Faculty of Pharmacy & Drug Manufacturing

Assessment of community awareness regarding the proper use of corticosteroids using a questionnaire based study

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Project Summary:

Corticosteroids have various uses as they have multiple effects on metabolism, act as anti-inflammatory, immunosuppressive and anti-allergic agents. Moreover, they have anti-stress action and keep the integrity of the cardiovascular system (BP), skeletal muscles and CNS.

The release of cortisone is regulated through the hypothalamus-pituitary axis (HPA): the hypothalamus produces a corticotropin releasing hormone (CRH) which stimulates the anterior pituitary gland to release ACTH (adrenocorticotrophic hormone) which by turn stimulates the adrenal cortex to release cortisone.

Glucocorticoids have multiple use precautions and guidelines such as:

- Glucocorticoids are given in a large initial dose until the condition is stabilized, followed by a maintenance dose by reducing the dose gradually until reaching the minimum effective dose with least side effects.
- Corticosteroids should not be stopped abruptly to avoid adrenal crisis.
- Problems associated with WITHDRAWAL of steroid therapy: corticosteroids produce a negative feedback inhibition of ACTH leading to atrophy of the adrenal gland or adrenal suppression, this is why we should stop corticosteroids gradually otherwise, Addisonian-like syndrome (hypofunction) occur.

Aim of the work:

This field-based project aimed to assess patient awareness about guidelines of glucocorticoids prescription and to evaluate patient counseling provided by Alexandrian pharmacists.

A questionnaire was also designed to address the pharmacist and measure the contribution of community pharmacist in corticosteroids patient counseling during drug dispensing. In addition, a second questionnaire was directed to the patients to evaluate the trends of clinical use of corticosteroids as well as the patient's awareness regarding the ADR and contraindications of corticosteroids. The project also covered the demographic data of the sample of patient participating in the questionnaire.

An informative brochure was designed and distributed to raise the community awareness regarding the corticosteroids' use.

Material & Methods

Protocol of the work

Each group (A,B,C,D) has a leader (represented in the diagram with blue star). Each leader is supervising 3 to 4 sub-leader (represented in the diagram with green star) of sub groups (A1,A2,A3..etc). The whole class is divided into blocks; each block is composed of 10 students. Each block has a leader. Each sub-leader of sub groups (A1,A2,A3..etc) is supervising each block leader.

The study was conducted on a sample of pharmacists and patients seeking oral and inhalers corticosteroids from retail pharmacies, either through a prescription or non-prescription.

The student conducted a survey in the form of a questionnaire about the contribution of the pharmacists in patient counseling, regarding corticosteroids products.

Using a patient-designed questionnaire, the student evaluated the patient's awareness about the proper use of corticosteroids.

The ***questionnaire*** includes the following points:

- Demographic data of the patient including gender and age.
- Whether dispensing was based on prescription or not and included gradual withdrawal or not.
- The drug used, name, form (inhalation or oral).
- Rational for prescribing (indication).
- Duration of its administration (<1 week, 1-2 week, >2 week).

- Adverse effects reported by the patient
- Contraindications
- Awareness about potential side effects and contraindications
- Concurrent drugs used with possibility of drug interaction

Data were fed to a suitable computer program (Excel) and tabulated; all data are subjected to statistical analysis using suitable statistical software programs.

The following information obtained

1- Demographic tabulation of the survey patient sample
2- A comparative % of corticosteroids products used by the sample survey patients
3- Trend of use of corticosteroids in different related clinical condition
4- The frequency of ADR and previous awareness of patients about the incidence of these ADR.
5- The encountered drug interaction and possible contraindications

In addition, the study contributed to raise the community awareness about the corticosteroids proper use by designing brochures targeting both pharmacists and patients

Results:

Concerning patients, the survey showed the degree of awareness of the corticosteroids' side effects, contraindications and drug interactions is the highest among university degree holders' patients (70.56%, 67.89%, 67.51%) of the 1826 total sample. However, about only half of patients are applying "gradual withdrawal" concept in corticosteroids' use. On the other hand, the awareness and knowledge of the aforementioned criteria of the 810 pharmacist participated in the survey differs based on experience and location of the community pharmacies in which the questionnaires were carried out.

Conclusion:

This survey-based study highlighted the gaps in dispensing guidelines of glucocorticoids in patients and pharmacists in the Alexandrian society. Based on these results an informative brochure was designed and distributed among the pharmacies to raise the awareness regarding corticosteroids' proper use for both patients and pharmacists.