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Opinions of Thai Urologists in Screening and Treatment of Localized and Locally Advanced Prostate Cancer

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Abstract

Background: Despite the growing large number of men diagnosed with prostate cancer in Thailand, there is no concensus in issue of screening and appropiate treatment.

Objective: To evaluate the attitudes of Thai urologists in screening and treatment of prostate cancer, providing them with various specific scenarios.

Material and Method: 351 questioniares were sent to all living Thai urologists .We identified the opinions in screening of prostate cancer and the most appropriate treatment option in each scenario, assuming that they are treating themselves. Theses data were subsequently analyzed to identify factors associated with the decisions.

Result: With the response rate of 48.4%, almost half (48.2%) used PSA and DRE , one third (34.7%) used PSA only as the screening tools for prostate cancer. According to localized prostate cancer scenerio, Most urologists chose radical prostatectomy in young healthy patients, but preferred androgen deprivation therapy in elderly unhealthy patients. While in locally advanced scenario, Combination therapy was the preferred treatment for young healthy patients, and androgen deprivation seemed appropriated for elderly unhealthy ones.

Conclusion: PSA is commonly used by Thai urologists as prostate cancer screening. There are large variations of treatment selection in prostate cancer. No clear correlations can be demonstrated between surgeon's diversity and the decision-making.

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Introduction

Prostate cancer is the fifth most common cancer diagnosed in Thai males, accounting for 5.6% of all cancers[1]. According to the 2009 data from the National Cancer Institute of Thailand, 65% of newly diagnosed patients were in stage I. Some experts believe that the increasing number of early detections is due to r the popularization of cancer screening using the prostate serum antigen (PSA). However, given the different results of two recent large global studies, the European Randomized Study of Screening for Prostate Cancer (ERSPC)[2] and the Prostate, Lung, Colorectal and Ovarian cancer screening trial (PLCO)[3], we are not able to definitely conclude that screening with PSA has a beneficial effect. Presently, the issue of prostate cancer screening is still being debated.

Most patients are diagnosed in the localized stage, with a number of possible curative treatment options such as radical prostatectomy, external beam radiation, brachytherapy and less aggressive treatments including hormonal, active surveillance and watchful waiting. But from the current evidence, no one can conclude which treatment modality is the best. Moreover, all forms of treatment have different unique and potentially serious effects.

Based on the popular guideline of the National Comprehensive Cancer Network (NCCN) in 2011[4], we can conclude that the treatment decision depends on the staging of the disease and performance status of patients; the latter relies on their life expectancy and co-morbidity. However, no conclusion can be made that one treatment option is superior to another.

At present, choosing only one best treatment for prostate cancer is nearly impossible due to many reasons, as follows:

- Prostate cancer has a very long natural history, with the indolent course in the first 10-15 years but much more aggressive behavior thereafter[5].
- Most patients are diagnosed in their sixth or seventh decade and may have multiple co-morbidities, leaving them with a much lower life expectancy.
- The final decision depends on discussions between patients and their doctors, whose experience and attitude may influence the choice of treatment options.

Objectives

- To identify the attitude of Thai urologists in screening of prostate cancer and treatment in localized and locally-advanced stage.
- To know the background and difference of selecting treatment options of prostate cancer in Thailand.
- To identify factors affecting the choice of treatment of prostate cancer.
- To collect the data that can be used in public health planning, facility development and improvement of prostate cancer management in the future.

Material and Methodology

After the approval of the Institutional Research Board (IRB) of Faculty of Medicine, Chulalongkorn University, three hundred and fifty-one questionnaires were sent in February 2012, by post and email, to all urologists in Thailand who are members of the Thai Urologic Association (TUA). We waited for 30 days after launching the study to collect data.

The survey questionnaire consists of three parts. The first part pertains to demographic data including respondents' age and gender, type and location of their current workplace/hospitals, duration of practice as a urologist and the number of their new prostate cancer patients in each month. The second part deals with the scenario under which a decision is made on prostate cancer screening with an assumption that

respondents are fifty-year-old healthy Thai males with a frequent health check-up. There are the following five possible answers for this question: screening with PSA only, with digital rectal examination (DRE) only, with PSA and DRE combination, no screening and other possibilities.

The rest of the questionnaire consists of four scenarios ranging from low-risk localized prostate cancer to locally-advanced, with an assumption that respondents are diagnosed with prostate cancer in each stage and performance status, and that they have to select only one appropriate treatment option. We divide each scenario into 4 cases according to age and co-morbidity defined by life expectancy. The given answers are watchful waiting, active surveillance, radical prostatectomy, radiotherapy, hormonal therapy and other possible treatment options. With additional answers of combination therapy in the last scenario, which is locally-advanced prostate cancer. We emphasize that the decision-making rely on respondents' own thinking, not on the standard clinical guideline or their current practices.

This study is done as a descriptive one supported by using calculations with a version 16.0 SPSS program. We express the respondents' opinions in percentages and subsequently analyze the association of demographic data and decision in each scenario with a chi-square test (p-value cut point at 0.05).

Scenario 1: You are a 50-year-old healthy Thai male with no underlying disease and a normal result of all past annual medical check ups. Presently, you can void without any abnormalities and no one in your family has a history of prostate cancer. What is your opinion on prostate cancer screening?

Scenario 2: You are a Thai male patient with an abnormal PSA screening value of 6.5 ng/ml; and a prostate biopsy indicates an adenocarcinoma Gleason score 3+3 in 2/10 cores and 15% involvement. What is your decision on cancer treatment?

Scenario 3: After a thorough medical check up, your doctor has found that you have 1 cm hard nodule in the right lobe of your prostate, with a PSA value of 15 ng/ml. Subsequent biopsy revealed an adenocarcinoma Gleason score 3+4 in 4/10 cores, with 20-30% involvement. What do you think about the treatment?

Scenario 4: You met the urologist due to having voiding difficulties. Serum PSA was 36 ng/ml and prostate biopsy result is an adenocarcinoma Gleason score 4+5 in 7/10 cores, with 70-80% involvement. Bone scan is negative for skeletal metastasis and pelvic MRI does not demonstrate extraprostatic extension or lymphadenopathy. How will you treat yourself?

Scenario 5: With frequent urination and PSA value of 70 ng/ml, biopsy revealed adenocarcinoma of the prostate, with a Gleason score of 4+4 in 6/10 cores and 80% involvement. Bone scintigraphy was negative but abdominopelvic MRI suggested for right seminal vesicle invasion without lymphadenopathy. What is your opinion on cancer treatment?

Result

We received 170 responses from 351 questionnaires sent to urologists all over the country, representing a response rate of 48.4 percents (Table 1). The age of the respondents ranges from 29 to 84 years, with the average age of 44.8 years. In the analytical part, we categorized the age of the respondents into 3 groups. The first group is below 40 years of age and then assigned as an "active young blood urologist". The second group is aged between 41 and 60, classified as a senior one. The last group is more than 61 years old, and most of them have been retired from work, with invaluable experiences, and provide advice/consultancy for younger urologists.

Most of the respondents are male, and only seven participants (4.1%) are female. One- third of them are working in Bangkok, which is the capital city. The duration of practicing in urology ranges from 1 to 54 years, with a median of 10 years. Mean of new prostate cancer patients is 4.1 for each month.

In the first scenario (Figure 1), only one data was missing for this question. Almost half of the respondents said that they will use both PSA and DRE as the screening tool for prostate cancer. One-third of them use only PSA and interestingly 12.4% will use nothing. One respondent answered that he will use PSA and trans-abdominal ultrasound for prostate cancer screening. After analyzing with a chi-square test, we found that age, duration of practice and the number of patients have no influence on decisions about screening. In contrast, workplaces have a significant effect on this issue. Urologists in Bangkok and the northern region tend to use screening with PSA and DRE combination, but those working in the rest of the country usually use only PSA.

In the second scenario (Figure 2), most urologists will choose radical surgery if they have no significant co-morbidity. For those with significant co-morbidity and aged less than 70 years, radical surgery (30.3%) and radiotherapy (31.5%) are chosen almost equally, while unhealthy persons above 70 years of age are likely to be treated with hormonal therapy (29.9%). After analyzing with a chi-square test, there are no correlations between the selected treatment and age, workplace, practice duration and number of patients.

In the third scenario (Figure 3), almost all urologists select radical prostatectomy (92.6%) if they are healthy and younger than 70 years. Half of them (54.6%) insist to choose this treatment if they are older. Unhealthy ones opt for radiotherapy if they are under 70 (41.4%) and hormonal therapy if they are over 70 (45.1%). No demographic variables are related to treatment selection.

In the fourth scenario (Figure 4), most urologists choose radical surgery for all conditions. How-

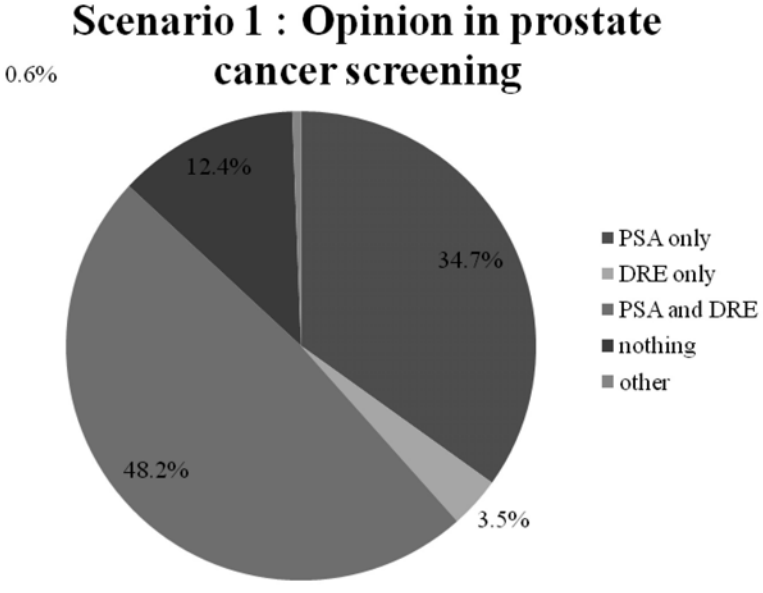


Fig. 1

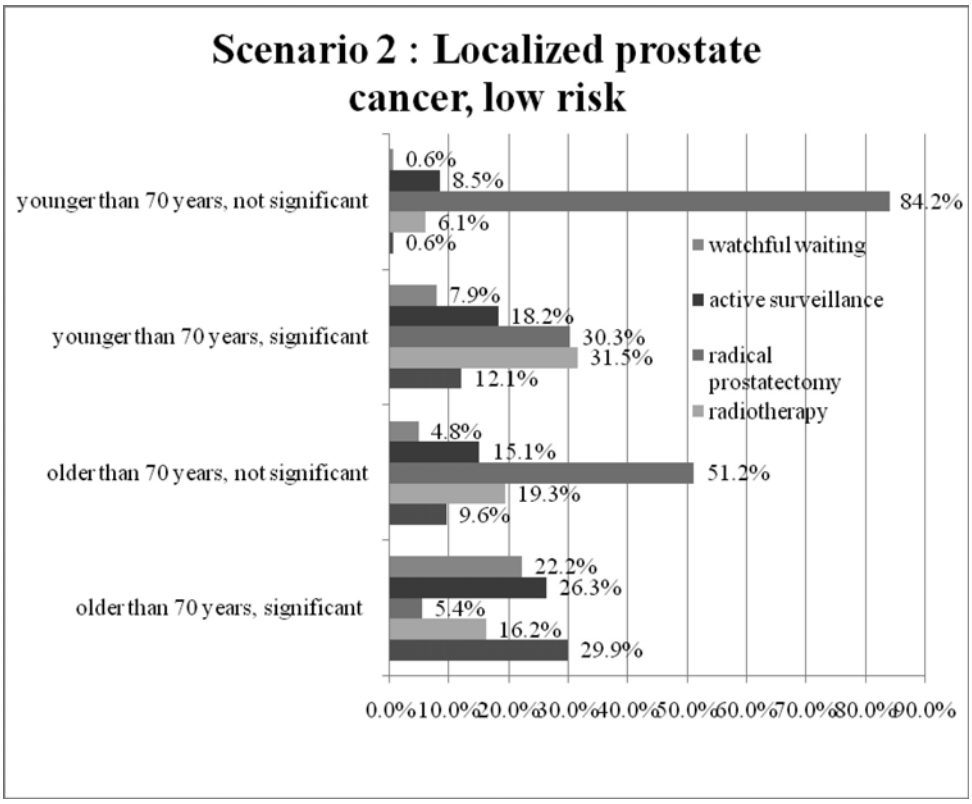

Scenario 2 : Localized prostate cancer, low risk
younger than 70 years, not significant
0.6%
8.5%
84.2%
6.1%
0.6%
younger than 70 years, significant
7.9%
18.2%
30.3%
31.5%
12.1%
older than 70 years, not significant
4.8%
15.1%
51.2%
19.3%
9.6%
older than 70 years, significant
22.2%
26.3%
5.4%
16.2%
29.9%
watchful waiting
active surveillance
radical prostatectomy
radiotherapy
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0%

Fig. 2

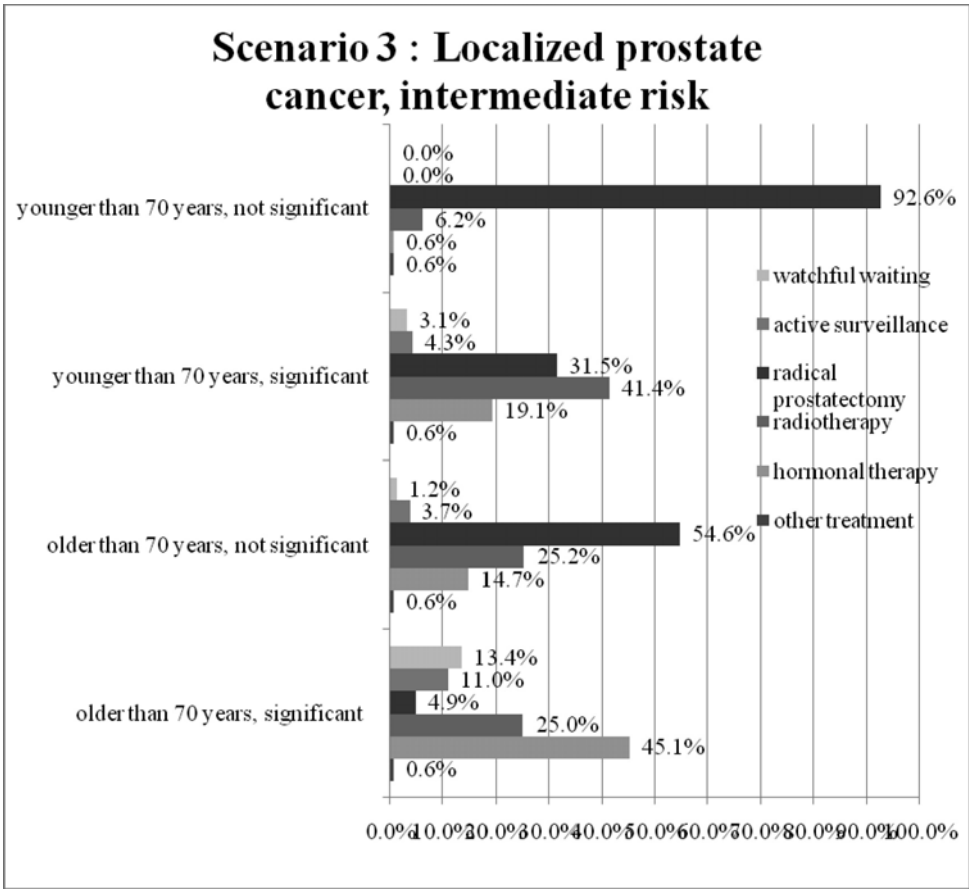

Scenario 3 : Localized prostate cancer, intermediate risk
younger than 70 years, not significant
0.0%
0.0%
92.6%
6.2%
0.6%
0.6%
younger than 70 years, significant
3.1%
4.3%
31.5%
41.4%
19.1%
0.6%
older than 70 years, not significant
1.2%
3.7%
54.6%
25.2%
14.7%
0.6%
older than 70 years, significant
13.4%
11.0%
4.9%
25.0%
45.1%
0.6%
watchful waiting
active surveillance
radical prostatectomy
radiotherapy
hormonal therapy
other treatment
0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0% 100.0%

Fig. 3

ever, those in good health conditions and under 70 tend to opt for radiation treatment. After correlation analysis, we have found that in healthy patients under 70, the age of respondents has significant influence over treatment selection (p value = 0.010). A much higher proportion of respondents choose radical surgery if they are under 60 as compared to older ones.

In the last scenario of locally-advanced prostate cancer (Figure 5), decisions chosen vary significantly. Young healthy patients tend to choose surgery plus radiation (29.4%) and radiation plus hormonal therapy (28.8%) equally. For older patients, radiation plus hormonal therapy (33.5%) and hormonal therapy alone (32.9%) are often chosen. Conversely, unhealthy patients were treated with hormonal therapy as a single modality. Analyses with a chi-square test show that the duration of practice is associated with decision-making among the unhealthy elderly (p value = 0.031). Although most of the respondents chose hormonal treatment primarily, urologists working for less than 10 years also use less aggressive treatment such as watchful waiting and active surveillance.

Discussion

Given the response rate of 48.4%, the survey result may reflect only some parts but not the whole picture of Thai urologists' opinions. The response rates in other previous studies designed to evaluate the opinion of urologists were about 60%. Our rate is lower than the others although questionnaires were sent to all urologists registered with the Thai Urological Association, and it was not known whether they were alive or still practicing urology. This may explain the low response rate in our study.

Our study has demonstrated that 82.9% of Thai urologists still use PSA, with or without DRE, as a screening tool for prostate cancer in men aged 50.

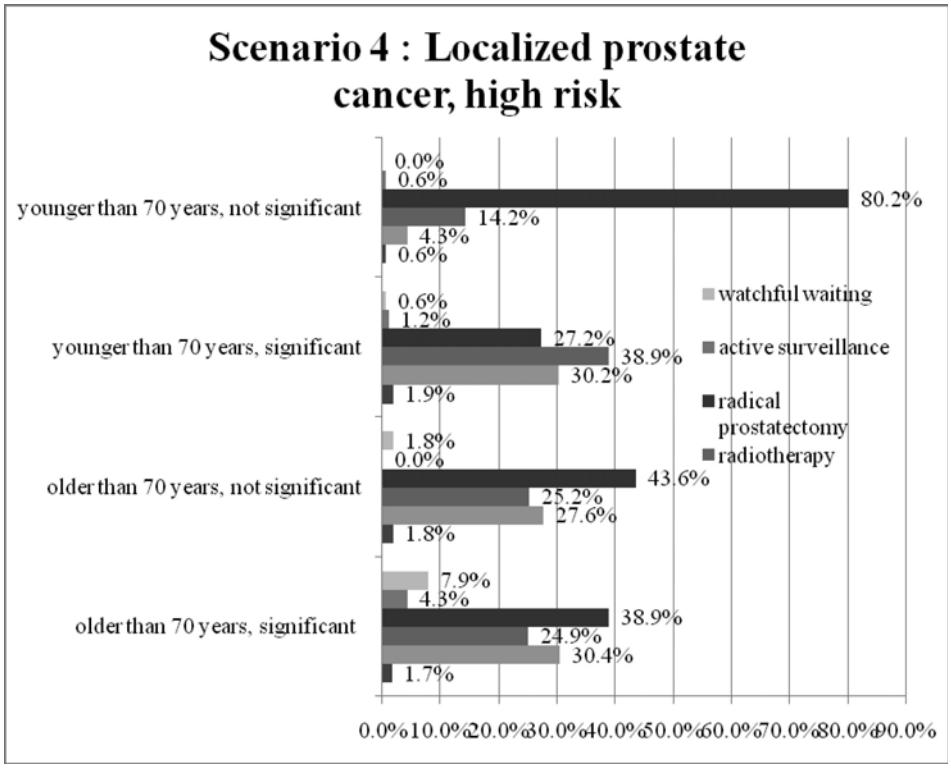


Fig. 4

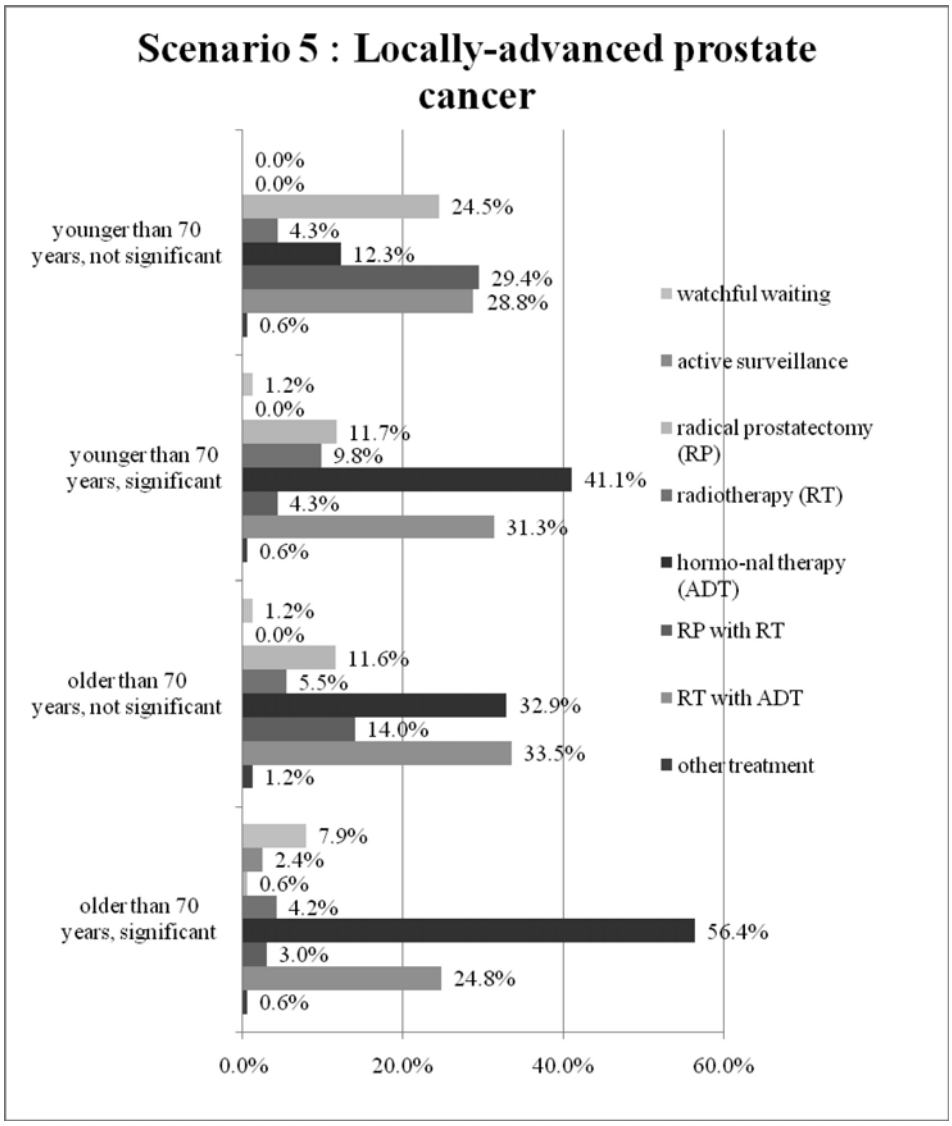


Fig. 5

Although there is no consensus whether PSA can decrease mortality from prostate cancer, a number of medical check up services in our country still include PSA in their recommendations. This data is comparable to other studies on urologists' opinions. Fowler F. and associates stated in 2000 that, from their survey, more than 90% of radiation oncologists and urologists recommended PSA testing as a part of routine physical examination for men at the age of 50-70 years with an average risk of prostate cancer[6]. Another study in 2002 reported that 42-84% of urologists recommended PSA testing for men aged 75 years and older7. After analyzing with a chi-square test, we have found no correlation between age, area of workplace, duration of practice, number of new prostate cancer patients and opinions about PSA screening. Most of the participants frequently used PSA for screening. This may reflect that Thai urologists still believe in the survival benefit of PSA screening, which is supported by the PLCO trial.

In case of localized prostate cancer defined as clinically confined in the prostate gland, most urologists believe that the most appropriate treatments

Table 1 *Demographic data of the respondents (total = 170)*

Age: range 29-84 years, mean = 44.8 years, SD = 12.7 years			
less than 40 years			83 (48.8%)
41-60 years			65 (38.2%)
more than 61 years			22 (12.9%)
Sex			
Male			163 (95.9%)
Female			7 (4.1%)
Area of workplace (missing data = 4)		**Duration of practicing in urology** : range 1-54 years, mean = 13.8 years, median = 10 years	
Bangkok area	52 (31.3%)	1-5 years	58 (34.3%)
central region	23 (13.9%)	6-10 years	30 (17.8%)
northern region	19 (11.4%)	11-20 years	32 (18.9%)
northeastern region	36 (21.2%)	more than 21 years	49 (29.0%)
eastern region	13 (7.6%)	**New prostate cancer patient in one month** : range 0-40 patients, mean = 4.1 patients, median = 2 patients	
southern region	19 (11.4%)		
western region	4 (2.4%)	less than 1 patient	51 (31.7%)
		2-5 patients	88 (54.7%)
		more than 6 patients	22 (13.7%)

are radical surgery or radiotherapy. However, these treatments are not for the unfit elderly treated with medical or surgical castration in particular. This is contrary to the recommendation from NCCN that primary androgen deprivation therapy is not recommended for localized prostate cancer[4].

Another observation in scenario 4 is that more urologists choose radical surgery (38.9%) as compared to hormonal therapy (30.4%). This may be explained by the fact that patients have voiding difficulty, so the urologists may be reluctant to use only hormonal therapy. In case of localized prostate cancer, there is a greater tendency towards selecting active surveillance in patients with low risk disease than intermediate to high risk disease. This can be explained by the higher risk of disease progression in the latter that precludes conservative treatment.

Another interesting observation is that decision towards radical surgery depends on co-morbidity rather than the age of patients. There is no correlation between demographic factors and decisions on treatment options, except in only one scenario (high risk, localized prostate cancer in young healthy patients). In this scenario, age of the urologist has significant influence in the choice of treatment. The retired urologist group (age >60 years) used radical surgery less often than the other groups, and seem to have relied more on androgen deprivation therapy.

A survey among 90 north American and British urologists conducted by Moore MJ and published in 1988 showed that in the case of a 67-year-old patient with localized prostate cancer on the right lobe, the preferred treatment options were divided equally between radical prostatectomy (40%) and

radiation therapy (39%)[8]. In the study later published in 2000 with questionnaires received from 504 urologists in the United States, the authors asked about which treatment had survival benefit in primary treatment for clinically organ-confined, moderate grade prostate cancer. In patients with life expectancy of more than 10 years, radical prostatectomy was mostly agreed upon (98%), followed by external beam radiation (67%) and brachytherapy (66%). External beam radiation (46%), brachytherapy (38%) and radical prostatectomy (14%) were perceived to have survival benefit in patients with less than 10 years life expectancy[6].

Another population-based study in 3,328 localized prostate cancer patients showed that radical prostatectomy (39.7%) and radiation therapy (31.4%) were chosen more than hormonal therapy (10.3%) and watchful waiting (18.6%). Common factors leading urologists to use conservative treatment that are covered in this study and in our study include more advanced age, PSA value above 20, co-morbidity and location of residence/workplace.

In locally-advanced prostate cancer, radical surgery alone is frequently selected only in young healthy patients. There was a trend towards primary hormonal therapy for patients expected to have life expectancy of less than 10 years. Conversely, in healthier patients, definitive treatment with combination therapy was frequently selected. In this scenario, duration of practice has influenced decisions on treatment for unhealthy elderly patients. Urologists who have worked for more than 10 years seem to select primary androgen deprivation therapy more than the other groups

Our study is based on the scenarios where participants can choose any treatments they believe to be the best. There are no limitations such as availability of necessary facilities, costs of treatment, and coverage under health insurance. However, in real situations, there are many uncontrollable factors influencing treatment decisions.

Conclusion

PSA is commonly used by Thai urologists as prostate cancer screening. There are large variations of treatment selection in prostate cancer. No clear correlations can be demonstrated between surgeons'diversity and decision making. Hormonal therapy is still being used in both localized and locally advanced prostate cancer. This study expresses only the attitude about treatment selections, but recognizes that there are also many other factors influencing decisions.

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