2) Fifty-one questions about current clinical practice for cancers of the cervix, endometrium, and epithelial ovarian cancer in various aspects.

This study focused on personal, demographic data, and problems reported by the respondents. The hospital's features were divided according to their administrative settings (government vs. private), type of mission (service-only vs. training which referred to only gynecologic fellowship training), and level (secondary- or tertiary-level which was categorized by < or ≥300 in-patient beds, respectively). The adequacy of the other specialists in the hospital i.e. radiation oncologist, urologist, anesthesiologist, and colorectal surgeon and their co-operation with the gynecologic oncologists were determined according to the perception of the respondents themselves. The co-operation was divided into good, moderate, and poor.

Only two investigators (ST and SC) were authorized to access the database of the study. The questionnaires were anonymous with the respondents' e-mail stored separately from the dataset obtained from the questionnaire. Data were analyzed using SPSS statistical software, version 22 (IBM Corporation, Armonk, NY, USA). Descriptive statistics were used to analyze demographic data and were summarized as numbers with percentages, mean with standard deviation (SD) or median with range. Data between groups were compared using Chi-square or Fisher exact tests as appropriate. The *p*-value <0.05 was considered significant.

## Results

Among 305 registered members, 47 were excluded due to inactive clinical practice (n = 30; 23 retirement and 7 doing only administrative work), not involved in gynecologic cancer care (n = 10), dead or ordination (n = 5), or working outside the country (n = 2). Among 258 gynecologic oncologists who met inclusion criteria, 170 logged into the website and answered the questionnaires, accounting for a 65.9% response rate.

The mean age of the respondents was 41.1±8.25 years, with nearly two-thirds (63.5%) being female. The median duration of practice was 5 years (range 1 to 42 years). By different categories of the primary working place, the majority (over 80%) worked in the government or tertiary-level hospitals. Approximately half (50.6%) had gynecologic fellow training mission aside from service; all were in the government hospitals. The respondents in tertiary-level hospitals involved with training more frequently than those in secondary-level hospitals: 47.1% and 2.9%, respectively. Data of the respondents and their workplaces are shown in Table 1. Although not significant, the respondents who worked in private hospitals were males more than females: 14.5% compared to 8.3%, $p = 0.207$. Longer median time of practice was also observed among the respondents working in private compared to those in government hospitals: 7 years (range 4 to 10 years) compared to 5 years (range 2 to 12 years), $p = 0.536$.

**Table 1.** Hospital features of the gynecologic oncologists (n = 170)

| Characteristic features | n (%) |
|---|---|
| Type and capacity of the main working hospital | |
| Hospital setting | |
| Government | 152 (89.4) |
| Private | 18 (10.6) |
| Hospital level* | |
| Tertiary | 142 (83.5) |
| Secondary | 28 (16.5) |
| Type of service | |
| Training hospital | 86 (50.6) |
| Service only hospital | 84 (49.4) |
| Hospital setting by level and type of service | |
| Government | |
| Tertiary | 136 (80.0) |
| Training | 80 (47.1) |
| Service | 56 (32.9) |
| Secondary | 16 (9.4) |
| Training | 5 (2.9) |
| Service-only | 11 (6.5) |
| Private, service-only | |
| Tertiary | 6 (3.5) |
| Secondary | 12 (7.1) |
| Hospital of the respondents according to the mission of medical education** | |
| No medical education | 32 (18.8) |
| Medical students only | 27 (15.9) |
| Obstetrics and gynecology residents | 7 (4.1) |
| Gynecologic oncologic fellows | 26 (15.3) |
| Medical students and obstetrics and gynecology residents | 18 (10.6) |
| All levels of medical education | 60 (35.3) |

* Secondary-level hospital had 10-300 in-patient beds; the tertiary-level hospital had at least 300 in-patient beds
** Medical education included the teaching of medical students, training of obstetrics and gynecology residents, and gynecologic oncology fellows

The number of gynecologic oncologists in each hospital ranged from 1 to 19 (median 6). Table 2 shows the number of gynecologic oncologists and rate of inadequacy by their perception, according to the type of hospitals. The median numbers of gynecologic oncologists in government, tertiary-level, and training hospitals were significantly higher than in their comparative groups especially the tertiary hospital with training. There were 48 respondents (28.2%) who reported 'inadequacy' of gynecologic oncologists; all were in government hospitals. The 'inadequacy' was significantly more frequent among those working in the government or service hospitals, and particularly in the tertiary-level hospitals with only service mission. Of note, the tertiary-level hospitals with a higher number of the gynecologic oncologists (than the tertiary-level hospitals with only service mission) still reported the 'inadequacy' as high as 21.3%.

**Table 2.** Number of gynecologic oncologists and percentages of inadequacy according to the perception of the respondents by hospital feature (n = 170)

| Type and capacity of the main working hospital | Median n of gynecologic oncologists in each hospital setting (range) | *p*-value | % of inadequacy, n = 48 (28.2%) | *p*-value |
|---|---|---|---|---|
| Hospital setting | | 0.034 | | 0.005 |
| Government, n = 152 | 6 (1 to 15) | | 48 (31.6) | |
| Private, n = 18 | 3 (1 to 19) | | - | |
| Type of mission | | <0.001 | | 0.013 |
| Training, n = 86 | 10 (1 to 15) | | 17 (19.8) | |
| Service only, n = 84 | 3 (1 to 19) | | 31 (36.9) | |
| Level of hospital | | 0.001 | | 0.073 |
| Tertiary, n = 142 | 7 (1 to 19) | | 44 (31.0) | |
| Secondary, n = 28 | 3 (1 to 8) | | 4 (14.3) | |
| Hospital setting by level and type of service | | | | |
| Government | | | | |
| Tertiary, n = 136 | | <0.001 | | 0.001 |
| Training, n = 80 | 10 (3 to 15) | | 17 (21.3) | |
| Service, n = 56 | 3 (1 to 8) | | 27 (48.2) | |
| Secondary, n = 16 | | 0.601 | | 0.245 |
| Training, n = 5 | 5 (5 to 7) | | - | |
| Service-only, n = 11 | 6 (1 to 8) | | 4 (36.4) | |
| Private, service-only | | 0.007 | | - |
| Tertiary, n = 6 | 7 (3 to 19) | | - | |
| Secondary, n = 12 | 2 (1 to 7) | | - | |

**Table 3.** Availability and adequacy of medical personnel by specialty (n = 170)

| Medical personnel | Adequate, n (%) | Inadequate, n (%) | Not available, n (%) |
|---|---|---|---|
| General surgeon | 140 (82.4) | 29 (17.1) | 1 (0.6) |
| Oncologic surgeon | 77 (45.3) | 48 (28.2) | 45 (26.5) |
| Colorectal surgeon | 94 (55.3) | 52 (30.6) | 24 (14.1) |
| Urologist | 128 (75.3) | 38 (22.4) | 4 (2.4) |
| Anesthesiologist | 137 (80.6) | 32 (18.8) | 1 (0.6) |
| Pathologist | 96 (56.5) | 62 (36.5) | 12 (7.1) |
| Radiation oncologist | 87 (51.2) | 34 (20.0) | 49 (28.8) |
| Medical oncologist | 105 (61.8) | 59 (34.7) | 6 (3.5) |
| Chemotherapy nurse | 97 (57.1) | 72 (42.4) | 1 (0.6) |
| Pharmacist | 131 (77.1) | 39 (22.9) | - |
| Blood bank personnel | 144 (84.7) | 24 (14.1) | 2 (1.2) |

Table 3 shows the availability and adequacy of medical personnel by specialty. Focusing on the availability and adequacy of other 11 medical specialties, the 2 most common specialties, which were 'not available', were radiation oncologist (28.8%) and oncologic surgeon (26.5%). On the other hand, the 4 common areas of 'inadequate' in order of frequency were chemotherapy nurse (42.4%), pathologist (36.5%), medical oncologist (34.7%), and colorectal surgeon (30.6%).

When the figures of 'inadequacy' and 'not available' were summed up, the 3 most common areas of 'deficit' were oncologic surgeon (54.7%), radiation oncologist (48.8%), and colorectal surgeon (44.7%). The deficits of the other 8 specialties were also found ranging from 15.3% to 43.5% (Table 4). The respondents working in government and service-only hospitals reported a higher frequency of deficit than their comparative groups in many areas. The only specialist who was reported as deficit more frequently in the secondary- than tertiary-level hospitals was an urologist. On the other hand, a chemotherapy nurse was reported as deficit more frequently among the respondents from tertiary-than secondary-level hospitals.

Regarding the co-operation between the gynecologic oncologists and other medical personnel, the common specialties which had higher than 30% of moderate to poor co-operation were surgeons: colorectal surgeon (39.9%), oncologic surgeon (37.0%), general surgeon (36.7%) and urologist (31.1%). The moderate to the poor co-operation

**Table 4.** Medical personnel deficit by areas of specialty according to the type of hospitals (n = 170)

| Adequacy of medical personnel (%) | Hospital setting | | | Level of hospital | | | Type of mission | | |
|---|---|---|---|---|---|---|---|---|---|
| | Government n = 152 (%) | Private n = 18 (%) | *p*-value | secondary n = 28 (%) | Tertiary n = 142 | *p*-value | Training n = 86 (%) | Service n = 84 (%) | *p*-value |
| General surgeon | | | 0.204 | | | 0.788 | | | 0.381 |
| Adequate, n = 140 (82.4) | 123 (80.9) | 17 (94.4) | | 24 (85.7) | 116 (81.7) | | 73 (84.9) | 67 (79.8) | |
| Deficit, n = 30 (17.6) | 29 (19.1) | 1 (5.6) | | 4 (14.3) | 26 (18.3) | | 13 (15.1) | 17 (20.2) | |
| Oncologic surgeon | | | 0.671 | | | 0.777 | | | <0.001 |
| Adequate, n = 77 (45.3) | 68 (44.7) | 8 (50.0) | | 12 (42.9) | 65 (45.8) | | 51 (59.3) | 26 (31.0) | |
| Deficit, n = 93 (54.7) | 84 (55.3) | 9 (50.0) | | 16 (57.1) | 77 (54.2) | | 35 (40.7) | 58 (69.0) | |
| Colorectal surgeon | | | 0.011 | | | 0.295 | | | <0.001 |
| Adequate, n = 94 (55.3) | 79 (52.0) | 15 (83.3) | | 18 (64.3) | 76 (53.5) | | 61 (70.9) | 33 (39.3) | |
| Deficit, n = 76 (44.7) | 73 (48.0) | 3 (16.7) | | 10 (35.7) | 66 (46.5) | | 25 (29.1) | 51 (60.7) | |
| Urologist | | | 0.755 | | | 0.015 | | | 0.003 |
| Adequate, n = 128 (75.3) | 115 (75.7) | 13 (72.2) | | 16 (57.1) | 112 (78.9) | | 73 (84.9) | 55 (65.5) | |
| Deficit, n = 42 (24.7) | 37 (24.3) | 5 (27.8) | | 12 (42.9) | 30 (21.1) | | 13 (15.1) | 29 (34.5) | |
| Anesthesiologist | | | 0.003 | | | 0.768 | | | 0.788 |
| Adequate, n = 137 (80.6) | 119 (78.3) | 18 (100) | | 22 (78.6) | 115 (81.0) | | 70 (81.4) | 67 (79.8) | |
| Deficit, n = 33 (19.4) | 33 (21.7) | - | | 6 (21.4) | 27 (19.0) | | 16 (18.6) | 17 (20.2) | |
| Pathologist | | | 0.054 | | | 0.361 | | | 0.046 |
| Adequate, n = 96 (56.5) | 82 (53.9) | 14 (77.8) | | 18 (64.3) | 78 (54.9) | | 55 (64.0) | 41 (48.8) | |
| Deficit, n = 74 (43.5) | 70 (46.1) | 4 (22.2) | | 10 (35.7) | 64 (45.1) | | 31 (36.0) | 43 (51.2) | |
| Radiation oncologist | | | 0.270 | | | 0.129 | | | <0.001 |
| Adequate, n = 87 (51.2) | 80 (52.6) | 7 (38.9) | | 18 (64.3) | 69 (48.6) | | 61 (70.9) | 26 (31.0) | |
| Deficit, n = 83 (48.8) | 72 (47.4) | 11 (61.1) | | 10 (35.7) | 73 (51.4) | | 25 (29.1) | 58 (69.0) | |
| Medical oncologist | | | 0.012 | | | 0.115 | | | <0.001 |
| Adequate, n = 105 (61.8) | 89 (58.6) | 16 (88.9) | | 21 (75.0) | 84 (59.2) | | 68 (79.1) | 37 (44.0) | |
| Deficit, n = 65 (38.2) | 63 (41.4) | 2 (11.1) | | 7 (25.0) | 58 (40.8) | | 18 (20.9) | 47 (56.0) | |
| Chemotherapy nurse | | | 0.017 | | | 0.036 | | | 0.364 |
| Adequate, n = 97 (57.1) | 82 (53.9) | 15 (83.3) | | 21 (75.0) | 76 (53.5) | | 52 (60.5) | 45 (53.6) | |
| Deficit, n = 73 (42.9) | 70 (46.1) | 3 (16.7) | | 7 (25.0) | 66 (46.5) | | 34 (39.5) | 39 (46.4) | |
| Pharmacist | | | 0.077 | | | 0.484 | | | 0.921 |
| Adequate, n = 131 (77.1) | 114 (75.0) | 17 (94.4) | | 23 (82.1) | 108 (76.1) | | 66 (76.7) | 65 (77.4) | |
| Deficit, n = 39 (22.9) | 38 (25.0) | 1 (5.6) | | 5 (17.9) | 34 (23.9) | | 20 (23.3) | 19 (22.6) | |
| Blood bank person | | | 1.000 | | | 0.387 | | | 0.028 |
| Adequate, n = 144 (84.7) | 128 (84.2) | 16 (88.9) | | 22 (78.6) | 122 (58.9) | | 78 (90.7) | 66 (78.6) | |
| Deficit, n = 26 (15.3) | 24 (15.8) | 2 (11.1) | | 6 (21.4) | 20 (14.1) | | 8 (9.3) | 18 (21.4) | |

Deficit included inadequate and not available, with percentages obtained from the total number of respondents' hospitals

**Table 5.** Co-operation between gynecologic oncologist and other medical personnel according to the type of hospitals

| Co-operation of medical personnel N of the respondents (%) | Hospital setting | | | Level of hospital | | | Type of mission | | |
|---|---|---|---|---|---|---|---|---|---|
| | Government n (%) | Private n (%) | *p*-value | Secondary n (%) | Tertiary n (%) | *p*-value | Training n (%) | Service only n (%) | *p*-value |
| General surgeon, n = 169 | | | 0.004 | | | 0.089 | | | 0.271 |
| Good, n = 107 (63.3) | 90 (59.6) | 17 (94.4) | | 21 (77.8) | 86 (60.6) | | 51 (59.3) | 56 (67.5) | |
| Modest/poor, n = 62 (36.7) | 61 (40.4) | 1 (5.6) | | 6 (22.2) | 56 (39.4) | | 35 (40.7) | 27 (32.5) | |
| Oncologic surgeon, n = 127 | | | 0.032 | | | 0.226 | | | 0.542 |
| Good, n = 80 (63.0) | 69 (60.0) | 11 (91.7) | | 15 (75.0) | 65 (60.7) | | 47 (65.3) | 33 (60.0) | |
| Modest/poor, n = 47 (37.0) | 46 (40.0) | 1 (8.3) | | 5 (25.0) | 42 (39.3) | | 25 (34.7) | 22 (40.0) | |
| Colorectal surgeon, n = 148 | | | 0.047 | | | 0.378 | | | 0.969 |
| Good, n = 89 (60.1) | 75 (57.3) | 14 (82.4) | | 17 (68.0) | 72 (58.5) | | 51 (60.0) | 38 (60.3) | |
| Modest/poor, n = 59 (39.9) | 56 (42.7) | 3 (17.6) | | 8 (32.0) | 51 (41.5) | | 34 (40.0) | 25 (39.7) | |
| Urologist, n = 167 | | | 0.831 | | | 0.299 | | | 0.795 |
| Good, n = 115 (68.9) | 103 (69.1) | 12 (66.7) | | 15 (60.0) | 100 (70.4) | | 60 (69.8) | 55 (67.9) | |
| Modest/poor, n = 52 (31.1) | 46 (30.9) | 6 (33.3) | | 10 (40.0) | 42 (29.6) | | 26 (30.2) | 26 (32.1) | |
| Anesthesiologist, n = 169 | | | 0.078 | | | 0.134 | | | 0.456 |
| Good, n = 114 (85.2) | 126 (83.40 | 18 (100) | | 26 (96.3) | 118 (83.1) | | 75 (87.2) | 69 (83.1) | |
| Modest/poor, n = 25 (14.8) | 25 (16.6) | - | | 1 (3.7) | 24 (16.9) | | 11 (12.8) | 14 (16.9) | |
| Pathologist, n = 159) | | | 0.472 | | | 0.569 | | | 0.365 |
| Good, n = 129 (81.1) | 116 (80.0) | 13 (92.9) | | 17 (77.3) | 112 (81.8) | | 72 (83.7) | 57 (78.1) | |
| Modest/poor, n = 30 (18.9) | 29 (20.0) | 1 (7.1) | | 5 (22.7) | 25 (18.2) | | 14 (16.3) | 16 (21.9) | |
| Radiation oncologist, n = 128 | | | 1.000 | | | 1.000 | | | 0.016 |
| Good, n = 117 (91.4) | 108 (91.5) | 9 (90.0) | | 20 (90.9) | 97 (91.5) | | 80 (96.4) | 37 (82.2) | |
| Modest/poor, n = 11 (8.6) | 10 (8.5) | 1 (10.0) | | 2 (9.1) | 9 (8.5) | | 3 (3.6) | 8 (17.8) | |
| Medical oncologist, n = 166 | | | 0.047 | | | 0.193 | | | 0.931 |
| Good, n = 125 (75.3) | 108 (73) | 17 (94.4) | | 23 (85.2) | 102 (73.4) | | 65 (75.6) | 60 (75.0) | |
| Modest/poor, n = 41 (24.7) | 40 (27.0) | 1 (5.6) | | 4 (14.8) | 37 (26.6) | | 21 (24.4) | 20 (25.0) | |
| Chemotherapy nurse, n = 170 | | | 0.128 | | | 0.756 | | | 0.645 |
| Good, n = 136 (80.0) | 119 (78.3) | 17 (94.4) | | 23 (82.1) | 113 (79.6) | | 70 (81.4) | 66 (78.6) | |
| Modest/poor, n = 34 (20.0) | 33 (21.7) | 1 (5.6) | | 5 (17.9) | 29 (20.4) | | 16 (18.6) | 18 (21.4) | |
| Pharmacist, n = 170 | | | 0.079 | | | 0.375 | | | 0.346 |
| Good, n = 146 (85.9) | 128 (84.2) | 18 (100) | | 26 (92.9) | 120 (84.5) | | 76 (88.4) | 70 (83.3) | |
| Modest/poor, n = 24 (14.1) | 24 (15.8) | - | | 2 (7.1) | 22 (15.5) | | 10 (11.6) | 14 (16.7) | |
| Blood bank person, n = 170 | | | 0.313 | | | 0.577 | | | 0.371 |
| Good, n = 142 (83.5) | 125 (82.2) | 17 (94.4) | | 25 (89.3) | 117 (82.4) | | 74 (86.0) | 68 (81.0) | |
| Modest/poor, n = 28 (16.5) | 27 (17.8) | 1 (5.6) | | 3 (10.7) | 25 (17.6) | | 12 (14.0) | 16 (19.0) | |

of other medical personnel ranged from 8.6% to 24.7%. Table 5 shows the type of specialties and there co-operation with the gynecologic oncologists according to the type of hospitals.

Regarding the work-related or personal problems which might impact work of the respondents, approximately three-fourths of the respondents (75.9%) reported one or more issues of the problem (Table 6). The most common problem was work-related (68.2%) especially over-workload or inadequate colleagues. Financial issue of inadequate income was the second most common (31.2%).

There was a significant association between financial and family problems: 8 (15.1%) with the financial problem had family problems compared to 4 (3.4%) of those who had no financial problem ($p$ = 0.006). Of note, 39 respondents (22.9%) reported both problems of over-workload or inadequate co-workers and inadequate tools or budget. On the other hand, four respondents who reported a lack of confidence also had financial problems. No difference in the number of gynecologic oncologists between the respondents who reported over-workload or not: 5.5 (1 to 15) and 6.5 (1 to 19) ($p$ = 0.224) respectively. However, the respondents who reported over-workload problem had a significant higher frequency of gynecologic oncologists' inadequacy in their hospitals compared to those who reported no problem: 42 (46.7%) vs. 6 (7.5%), $p$<0.001.

**Table 6.** Problems reported by the gynecologic oncologist (n = 170)

| Problems | N of the respondent (%) |
|---|---|
| No problems | 41 (24.1) |
| Work-related | 116 (68.2) |
| Over-workload or inadequate co-workers | 51 (30.0) |
| Inadequate tools or budget | 26 (15.3) |
| Personal issues | 57 (33.5) |
| Financial issue | 53 (31.2) |
| Incompetent/ lack of confidence | 8 (4.7) |
| Relationship with others | |
| Other co-workers | 11 (6.5) |
| Family members | 12 (7.1) |

One respondent may have one or more problems

The problems were explored by the working's features (Table 7). Work-related and financial problems were more commonly reported among the respondents working in the government or tertiary-level hospitals. No differences of work problems among the respondents in the government hospitals with tertiary- vs. secondary- or training vs. service only were found (data not shown). Although the instrument/ budget problems were more frequently reported in the tertiary/ service than tertiary/ training hospitals, the difference was not statistically significant: 53.6% vs. 38.8% ($p$ = 0.087).

For financial problems, the respondents who had worked for less than 5 years had more frequent problems, however, the difference was not statistically significant: 38.0% vs. 26.3% ($p$ = 0.102). Regarding the problems between the gynecologic oncologists and their colleagues, only the respondents who worked for less than 5 years tended to have more problems than those with longer years of practice: 11.3% vs. 3.0% ($p$ = 0.054). Of interest, 8 of 129 respondents (4.7%) reported a lack of confidence/ competency. Higher percentages of this problem, although not statistically significant, were found in those working in private hospital, secondary-level hospital, and training-hospitals than their comparative groups: 11.1% vs. 3.9% ($p$ = 0.202), 10.7% vs. 3.5% ($p$ = 0.126), and 6.1% vs. 3.8% ($p$ = 0.713), respectively.

## Discussion

This survey, to assess the work situation of Thai gynecologic oncologists working in the country, had a 65.9% response rate. This was higher than those reported

**Table 7.** Problems reported by the gynecologic oncologist according to the working features (n = 129)

| Features of respondents | Problems | | | | | |
|---|---|---|---|---|---|---|
| | Work-related, n = 116 | $p$-value | Financial-issue, n = 53 | $p$-value | Interpersonal relationship, n = 11 | $p$-value |
| Hospital setting | | <0.001 | | 0.003 | | 0.609 |
| Government, n = 152 | 113 (74.3) | | 53 (34.9) | | 11 (7.2) | |
| Private, n = 18 | 3 (16.7) | | - | | - | |
| Hospital level | | <0.001 | | 0.011 | | 1.000 |
| Secondary, n = 28 | 9 (32.1) | | 3 (10.7) | | 2 (7.1) | |
| Tertiary, n = 142 | 107 (75.4) | | 50 (35.2) | | 9 (6.3) | |
| Type of mission | | 0.155 | | 0.694 | | 0.786 |
| Training, n = 86 | 63 (73.3) | | 28 (32.6) | | 6 (7.0) | |
| Service only, n = 84 | 53 (63.1) | | 25 (29.8) | | 5 (6.0) | |
| Years of practice | | 0.235 | | 0.102 | | 0.054 |
| <5 years, n = 71 | 52 (73.2) | | 27 (38.0) | | 8 (11.3) | |
| ≥5 years, n = 99 | 64 (64.6) | | 26 (26.3) | | 3 (3.0) | |

from other surveys of practice conducted in the United States among the physicians or nurse practitioners in oncology which had response rates of 18 to 19%[8,9]. One reason was probably their members were larger in number (thousands) compared to our society members which had fewer (hundreds), so it was easier to contact and requested for the co-operation. Furthermore, a reminder message was sent via electronic media to the targets to increase the response.

Most respondents worked in the government or tertiary-level hospitals (over 80%). On the other hand, the approximate frequency of the respondents worked in training and service-only hospitals. These were also represented by the number of gynecologic oncologists in each type of hospital (Table 2). Different numbers of gynecologic oncologists in various types of hospitals were simply explained by the factual situation in the country that the positions are more available in government and tertiary-level hospitals which had a greater number of out-patients and in-patient beds requiring more manpower. To be noted, the hospitals which had training tasks had a higher number of gynecologic oncologists than hospitals that had the only service, particularly in a tertiary hospital. These additional numbers could be explained by the higher allocated budget for the expanded responsibility of training, so the hospitals were able to acquire more attending staffs to serve an additional mission. On the other hand, this might be due to the compulsory requirement of a gynecologic oncology fellowship training curriculum that at least two gynecologic oncologists were required for each trainee.

Regarding the number of personnel working in the hospital and perception of adequacy, the responses were derived solely from the respondents' perspective. Although the reports may be subjective findings because the actual data were not verified especially workload or the annual number of patients in service in their workplace, they reflected the perception and the real situation of the individuals rather than the numerical figures of workloads without considering other non-medical tasks. A direct relationship between the fewer numbers of gynecologic oncologists and the percentage of inadequacy among the service-only hospitals was found. However, contradictory findings were found with the numbers in the government or tertiary hospitals with a larger number of gynecologic oncologists, but still reported over 30% inadequacy. These findings were discussed and explained based on the actual situation that many competent gynecologic oncologists in most hospitals frequently got involved in administrative, non-medical work, so they had less time for patients' care with more burden on the other colleagues.

For the adequacy of other medical professionals, the five common areas of 'deficit' by the order were oncologic surgeons, radiation oncologists, colorectal surgeons, pathologists, and chemotherapy nurses. These deficits were less frequent in the private and training hospitals compared to their comparative hospitals. These findings could be simply explained that the private and training hospitals had the potential to acquire more numbers of staff as indicated by their number of patients and profit (in private hospitals) or additional subsidiary budget for training (training hospitals). This was not the situation for the government and service-only hospitals, which might have a larger number of patients with a relatively limited number of medical personnel or limited budgets. A reason for a more frequent deficit of urologists in the secondary level might be from the limited positions of specialists in the smaller hospitals that they tended to have general surgeons in charge instead. On the other hand, the higher deficit of chemotherapy nurses in the tertiary-level hospitals might be due to the requirement of specialists with high competency in a larger hospital and by their policy or goal of national or international hospital accreditation.

Although a report of co-operation among medical personnel was a sensitive issue and ones may be reluctant to report, this survey recognized this issue as one of the major determinants of successful working outcomes. We found modest/poor co-operation in government hospitals more frequent than in private hospitals. This might be due to professionals working in government hospitals had a high workload with rather fixed stipend, whereas those working in the private hospital had their earnings varied according to their performance (higher incentive, better motivation). The specialists who had more frequent modest/poor co-operation with the gynecologic oncologists were the general, oncologic or colorectal surgeons. This was rather interpreted that frequent consultation and operation-generated stress might have led to a conflict during work rather than a personal issue.

For the problems reported by the gynecologic oncologists, over-workload or inadequate colleagues with or without inadequate tools/budget were most common followed by personal financial issues. These were encountered more frequently with the respondents in the government or tertiary hospitals and were consistent regardless of being training or service only hospitals. The explanations of the diferrence between the government vs. private hospitals in that manpower and budgets were rather fixed with an interval planning system (annually) for the former; whereas, for the latter, changes of budget and payment were possible and could be expedited due to their competitive business and a direct relationship between the benefit and professional compensation. On the other hand, higher frequency of work-related problems in the tertiary-than secondary-level hospitals were most likely due to the higher competency of the larger hospitals which usually required advanced instruments and technologies that had expeditious development in the modern era. The underlying reason for the more frequent financial problems in tertiary-level hospitals was difficult to explain. We rather proposed that a high workload during office hours in the tertiary hospitals would readily exhaust them to have extra-hours in special clinics with auxiliary incomes. Furthermore, these tertiary-level hospitals were generally located in a big city with a high cost of living.

In summary, this survey reported a general working status of the Thai gynecologic oncologists. Although the exact figures of workload and personnel were not obtained, the subjective findings from the respondents should truly reflect the respondents' perception regarding work status and work-related problems in terms of inadequacy or co-operation between colleagues, budgets, instruments, and personal problems or financial issues in particular.

The results from this study should be scrutinized further by local administrators together with the policymakers as well as fellowship training committee to focus on the important issues. Some hospitals in the same areas may share certain resources i.e. high-cost instruments or machines or manpower (specialists); whereas some may be substituted by a service from the private sectors. Other non-medical mission i.e. administration or teaching/training should be adequately supported. Future studies with additional data on the problems according to the national geographic areas and health services coverage would be useful. The answers may help in the planning of supports according to the size, frequency, and severity of problems in each specific area.

## What is already known on this topic?

To date, there had been no studies reported about the working situation, adequacy of the Thai gynecologic oncologist as well as their work-related problems in clinical practices.

## What this study adds?

The present study found the majority of the Thai gynecologic oncologists worked in a government or tertiary hospital, whereas half involved in fellowship training. A wide range of numbers of gynecologic oncologists was reported. Slightly more than one-fourth reported inadequacy. One or more problems were reported from three-fourths of the respondents, with work-related as the most common.


## Acknowledgements

The present study was granted by Navamindradhiraj University Research Fund for the study conduct and by Faculty of Medicine Vajira Hospital Facilitating Research Fund for manuscript preparation and publication.


## Potential conflicts of interest

The authors declare no conflicts of interest

## References


1. Ferlay J, Colombet M, Soerjomataram I, Mathers C, Parkin DM, Pineros M, et al. Estimating the global cancer incidence and mortality in 2018: GLOBOCAN sources and methods. Int J Cancer 2019;144:1941-53.
2. Imsamran W, Pattatang A, Supaattagotn P, Chiawiriyabunya I, Namthaisong K, Wongsena M, et al., editors. Cancer in Thailand Vol. IX, 2013-2015. Bangkok: Cancer Registry Unit, National Cancer Institute Ministry of Public Health, Ministry of Education; 2018.
3. A subcommittee of gynecologic oncology training of the Royal Thai College of Obstetricians and Gynaecologists. Gynecologic oncology fellowship training curriculum. 4th ed. Bangkok: The Royal Thai College of Obstetricians and Gynaecologists; 2019.
4. The Thai Gynecological Cancer Society Membership registry database [Internet]. 2019 [cited 2019 Jul 1]. Available from: http://www.tgcsthai.com/.
5. National Comprehensive Cancer Network. NCCN Clinical practice guidelines in oncology (NCCN Guidelines®) [Internet]. 2019 [cited 2020 Feb 16]. Available from: https://www.nccn.org/professionals/physician_gls/default_nojava.aspx.
6. Society of Gynecologic Oncology. The SGO clinical practice committee. Clinical practice guidelines database [Internet]. 2020 [cited 2020 Feb 16]. Available from: https://www.sgo.org/clinical-practice/guidelines/.
7. European Society for Medical Oncology. ESMO Clinical practice guidelines: Gynaecological cancers [Internet]. 2020 [cited 2020 Feb 16]. Available from: https://www.esmo.org/guidelines/gynaecological-cancers.
8. Kirkwood MK, Hanley A, Bruinooge SS, Garrett-Mayer E, Levit LA, Schenkel C, et al. The state of oncology practice in America, 2018: Results of the ASCO practice census survey. J Oncol Pract 2018;14:e412-20.
9. Bruinooge SS, Pickard TA, Vogel W, Hanley A, Schenkel C, Garrett-Mayer E, et al. Understanding the role of advanced practice providers in oncology in the United States. J Adv Pract Oncol 2018;9:585-98.

## สถานการณ์และปัญหาในการปฏิบัติงานของแพทย์มะเร็งนรีเวชไทย: การสำรวจของสมาคมมะเร็งนรีเวชไทย

ศิริวรรณ ตั้งจิตกมล, ศรัญญา ชาญพานิชกิจโชติ, กิตติภัต เจริญขวัญ, จตุพล ศรีสมบูรณ์, ภานน เกษมศานติ์, วิชัย เติมรุ่งเรืองเลิศ, วสันต์ ลีนะสมิต, สมาคมมะเร็งนรีเวชไทย

***วัตถุประสงค์:*** เพื่อศึกษาสถานการณ์และปัญหาในการปฏิบัติงานของแพทย์มะเร็งนรีเวชไทย

***วัสดุและวิธีการ:*** รายงานนี้เป็นส่วนหนึ่งของการศึกษาสำรวจของสมาคมมะเร็งนรีเวชไทยเกี่ยวกับการปฏิบัติงานของแพทย์มะเร็งนรีเวชไทยที่ปฏิบัติงานมาแล้วอย่างน้อย 1 ปี โดยการตอบแบบสอบถามผ่านเว็บซึ่งเปิดให้ตอบตั้งแต่เดือนสิงหาคมถึงเดือนตุลาคม พ.ศ. 2562 รายงานนี้วิเคราะห์ข้อมูลของแพทย์ ข้อมูลของโรงพยาบาล ข้อมูลการทำงานและปัญหาที่เกี่ยวกับการทำงานหรือปัญหาส่วนตัว

***ผลการศึกษา:*** จากแพทย์มะเร็งนรีเวชไทยทั้งหมดที่ตรงตามเกณฑ์การคัดเข้า 258 ราย มีผู้ตอบแบบสอบถาม 170 ราย คิดเป็น ร้อยละ 63.5 มีอายุเฉลี่ย 41.1±8.25 และประมาณ 2 ใน 3 เป็นเพศหญิง ค่ามัธยฐานของระยะเวลาการทำงาน เท่ากับ 5 ปี (พิสัย 1 ถึง 42 ปี) ส่วนใหญ่ (มากกว่าร้อยละ 80) ทำงานในโรงพยาบาลรัฐหรือโรงพยาบาลระดับตติยภูมิและประมาณครึ่งหนึ่ง (ร้อยละ 50.6) ทำงานในโรงพยาบาลที่มีการฝึกอบรมแพทย์ประจำบ้านอนุสาขามะเร็งวิทยานรีเวช จำนวนของแพทย์มะเร็งนรีเวชในโรงพยาบาลมีตั้งแต่ 1 ถึง 19 คน (ค่ามัธยฐาน เท่ากับ 6) ซึ่งร้อยละ 28.2 รายงานว่าไม่เพียงพอ โดยพบบ่อยมากกว่าอย่างมีนัยสำคัญในโรงพยาบาลที่มีงานบริการเพียงอย่างเดียว (โดยเฉพาะอย่างยิ่งในโรงพยาบาลรัฐและโรงพยาบาลระดับตติยภูมิ) เมื่อเทียบกับโรงพยาบาลที่มีการฝึกอบรม พบว่าร้อยละ 75.9 ของผู้ตอบแบบสอบถามรายงานว่ามีปัญหาเกี่ยวกับงาน โดยเฉพาะอย่างยิ่งปริมาณงานที่มากเกินไปและผู้ร่วมงานไม่เพียงพอ แพทย์ในโรงพยาบาลรัฐหรือโรงพยาบาลที่มีการฝึกอบรมมีปัญหาการเงินมากกว่ากลุ่มอื่น

***สรุป:*** ส่วนใหญ่ของแพทย์ที่ตอบแบบสอบถามทำงานในโรงพยาบาลรัฐและโรงพยาบาลระดับตติยภูมิ ประมาณครึ่งหนึ่งทำงานในโรงพยาบาลที่มีการฝึกอบรมแพทย์ประจำบ้านอนุสาขาฯ แพทย์มะเร็งนรีเวชในแต่ละโรงพยาบาลมีจำนวนแตกต่างกัน โดยประมาณ 1 ใน 4 รายงานว่ามีจำนวนไม่เพียงพอ ประมาณ 3 ใน 4 ของแพทย์ที่ตอบแบบสอบถามรายงานว่ามีปัญหา โดยเป็นปัญหาในการทำงานบ่อยที่สุด