



---

**A HOSPITAL BASED STUDY ON CANCER PATIENTS ABOUT CANCER  
PREVALENCE IN BANGLADESH AND MOST WIDELY USED DRUGS IN  
TREATMENT**

**MD. RAJDOULA RAFE<sup>1</sup>, AFIFA PARVIN SHANTA<sup>1</sup>, ZEBUNNESA AHMED<sup>1\*</sup>**

<sup>1</sup> Department of Pharmacy, Southeast University, Dhaka, 1213, Bangladesh

**\*Corresponding author: Zebunnesa Ahmed: Department of Pharmacy, Southeast  
University, Dhaka, 1213, Bangladesh; E Mail: [zebunnesa\\_ahmed@hotmail.com](mailto:zebunnesa_ahmed@hotmail.com)**

Received 5th Aug. 2016; Revised 20<sup>th</sup> Sept. 2016; Accepted 28<sup>th</sup> Oct. 2016; Available online 1<sup>st</sup> Dec. 2016

**ABSTRACT**

The present study aimed to provide information about the common cancer types and their prevalence among the Bangladeshi cancer patients who are taking treatment in the hospitals located in Dhaka city. A nationwide representative sample of 300 Bangladeshi cancer patients were asked about their medical history, life-style, eating habit and treatment pattern as a part of omnibus survey. Among the 300 survey patients, 162 (54%) were reported male patients & the rest 138 (46%) were female and most (37.67%) cancer patients found (113) at the age of 50 – 59. Patient at the age of 20 or less & above the age of 80 are found the least prevalent in cancer. Among all the male patients most prevalent cancer is lung cancer which was 18.52% of all male patients and the least prevalent cancer is malignant melanoma with 0.62% of prevalent rate. After studying pattern and prevalence of treatment receiving the surveyed patients it is depicted that most of the patients receiving conventional treatment (96%) and lowest number of patients are receiving palliative therapy. The other user profile of treatment among the participants was chemotherapy (54.67%), radiotherapy (35.65%), surgery (54.67%), and endocrine therapy (10.67%). Most commonly treated drugs in Bangladesh are cisplatin, etoposide, paclitaxel, bleomycin, gemzar, decarbazine, carboplatin, endoxon, doxorubicin, etoposide, cyclophosphamide. Our results suggest that awareness of the attributed fraction of cancer causes

---

in the Bangladeshi cancer patient tends to be dominated by illiteracy, lack of consciousness and proper management.

**Keywords: Prevalence, Cancer, Risk factor, Hygiene, Genetic.**

---

**INTRODUCTION:**

Non-communicable diseases (NCDs) present a significant global health challenge in the current century and have replaced communicable diseases as the most common causes of morbidity and premature mortality worldwide. In Europe, the number of new cancer cases diagnosed annually has been increasing steadily in recent decades [1-3], while the survival of cancer patients is also increasing [4]. Initially, four NCDs (cardiovascular disease, cancers, chronic respiratory diseases and diabetes) were prioritized in the Global NCD Action Plan endorsed by the World Health Assembly in 2008. Cancer is a term used for diseases in which abnormal cells divide without control and are able to invade other tissues. Cancer cells can spread to other parts of the body through the blood and lymph systems.

Cancer is not just one disease but many diseases. There are more than 100 different types of cancer. Among them breast cancer is currently the most common cancer among women worldwide [5], and is expected to remain so in the foreseeable future [6, 7]. Most cancers are named for the organ or type of cell in which they start - for example,

cancer that begins in the colon is called colon cancer; cancer that begins in melanocytes of the skin is called melanoma. Cancer is a disease that begins in the cells of the body. In normal situations, the cells grow and divide as the body needs them. No more, no less. This orderly process is disturbed when new cells form that the body was not needed and old cells don't die when they should. These extra cells lump together to form a growth or tumor. Two types of tumors exist, benign and malignant. Benign tumors are not cancerous. They can usually be removed and generally don't grow back once they're gone. The cells in benign tumors don't spread and it is rare for a benign tumor to be life-threatening. Malignant tumors, on the other hand, are cancerous. The cells in them are abnormal and divide randomly and chaotically. The cells behave aggressively and attack the tissue around them. They also can jump away from the malignant tumor and enter the bloodstream or lymphatic system to form new tumors in other parts of the body. This type of spread is known as metastasis. There are virtually dozens of different cancer types. The most common in the Bangladesh is a

non-melanoma skin cancer. Close to one million new cases of it were reported in the Bangladesh in 2011. Breast, lung and prostate cancer also are very common.

Bangladesh is recently facing a serious threat of food adulteration. Various chemicals not approved by Bangladesh Standards and Testing Institution (BSTI), the regulatory body of Bangladesh, are being used all over the country to increase the shelf life of natural and few manufactured food items. Among the various illegal preservatives, the use of formalin which is the soluble form of formaldehyde is most widespread. Formalin is applied on fish for preservation; calcium carbide on fruits to ripen; brick dust in chilli powder; urea to whiten rice and puffed rice; sawdust in loose tea; soap in Ghee; and artificial sweetener, coal tar, and textile dyes in sweetmeats. More than 76 percent food items on the market were adulterated based on a random survey by Public Health Laboratory of Dhaka City Corporation in 2004. According to another survey conducted by the National Toxicology Program of the United States, statistically significant increased risks (RR = 1.42, 95% CI = 0.92 to 2.18) were found for all lymphohematopoietic cancers combined, for leukemias combined, and for myeloid leukemia among persons occupationally

exposed to any form of formaldehyde including formalin. Relative risks increased with increasing peak exposure [8, 9].

#### **METHODOLOGY:**

The study was conducted in the Ahsania Mission Cancer hospital, Mirpur Dhaka & Mohakhali Cancer Institute between January 2016 and September 2016. Samples were collected from outpatient clinics and inpatients suspected to be suffering from cancer. Cancer prevalence can be estimated directly from population-based cancer registry data by simply counting the number of registered cases still alive and present at a specified point in time but it would take long time [10-12]. Population surveys have been a practical alternative, [12, 13] although this approach leads to the underestimation of the true values [14]. In this study oral informed consent was obtained from cancer patients before participation. Each participant completed a questionnaire, which was then checked by one of the authors. Completed and checked questionnaires were coded to mask patients' identities. Another author double-checked the collected questionnaire to ensure good quality.

The study was done on 300 patients who are taking treatment in different hospitals mentioned earlier. The study on cancer patients reflects that maximum patients are

suffering Lung cancer The other patients found in the survey are suffering from breast cancer, Hodgkin lymphoma cancer, stomach cancer, colon cancer, liver cancer, rectum cancer, ovary cancer etc.

### RESULT AND DISCUSSION:

A survey was conducted among 300 patients in Dhaka city. The purpose of the survey was to gather information about the types of cancer prevalent in the city, drugs mostly used to treat them & the number of patient mostly facing them. The survey was conducted by means of a questionnaire given to the patients to complete. The questionnaire involved type of cancer they were experiencing, drugs they were prescribed. The survey questionnaire outline the patient

report, their lifestyle, the age, location; the type of cancer, the no. patients facing each type found from the survey, cancer prevalence in male & female patients; drugs mostly prescribed for particular type of cancer, cancer types being treated by a particular drug.

From the survey data, among the total 300 survey patients, 162 (54%) were reported male patients & the rest 138 (46%) were female. The table drawn from the survey data outlines that the cancer patients being studied coming from different cities to Dhaka city for their treatment. Prevailing patients are from the central part of the country, Dhaka city, & the least patient found from the northern part of the country.

Table 1: Location of affected people

Division	Number of patient	%
Dhaka	78	26%
Chittagong	54	18%
Rajshahi	42	14%
Khulna	30	10%
Barishal	48	16%
Shylhet	21	7%
Rangpur	27	9%

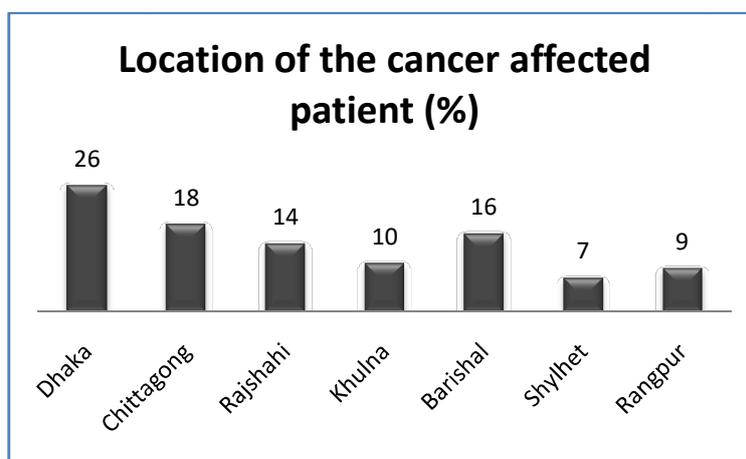


Figure 1: Location of the patient surveyed

Among 300 survey patients, most (37.67%) – 59. Patient at the age of 20 or less & above cancer patients found (113) at the age of 50 the age of 80 are found the least prevalent.

Table 2: Age of the patient

Age	Number of patient	%
<20 & 20	05	1.67%
20-29	14	4.67%
30-39	23	7.66%
40-49	56	18.67%
50-59	113	37.67%
60-69	52	17.33%
70-79	31	10.33%
80 & 80>	06	2.0%

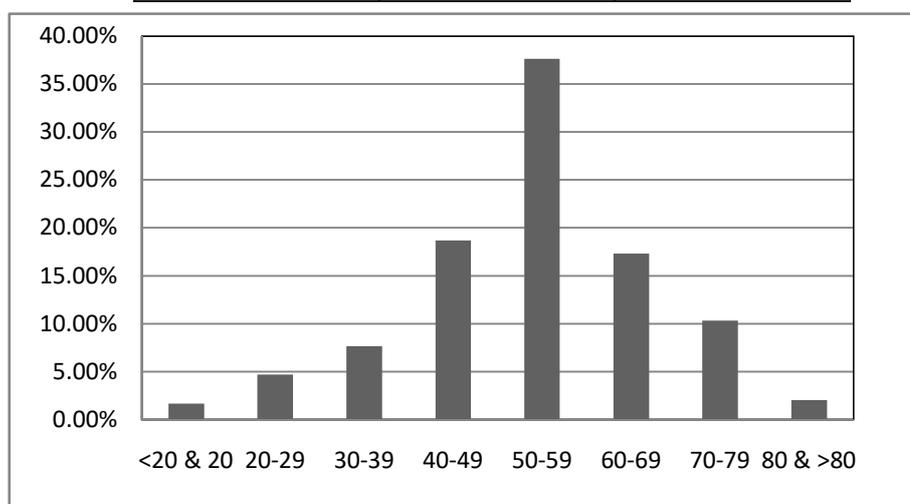


Figure 2: Age range of the patient surveyed (Percent of prevalence vs age group)

Among all the male patients most prevalent cancer is malignant melanoma with 0.62% cancer is lung cancer which was 18.52% of all male patients and the least prevalent of prevalent rate.

Table 3: Cancer prevalence in male patient

Types of cancer	Number of patient	%
Lung cancer	30	18.52%
Larynx	25	16.12%
Mouth and Oropharynx Cancer	23	14.26%
Stomach Cancer	17	10.54%
Oesophagus Cancer	16	9.22%
Rectal and colon cancer	10	6.20%
Hodgkin's and Non - Hodgkin's Lymphoma	14	8.68%
Liver and Pancreas Cancer	11	6.82%
Bladder Cancer	5	3.10%
Malignant melanoma	1	0.62%
Gallbladder, Testes and Prostate Cancer	3	1.86%
Leukemia	6	3.72%

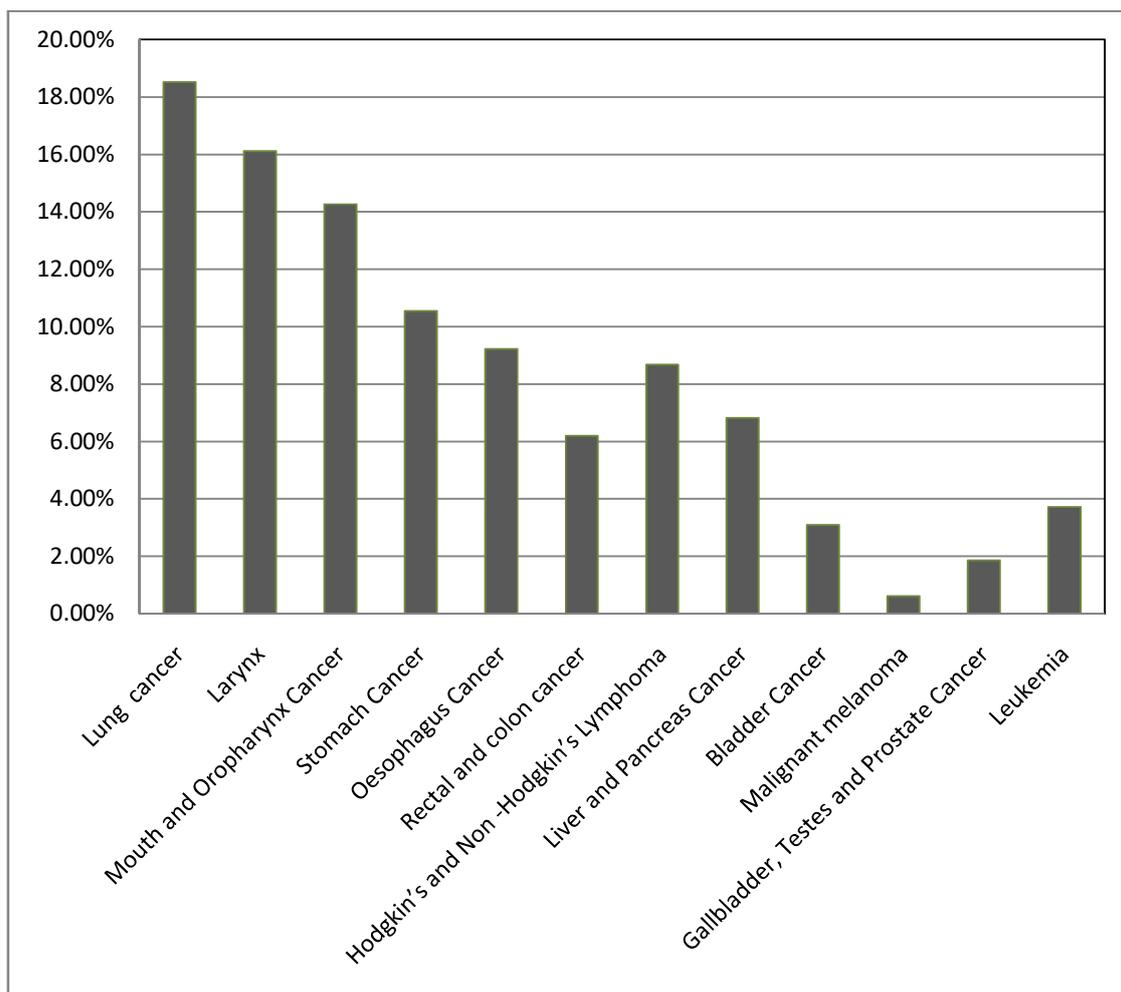


Fig 3: Cancer prevalence in male patient

Among all the male patients most prevalent cancer is lung cancer which was 18.52% of all male patients and the least prevalent cancer is malignant melanoma with 0.62% of prevalent rate.

Table 4: Cancer prevalence in Female patient

Types of Cancer	Number of patient	%
Cervical Cancer	24	18.00%
Breast Cancer	29	20.88 %
Ovarian Cancer	19	13.68%
Mouth and Oropharynx Cancer	18	12.96%
Oesophagus Cancer	10	7.20%
Stomach Cancer	14	10.08%
Hodgkin's and Non-Hodgkin's Lymphoma	5	3.60%
Liver and Pancreas Cancer	2	1.44%
Lung Cancer	6	4.32%
Uterus Cancer	4	2.88%
Gallbladder Cancer	2	1.44%
Colon and Rectum	1	0.72%
Leukemia	2	1.44%

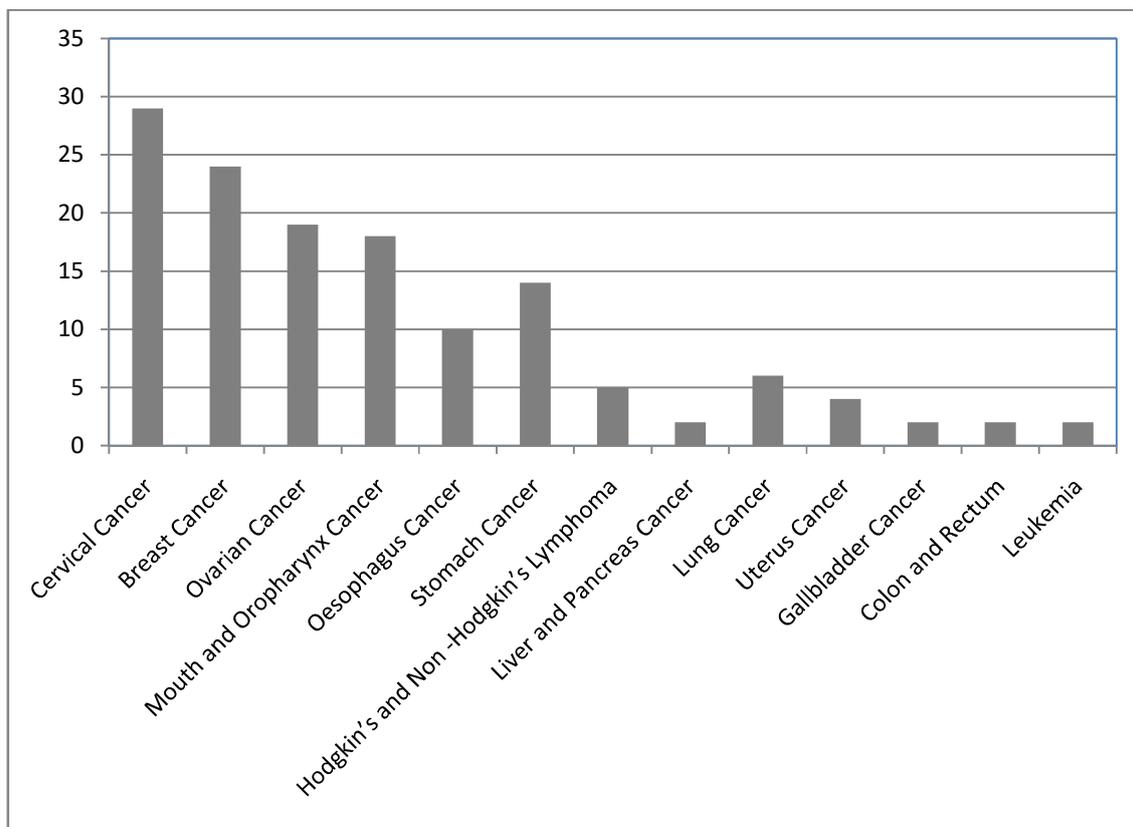


Figure 4: Cancer prevalence in male patient

The commonly used drugs which are used for the treatment of cancer patients in Bangladesh are given in the table 5.

Table 5: Drugs used in different types of cancer

Type of cancer	Drugs
Lung Cancer	Cisplatin Etoposide Paclitaxel Bleomycin Gemzer Decarbazine
Mouth and Oropharynx Cancer	Cisplatin Paclitaxel Carboplatin Endoxon Doxorubicin Etoposide Cyclophosphamide
Stomach Cancer	Cisplatin 5 FU Decarbazine
Oesophagus Cancer	Cisplatin 5 FU Gemcitabine Oxaloplatin

<b>Breast Cancer</b>	<b>Decarbazine Adrinomycin Gemcitabine Paclitaxel Vincristin</b>
<b>Hodgkin's and Non -Hodgkin's Lymphoma</b>	<b>HD Doxorubicin Vincristin Decarbazine Mesna Bleomycin</b>  <b>NHL cyclophosphamide doxorubicin vincristin mesna</b>
<b>Larynx</b>	<b>Cisplatin 5 FU Paclitaxel Carboplatin Methotrexate</b>
<b>Ovarian Cancer</b>	<b>Cisplatin 5 FU Vincristin Paclitaxel Carboplatin Capcitabine Gemcitabine</b>
<b>Leukemia</b>	<b>Vincristin Doxorubicin Cytarbine Cyclophosphamide</b>
<b>Colon and Rectum</b>	<b>Cisplatin Mitomycin 5 FU Folinic acid Oxaloplatin</b>
<b>Bladder Cancer</b>	<b>Cisplatin Mitomycin</b>
<b>Cervical Cancer</b>	<b>5 FU Cisplatin Paclitaxel</b>
<b>Uterus Cancer</b>	<b>Cisplatin 5 FU</b>
<b>Liver and Pancreas Cancer</b>	<b>Decarbazine Vincristin Bleomycin Cisplatin</b>

After studying pattern and prevalence of treatment receiving the surveyed patients it is depicted that most of the patients receiving

conventional treatment (96%) and lowest number of patients are receiving palliative therapy.

Table 6: Pattern &amp; prevalence of treatment receiving the surveyed patients:

Therapy	No. Patients	%
Conventional treatment	288	96.00
Surgery	164	54.67
Chemotherapy	182	60.67
Radiotherapy	107	35.67
Endocrine therapy	32	10.67
Palliative therapy	17	5.67

The other user profile of treatment among the participants was as follows: chemotherapy (54.67%), radiotherapy (35.65%), surgery (54.67%), and endocrine therapy (10.67%).

### CONCLUSION

Most of the affected people of Bangladesh are from lower or middle class family level and their educational level is also lower. They have no knowledge about cancer and its risk factor. Government should take some proper step to aware them such as-

- To reduce the incidence of cancer through primary prevention.
- To ensure effective screening and early detection to reduce cancer incidence and mortality.
- To ensure effective diagnosis and treatment to reduce cancer morbidity and mortality.
- To improve the quality of life for those with cancer and their family through support, rehabilitation and palliative care.
- To improve the delivery of services across the continuum of cancer

control through effective planning, co-ordination and integration of resources and activity, monitoring and evaluation.

- To improve the effectiveness of cancer control in Bangladesh through research and surveillance.

### REFERENCES:

- [1] Muir CS, Waterhouse J, Mack T et al. (eds). Cancer Incidence in Five Continents, Vol. V. IARC Scientific Publications No. 88. Lyon, France: International Agency for Research on Cancer, 1987.
- [2] Parkin DM, Muir CS, Whelan SL et al. (eds). Cancer Incidence in Five Continents, Vol VI. IARC Scientific Publications No. 120. Lyon, France: International Agency for Research on Cancer, 1994.
- [3] Parkin DM, Whelan S, Ferlay J et al. (eds). Cancer Incidence in Five Continents, Vol. VII. IARC Scientific Publications No. 143. Lyon, France: International Agency for Research on Cancer, 1997.

- [4] Estève J, De Angelis G, Verdecchia A. Trends in cancer survival probability over the period 1978–89. In Berrino F, Capocaccia R, Estève J et al. (eds): *Survival of Cancer Patients in Europe. The EUROCARE-2 Study*. IARC Scientific Publications No. 151. Lyon, France: International Agency for Research on Cancer, 1999.
- [5] Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. *CA: a cancer journal for clinicians*. 2011 Mar 1;61(2):69-90.
- [6] Maddams J, Utley M, Møller H. Projections of cancer prevalence in the United Kingdom, 2010–2040. *British journal of cancer*. 2012 Sep 25;107(7):1195-202.
- [7] Mariotto AB, Yabroff KR, Shao Y, Feuer EJ, Brown ML. Projections of the cost of cancer care in the United States: 2010–2020. *Journal of the National Cancer Institute*. 2011 Jan 12.
- [8] Freeman LE, Blair A, Lubin JH, Stewart PA, Hayes RB, Hoover RN, Hauptmann M. Mortality from lymphohematopoietic malignancies among workers in formaldehyde industries: the National Cancer Institute Cohort. *Journal of the National Cancer Institute*. 2009 May 20;101(10):751-61.
- [9] Hauptmann M, Lubin JH, Stewart PA, Hayes RB, Blair A. Mortality from lymphohematopoietic malignancies among workers in formaldehyde industries. *Journal of the National Cancer Institute*. 2003 Nov 5;95(21):1615-23.
- [10] Adami HO, Gunnarson T., Sparén P, Eklund G. The prevalence of cancer in Sweden. *Acta Oncologica* 1989;4: 463–70.
- [11] Thomson H, Rahu M, Aareleid T, et al. *Cancer in Estonia 1968–1992: incidence, mortality, prevalence, survival*. Tallinn, 1996.
- [12] The Cancer Registry of Norway. *Cancer in Norway 1995*. Oslo, 1998.
- [13] Hewitt M, Breen N, Devesa S. Cancer prevalence and survivorship issues: analyses of the 1992 National Health Interview Survey. *J Natl Cancer Inst* 1999;91: 1480–6.
- [14] Schrijvers CT, Stronks K, van de Mheen DH, et

al. 1994. Validation of cancer prevalence data from a postal survey by comparison with

cancer registry records. *Am J Epidemiol* 1994;139: 408–14.