## Elderly and impoverished cancer patients need urgent help in India

### Un modelo asistencial para pacientes ancianos y pobres con cánceres, en la India

*Dear Editor:*

India leads the world in the number of cases of oral and throat cancer. Moreover, 900,000 people are diagnosed with cancer each year and 50% of them are destined to die within the first year[1]. This letter presents new data on how a non-profit center called the Kailash Cancer Hospital in India (Goraj, Gujarat State) provides cost-effective cancer treatment for the poor people. The model presented here has the potential to be replicated in other developing nations.

A total of 81 patients (54% females) were treated for cancer from January 2008 to August 2009. More patients came from towns (55.6%) than villages (44.4%) showing increased awareness in urban areas. The patients' occupation included farming (27.2%), followed by homemaking (21.0%), daily abor in construction jobs (14.8%), factory working (14.8%), unemployed (8.6%), retired (3.7) and miscellaneous (driver, maid, tailor, priest, etc; 9.9%). The mean age of the 81 patients was 53.7 ± 5.0 years (range 50-71, 81.5% aged between 50 to 59 years, 16.1% aged between 60 to 69 years and 2.4% over 70 years).

The average cost of treatment was USD 582.7 ± 231.7, (range 177.1-1458.3), which is four times cheaper than other hospitals. There were no gender differences in costs. Radiotherapy was the form of treatment mostly used (77.8%) followed by surgery (12.3%) and chemotherapy (9.9%). The original bill and actual amount paid by patients differed significantly (Kruskal-Wallis test, p < 0.05) among the three treatment types and the poor received significant discounts for treatment (Figure 1).

Radiotherapy was the most expensive form of treatment, (USD 608.1 ± 208.8 n = 63), which was 1.6 times the cost of chemotherapy (USD 382.8 ± 180.2, n = 8,). Patients paid the highest amounts for radiotherapy (USD 404.6 ± 195.4, n = 63), representing nearly 1.4-1.9 times of the costs of surgery and chemotherapy (Figure 1). The differences of total costs and the actual amount paid, were significantly different between radiotherapy and chemotherapy (Wilcoxon rank test, P < 0.01).

The average saving by the elderly cancer patients was 37.9% (females 35.3%; males 41.1%) while the mean actual amount paid after discount was USD 371.6 (± 209.1, n = 81, range 0-1145.8, Figure 1). The hospital provided discounts that ranged from 5 to 100% and 81.5% of patients had discounts ranging from 10 to 55%. As a result, each patient on average saved 37.9% (± 20.9%, n = 81) and the highest saving occurred for surgery with an average of 56.2% (± 29.3, n = 10), which was significantly different from the lowest saving of radiotherapy (34.3% ± 17.4, n = 63; Wilcoxon rank test, P < 0.05).

The negative trend of subjects above 70 years seeking cancer treatment coincided with the national statistics, where 70% of older people die with advanced stages of cancer[1]. Besides, cancer associated prejudices, inaccessibility for treatment and poverty prevent many elderly to seek timely help. Research also shows that the lowest cancer mortality is observed among patients with a high socio-economic status and the higher death rates occur among the poor unskilled elderly[2]. Cancer treatment in India is high-priced and health insurance only benefits the upper-and-middle classes but not the poor. Therefore impoverished cancer victims have a higher probability of dying of cancer[3]. Besides, there are no public-funded tertiary-care cancer hospitals in rural India, leaving the poor without any coverage. Our study shows that India's elderly can get affordable/free treatment if more non-profit cancer centers are available.
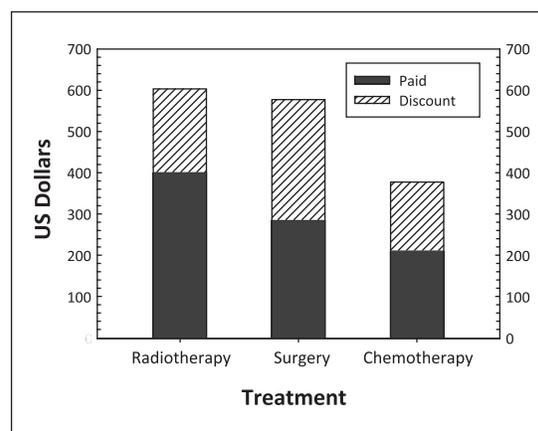


**Figure 1.** Three major types of cancer treatments, medical cost (USD) including the amount paid by cancer patients and discount offered by the Kailash Cancer Hospital in India.

In most cancer hospitals of India, patients have to wait for months waiting for diagnosis, preparing funds, seeking experts' opinions, and getting surgeons' appointments. But all patients in our study got immediate help on arrival. Research shows that 21% of potentially-curable cancer cases became incurable while patients waited months for treatment [4]. Moreover, if cancer screening is done at early stages in rural India, it will minimize mortality. For example, screening in rural areas reduced the incidence of cervical cancer in China[5]. Therefore, India's health agencies need to enforce screening in rural areas.

To solve the thorny issue of caring for the elderly cancer victims, India would require a USD 50 billion investment for the next 5-years. Given the fact that the government alone cannot solve the issue of insufficient cancer treatment facilities and early screening, we recommend a policy reform to establish a resourceful government-private-NGO partnership to ease the crisis. Qualified NGOs can form partnerships to raise funds, build cancer hospitals, train staff, bring awareness, and indentify cancer at village-level before it is too late. Hence the Kailash cancer hospital model presented here has the potential to be replicated across India to provide timely help. Without it, the aged and impoverished voiceless may continue to remain vulnerable.

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