



## Awareness by Parents to Children on Adverse Effects of Long-term Corticosteroid Therapy

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### DESCRIPTION

Corticosteroids are potent medications used to treat many inflammatory conditions in pediatric neurology practice. Although corticosteroids are beneficial, their adverse effects may be numerous and vary. As parents are the primary caregivers of pediatric patients, assessing their awareness is timely important.

Pediatric neurology or child neurology refers to a special branch of medicine that deals with the management of neurology condition in neonates, infants, children and adolescent. The discipline of pediatric neurology encompasses diseases and disorders of the brain, spinal cord, peripheral nervous system, autonomic system, muscle and blood vessels that effects individual in this age group. Over the past two decades, high-dose of corticosteroids therapy (an approach already used to treat several neurological syndromes such as multiple sclerosis) has been used in various studies in the field of epilepsy in order to avoid the development of adverse effects and maintained long term efficacy. In the USA in 2019, corticosteroids were the most common specific cause for drug-related adverse effects, accounting for 10.3% of all drug related adverse effects.

Most of the neurological conditions among children are more common in clinical practice and are chronic and frustrating to parents. Recent evidence shows that corticosteroids which are synthetic drugs that closely resemble cortisol, a hormone that our body produces naturally, (Prednisolone, Methylprednisolone and Adrenocorticotrophin) have been used extensively to treat many of these neurological conditions (auto immune diseases, epilepsy) due to their anti-inflammatory and structural effects. Furthermore, Global literature reveals that, a major concern related corticosteroid, especially in children and adolescents, is the possible development of adverse effects. The most frequent ones are excessive weight gain, hyperphagia, water retention with oedema, accumulation of fat on the face, hypertension, behavioural disturbances, increased infection susceptibility, electrolyte disturbances, hyperglycemia, glycosuria, impaired glucose tolerance, frank diabetes, and sleep disorders.

Furthermore, long term adverse effects such as hypothalamus-pituitary axis suppression, psychosis, osteoporosis, nephrocalcinosis, brain atrophy, cataracts and in children growth retardation, have also been reported.

Prolong use (more than six month) of high doses of corticosteroids are associated with number of adverse effects; affecting various systems of the body such as immune, musculoskeletal. According to the study done in Italy on Topical Steroids (TCS) it reveals that Topical Corticosteroids (TCS) phobia is widespread among Italian families of children with Atopic dermatitis. Fear of TCS is associated with fear of applying too much cream, thus increasing the risk of poor compliance and treatment failure. Children are more vulnerable to those adverse effects than adult and therefore especial attention and care is needed to prevent adverse effects among pediatric neurology patients. Lack of parental awareness of adverse effects and their preventive measures may significantly attribute to limiting the success of preventing adverse effects of long-term corticosteroid therapy among pediatric neurology population and also lead to discontinuation of therapy. Corticosteroids usage prevalence in pediatric neurology population in neurology unit Lady Ridgeway Hospital (LRH) has increase significantly due to their therapeutic effect on some neurological conditions. This situation emphasizes the growing need of prevention of adverse effects of these potent medications while sparing the benefit of the treatment. Parental awareness plays a major role in identifying and prevention of such adverse events. Therefore, this study is attempted explore parental awareness of adverse effects and prevention of long-term corticosteroid therapy among pediatric neurology patients in neurology unit at LRH.

This therapy cannot be replaced by any other. Usually, long term treatment with corticosteroids benefits outweighs the adverse effects, with time. However, complication of therapy may become burden for the children. In most cases, unable to give up treatment with long term corticosteroids and for that reason it is not possible to avoid the adverse effects. However, with increasing parental awareness of corticosteroid adverse effects

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and proper prevention methods they can be minimize or prevent. According to the findings of study conducted in LRH Neurology Unit overall parental awareness of adverse effects are

poor and preventive awareness of adverse effects of long-term corticosteroid therapy are good.