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Offering corticosteroids in private pharmacies without medical prescription at Babylon Province

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Abstract

Corticosteroids have an essential role in treating numerous symptoms and inflammatory diseases. They can be used to treat different endocrine, rheumatologic, pulmonary, hematologic, ophthalmologic, gastrointestinal and dermatologic disorders. However, these drugs cause a wide range of adverse drug reactions (ADRs) including weight gain, osteoporosis, fractures, psychiatric and cognitive disturbances, immunosuppression and etc… The aim of this study is to assess the people awareness of the risks of excessive use of cortisone medications and their side effects. We designed an online, self-administered, anonymous, questionnaire based, cross-sectional survey was conducted via Google Forms, as questioners. the study includes survey contain different questions, the research recruited 396 participations from the age of 1 to more than 50. At period time from February 2024 to April 2024. Most of them male gender. The present results show that 30% of people use the corticosteroids drugs to dermatological diseases,50% of participants take drug according to the doctor prescription. 80% for patient that suffer from increase in blood pressure and blood sugar after use of these drugs. We can conclude that different types of corticosteroids offered in different diseases without any restriction and consequent side effects were very clear.

Keywords: Corticosteroids, Side effects, Awareness

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توفير الكورتيكوستيرويدات في الصيدليات الخاصة بدون وصفة طبية في محافظة بابل

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المستخلص

تلعب الكورتيكوستيرويدات دورًا أساسيًا في علاج العديد من الأعراض والأمراض الالتهابية. ويمكن استخدامها لعلاج اضطرابات الغدد الصماء والروماتيزم والرئة وأمراض الدم وأمراض العيون والجهاز الهضمي والأمراض الجلدية المختلفة. ومع ذلك، تسبب هذه الأدوية مجموعة واسعة من الآثار الجانبية للأدوية بما في ذلك زيادة الوزن وهشاشة العظام والكسور والاضطرابات النفسية والإدراكية وكبت المناعة وما إلى ذلك ... تهدف هذه الدراسة إلى تقييم وعي الناس بمخاطر الإفراط في استخدام أدوية الكورتيزون وآثارها الجانبية. لقد صممنا استبيانًا عبر الإنترنت ذاتيًا ومجهول الهوية ويعتمد على استبيان مقطعي تم إجراؤه عبر نماذج Google. تتضمن الدراسة استبيانًا يحتوي على أسئلة مختلفة، وقد شارك في البحث 396 مشاركًا من سن 1 إلى أكثر من 50 عامًا. في الفترة الزمنية من فبراير 2024 إلى أبريل 2024. معظمهم من الذكور. تُظهر النتائج الحالية أن نسبة 30 % من المشاركين يستخدمون أدوية الكورتيكوستيرويد لعلاج الأمراض الجلدية، وأن 50% منهم يتناولون الدواء وفقًا لوصفة طبية بينما يعاني 80% من المرضى من ارتفاع ضغط الدم وسكر الدم بعد استخدام هذه الأدوية. ونستنتج من اعلاه أن أنواعًا مختلفة من الكورتيكوستيرويدات تُستخدم في علاج أمراض مختلفة دون أي قيود، وأن الآثار الجانبية الناتجة عنها كانت واضحة جدًا.

الكلمات المفتاحية: الكورتيكوستيرويدات، الاثار الجانبية، الوعي

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معلومات البحث
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Introduction

Corticosteroids are a class of steroid hormones released by the adrenal cortex that are further categorized into glucocorticoids (major glucocorticoid produced by the body is cortisol),

mineralocorticoids (major mineralocorticoid produced in the body is aldosterone), and androgenic sex hormones. However, the term "corticosteroids" is generally used to refer to glucocorticoids. Named for their effect in carbohydrate metabolism, glucocorticoids regulate diverse cellular functions including development, homeostasis, metabolism, cognition and inflammation. Due to their profound immune-modulatory actions [1].

They lower inflammation in the body by reducing the production of certain chemicals. At higher doses, corticosteroids also reduce immune system activity. Because corticosteroids ease swelling and irritation, doctors often prescribe them to treat conditions like asthma, hives, or lupus. Corticosteroids can provide substantial relief of symptoms, but come with the risk of serious side effects, especially if used long term [2&3]

It is essential to distinguish between misuse and abuse of medications. Medication misuse has been defined as the incorrect use of medication for a medical purpose (e.g. incorrect dose or duration of action). On the other hand, medication abuse has been defined as the use of medication for a non-medical reason [4&5]. In developing countries, OCSs can be obtained without prescription. In African and Asian countries including Iraq, consumers can obtain prescribed only medications (POMs) from some community pharmacies without medical supervision for different reasons despite being legally unaccepted. This uncontrolled dispensing may lead to high incidence of abuse. Studies in Iraq, Egypt and China showed a wide variety of reasons come into play regarding POMs access including cultural beliefs, shortage or absence of social security service and low income, which may limit access to healthcare providers, [6&7].

In addition to inadequate level of regulatory enforcement. Analgesics, cough and cold preparations, and laxatives are the most common abused medications in Middle East countries. In Iraq, lacking official enforcing of prescription necessity and absence of auditing on pharmacy-kept prescriptions may explain patient access to most of medication types without prescription in community pharmacies. In most circumstances (except for controlled substances), Iraqi patients can keep doctor prescriptions after receiving POMs from community pharmacies to use it for refilling with or without doctor permission. It is worth noting that almost all Iraqi healthcare settings still do not implement electronic prescription [8&9]. Nevertheless, pharmacies in governmental hospitals and healthcare setting require new prescriptions for any medication.

Corticosteroids mimic the effects of hormones, such as cortisol. they are used to either increase the action of these hormones above a normal level or return it to a normal level. A person with Addison's disease, for example, can benefit from this treatment as their body will not produce enough cortisol. The increase in hormonal activity suppresses the immune system, which is responsible for activating inflammation in the body. By suppressing immune system activity, corticosteroids can reduce inflammation. Some side effects can occur with topical, inhaled, and injected steroids. However, most side effects come from oral steroids.

All corticosteroid types can put you at risk of developing fungal infections. Some may also cause high blood sugar, or hyperglycemia [10&11]

The aims of this study was to assess the people awareness of the risks of excessive use of cortisone medications and their side effects.

Materials and Methods

An online, self-administered, anonymous, questionnaire based, cross-sectional survey was conducted via Google Forms, as questioners. the study includes survey contain different questions, the research recruited 396 participation5 of them at age of 1-10 and 80 of them at age 11-20 and 273 of them at age 21-30 and 21 of them at age 31-40 and 10 of them at age 41-50 and 7 of them at age more than 50. At period time from February 2024 to April 2024 Most of them male gender. Geographic region of samples collection were selected in a stratified, random sampling design that It includes all segments of society.

The questionnaire consisted of demographic data and data about the awareness of the risks of excessive use of cortisone medications and their side effects. A questionnaire, containing open-ended and close-ended questions, was administered to the subjects.

Results

The Socio demographic characters among people that used corticosteroid can be summarized as shown in Table (1).

Table (1): Socio demographic characters of people

Socio Demographic characteristics		%
Gender	Male	75.8
	Female	24.2
Age	1-10	1.26
	11-20	20.20
	21-30	68.93
	31-40	5.30
	41-50	2.52
	< 50	1.76
Geographic Region	Rural	19.20
	Urban	80.80
Education Level	Student	61.90
	College Degree	32.60
	Postgraduate Degree	3.00
	Less than above	2.50
Monthly Income	100-500 thousands	65.60
	500- million	23.00
	More than million	11.40
Work Environment	Medical Field	67.40
	Chemical Material	2.10
	Building Materials	1.00
	Others	29.50

We found the high percentage (30%) for corticosteroid that use in dermatological disease and less than this (25%)for other uses and (20%) for corticosteroid that use in hypersensitivity with (15%) for asthma and less than this percentage (10%) for immunological problems as shown in Figure (1).

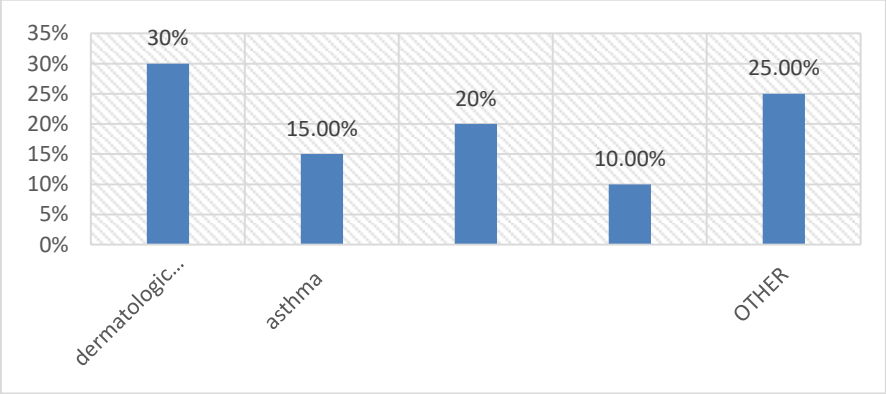

Figure (1): The causes for corticosteroid that used by patients

In the figure below we show the type of drug that used with height percentage was (22%) for dexamethasone and less than this percentage (17%) for patient that take prednisolone then (11%) patient that take decahedron follow by (10%)s patient that take betamethasone as shown in Figure (2).

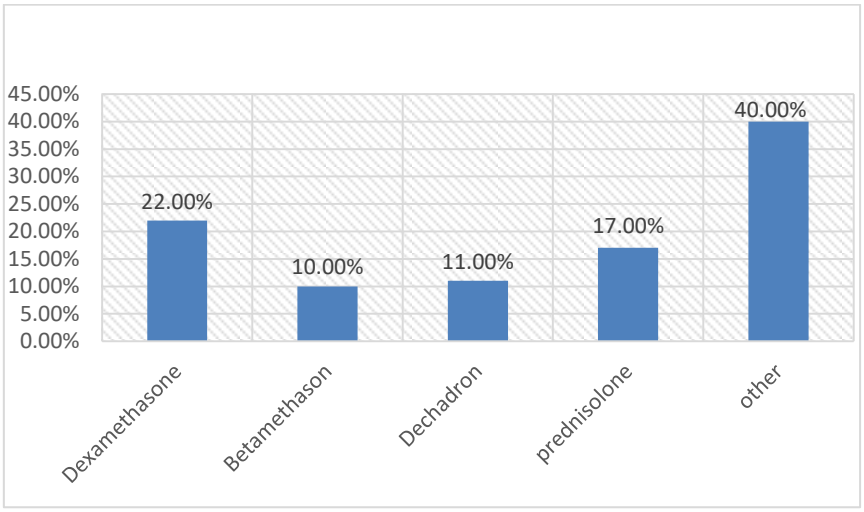

Figure (2): The type of corticosteroid that used

The side effects with high percentage(25%) for patient that suffer from different side effect and less of them for patient that suffer from increase in weight(20%) then (15%) for patient that suffer from headache and the same percentage(10%) for patient that suffer from dizziness and gastric irritation follow (8%) for patient that suffer from sleep problem and less from that (7%) patient that suffer from diarrhea and constipation then lowest percentage(5%) for patient that suffer from lack of clarity of vision as shown in Figure (3).

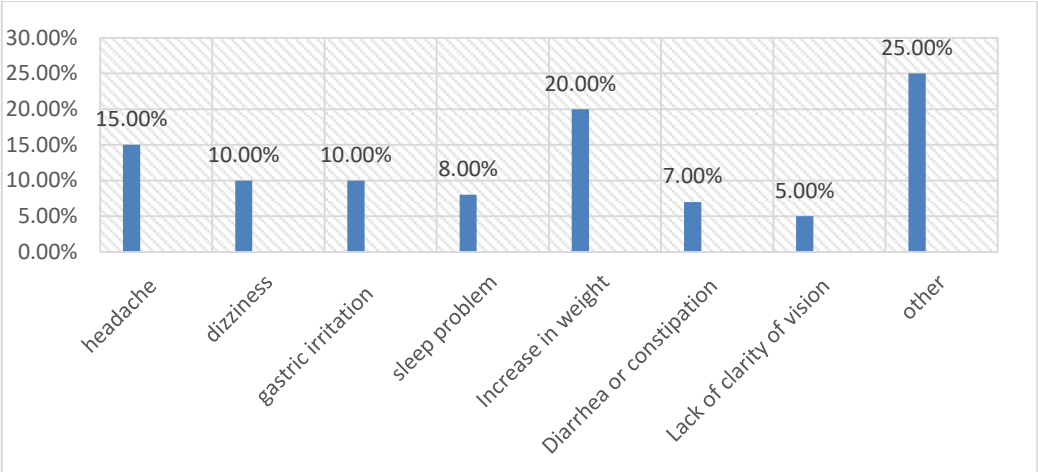

Figure (3): The side effects of corticosteroid

The rout of administration of corticosteroid rang from (30%) of patient take drug as a tablet and less than that percentage (18%) patient that take drug as a cream and less than this percentage (17%) patient that take drug as ointment and less than this (15%) patient that take it as a injection and the same percentage (8%) for patient that take drug as a capsule and inhalation and low percentage is (4%) as shown in Figure (4).

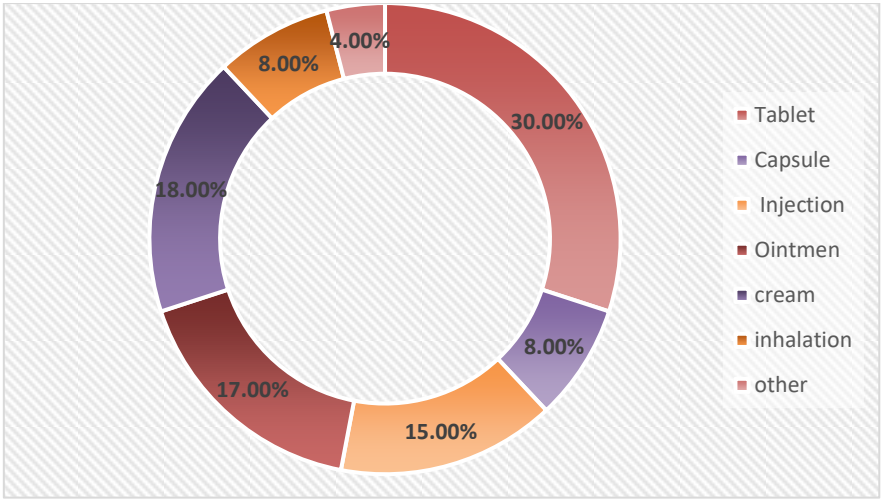

Figure (4): The rout of administration of corticosteroid

Discussion

The drug despite its class-could be easily purchased in Iraq pharmacies without a prescription. Unfortunately, different types of corticosteroid offer without prescription in different countries. The main finding of our study that the people had Lack of awareness about corticosteroids warnings and side effects. The majority of people are used corticosteroids to dermatological diseases at which they used topical corticosteroids in dermatological diseases and this agree with [12 &13]. The majority of participants take drug according to the doctor prescription at 50 % which they used anabolic steroids are prescription-only medications for treating certain health conditions this is agree with [14].

Also the majority of participants at 20% suffer from increase in weight which mean weight gain

was the most commonly reported adverse effect of steroid use by altering the body's electrolyte and water balances, as well as its metabolism the way it uses and stores lipids, amino acids, protein, carbohydrates, and glucose, among other things. These factors contribute to weight gain by causing: increased appetite, fluid retention and
changes in where the body stores fat [15].

An increase in blood pressure and blood sugar after taking corticosteroids drugs that refer to the effect of corticosteroids drugs in an increase in both of them, however The participants don't suffer from an increase in appetite this and fluid retentions and this disagree with [16]. Most of participants stopped drug gradually but also high percentage of them stopped drug suddenly this is disagreeing with [17] which explain that withdrawal of corticosteroids therapy needs tapering over the period because Abrupt cessation of chronic corticosteroids therapy can be dangerous as there is a risk of HPA axis suppression and hence overcome withdrawal symptom sudden decline in immunity that lead to different types of bacterial and fungus infections [18]. The results noticed improvement when using cortisone injection to treat joint this is agree with [19] that refer to the effect of corticosteroids injection can relieve pain caused by an inflamed joint.

Conclusions

Different types of corticosteroids offered in different diseases without any restriction and consequent side effects were very clear. Lack of OTC list could aggravate such problem. It is a serious warning to avoid using these corticosteroids as medications without a prescription, especially for patients with cardiovascular disease such as heart failure because corticosteroids are widely used to manage many acute and chronic inflammatory disorders. The adverse effects of glucocorticoids are extensive and can involve many organ systems. While short-term use of corticosteroids is associated with mild side effects, long-term use can result in several severe adverse effects, some of which are irreversible.

Recommendations

Clinicians shall consider adverse effects and patients' underlying comorbidities before prescribing glucocorticoids and use glucocorticoids judiciously they should use the lowest possible dose for the shortest possible. Patient education is vital in recognizing the adverse effects early. The pharmacists shall alert physicians about possible drug interactions, check dosing and duration, and answer patient questions. Finley must be a OTC list could solve such problems and must be a laws preventing the dispensing of corticosteroids drugs without medical prescription.

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