



Scientific contribution of Turkey in prostate literature. Where are we? Where are we going?

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ABSTRACT

Prostate cancer is a common malignancy in the world. The established risk factors are increasing age, race and family history. The incidence of prostate cancer is low in Asia, but the overall age-adjusted incidence rate of PCa was reported as 35/100,000 from years of 2008 to 2009 in Turkey. The aim of the study is to investigate the articles from Turkey about prostate cancer for ten years period. The data from the Institute for Scientific Information Web of Science was reviewed and 'prostate adenocarcinoma' in the title was searched in each year from 2006 to 2015. The article, review and letter were selected. Number of articles from Turkey and world was recorded and localization of the top ten countries were noted. There were 28,714 articles between 2006 and 2015 years. The articles increased from 11,998 to 16,716 in last 5 years. In Turkey; the articles was 120 in first 5 year and increased to 205 in the last 5 years. The percentage of increases was 39.3 and 70.8% in the world and Turkey. Ranking to the countries according to the article numbers; Turkey was between 17–23 and 16–27 in first and second five years. The number of the countries whom published prostate cancer articles reached to 89 in ten years. The number of the articles is increased during the years. When we think the nüfus of the country and number of the academicians, the number of the articles would be more than today. The urologists must work more than last to improve the Turkish scientific localization. The clinical chiefs of the university and training hospitals can organize well designed clinical studies and Turkish Association of Urology and Oncology promote the clinical studies, we can publish more and more studies.

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1. Introduction

Prostate cancer (PCa) is one of the most common malignancy and important cause of death among men in the world.¹ Prostate specific antigen (PSA) is the most widely used biomarker for PCa screening and in the late of 1980s; screening among asymptomatic men caused rapid rises of PCa incidence and long survival in many Western countries Prostate Cancer was estimated to have become the most common malignancy among men in Europe, North and South America in the year of 2008.² Although PCa is rare disease in Asia and Africa with an incidence of 4–7/100000, the incidence is increased to approximately 70–100 per thousand in the Nordic European countries and North America.³ Although the age, race and family history are the established risk factors, environmental and

genetic factors also play important role in the pathogenesis of PCa. The overall age-adjusted incidence rate of PCa was reported as 35/100000 from years of 2008–2009 in Turkey. The authors reported the incidence of PCa among Turkish men was 24.33/100000 according to the data of Ministry Health Department of Cancer Control between 2002 and 2005.⁴

The Institute for Scientific Information has been recording citations since 1945 and after 1975 this system can be traced electronically.⁵ The Science Citation Index Expanded monitors more than 10000 journals about on science, social sciences, arts and calculate the journal's impact factor based on the number of the citations. When a peer reviewed article is referenced in other article, a citation is received.⁶ The impact factor of the journals is calculated based on the number of citations that gives information about the quality of the journal.⁴ Using the Institute for Scientific Information Web of Science database can be achieved the citation results.⁷

The aim of the study is to present the number of articles about prostate cancer from Turkey between 2006 and 2015 and to

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Table 1

Number of the articles in Turkey and world in each year (scientific importance: number of articles from Turkey/world).

| | Turkey | World | scientific contribution |
|------------|------------|--------------|-------------------------|
| 2006 | 14 | 2057 | 0.0068 |
| 2007 | 19 | 2340 | 0.0081 |
| 2008 | 25 | 2472 | 0.0101 |
| 2009 | 37 | 2492 | 0.0148 |
| 2010 | 25 | 2637 | 0.0094 |
| Total | 120 | 11998 | 0.0100 |
| 2011 | 33 | 2802 | 0.0117 |
| 2012 | 27 | 3203 | 0.0084 |
| 2013 | 29 | 3433 | 0.0084 |
| 2014 | 54 | 3549 | 0.0152 |
| 2015 | 62 | 3729 | 0.0166 |
| Total | 205 | 16716 | 0.0122 |
| All | 325 | 28714 | 0.0113 |

compare to the articles from the world.

2. Material and methods

The data from the Institute for Scientific Information Web of Science was used. The search for the word 'prostate adenocarcinoma' in the title was performed in each year from 2006 to 2015 in July 3, 2016. Document type was limited as article, review and letter. The search of each year was analysed according to the countries and web of science categories. Number of articles from Turkey is divided to the all articles and called the scientific contribution.

3. Results

There were 28714 articles between 2006 and 2015 years. Table 1 shows the distribution of the articles from world and Turkey in each year. The articles increased from 11998 to 16716 in last 5 years. In Turkey; the articles was 120 in first 5 year and increased to 205 in

the last 5 years. The percentage of increases was 39.3 and 70.8% in the world and Turkey.

The ranking of Turkish according to the publications and the first ten countries were listed in Table 2. The United States of America was the first country in all years. Most of the articles were published in the journals of oncology, urology and nephrology, radiology nuclear medicine medical imaging, endocrinology metabolism, biochemistry and cell biology.

Ranking the countries according to the article numbers; Turkey was between 17-23 and 16–27 in first and second five years (Fig. 1). The number of the countries increased from 59 to 89 in ten years.

4. Discussion

Prostate cancer is the sixth most common cancer and second most common cancer among men in the world.⁸ The incidence of PCa is higher in Europe, North America and parts of Africa than the other countries. The lowest incidence is seen in Asian countries, especially in China with 1.9/100000. The authors investigated the age-specific incidence of PCa in Asian countries and found the six most common countries; Israel, Turkey, Lebanon, Singapore, Japan and Republic of Korea with an incidence of 84.3,40.6,37.2,33.1,30.4 and 30.3 respectively. The highest age specific mortality rate was detected in Turkey, Lebanon, Timor-Laste, Armenia, The Philippines and Palestine with 22.8,17.1,14.2,13.1,11.3 and 10.3. Although Israel has the highest incidence of PCa, it is 15th country according to the age specific mortality rate.

Willis et al.,⁷ analysed the urological literature during the six months and reported that most of the articles (53%) were about oncology. The authors investigated the top cited articles in urology and found that subspeciality of oncology consisted 54% of the articles.⁶ To our knowledge in to date, no study was published about the prostate cancer that investigated the country examination.

Prostate cancer is the most common malignancy in urological tumors. Although Turkey has a higher incidence of PCa than the other Asian countries, the published articles is less than Korea, Japan and China. The number of articles from Turkey is more than

Table 2

The top 10 countries in the published articles about prostate cancer and localization of Turkey in years.

| | 2006 | 2007 | 2008 | 2009 | 2010 |
|---------------|-------------|-------------|-------------|-------------|-------------|
| 1 | USA | USA | USA | USA | USA |
| 2 | JAPAN | GERMANY | GERMANY | GERMANY | CANADA |
| 3 | ENGLAND | CANADA | ENGLAND | ENGLAND | GERMANY |
| 4 | GERMANY | ENGLAND | CANADA | CANADA | JAPAN |
| 5 | CANADA | JAPAN | JAPAN | FRANCE | ENGLAND |
| 6 | ITALY | ITALY | ITALY | JAPAN | ITALY |
| 7 | FRANCE | FRANCE | FRANCE | ITALY | FRANCE |
| 8 | NETHERLANDS | CHINA | NETHERLANDS | SWEDEN | CHINA |
| 9 | SWEDEN | AUSTRALIA | CHINA | CHINA | NETHERLANDS |
| 10 | CHINA | SWEDEN | SWEDEN | NETHERLANDS | SWEDEN |
| TURKEY | 23 | 21 | 23 | 17 | 20 |
| TOTAL | 59 | 62 | 70 | 77 | 71 |
| | 2011 | 2012 | 2013 | 2014 | 2015 |
| 1 | USA | USA | USA | USA | USA |
| 2 | GERMANY | GERMANY | CHINA | CHINA | CHINA |
| 3 | CANADA | CHINA | CANADA | GERMANY | GERMANY |
| 4 | ENGLAND | CANADA | GERMANY | CANADA | ENGLAND |
| 5 | ITALY | ENGLAND | ENGLAND | ENGLAND | CANADA |
| 6 | CHINA | ITALY | ITALY | ITALY | ITALY |
| 7 | FRANCE | JAPAN | FRANCE | JAPAN | JAPAN |
| 8 | JAPAN | FRANCE | JAPAN | AUSTRALIA | FRANCE |
| 9 | NETHERLANDS | NETHERLANDS | AUSTRALIA | FRANCE | AUSTRALIA |
| 10 | AUSTRALIA | SWEDEN | NETHERLANDS | SPAIN | NETHERLANDS |
| TURKEY | 21 | 27 | 24 | 16 | 19 |
| TOTAL | 84 | 86 | 80 | 83 | 89 |

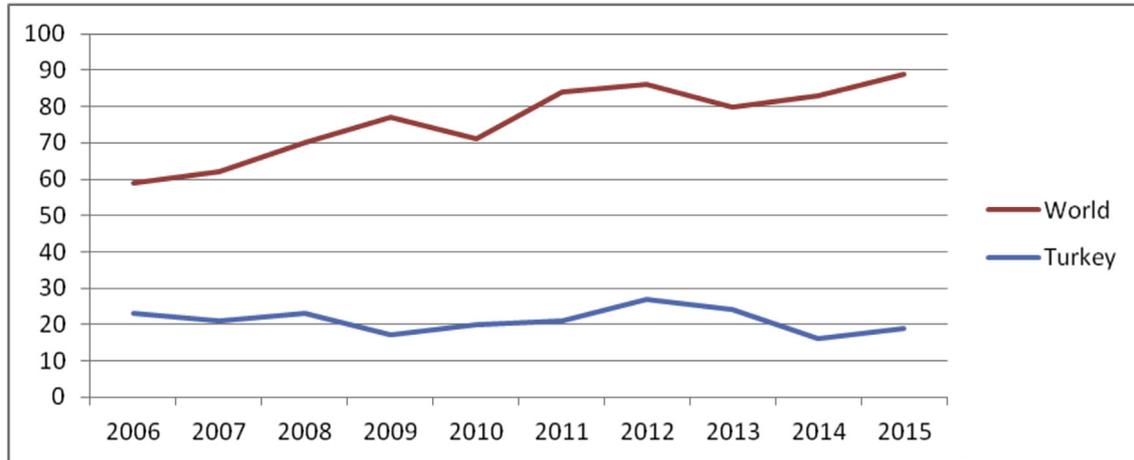


Fig. 1. Localization of Turkey and the other countries.

Israel. **What is the reason of this difference?** Onat⁹ is a cardiologist from Turkey reported that manpower, capital and general level of education are important for the economic growth. Since the late 2000s, it has been acknowledged that Turkey had a middle income trap, so there was an association with income and science. It is generally accepted that the number of the publications with high citations is the best indicator of the scientific contribution. In addition, the author defined the papers genuine and collaborative. When the first 3 authors of the article worked in Turkish center that called genuine and the others were collaborative. In addition; the author determined the reasons; there was an association between quality of education and stagnation of scientific articles, less incentive to promote academicians for research, low governmental support and competency has been sidelined pronouncedly. I agree with Onat for competency, but clinical chiefs can organize the clinical studies as well without governmental support. We think the ethic commite is another and difficult problem for to publish the articles.

In the study of Mayir et al.,⁵ they reported the most cited articles in general surgery and found that majority of centers performing the studies were Istanbul University, Ankara University and Ankara Numune Training and Research Hospital. Most of the articles were published from old universities that suggest that these university hospitals guide general surgery in Turkey. We think that most of the training and research hospitals give lower scientific education to the residents because of high volume of patients and low academician clinicians when comparing the universtiy hospitals. As a result; the high volume of patients could not use for article such as case report, original and comparative studies. We suggest that multicenter studies can be easily published with higher patient population or some hospitals may organize clinical studies about some diseases and the patients can be referred from other hospitals.

There are some limitaitons in the current study. This study includes only article, review and letter, without taking books and

conference proceedings into consideration. The second limitation is indexing; the articles were searched from only web of science, well-known databases such as Scopus, Pubmed and Google Scholar were not used for searching the articles. Finally, the articles were not defined as the genuine and collaborative and the search was performed 'prostate adenocarcinoma' in title, some true articles can be missed in this scanning.

In conclusion, Turkey is one of the developing countries in the world. The urologists and oncologists must work more than last to improve the Turkish scientific localization. The residents must be promoted for research and clinical chiefs of the university and training hospitals can organize well designed clinical studies. The Associations of Urology and Oncology can give awards for the published articles to the young urologists and oncologists every year in congress.

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