

Title:**Improving Vaccination Rates in Patients with Liver Cirrhosis in a Secondary Hospital with Targeted Interventions****Authors:**

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Background:

Infection and superimposed viral hepatitis in patients with liver cirrhosis (LC) can lead to decompensation and liver failure. Influenza, Pneumococcal, Hepatitis A and B vaccinations are recommended for LC patients to reduce morbidity and mortality. However, number of vaccinations administered to LC patients in Sengkang General Hospital (SKH) was low.

Aim:

To improve the rates of Influenza, Pneumococcal, Hepatitis A and B vaccinations administered to LC patients in SKH by at least 10%.

Methods:

Using findings from a fishbone diagram and Pareto chart, key contributors to low vaccination rates were identified, such as physician's time constraints and unclear documentation of vaccination status. Baseline vaccination rates were extracted via Citrix SCM using relevant SNOMED codes. Three Plan-Do-Study-Act (PDSA) cycles were then conducted over a year: (A) educational department lecture, (B) posters with summarised vaccine recommendations at clinic rooms (C) individualized pharmacy reviews and recommendations. Data on updated vaccination rates was then extracted and analysed to assess the impact of interventions.

Results:

Baseline analysis demonstrated low vaccination rates among LC patients (3.35% to 10.6). There was no improvement in vaccination rates observed after cycle (A); while cycle (B) and (C) had more impact on vaccination rates. Influenza vaccination rates improved by approximately 7.0% and Pneumococcal vaccination rates increased from 9.5% to 13.85%. There were increased numbers of Hepatitis A and B vaccinations administered. The smaller improvement observed in Hepatitis A vaccination rates (4.0%) in was due to undocumented Hepatitis A IgG results. Only 26.7% of pharmacy recommendations were accepted – reasons included patient refusal, delay in acknowledgements by clinicians. Vaccination rates remained stable 6 months post-completion of project.

Conclusion:

Targeted interventions, focused education efforts and ease of access to information resources via future order set enhancements in SKH are essential to sustain the improved vaccination rates.

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