

Research Article

STANDARDIZED INCIDENCE AND MORTALITY OF KIDNEY CANCER AND ITS RELATIONSHIP WITH ASIAN COUNTRIES IN THE HUMAN DEVELOPMENT INDEX IN 2015

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ABSTRACT

Introduction: Kidney cancer is the most important cancer site because of high lethality rates and increasing incidence in some parts of the world mainly among all Caucasian populations and in Asia. The countries of Asia share a great deal in terms of culture while markedly differing in their levels of economic development. There are a number of active registries in the region and population-based data are now available for a considerable number of countries.

Methods: This study was an ecologic study in Asia for assessment the correlation between age-specific incidence and mortality rate (ASR) with Human Development Index (HDI) and its details that include: Life expectancy at birth, Mean years of schooling and Gross national income (GNI) per capita. we use of correlation bivariate method for assessment the correlation between ASR and HDI and its details. Statistical significance was assumed if $P < 0.05$. All reported P-values are two-sided. Statistical analyses were performed using SPSS (Version 15.0, SPSS Inc).

Results: Asia in countries with the highest standardized incidence of kidney cancer include Israel in the standard rate (10), the Republic of Korea (8), Turkey (6.5). Also standard are the countries with the highest mortality rate Turkey (8/3), Korea, Democratic Republic of (5/2), State of Palestine (4/2) of one hundred thousand Jmyt.byn standardized incidence of kidney cancer in positive correlation with the Human Development Index (655/0) and significant ($P < 0.001$) were observed, and the dimensions of human development indicators, including life expectancy at birth and mean level of education and income per person is also a significant positive correlation. The positive correlation between HDI and standard attenuation is (285/0), but this correlation is not statistically significant ($P = 0.055$).

Conclusion: The projections indicate that kidney cancer in Asia follows an increasing trend in incidence, mortality and prevalence. This needs to be considered in order to plan more effective prevention and treatment measures.

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INTRODUCTION

Up-to-date cancer incidence and mortality data in Asia are a key resource in both planning and assessing the impact of cancer control programs in at the country and regional level. Kidney cancer is the eleventh most common cancer in men and the fifteenth in women worldwide, accounting for approximately 2% of all cancers (Globocan, 2008). The reported, estimates are based on the latest incidence data

provided by the ENCR member registries, the World Health Organisation (WHO) mortality database and UN population estimates. (<http://www.un.org/esa/population/unpop.htm> [accessed 12/09/2011] Improvements in survival (result of better diagnosis and therapeutic advances), the increase of early detection programmes, along with population ageing, are factors that have contributed to increase the demand for health services in oncology.

Consequently, obtaining updated epidemiological indicators of cancer is essential information for disease control, to set priorities in the management of health services, and to define

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priority areas for research. (Parkin, 2009; Bray, 2009; Bray, 2002; Jensen *et al.*, 1991). In Asia, cancer mortality indicators are produced at a national level, while other important information, such as the incidence and survival, is collected and analyzed by the RCBP, covering only part of the country. (Navarro *et al.*, 2010) In these situations, where there is no information on incidence and survival nationally, estimates and projections in cancer are a primary tool to quantify the medical needs and, consequently, to plan prevention and control measures. (Bray, 2006) The aim of this article was to estimate the incidence and prevalence of kidney cancer in Asia, based on mortality and survival data for the period from 1998 to 2015, and to provide projections of incidence, prevalence, and mortality until 2022.

METHODS

This study was an ecologic study in Asia for assessment the correlation between age-specific incidence and mortality rate (ASR) with Human Development Index (HDI) and its details that include: Life expectancy at birth, Mean years of schooling and Gross national income (GNI) per capita. Data about the age-specific incidence and mortality rate (ASR) for every Asian counter for year 2012 get from global cancer project that available in (<http://globocan.iarc.fr/Default.aspx>) and Human Development Index (HDI) from Human Development Report

Table 1. Number, crude and standardized incidence of kidney cancer in Asian countries in 2015 (sorted by the age-standardized incidence of the highest value to lowest)

Kidney - Estimated incidence, all ages: both sexes				Kidney - Estimated incidence, all ages: male				Kidney - Estimated incidence, all ages: female			
POPULATION	Numbers	Crude Rate	ASR (W)	POPULATION	Numbers	Crude Rate	ASR (W)	POPULATION	Numbers	Crude Rate	ASR (W)
Israel	1002	13.0	10.0	Israel	366	9.4	6.6	Israel	636	16.7	13.8
Korea, Republic of	5651	11.6	8.0	Korea, Republic of	1763	7.2	4.7	Korea, Republic of	3888	16.1	11.7
Turkey	3992	5.4	5.6	Turkey	1656	4.4	4.4	Japan	11141	18.1	7.8
Japan	16830	13.3	5.3	Mongolia	37	2.6	3.3	Singapore	272	10.3	7.4
Singapore	401	7.6	5.2	Singapore	129	4.9	3.2	Turkey	2336	6.3	6.8
Korea, Democratic Republic of	1318	5.4	4.3	Korea, Democratic Republic of	566	4.5	3.1	Korea, Democratic Republic of	752	6.2	5.9
China	66466	4.9	3.8	Japan	5689	8.8	3.0	China	44372	6.3	5.1
Qatar	33	1.7	3.5	Bahrain	9	1.8	2.5	Lebanon	100	4.8	4.8
Jordan	129	2.0	3.2	China	22094	3.4	2.5	State of Palestine	49	2.3	4.5
Lebanon	142	3.3	3.2	Iraq	262	1.6	2.3	Kazakhstan	314	4.0	4.4
Mongolia	66	2.3	3.1	Syrian Arab Republic	171	1.6	2.2	Qatar	27	1.8	4.4
Syrian Arab Republic	467	2.2	3.1	Iran, Islamic Republic of	660	1.8	2.1	Georgia	123	6.1	4.4
State of Palestine	71	1.7	3.1	Oman	15	1.3	2.1	Jordan	87	2.6	4.3
Kazakhstan	491	3.0	2.9	Jordan	42	1.3	2.0	Syrian Arab Republic	296	2.8	4.0
Iraq	581	1.7	2.9	Saudi Arabia	166	1.3	1.8	Iraq	319	1.9	3.7
Georgia	167	3.9	2.7	Kazakhstan	177	2.1	1.8	Timor-Leste	9	1.5	3.4
Bahrain	23	1.7	2.6	Lebanon	42	1.9	1.8	Armenia	57	3.9	3.4
Iran, Islamic Republic of	1641	2.2	2.6	United Arab Emirates	22	0.9	1.8	Malaysia	415	2.8	3.3
Malaysia	611	2.1	2.4	State of Palestine	22	1.0	1.6	Kyrgyzstan	57	2.1	3.2
Saudi Arabia	454	1.6	2.3	Qatar	6	1.3	1.5	Iran, Islamic Republic of	981	2.6	3.0
United Arab Emirates	64	0.8	2.3	Malaysia	196	1.4	1.5	Mongolia	29	2.1	3.0
Kyrgyzstan	91	1.7	2.2	Kuwait	9	0.8	1.5	Saudi Arabia	288	1.8	2.8
Kuwait	34	1.2	2.2	Brunei	3	1.5	1.4	Bahrain	14	1.6	2.7
Timor-Leste	14	1.2	2.1	Kyrgyzstan	34	1.2	1.4	United Arab Emirates	42	0.7	2.6
Oman	36	1.2	2.1	Georgia	44	1.9	1.3	Kuwait	25	1.5	2.6
Armenia	78	2.5	1.9	Turkmenistan	26	1.0	1.2	Turkmenistan	49	1.9	2.5
Turkmenistan	75	1.5	1.8	Indonesia	1132	0.9	1.0	Oman	21	1.2	2.1
Brunei	6	1.5	1.8	Philippines	367	0.8	1.0	Indonesia	2093	1.7	2.0
Indonesia	3225	1.3	1.5	Timor-Leste	5	0.9	1.0	Azerbaijan	96	2.1	2.0
Philippines	1008	1.0	1.4	Lao PDR	24	0.8	0.9	Philippines	641	1.3	2.0
Tajikistan	63	0.9	1.4	Uzbekistan	107	0.8	0.9	Tajikistan	42	1.2	2.0
Afghanistan	237	0.7	1.3	Pakistan	575	0.6	0.9	Brunei	3	1.4	1.9
Azerbaijan	135	1.4	1.3	Afghanistan	77	0.5	0.9	Afghanistan	160	0.9	1.8
Pakistan	1646	0.9	1.3	Tajikistan	21	0.6	0.9	Pakistan	1071	1.2	1.7
Uzbekistan	283	1.0	1.2	Myanmar	194	0.8	0.8	Uzbekistan	176	1.3	1.6
Thailand	1017	1.5	1.2	Thailand	373	1.0	0.8	Thailand	644	1.9	1.6
Myanmar	476	1.0	1.1	Bhutan	2	0.6	0.8	Nepal	155	1.0	1.6
Lao PDR	52	0.8	1.1	Armenia	21	1.3	0.8	Myanmar	282	1.2	1.4
Nepal	218	0.7	1.0	Azerbaijan	39	0.8	0.8	Cambodia	65	0.9	1.4
India	9658	0.8	0.9	Viet Nam	352	0.8	0.7	Sri Lanka	160	1.5	1.3
Cambodia	101	0.7	0.9	Cambodia	36	0.5	0.6	India	6620	1.0	1.3
Viet Nam	810	0.9	0.9	India	3038	0.5	0.6	Lao PDR	28	0.9	1.3
Sri Lanka	221	1.0	0.9	Nepal	63	0.4	0.5	Bangladesh	620	0.8	1.1
Bangladesh	900	0.6	0.8	Sri Lanka	61	0.6	0.5	Viet Nam	458	1.0	1.1
Yemen	112	0.4	0.6	Yemen	46	0.4	0.4	Yemen	66	0.5	0.8
Bhutan	3	0.4	0.6	Bangladesh	280	0.4	0.4	Bhutan	1	0.3	0.4
Maldives	0	0.0	0.0	Maldives	0	0.0	0.0	Maldives	0	0.0	0.0

2015 (Malik, 2013) that include information about HDI and its details for every country in the world for year 2015. Method of estimate the age-specific Incidence and mortality rates in global cancer project by international agency for research on cancer .

Age-specific incidence rate estimate

The methods of estimation are country specific and the quality of the estimation depends upon the quality and on the amount of the information available for each country.

In theory, there are as many methods as countries, and because of the variety and the complexity of these methods, an overall quality score for the incidence and mortality estimates combined is almost impossible to establish. However an alphanumeric scoring system which independently describes the availability of incidence and mortality data has been established at the country level. The combined score is presented together with the estimates for each country with an aim of providing a broad indication of the robustness of the estimation.

Table 2. Numbers, crude and standardized mortality rate of renal cancer in Asian countries in 2015 (sorted by age-standardized rate of the highest value to lowest value)

Kidney - Estimated mortality, all ages: both sexes				Kidney - Estimated mortality, all ages: female				Kidney - Estimated mortality, all ages: male			
POPULATION	Numbers	Crude Rate	ASR (W)	POPULATION	Numbers	Crude Rate	ASR (W)	POPULATION	Numbers	Crude Rate	ASR (W)
Turkey	2656	3.6	3.8	Turkey	1094	2.9	2.9	Turkey	1562	4.2	4.7
Korea, Democratic Republic of	794	3.2	2.5	Mongolia	21	1.5	2.1	State of Palestine	35	1.6	3.4
State of Palestine	52	1.2	2.4	Korea, Democratic Republic of	381	3.0	1.9	Korea, Democratic Republic of	413	3.4	3.4
Syrian Arab Republic	345	1.6	2.3	Iraq	206	1.2	1.8	Singapore	125	4.7	3.3
Iraq	462	1.4	2.3	Syrian Arab Republic	126	1.2	1.6	Syrian Arab Republic	219	2.1	3.1
Singapore	175	3.3	2.2	Oman	9	0.8	1.5	Iraq	256	1.5	3.1
Jordan	86	1.3	2.2	Iran, Islamic Republic of	432	1.2	1.4	Timor-Leste	8	1.3	3.1
Qatar	15	0.8	2.2	Jordan	28	0.9	1.4	Lebanon	62	3.0	3.0
Mongolia	39	1.4	2.0	State of Palestine	17	0.8	1.3	Japan	5177	8.4	2.9
Lebanon	88	2.1	2.0	Singapore	50	1.9	1.1	Jordan	58	1.7	2.9
Japan	8124	6.4	1.9	Israel	84	2.2	1.1	Kazakhstan	189	2.4	2.9
Israel	217	2.8	1.8	Kyrgyzstan	25	0.9	1.1	Qatar	12	0.8	2.8
Timor-Leste	12	1.0	1.8	Lebanon	26	1.2	1.1	Kyrgyzstan	44	1.6	2.7
Kyrgyzstan	69	1.3	1.8	Japan	2947	4.5	1.1	Georgia	77	3.8	2.6
Kazakhstan	296	1.8	1.8	Saudi Arabia	94	0.7	1.1	Israel	133	3.5	2.6
Iran, Islamic Republic of	1071	1.4	1.7	Kazakhstan	107	1.3	1.1	Korea, Republic of	850	3.5	2.4
Georgia	104	2.4	1.6	China	8871	1.4	0.9	Armenia	38	2.6	2.1
Korea, Republic of	1264	2.6	1.6	Qatar	3	0.6	0.8	Iran, Islamic Republic of	639	1.7	2.0
Oman	21	0.7	1.4	Korea, Republic of	414	1.7	0.8	Mongolia	18	1.3	1.9
Saudi Arabia	257	0.9	1.4	Turkmenistan	17	0.6	0.8	China	16712	2.4	1.9
China	25583	1.9	1.4	Bhutan	2	0.6	0.8	Turkmenistan	33	1.3	1.9
Turkmenistan	50	1.0	1.3	Afghanistan	68	0.4	0.8	Afghanistan	140	0.8	1.8
United Arab Emirates	25	0.3	1.3	Indonesia	866	0.7	0.8	Saudi Arabia	163	1.0	1.8
Afghanistan	208	0.6	1.3	Georgia	27	1.2	0.8	Tajikistan	32	0.9	1.7
Armenia	53	1.7	1.2	Lao PDR	19	0.6	0.8	United Arab Emirates	18	0.3	1.6
Tajikistan	49	0.7	1.2	Pakistan	483	0.5	0.8	Indonesia	1593	1.3	1.6
Indonesia	2459	1.0	1.2	Myanmar	167	0.7	0.8	Malaysia	184	1.2	1.6
Pakistan	1374	0.8	1.1	Tajikistan	17	0.5	0.7	Oman	12	0.7	1.5
Malaysia	255	0.9	1.0	United Arab Emirates	7	0.3	0.7	Bahrain	5	0.6	1.5
Myanmar	413	0.8	1.0	Timor-Leste	4	0.7	0.7	Azerbaijan	66	1.4	1.5
Kuwait	14	0.5	1.0	Uzbekistan	75	0.5	0.7	Pakistan	891	1.0	1.4
Uzbekistan	205	0.7	1.0	Philippines	221	0.5	0.6	Nepal	133	0.9	1.4
Azerbaijan	92	1.0	1.0	Viet Nam	274	0.6	0.6	Uzbekistan	130	0.9	1.3
Bahrain	7	0.5	1.0	Kuwait	3	0.3	0.6	Myanmar	246	1.0	1.3
Philippines	600	0.6	0.9	Malaysia	71	0.5	0.6	Philippines	379	0.8	1.3
Nepal	187	0.6	0.9	Azerbaijan	26	0.5	0.5	Kuwait	11	0.6	1.2
Lao PDR	40	0.6	0.9	Armenia	15	0.9	0.5	Cambodia	52	0.7	1.2
Cambodia	80	0.6	0.7	Bahrain	2	0.4	0.5	Lao PDR	21	0.7	1.0
Viet Nam	630	0.7	0.7	Thailand	233	0.7	0.5	Thailand	399	1.2	1.0
Thailand	632	0.9	0.7	Cambodia	28	0.4	0.5	Bangladesh	513	0.7	0.9
Bangladesh	776	0.5	0.7	Nepal	54	0.3	0.4	Viet Nam	356	0.8	0.9
Bhutan	3	0.4	0.6	Bangladesh	263	0.3	0.4	Sri Lanka	108	1.0	0.9
Sri Lanka	150	0.7	0.6	Yemen	40	0.3	0.4	India	4054	0.6	0.8
India	5973	0.5	0.6	India	1919	0.3	0.3	Yemen	57	0.4	0.7
Yemen	97	0.4	0.5	Sri Lanka	42	0.4	0.3	Bhutan	1	0.3	0.4
Maldives	0	0.0	0.0	Brunei	0	0.0	0.0	Brunei	0	0.0	0.0
Brunei	0	0.0	0.0	Maldives	0	0.0	0.0	Maldives	0	0.0	0.0

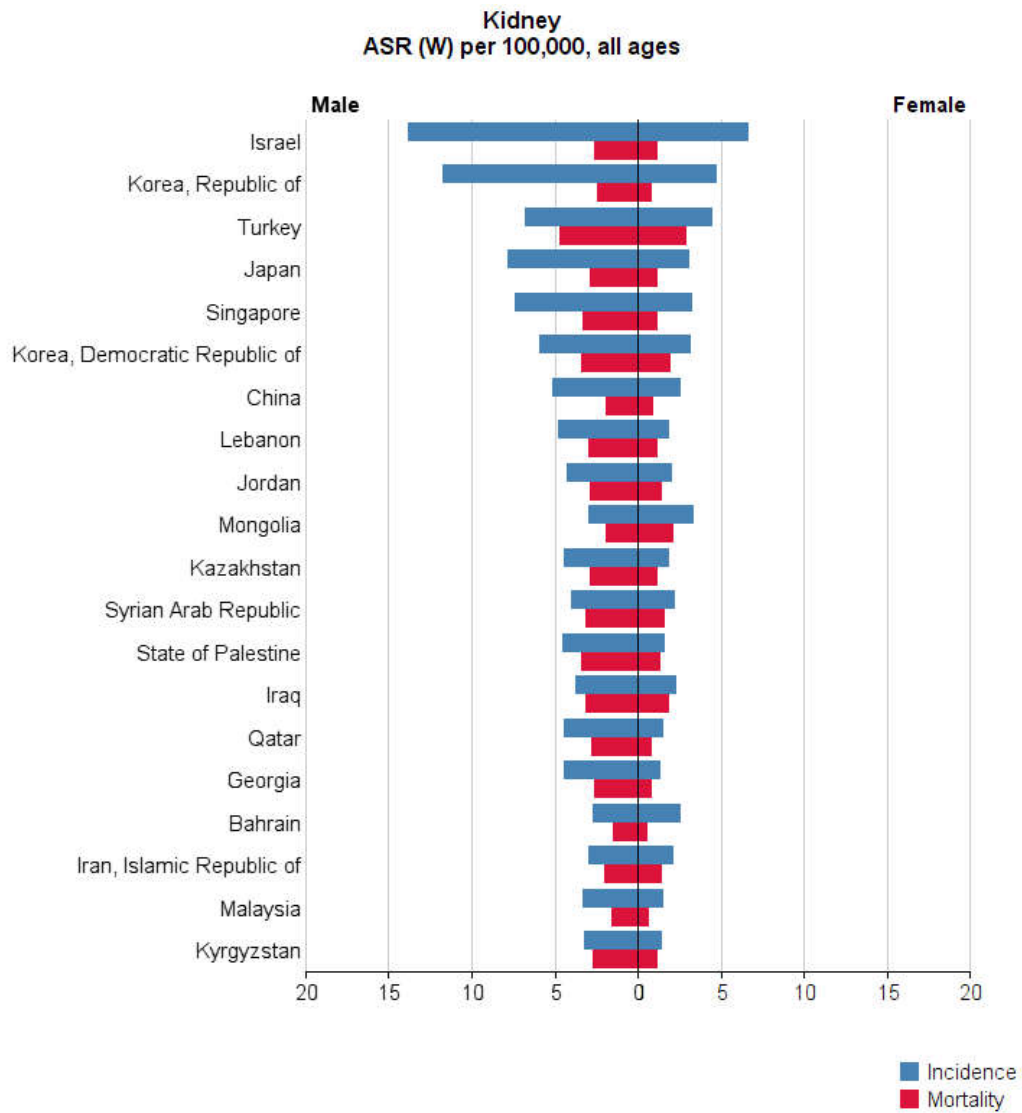


Figure 1. Standardized incidence and mortality of kidney cancer in Asia in 2015

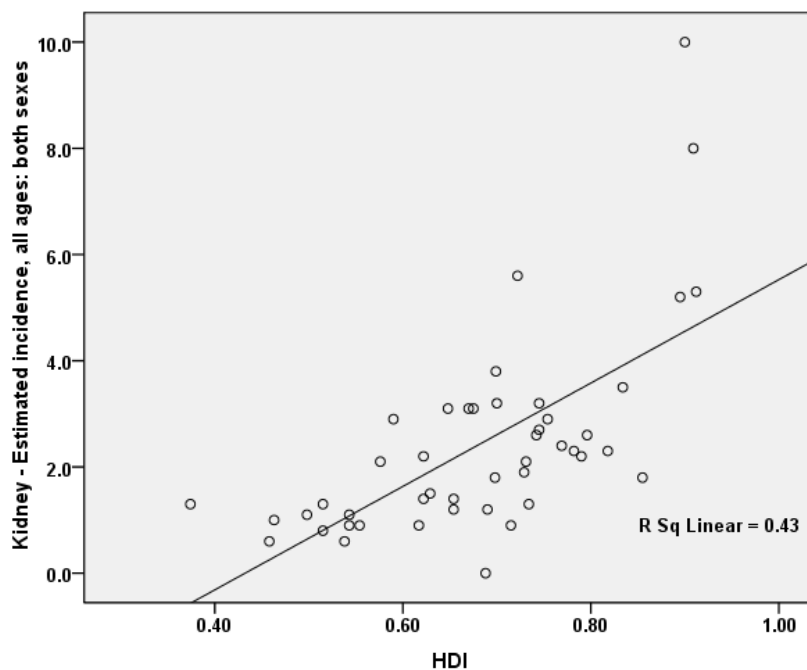


Figure 2. Correlation between HDI and standardized incidence of kidney cancer in Asia in 2015

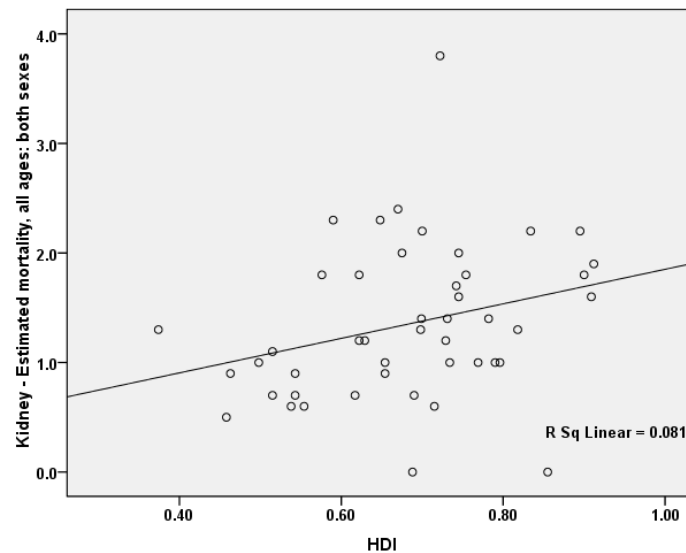


Figure 3. Correlation between HDI and standardized mortality rate of renal cancer in Asia in 2015

HDI وضعيت	POPULATION	Human Development Index(HDI)	Life expectancy at birth	Mean Year of schooling	Gross national income (GNI) per capita
So-high	Japan	0.912	83.6	11.6	32545
	Korea, Republic of	0.909	80.7	11.6	28231
	Israel	0.9	81.9	11.9	26224
high	Singapore	0.895	81.2	10.1	52613
	Brunei	0.855	78.1	8.6	45690
	Qatar	0.834	78.5	7.3	87478
	United Arab Emirates	0.818	76.7	8.9	42716
	Bahrain	0.796	75.2	9.4	19154
middle	Kuwait	0.79	74.7	6.1	52793
	Saudi Arabia	0.782	74.1	7.8	22616
	Malaysia	0.769	74.5	9.5	13676
	Kazakhstan	0.754	67.4	10.4	10451
	Georgia	0.745	73.9	12.1	5005
	Lebanon	0.745	72.8	7.9	12364
	Iran, Islamic Republic of	0.742	73.2	7.8	10695
	Azerbaijan	0.734	70.9	11.2	8153
	Oman	0.731	73.2	5.5	24092
	Armenia	0.729	74.4	10.8	5540
	Turkey	0.722	74.2	6.5	13710
	Sri Lanka	0.715	75.1	9.3	5170
	Jordan	0.7	73.5	8.6	5272
	China	0.699	73.7	7.5	7945
	Turkmenistan	0.698	65.2	9.9	7782
	Thailand	0.69	74.3	6.6	7722
	Maldives	0.688	77.1	5.8	7478
	Mongolia	0.675	68.8	8.3	4245
	State of Palestine	0.67	73	8	3359
	Philippines	0.654	69	8.9	3752
	Uzbekistan	0.654	68.6	10	3201
	Syrian Arab Republic	0.648	76	5.7	4674
	Indonesia	0.629	69.8	5.8	4154
	Kyrgyzstan	0.622	68	9.3	2009
	Tajikistan	0.622	67.8	9.8	2119
	Viet Nam	0.617	75.4	5.5	2970
	Iraq	0.59	69.6	5.6	3557
	Timor-Leste	0.576	62.9	4.4	5446
	India	0.554	65.8	4.4	3285
	Cambodia	0.543	63.6	5.8	2095
	Lao PDR	0.543	67.8	4.6	2435
	Bhutan	0.538	67.6	2.3	5246
Bangladesh	0.515	69.2	4.8	1785	
Pakistan	0.515	65.7	4.9	2566	
low	Myanmar	0.498	65.7	3.9	1 817
	Nepal	0.463	69.1	3.2	1137
	Yemen	0.458	65.9	5.3	928
	Afghanistan	0.374	49.1	3.1	1000
Unknown	Korea, Democratic Republic of	-	-	-	-

The methods to estimate the sex- and age-specific incidence rates of cancer for a specific country fall into one of the following broad categories, in priority order: 1- Rates projected to 2015 (38 countries)-2- Most recent rates applied to 2015 population (20 countries)-3-Estimated from national mortality by modelling, using incidence mortality ratios derived from recorded data in country-specific cancer registries (13 countries)-4- Estimated from national mortality estimates by modelling, using incidence mortality ratios derived from recorded data in local cancer registries in neighboring countries (9 European countries)-5-Estimated from national mortality estimates using modelled survival (32 countries)-6- Estimated as the weighted average of the local rates (16 countries)-7- One cancer registry covering part of a country is used as representative of the country profile (11 countries)-8-Age/sex specific rates for "all cancers" were partitioned using data on relative frequency of different cancers (by age and sex) (12 countries)-9- The rates are those of neighboring countries or registries in the same area (33 countries) (Malik, 2013; Ferlay *et al.*, 2015)

Age-specific mortality rate estimate

Depending of the degree of detail and accuracy of the national mortality data, six methods have been utilized in the following order of priority: 1-Rates projected to 2015 (69 countries)-2- Most recent rates applied to 2012 population (26 countries)-3- Estimated as the weighted average of regional rates (1 country)-4- Estimated from national incidence estimates by modelling, using country-specific survival (2 countries)-5- Estimated from national incidence estimates using modelled survival (83 countries)-6-The rates are those of neighboring countries or registries in the same area (3 countries) (Jemal *et al.*, 2011).

Human Development Index (HDI)

Human Development Index (HDI), a composite measure of indicators along three dimensions: life expectancy, educational attainment and command over the resources needed for a decent living. All groups and regions have seen notable improvement in all HDI components, with faster progress in low and medium HDI countries. On this basis, the world is becoming less unequal. Nevertheless, national averages hide large variations in human experience. Wide disparities remain within countries of both the North and the South, and income inequality within and between many countries has been rising (Bray, 2006).

Statistical analysis

In this study, we use of correlation bivariate method for assessment the correlation between age-specific incidence and mortality rate (ASR) with Human Development Index (HDI) and its details that include: Life expectancy at birth, Mean years of schooling and Gross national income (GNI) per capita. Statistical significance was assumed if $P < 0.05$. All reported P-values are two-sided. Statistical analyses were performed using SPSS (Version 15.0, SPSS Inc).

RESULTS AND DISCUSSION

Overall in 2015, 121099 cases of kidney cancer were registered in Asian countries, with 80,080 cases (12/66%) in men and

41,019 cases (87/33%) in women. The sex ratio (male to female) is getting 95/1. The 5 countries with the highest number of new cases of kidney cancer are as follows: 1. China with about 66,466 -2- -3- India Japan with the number 16830 with the 9658 4-Republic of Korea, with the number 5651 -5- Turkey with the number 3992, the five countries, a total of 102,597 cases (72/84%) of the cases in Asia have been allocated. In Asian countries, 5 countries with the highest incidence of kidney cancer are standard, as follows: 1. The standard rate is 10 per hundred thousand people Israel, Republic of Korea, with 8 thousand inhabitants -2 -3 - Turkey with 6.5 percent, Japan with 3.5 million inhabitants 4-hundred thousand people in Singapore -5- 2.5 percent thousand people, so the 5 countries with the lowest standard rate Updated kidney cancer include: 1- Maldives with zero hundred thousand people - 2 6/0 in Bhutan with the hundreds of thousands of people in hundreds of thousands of people -3- Yemen with 6/0 -4 - Bangladesh, with 8.0 per cent thousand people -5 - Sri Lanka with 9.0 percent thousand people. The number and amount of standardized cancer incidence according to sex in Asian countries is presented in Table1. Countries based on a standardized table is sorted from high to low, so it can be made in any of the countries with the highest and lowest standard to be observed. (Figure and Table1). On the other hand, in Asia in 2015, the number of 56,102 deaths due to kidney cancer occurred, that about 36224 men and 19878 women are at risk of sexual Bashd.nsb is 82/1.

Of these, the largest number of deaths in China with the number 25583, with the number 8124 in Japan, India, with the number 5973, Turkey and Indonesia in 2656 with the number of cases occurred in 2459, a total of 44,795 cases (84/79%) of the deaths occurred in just five countries. In Asian countries, 5 countries with the highest standardized death rates from kidney cancer, are as follows: 1. Turkey with Astandarh by 8.3 percent thousand people -2- Korea, Democratic Republic of the amount 5/2 in hundred thousand inhabitants -3- State of Palestine with 4.2 percent thousand people -4- Syrian Arab Republic with 3.2 percent of the 3.2 million people in Iraq -5- per hundred thousand population - 5 countries in the same way, the lowest standardized mortality from kidney cancer include: 1- Brunei with zero per hundred thousand population - 2- Maldives with zero per hundred thousand population -3- Yemen with 5.0 per hundred thousand inhabitants, 4-India with 6.0 per hundred thousand inhabitants -5 - Sri Lanka 6.0 per cent of the population are rabid. The number and crude and standardized cancer mortality rates based on gender in Asian countries is presented in Table Two. Table two countries based on standardized rates from high to low arranged, so it can be made in any of the countries with the highest and lowest standard view. (Table 1 and Table 2). The number three values of the human development index and its components for each of the Asian countries based on HDI (Human Development Index) are arranged is shown. Thus, in the Asian countries in terms of Human Development Index, are classified as follows, so that the three countries in the top category, four countries in the top category, thirty-five countries in the medium category, three countries in the low category and a country Unknown classified in categories.

The relationship between standardized incidence rate and the human development index

The standardized incidence rate of kidney cancer positive correlation with the Human Development Index of 0.655 was

observed that the relationship is statistically significant ($p < 0.001$). As well as between components of the human development index was also positive correlation was observed with the standard, so that the standardized incidence rate was positively correlated with life expectancy at birth is equal to 0.558 ($p < 0.001$), with mean age of education equal to 0.523 ($p < 0.001$) and income level per one person from a population of 0.409 ($p = 0.005$) are (Figure 2). Standardized incidence of kidney cancer in men between the positive correlation with the Human Development Index of 0.637 was observed that the relationship is statistically significant ($p < 0.001$). As well as between components of the human development index also standardized incidence rate was a positive correlation, so that the standardized incidence rate was positively correlated with life expectancy at birth is equal to 0.539 ($p < 0.001$), with mean age of education equal to 0.557 ($p < 0.001$) and income level per one person from a population of 0.366 ($p = 0.012$) is. Standardized incidence of kidney cancer in women between the positive correlation with the Human Development Index of 0.612 was observed that the relationship is statistically significant ($p < 0.001$). As well as between components of the human development index also standardized incidence rate was a positive correlation, so that the standardized incidence rate was positively correlated with life expectancy at birth is equal to 0.509 ($p < 0.001$), with mean age of education equal to 0.448 ($p = 0.002$) and income level per one person from a population of 0.347 ($p = 0.018$) is.

The relationship between standardized mortality rate and the human development index

Standardized mortality rates of cancer between all the human development index of 0.285 correlation was observed that this association was not statistically significant ($p = 0.055$). average years of schooling equal to 0.226 ($p = 0.132$) and income level per one person from a population of 0.174 ($p = 0.248$) is (Figure 3). Standardized mortality kidney cancer in men between the positive correlation with the Human Development Index of 0.314 was observed that the relationship is statistically significant ($p = 0.033$).= 0.029) and income level per one person from a population of 0.152 ($p = 0.314$) is. Standardized mortality kidney cancer in women between the positive correlation with the Human Development Index of 0.131 was observed that this association was not statistically significant ($p = 0.386$). average years of schooling equal to 0.045 ($p = 0.768$) and the income level of the population per a negative correlation of 0.017 ($p = 0.913$) is.

Conclusion

The kidney cancer incidence rate in Asia has been rising since at least 1986, led largely by the upward trend in RCC. The increase in RCC is projected to continue into the future. Detection of incidental tumors, obesity, and hypertension, and possibly smoking, have likely contributed to the observed increase. While the kidney cancer mortality rates have been decreasing and survival increasing during the most recent

decade, five-year relative survival remains moderate compared to the survival for all cancers combined in Asia. Competing interests The other authors declare that they have no competing interests.

Authors' contributions

AE and SM conceived the study and participated in its design and coordination. AE performed the statistical analysis and drafted the manuscript. All authors read and approved the final manuscript.

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