INTRODUCTION
- Patient's perception regarding their treatment has a real interest in healthcare, especially in chronic disease. Quality of care varies in importance domain and is in nephrology. A growing interest among patients for perception of treatment they received in terms of processes and satisfaction.
- Patients' satisfaction with care is a major dimension of quality of care, thereby considered by healthcare authorities as a key indicator of health status [1, 2], and also by many European working groups [3]. Patients' satisfaction with concomitance is a component of outpatient satisfaction with care.
- The Non-Interventional Study PERCEPOLIS was conducted in France to provide data on Chronic Kidney Disease (CKD) patients not on Dialysis (NODAD) regarding the perception and preference they give to their Erythropoiesis-Stimulating Agents (ESA) treatment.

STUDY DESIGN
- PERCEPOLIS was a 4 months French real-world Non-Interventional Study (NIS).
- Patients with symptomatic anemia associated with chronic kidney disease not on dialysis initiating C.E.R.A. were included between June and October 2011 (117 nephrologists).
- FOIs were collected at baseline and at other 6 months of C.E.R.A. treatment.
- Clinical data were collected at baseline and every three months.

STUDY OBJECTIVES
- Primary objective:
  - To describe in patients with chronic kidney disease not on dialysis, what characterizes the preferences for an erythropoiesis stimulating agent, before and after 6 months of initiation of C.E.R.A.
- Secondary objectives:
  - To describe patients' characteristics.
  - To describe utilization patterns and patient's adherence.
  - To evaluate the effectiveness of C.E.R.A.
  - To describe the safety profile of C.E.R.A.

PATIENTS
- Inclusion criteria:
  - Adult (18 years).
  - With chronic kidney disease not on dialysis (including kidney transplant patients).
- With symptomatic anemia treated or not treated with ESA.
- For whom the physician has decided prior to the study to implement a treatment with C.E.R.A.
- Patients receiving the first injection of C.E.R.A. at the inclusion visit.
- Patients answering and able to complete the questionnaire of consents analysis.
- Patient having been informed orally and written signed consent for personal data to be collected and analyzed.

- Non-inclusion criteria:
  - Current participation in a clinical trial.
  - Treatment with C.E.R.A. during the three months prior to the study.
  - Planned dialysis in the next 6 months after initiation of C.E.R.A.

CHOICE-BASED CONJOINT (CBC) DESIGN
- Assessment of patient preferences was developed using discrete choice-based conjoint analysis questionnaire with the following hypotheses:
  - Seven relevant characteristics (or attributes) of ESA found on available literature.
  - Frequency of injections: 3 levels.
- Contact with the healthcare practitioners: 2 levels.
- Treatment effectiveness: 3 levels.
- Keeping the Hb level inside the recommended target range: 2 levels.
- Pain at injection site: 2 levels.
- Delivery device: 3 levels.
- Maximum period of storage at room temperature: 2 levels.

- Each possible answer includes 1 level for 2 characteristics.
- Two choice per question (including 2 attributes per choice / 1 level per attribute).
- Seven questions per CBC questionnaire.

Some constants were used to design questionnaires to avoid impossible ratio of attributes in level's same question.

Twenty CBC questionnaires have been generated by the Google software mobile SCW version 7.6 in order to test ESA characteristics with each level. Each patient only had to answer one questionnaire. The 20 questionnaires were equally distributed using a randomization process [1]. In order to have the same number of questionnaires such as each population of patients previously treated with ESA.

STATISTICAL CONSIDERATIONS
- Primary endpoint:
  - The primary analysis was the reliability according the patient preference to different characteristics of ESA treatments before and after six months of initiation of C.E.R.A.
- Justification of Sample Size
  - Sample size calculation was based on number of attributes, number of alternatives and number of tasks.
  - The following rule has been used [6]:
    - Number of attributes: 7
    - Number of respondents: 10,000
    - Number of tasks: number of attributes times number of alternatives and number of tasks.
    - Hypothesis:
      - Each task includes 2 concepts (alternatives per task) and 2 attributes.
      - Number of levels: 3 for 2 attributes for 5 attributes (288 combinations).
    - Number of tasks:
      - For a total number of patients: 10,000 * 7 / 10 * 1000 representations per main effect level.
      - From previous NIS studies with FOIs, we estimated that 20% of patients would not answer FOI or prematurely discontinuously the study. Therefore around 800 patients have to be included in the study.
    - All analyses have been performed by subgroup of patients previously treated or not with ESA.

DATA COLLECTION
- As FOI was the primary endpoint of this NIS, it was essential to define a methodology of analysis.
- While randomization and data collection have been collected using an electronic case report form (eCRF), FOIs have been performed using a Table PC connected to the eCRF.

PROS ANALYSIS METHODS
- Each patient had to rate each characteristic importance declared was described in percentage per characteristic.
- Each patient chose the most important characteristic. The most important characteristic for patients was described in percentage.

CSC questionnaire: calculated importance of each attribute
- Within each questionnaire there was one fixed question that allowed to validate answers given by patients. Patients were then asked to rate the importance of the question, the questionnaire was considered as not valid.
- Analysis software and method: The analysis of preference and weight of each attribute has been performed by the Saastech software using hierarchical Bayesian (CBC) estimation (CBC/ITE module version 16.2).
- Saastech software has provided the following results at inclusion and around 6M:
  - Individual part worths,
  - Average Utility Values,
  - Average importance of each attribute.

FLOW CHART
- 789 included patients
- 493 included patients
- 296 included patients

REFERENCES
- [6] Analysis software: ProStat version 7.6 (Semantech, France)

CONCLUSION
- Results of a study evaluating patient’s perception regarding their erythropoiesis stimulating agent treatment in chronic kidney disease using a choice based conjoint analysis

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