be given. Under these limited resources, cost-effective diseases prevention and control are essential. We investigate dominant infectious diseases causing health crisis in elderly people and discuss how to prevent and control them.

Methods: Our facility has 100 beds, usually occupied 93% with long-term stay more than a year. The average stay of the users is about 600 days. The average age is about 85-year-old. Many of them suffer from chronic geriatric diseases, dementia, and handicaps caused by cerebrovascular attack. From Jan.1, 2010 to Feb.10, 2012, there were 161 long-term stay users. We have followed their health status, checked infectious diseases events, and studied cost-effectiveness of diseases prevention, control and therapy.

Results: We found 157 infectious diseases events in 71 of 161 users. Most common event was respiratory infection (54 events in 32 users). A half of them were Influenza-like-Illness (ILI) and not severe. Twenty-three aspiration pneumonia events were found in 19 users, 7 cases are severe and hospitalized. One of influenza type B was found, but not contagious. Cellulitis involving lower extremities was also common (31 in 21). Sixteen of urinary tract infection was observed in 13, but not severe. One outbreak of norovirus involving 4 users was occurred, but well controlled in 2 weeks.

Conclusion: The users repeatedly suffering from infectious diseases had vulnerable risk factors such as swallowing impairment for aspiration pneumonia, dermatophytosis for cellulitis. Preventive cares, such as swallowing training and foot care were quite cost-effective. With infection control methods including standard precaution, outbreaks of Influenza and norovirus were effectively ceased. Infectious diseases in Geriatric Health Service Facility are more similar to community-acquired infection than hospital. Even once infectious events happened, many could be cured with adequate use of antibiotics/antiviral drugs.

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Postoperative infections in surgical patients with epilepsy: a population-based study

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Background: Those with epilepsy are more likely to experience comorbidities and complications in various medical situations. However, the prevalence of postoperative infections in surgical patients with epilepsy have not been studied. The purpose of this study is to examine whether epilepsy is an independent risk factor for postoperative infections in surgical patients receiving major surgery.

Methods: We used the National Health Insurance Research Database to identify patients with epilepsy who underwent major surgery in Taiwan between the years 2004 and 2007. We identified 13,103 surgical patients with epilepsy from more than one millions surgical patients all over Taiwan. For each epilepsy case, four age- and sex-matched surgical patients without epilepsy were randomly selected as control group (N = 52,412). Preoperative comorbidities in the 24 months before surgery were identified. This study used multiple logistic regressions to estimated odds ratios (ORs) and 95% confidence intervals (CIs) of postoperative pneumonia, septicemia and deep wound infection for surgical patients with epilepsy.

Results: Compared with non-epilepsy group, surgical patients with epilepsy had higher rate of postoperative pneumonia (9.6% vs. 2.8%, p<0.0001), septicemia (6.4% vs. 2.4%, p<0.0001) and deep wound infection (1.0% vs. 0.7%, p = 0.0002). Surgical patients with epilepsy had increased risks of postoperative pneumonia (OR = 2.54, 95% CI = 2.32-2.79), septicemia (OR = 2.03, 95% CI = 1.83-2.26) and deep wound infection (OR = 1.31, 95% CI = 1.04-1.66). In epilepsy group with a history of emergency care for epilepsy, the ORs of pneumonia, septicemia and deep wound infection were 3.54 (95% CI = 3.16-3.97), 2.71 (95% CI = 2.38-3.09) and 1.44 (95% CI = 1.05-1.95), respectively, compared with non-epilepsy group.

Conclusion: This study is the first study investigated the increased risks of postoperative infections in surgical patients with epilepsy. Further revision of healthcare standards to provide early recognition of postoperative infections and better management for surgical patients with epilepsy is needed.

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Rescue of model organism, *Caenorhabditis elegans* by *Lagerstroemia speciosa* flower extract against clinical and drug resistant *Staphylococcus aureus* infection

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Background: Development of antibiotic resistance has increased the need for new method of developing antibiotics; *C. elegans* is a successful model for *in vivo* drug screening processes. Efficacy of the *L. speciosa* flower extracts to combat against clinical isolates of drug resistant *S. aureus* infection was evaluated using *C. elegans* as an *in vivo* system.

Methods: Clinical isolates of MRSA and MSSA are collected from Rajaji government hospital Madurai India. Cultures were maintained in LB medium. Antibiotic resistance was studied as recommended by CLSI. Plant samples were collected from Hosur, India and extracts were prepared by standard procedures. Susceptibility of *S. aureus* to the solvent extracts was measured using a standard agar diffusion assays; MIC was evaluated using broth dilution. *C. elegans in vivo* assays included life-span monitoring, egg-laying ability and also assessing the bacterial-load inside the animals. Characterization of active extracts was performed by Biochemical and GC-MS analyses.

Results: *L. speciosa* flower methanol extract displayed antibacterial activity against the clinical isolates tested with the ZOI ranging from 10-15mm. MIC ranges from 74 mg/ml as least to maximum 145 mg/ml. Compared with reference strain, clinical isolates were highly virulent to *C. elegans.* The presence of flower extract protected *C.elegans* from the infection by clinical isolate with the survival of 50% of animals even after 96h of exposure to *S. aureus*. Major reduction in *C. elegans* intestinal colonization was observed on treatment with 50-150μg/ml of flower extract. Treatment with flower extract increased egg laying ability of *C.elegans* when compared with *S. aureus* infected. Phytochemical analysis proved the presence of main classes of bioactive subgroups tannins, steroids