Patients on Vitamin K Antagonists (VKA)
the benefit of pharmacy students educating VKA patients in an university hospital.

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CPC-099

Introduction:

Vitamin K antagonists are the most used anticoagulants in the treatment of thombotic diseases and this misuse is an important source of medicines-related illness. This is the cause of about 17000 hospitalizations per year in France.
The purpose is studying the effect of targeted information on patients' knowledge about their VKA treatment.

Materiel and methods :

The first step was the creation of the assessment grid (as below) whitch was asked to patients by two pharmacy students. The students were trained by pharmacists and empowered by specialists, members of the « haemostasis-coagulation » group. They asked the patients between 2012/07/05 and 2012/07/09 with the previous grid and highlighted lacking points. Then a targeted therapeutic information (TI) was suplied on these deficients points.
The 18 questions were grouped in 4 items: general knowledge (questions 1 to 5, 15, 18), questions about INR (questions 6 to 11), drug and food interactions (questions 12 to 14) and signs of bleeding (questions 16 and 17).

Assessment grid
Clinical study based on patients' knowledge about their vitamin K antagonist (VKA) treatment in a pneumology unit

Patient : Surname : _ _ _ First name : _ _ N° IEP : ……..
Age :……. Sex : □ Man □ Woman
Name of the VKA treatment (speciality, dosage) :……
Date of the beginning of the treatment : ……/……../…….

TARGET : Estimate patients' knowledge about their VKA treatment					
N°	**CRITERIA**	**YES**	**No**		**Remarks**
1	The patient knows the name of his oral anticoagulant				
2	The patient can recognize him among other drugs				
3	The patient knows the role of his anticoagulant				
4	The patient knows when he must take it				
5	The patient knows how to proceed in case of forgotten				
6	The patient knows the biologic test to follow the treatment's efficiency				
7	The patient knows his targeted value of INR				
8	The patient knows the signification of a higher INR (>4)				
9	The patient knows the signification of a lower INR (< 2)				
10	The patient knows how to adapt his treatment if the INR is lower (<2)				
11	The patient knows how to adapt his treatment if the INR is higher (>4)				
12	The patient knows drugs that couldn't be taken with VKA				
13	The patient knows the food that interact with the treatment (vitamin K food)				
14	The patient knows how to proceed with food containing vitamin K				
15	The patient knows that he must inform other practitioners that he takes VKA				
16	The patient knows the risk of overdose				
17	The patient can recognize the first bleeding signs				
18	The patient knows the principal rules before going on holidays				

Results :

73 patients were evaluated and received therapeutic informations. The mean age was 66 years old (+/- 14). 27 were males and 46 were females. **41 patients (56%)** among the 73 patients were re-evaluated before discharge as the flow chart (figure 1) shows.
Almost 50% of the patients don't know informations about INR, interactions (food and drugs) or relative to haemorragic complication as the figure 2 below shows.

Figure 1:

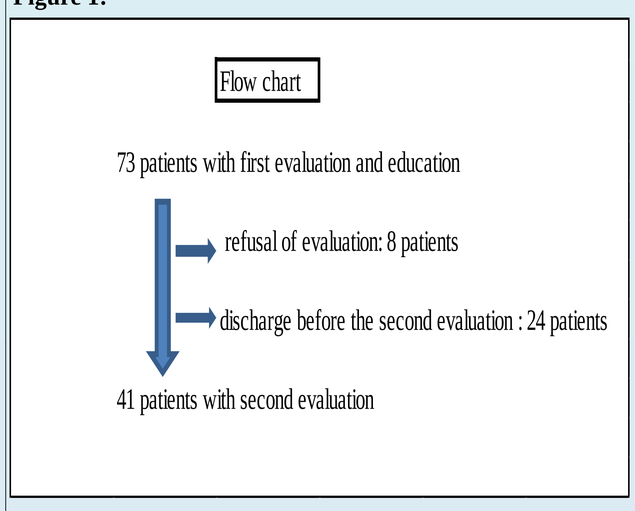
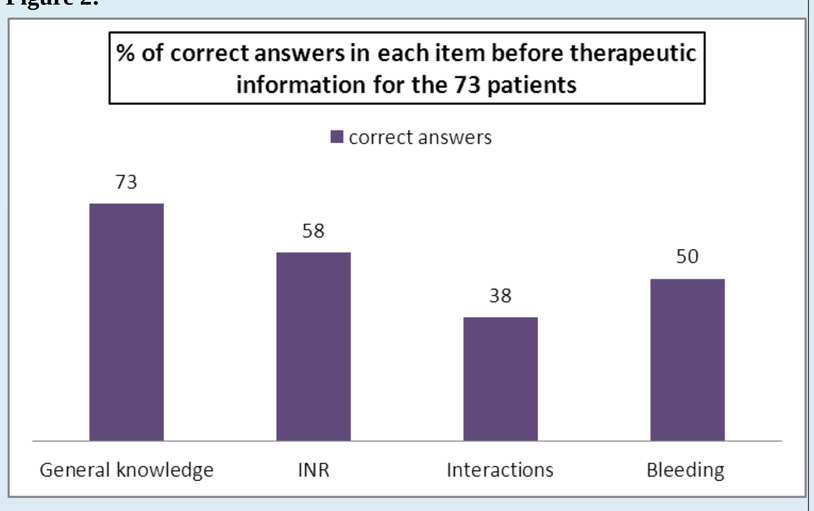
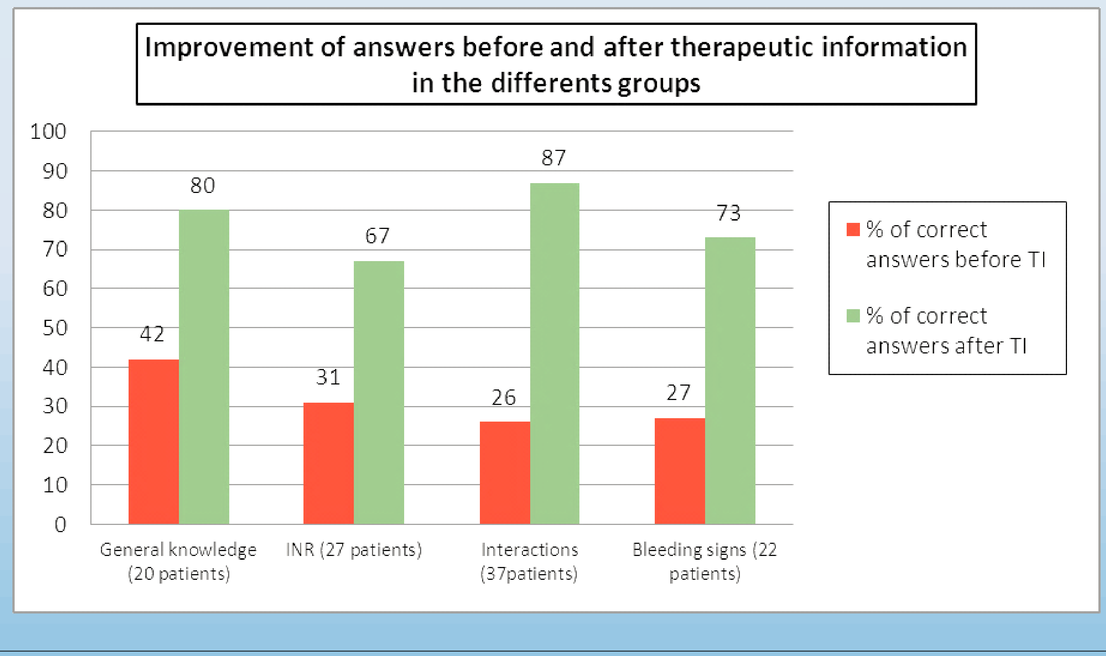


Figure 2:



According to the patients' answers given to the pharmacy students and their synthesis realized after the first evaluation, **49%** (20 patients) received therapeutic information about **general knowledge**, **66% (**27 patients) about **INR, 90%** (37 patients) about **food and drug interactions** and **53%** (22 patients) about **signs of bleeding.** The diagram 3 below shows a general improvement of answers in every items.

Diagram 3 :



Discussion :

General improvment was observed in all the differents items. The best improvment was about **food and drug interactions**. This item was the principal lacking point thus the most educated by the pharmacy students. The second point best improved was **signs of bleeding**, also a critical point nearly unknown by the patients questionned but the most important to be recognize in order to react quickly after the first signs.
Most of the patients asked were interested in this approach and answered easily the questions asked by the two students.

Conclusion :

This study shows the necessity to inform patients about their VKA treatement so as the patients can recognize, among other things the first bleeding signs. The improvement of the answers shows the benefit of this approach based on patients beeing educated by empowered students in a clinical service. This approach is planned to be extended to other units of the hospital later.

18th EAHP Congress , Paris France, 13-15 March 2013