

# Clinical pharmacist's role in implementing a smoking cessation intervention in a Swiss regional hospital: an exploratory study

Dobrinas Maria<sup>1</sup>, Blanc Anne-Laure<sup>1</sup>, Rouiller François<sup>1</sup>, Christen Gregoire<sup>2</sup>, Coronado Marcos<sup>2</sup>, Tagan Damien<sup>2</sup>, Schäli Christian<sup>1</sup>

<sup>1</sup> Pharmacie des Hôpitaux de l'Est Lémanique, Hôpital Riviera, Vevey, Switzerland

<sup>2</sup> Internal Medicine, Hôpital Riviera, Vevey, Switzerland

## Background

- An acute hospitalization represents an ideal opportunity for patients to initiate a smoking quit attempt.
- Hospital smoking cessation interventions improve abstinence in patients compared to control groups without intervention<sup>1</sup>. The model of change of Prochaska and DiClemente (**Figure 1**) is usually used to assess smokers' readiness to quit.
- A study from the local university hospital proved the efficacy of a smoking cessation intervention and was followed by the introduction of a formal smoking cessation counselling service<sup>2</sup>.
- Drug interactions with smoking have been described, through pharmacokinetics (PK) (enzymatic induction of cytochrome P450 (CYP) 1A2) or pharmacodynamics (PD) mechanisms.



Figure 1: Model of change of Prochaska and DiClemente

## Objectives & Methods

- The study aimed to evaluate the impact of a smoking cessation intervention for hospitalized patients by a clinical pharmacist previously trained for smoking cessation counselling.
- The design of the study and the content of the smoking cessation intervention are shown in **Figure 2**.
- Screening for drug interactions with tobacco smoke was also performed and physicians were informed about the management of these interactions.

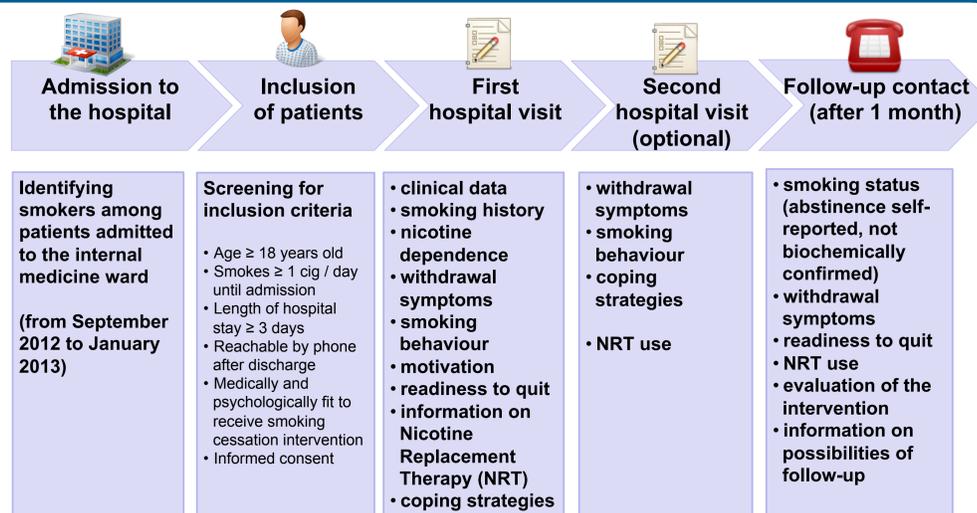


Figure 2: Study design and smoking cessation intervention

## Results

- 100 patients screened, 41 included and 40 assessed for the intervention (main exclusion reason: unstable medical condition)
- At least 1 month after smoking cessation, the readiness to quit of 53% of patients improved and 33% of patients declared themselves abstinent (**Figure 3**).

- PK and PD interactions with tobacco smoke were identified in 32% and in 22% of patients, respectively (**Table 1**)

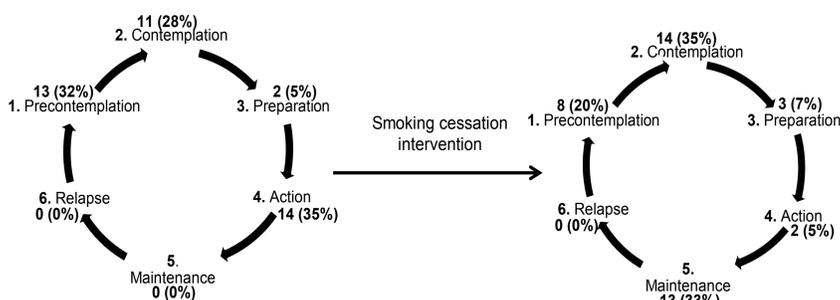


Figure 3: Patients' readiness to quit before and after the intervention

Drugs	Information/Recommendation
<b>PK interactions</b>	<b>Drug less effective in smokers, possible side effects after smoking cessation</b>
Zolpidem	Monitor for side effects such as: dizziness, somnolence, fatigue
Acenocoumarol	Monitor international normalized ratio (INR) more closely to avoid side effects such as bleeding
Duloxetine	Perform therapeutic drug monitoring (TDM) if overdosage (dizziness, fatigue) or underdosage (persistence of depressive symptoms) is suspected
Mirtazapine	Perform TDM if overdosage (somnolence, xerostomia, constipation) or underdosage (persistence of depressive symptoms) is suspected
Ondansetron	Monitor for side effects such as: headache, arrhythmias, constipation
Clopidogrel (prodrug, activated by CYP1A2)	May be more effective in smokers and less effective after smoking cessation ("smoker paradox")
<b>PD interactions</b>	
Corticosteroids (inhaled)	May be less effective in smokers, smoking cessation should be a priority in these patients
Heparin (therapeutic dosage)	Smokers may need higher doses, dose adjustment might be necessary after smoking cessation by means of partial thromboplastin time (PTT) monitoring
Insulin (subcutaneous)	Smokers may need higher doses, dose adjustment might be necessary after smoking cessation by means of blood glucose monitoring

Table 1: Pharmacotherapy interventions

- The individual change in readiness to quit is shown in **Figure 4**.

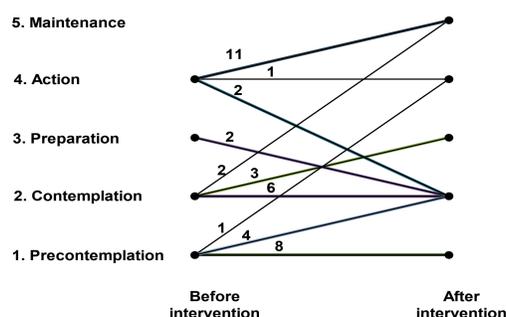


Figure 4: Individual change due to the intervention

## Conclusions

- A moderate-intensity smoking cessation intervention in hospitalized patients is associated with a higher quit rate than in study populations without intervention, and the readiness to quit generally improves at least one month after discharge.
- A clinical pharmacist previously trained for smoking cessation counselling can play a key role in providing such interventions, given a good understanding of the medical condition and pharmacotherapy of hospitalized patients.