


The 8th Asian Conference on Clinical  
Pharmacy: "Toward Harmonization of  
Education and Practice of Asian Clinical  
Pharmacy"



THE 8<sup>TH</sup> ASIAN CONFERENCE ON  
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PHARMACEUTICAL CARE ISSUES IN  
NASOPHARYNGEAL  
CARCINOMA PATIENTS WITH MUCOSITIS

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Hyatt Regency Surabaya Hotel  
The Legend Hotel,  
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INTRODUCTION

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- Cancer accounts for 7.6 million (13%) from a total of 58 million deaths worldwide (WHO 2006)
- The 2<sup>nd</sup> report of the National Cancer Registry (Malaysia) 21,464 cancer cases were diagnosed in 2003 (NCR 2003)
- The fourth leading cause of death among medically-certified deaths (Lim 2002)

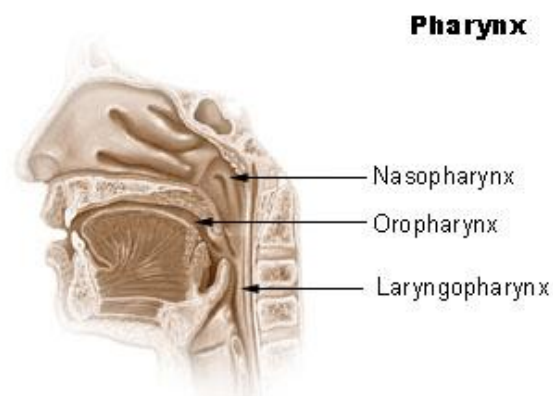
## NASOPHARYNGEAL CARCINOMA (NPC)

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- In Malaysia, it is postulated that the incidence of NPC is 7 cases : 100 000 population (Cheng 2001).
- NPC is endemic in the southern parts of China, Southeast Asia, the Mediterranean basin and Alaska (Sunil 2003)
- It occurs twice or thrice as high in males as in females (Cannon 2006)

## THE NASOPHARYNX

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[http://en.wikipedia.org/wiki/Image:Illu\\_pharynx.jpg](http://en.wikipedia.org/wiki/Image:Illu_pharynx.jpg)  
accessed 1<sup>st</sup> July 2008



## METHODOLOGY

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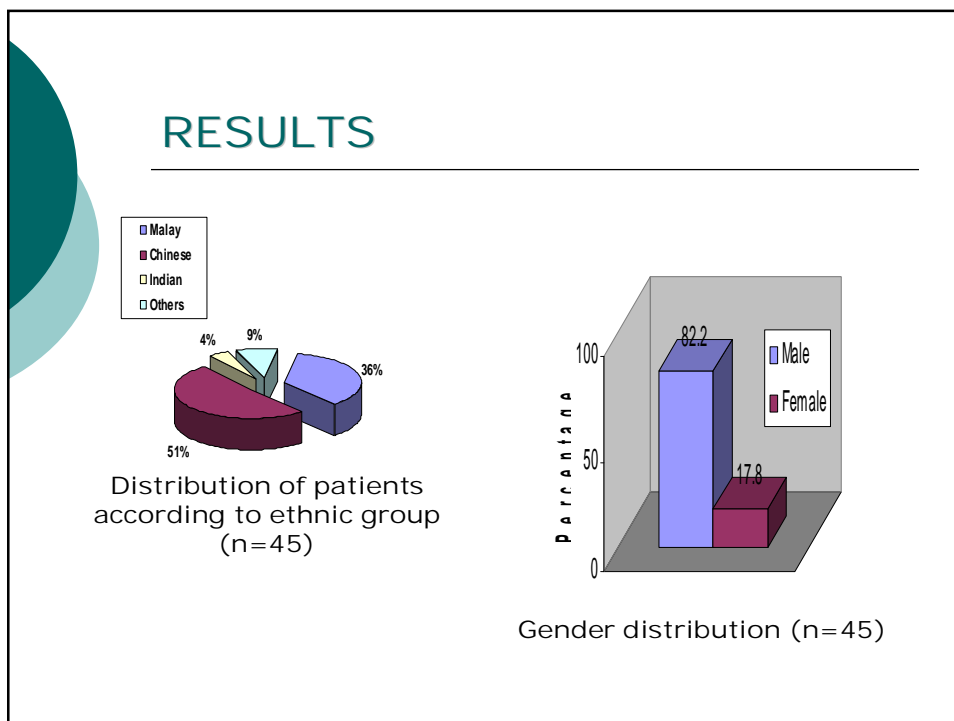
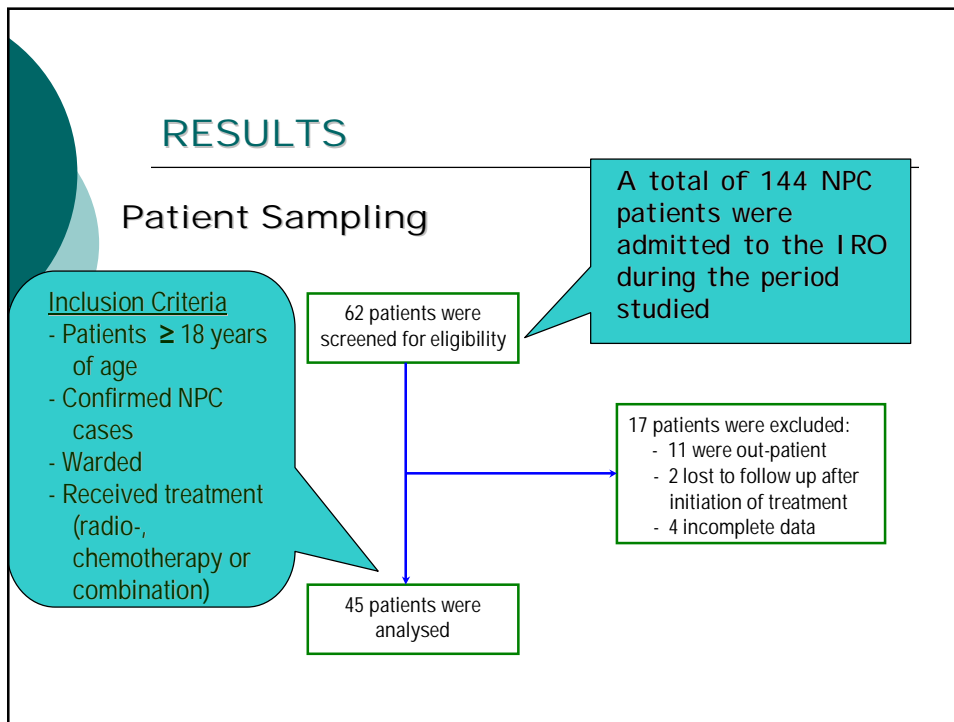
- A retrospective study was carried out in all NPC patients who were treated at the Institute of Radiotherapy and Oncology (IRO), Hospital Kuala Lumpur, Malaysia
- Data were collected from 2<sup>nd</sup> May to 31<sup>st</sup> December, 2006.

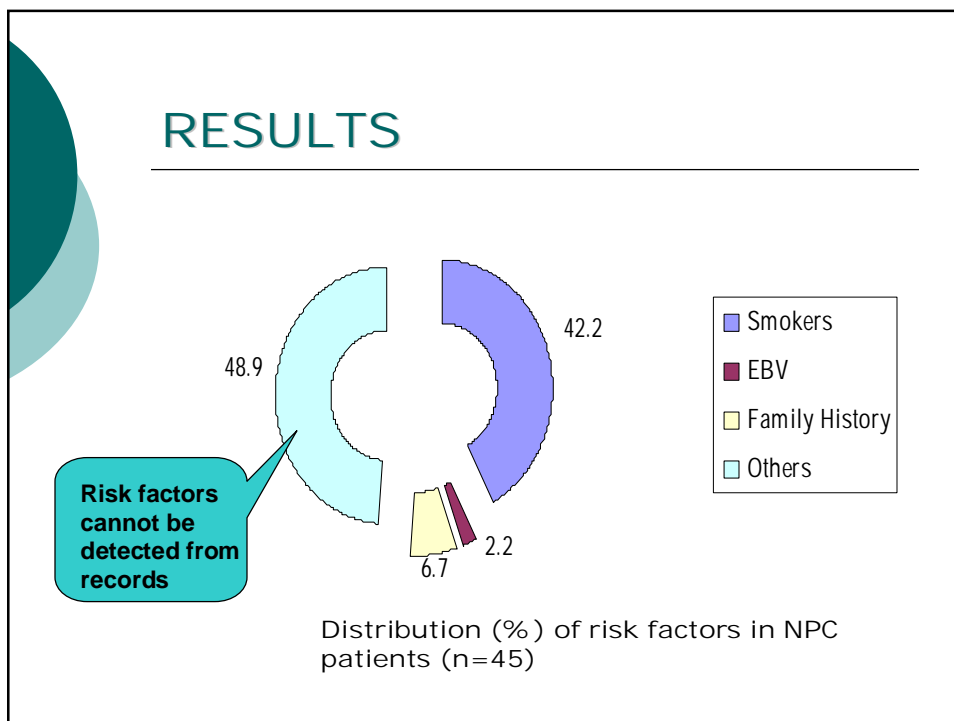
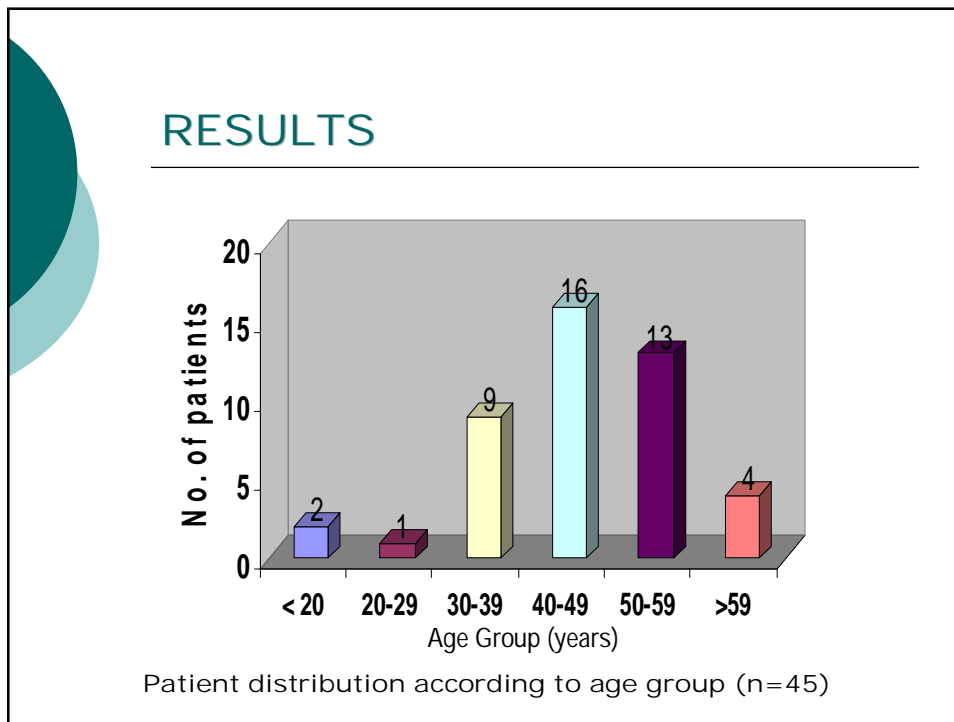


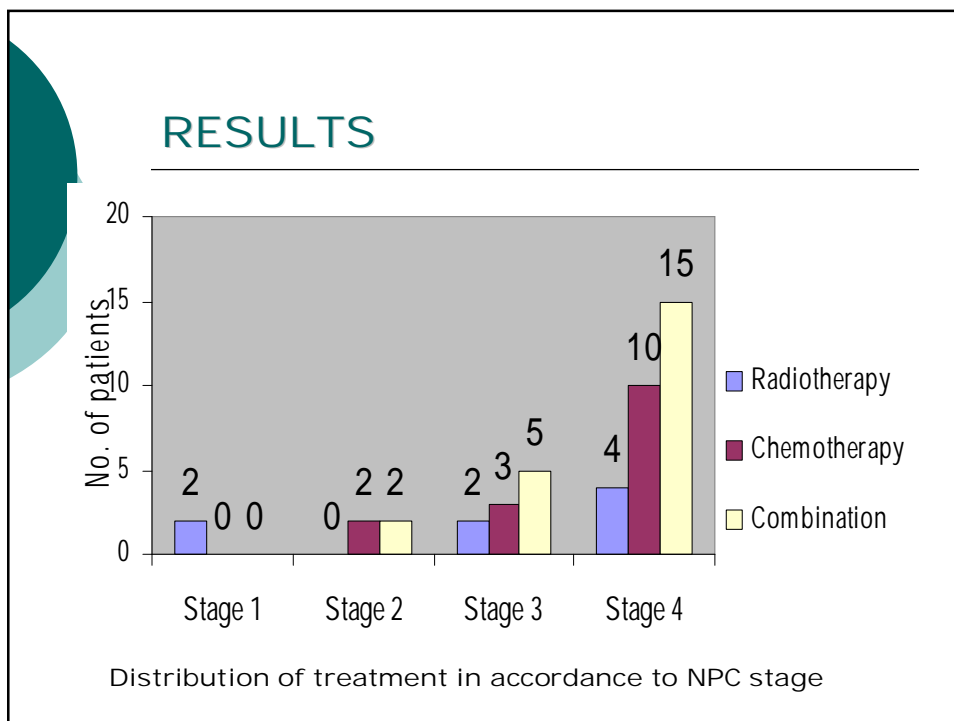
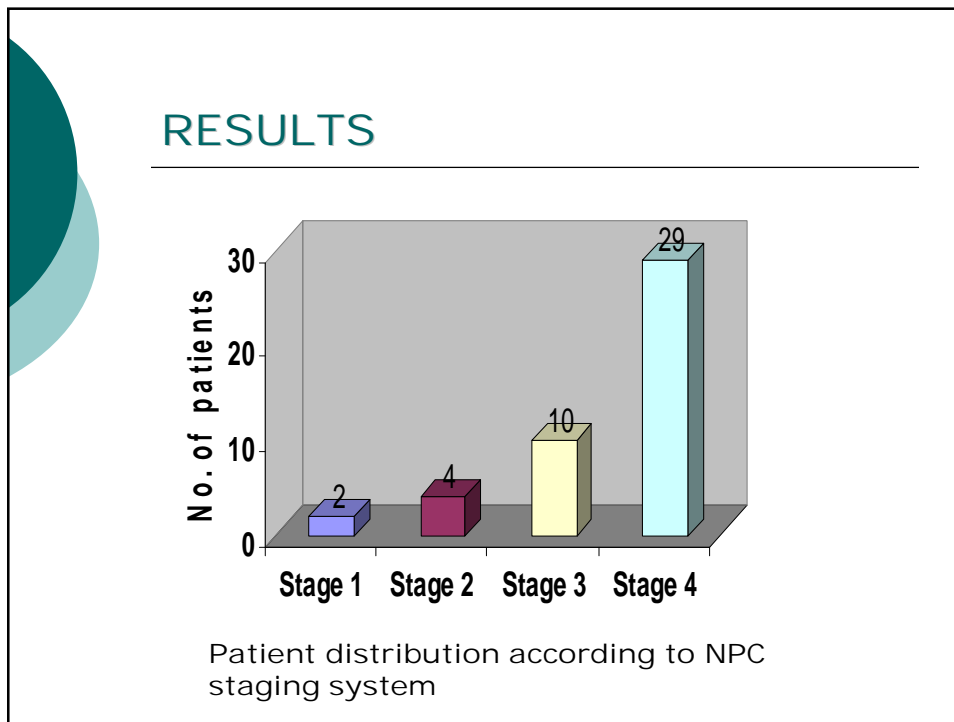
## ETHICAL CONSIDERATION

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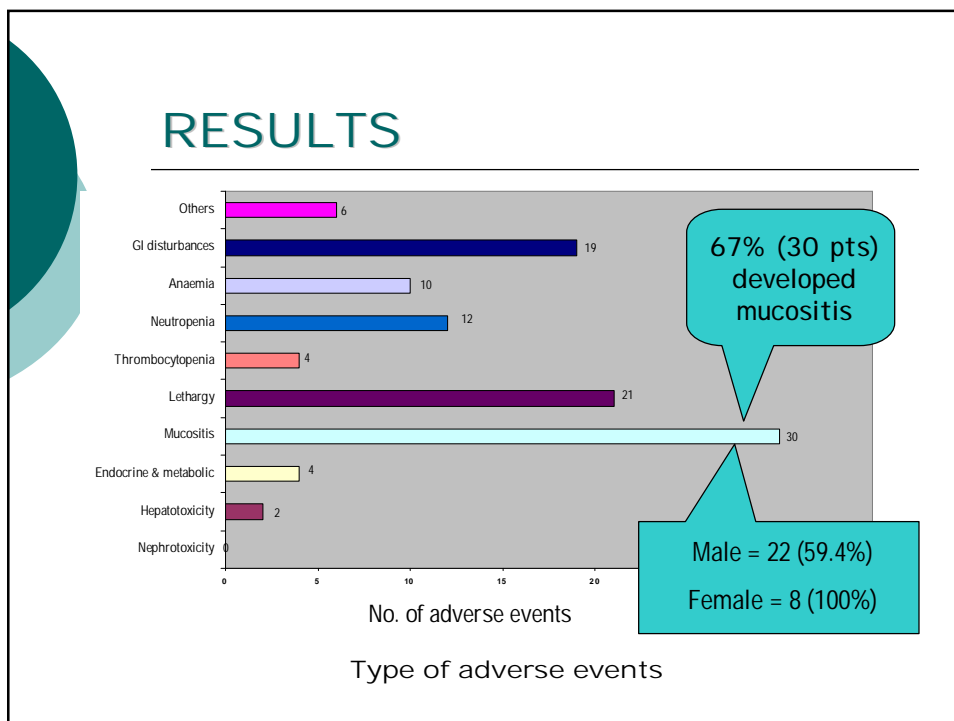
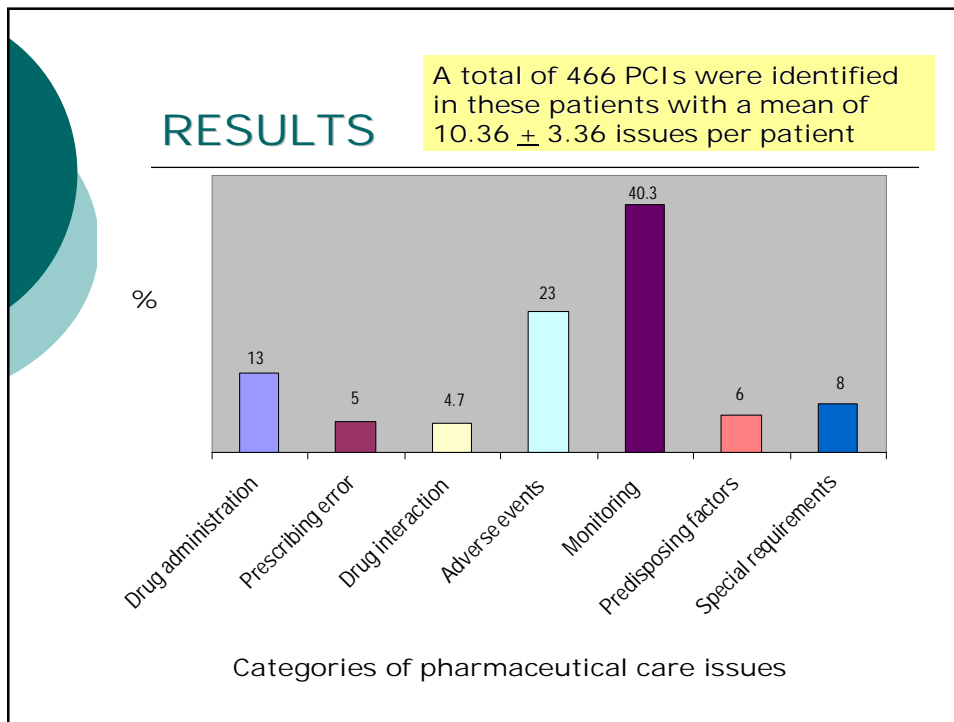
- Approval to conduct this study was received from Clinical Research Centre (CRC) of the Malaysian Ministry of Health







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## DISCUSSION

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- NPC
- ❑ 51% of the patients were Chinese. This finding is similar to studies by Sunil (2003) and Prasad & Rampal (1992) who conducted studies on NPC and the ethnic distribution in South-east Asia and Peninsular Malaysia respectively
- ❑ Smoking has been noted as a risk factor in this study (42% of pts)
- ❑ The presence of Epstein-Barr virus (EBV) has been demonstrated in approximately 90% of patients with NPC (Pow et al. 2003; Brennan 2006) however only one case confirmed presence of EBV
- ❑ Consumption of salt-preserved foods, has been documented as a substantial risk factor for the development of NPC in Malaysian Chinese (Beena et al. 2004). This was not identified from the records.

## DISCUSSION

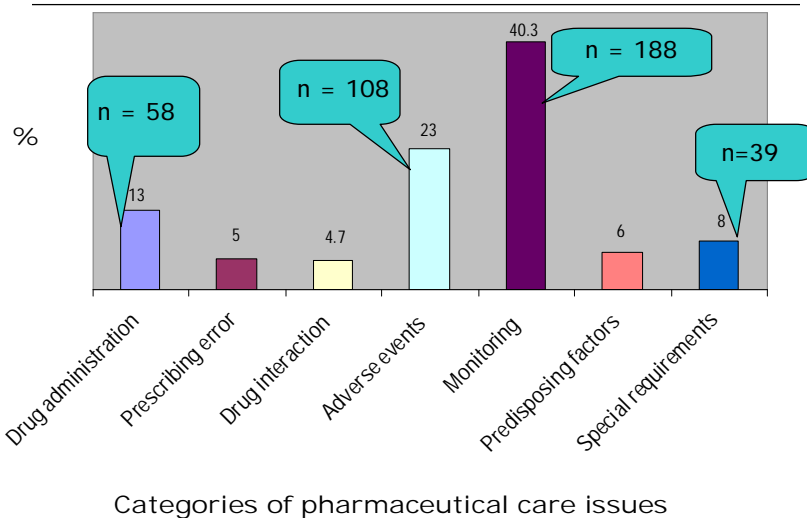
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- Mucositis
- ❑ This study supports the findings by Vokurka et al (2005) which showed higher incidence of mucositis in females
- ❑ In this study, most of the patients developed mucositis in less than 14 days (most occurred on the 8<sup>th</sup> day).
- ❑ This supported the studies by Maddireddy et al (2004) and Cheng (2007) who reported that mucositis can initially be seen in 7 to 14 days in both chemotherapy and radiotherapy.

## DISCUSSION

- Mucositis and treatment
- **Significant association observed between presence of mucositis and type of treatment, where concurrent chemotherapy and radiotherapy (combination) and radiotherapy alone showed higher chances in getting mucositis ( $p < 0.05$ )**
- **The findings concur the findings of Al-Sarraf et al. (1998) and Chan et al. (2002)**
- **Many studies reported that cCRT may cause severe mucositis compared to radiotherapy or chemotherapy alone (Chan et al. 2002; Maddireddy et al. 2004; Jose et al. 1998).**

## DISCUSSION



## DISCUSSION

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### ○ The Need For Monitoring

- Required monitoring of specific biochemical / other parameters
- Mandatory in patients taking cytotoxic drugs that required appropriate monitoring such as the renal function, liver function, electrolytes and full blood count.
- Canaparo et al (2000) highlighted the association of myelosuppression, organ toxicities and electrolytes imbalance to the administration of cytotoxic drugs

## DISCUSSION

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### ○ Adverse Events

- **Mean ADE at  $2.4 \pm 1.16$  events/pt**
- **Statistical analysis showed that combination therapy increases the presence of mucositis compared to radiotherapy alone ( $p < 0.05$ )**
- **Wong (2006) stated the high grade toxicity in NPC patients associated with therapy include mostly mucositis and dermatitis**
- **Cisplatin & fluorouracil in NPC patients increase sensitivity of radiotherapy at the targeted cells (Chan et al 2002)**

## DISCUSSION

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- Drug administration
  - Administration of complex treatment protocols in the management of cancer patients can affect patient compliance to therapy and lead to toxicities (Chajon et al 2005)
  - Protocols include hydration therapy, antiemetic prophylaxis and others
  - 58 PCIs (12.5%) identified in this study which include precautionary measures, administration time and non-compliance

## DISCUSSION

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- Special Requirement
  - 39 PCIs ( 8.4%) identified
  - Partial Parenteral Nutrition administered in two patients experiencing grade 3 mucositis
  - Enteral feeding cannot be continued due to odynophagia
  - 37 patients required counselling
  - Read et al (2007) showed that improvement in understanding of chemotherapy support medication ( $p < 0.05$ ) and dose reductions due to side effects ( $p = 0.003$ )
  - No TDM PCIs identified in this study



## CONCLUSIONS

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- In most cases mucositis in patient receiving treatment for NPC cannot be avoided
- Lessening the severity is important and can be achieved if the related PCIs are addressed
- The use of a Pharmaceutical Care model in the management of mucositis in NPC patients can be helpful (refer protocol)



## Acknowledgement

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- Kamarun Neasa Begam Mohd Kassim, BPharm (Hons) (UKM), M.Clin Pharmacy (UKM)  
Oncology Pharmacist  
Institute of Radiotherapy and Oncology  
Hospital Kuala Lumpur  
Kuala Lumpur  
Malaysia



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Thank you



## RISK FACTORS FOR NPC

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- Increased prevalence of NPC in certain human leukocyte antigens (HLA) subclasses such as HLA-A2, HLA-B46 and HLA-B58 (Cheng 2001)