Program against Cancer in Congo, Republic

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Keywords: Cancer Program; Cancer Control; Prevention; Early Detection; Institutional Reinforcement; Diagnosis; Treatment; Low and Middle-Income Countries; Congo, Republic.

Abstract: Worldwide, one in eight deaths is due to cancer. Projections supported the GLOBOCAN 2012 estimates predict a substantive increase new cancer cases each year by 2035 in developing countries if preventive measures are not wide applied. In line with the globe Health Organization (WHO), many lives might be saved annually if countries created use of existing data and therefore the best efficient ways to forestall and treat cancer. Therefore, the aim of this study is to estimate a conditional budget against cancer in low and middle incomes countries, according the GNI-PPP, the cancer incidence and therefore the variety of population. Economically country classification is crucial with the Gross value (GNI), per capita, getting power parity (PPP), according the administrations of the International money (IMF), the globe Bank (WB) and therefore the Central intelligence (CIA). Cancer incidence information bestowed square measure supported the foremost recent information accessible at IARC. However, population compares estimates from the U.S.A. Bureau of the Census.

1. Introduction: Worldwide, one in eight deaths is due to cancer. Cancer causes a lot of deaths than AIDS, T.B., and protozoal infection combined. Once countries square measure sorted in line with economic development, cancer is that the leading clarification for death in developed countries and thus the second leading clarification for death in developing countries. Rates of cancers common in Western countries can still rise in developing countries if preventive measures are not wide applied. Projections supported the GLOBOCAN 2012 estimates predict a substantive increase to nineteen.3 million new cancer cases each year by 2025, due to growth and ageing of the worldwide population. Incidence has been increasing in most regions of the world; however there square measure immense inequalities between made and poor countries.

2. Methods

2.1. Economically Country Classification: The economic science states square measure established among the suggests that of GNI-PPP according the administrations of the International money (IMF); the globe Bank (WB) and therefore the Central intelligence (CIA). The distinction regarding constant country square measure usually hefty among the information origin.

2.2. Gross value (GNI), Per Capita, getting Power Parity (PPP): Gross national product is gross domestic product (GDP) and net profit (employee compensation and investment income) from abroad. GNI, per capita is GNI divided by mid-year population.

PPP is getting power parity; a world greenback has constant getting power over GNI as a U.S. greenback has within the us. surgery exchange rates square measure wont to account for the native costs of products and services unlisted internationally. However, surgery is used to match across national accounts, not for making international poorness comparisons.

2.3. Cancer Incidence: Incidence is the number of new cases that occurs during a given period of time in a specified population. It are often expressed as an absolute number of cases per annum or as a rate per 100,000 persons per annum. The rate provides an approximation of the typical risk of developing a cancer. Cancer incidence data presented are based on the most recent data available at IARC. GLOBOCAN 2012 provides a worldwide profile of cancer that has been developed employing a number of methods that are hooked in to the supply and therefore the accuracy of the info. National sources are used where possible, with local data and statistical modeling utilized in their absence.

2.4. Population : Standard population (POPst) is determining to Senegal population (Western Africa) with 14,668,522 persons. Congo, Republic population is estimated to 4,954,674 persons. Population estimates for this country explicitly take under consideration the consequences of excess mortality thanks to AIDS; this will end in lower anticipation, higher infant deathrate, higher death rates, lower increase rates, and changes within the distribution of population by age and sex than would rather be expected. Population compares estimates from the US Bureau of the Census supported statistics from population censuses, statistic registration systems, or sample surveys concerning the recent past and on assumptions about future trends.

2.5. Provisional Budget (thousands of U.S $): The World Health Organization (WHO) emphasizes that, when developing national strategies for controlling cancer, countries should consider the subsequent four broad approaches supported their economic development:

- The primary prevention
- The early detection and secondary prevention
- The diagnosis and treatment
- The palliative care.

The provisional budget is establishing among the rules developed by WHO for regional and national cancer control programs consistent with national economic development. However, a world nuclear energy Agency report suggested that in developing countries a minimum of 60% of cancer patients require radiation treatment.

2.6. Standard budget for 5 years (S0): Standard allow 5 years (S0) is estimated employing a population of 1,000,000 persons in Senegal (POPst). Senegal has 8361 new cancer cases (CIst) in 2015 with a way GNI-PPPst of US$ 2,551 mentioned the year 2016 (low middle income country), according the administrations of the International Monetary Fund (IMF); the World Bank (WB) and the Central Intelligence Agency (CIA). Estimation budget is taken into account the weakness of the countries incomes.

Standardized rapport (R0): Standardized rapport (R0), among the GNI-PPP, CI and the number of the population, is calculated. Standardization simplifies comparisons of GNI-PPP and cancer incidence rates among populations.

$$R0 = \frac{\text{GNI-PPPXCI/POP}}{\text{GNI-PPPstXCIst /POPst}}$$

Note:

* For Radiotherapy equipment, R0 = GNI-PPP X POP / GNI-PPPst X 3 million peoples;

Senegal has installed two new radiotherapy machines in 2017. Radiotherapy equipment is estimated to US$ 2,500,000.

** For Prevention and screening infrastructure, R0 =GNI-PPPX POP / GNI-PPPst X 3 million peoples.

R_0= Standardized rapport among the GNI-PPP, CI and the number of the population

GNI-PPPst= Standard Gross National Income Per capita Purchasing Power Parity in Senegal

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GNI-PPP= Gross National Income Per capita Purchasing Power Parity of interest

CIst= Standard Cancer Incidence in Senegal

CI= Cancer Incidence of interest

POPst= Standard Population in Senegal

POP= Population of interest

Results:

Country	GNI per capita Purchasing power parity (PPP)				Population	Cancer incidence (CI)
	Ref.	US$	Year	Means of GNI-PPP (US$)		
Congo, Rep.	IMF	6,939	2016	6,343	4,954,674	2,327
	WB	5,390	2016			
	CIA	6,700	2016			

Table 1: GNI-PPP, Cancer incidence (CI) and the number of the Population

Cancer Control	Management	Stand. budget (S_0)	Stand.rapport (R_0)	Account per (R_0)	General POP. budget
Cancer primary	Development of an information system	50	2.04877	102.438	507.548
	Against Tobacco	250	2.04877	512.192	2,537.744
	Against Infections	500	2.04877	1024.385	5,075.489
	Against carcinogenic substances	125	2.04877	256.096	1,268.872
Prevention	Against environmental risks	125	2.04877	256.096	1,268.872
	Diet or nutrition promotion	250	2.04877	512.192	2,537.744
	Sport promotion	200	2.04877	409.754	2,030.195
	Cancer risk factors survey	50	2.04877	102.438	507.548
Cancer early detection and secondary prevention.	Breast cancer screening	150	2.04877	307.315	1,522.646
	Cervical cancer screening	125	2.04877	256.096	1,268.872
	Prostate cancer screening	50	2.04877	102.438	507.548
	Colorectal cancer screening	50	2.04877	102.438	507.548
	Others cancers screening	50	2.04877	102.438	507.548
Cancer institutional reinforcement	Rise of cancer professional	125	2.04877	256.096	1,268.872
	Development of cancer research	175	2.04877	358.534	1,776.421
	Development of cancer prevention courses	100	2.04877	204.877	1,015.097
Cancer diagnosis and treatment	Assistance for Palliative Care	150	2.04877	307.315	1,522.646
	Chemotherapy equipment	100	2.04877	204.877	1,015.097
	Surgical equipment	175	2.04877	358.534	1,776.421
	Radiotherapy equipment *	2,500	4.10656	10,266.4	10,266.4
	Prevention and screening infrastructure **	400	4.10656	1,642.624	1,642.624
Total		**5,700**			**40,331.765**

Based on: World Health Organization. The National Cancer Control Programmes: policies and managerial guidelines. 2nd ed. Geneva, 2002.

S0= Standard budget for 5 years for a population of 1,000,000 persons; R0= Standardized rapport among the GNI-PPP, CI and the number of the population; * With the weak number of population and the low income; 1 radiotherapy machine is considered.
** Prevention and screening infrastructure among only GNI-PPP /GNI-PPPst.

Conclusion: Cancer has the foremost devastating economic impact of any reason behind death within the world. Incidence has been increasing in most regions of the planet, however there area unit vast inequalities between wealthy and poor countries. Projections supported the GLOBOCAN 2012 estimates predict a substantive increase to millions new cancer cases p.a. by 2030.