

CORTICOSTEROID USE: PRACTICES AND ATTITUDES OF PEDIATRICIANS

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BACKGROUND

Synthetic corticosteroids are medications frequently prescribed for a wide range of medical indications.

Various preparations differ in their biological effect, mode of administration, potency and duration of action.

Comprehensive knowledge is essential in order to prescribe corticosteroids in an efficient, yet safe manner.

AIMS

- To explore pediatricians' practices, attitudes and proficiency in corticosteroid administration
- To determine whether these parameters differ between general pediatricians and subspecialists

STUDY DESIGN, PARTICIPANTS & METHODS

Design: Cross-sectional, web-based survey

Participants: Israeli board-certified pediatricians, nationally representative sample

Stratification:

- General pediatricians
- Pediatric subspecialists
- Pediatric endocrinologists

Recruitment: Multiple email invitations and in-person surveys at conferences

Generation of Corticosteroids Survey:

- In accordance with recommended survey methodology
- Items developed through literature reviews and in-depth interviews with pediatricians from different disciplines
- Quality assurance - the survey was administered to 5 pediatricians for further revisions prior to survey distribution

Survey domains:

- Demographics, 9 items
- Steroid prescription, 8 items
- Steroid knowledge and beliefs, 14 items

Survey scores:

subscores - 'corticosteroid potency and half life' maximum score of 7, 'tapering-down' and 'stress dose' each maximum score of 6, maximum total score of 19

Survey tool: Survey Monkey software

Survey validity: Cronbach's α coefficient = 0.76 (domain B), α = 0.83 (domain C)

RESULTS

Respondents:

- 349 pediatricians (45.8% males) completed the survey
- 76.5% studied medicine in Israel
- 59% had a subspecialty
- 10.6% were pediatric endocrinologists
- Highly experienced physicians:
 - 58% had >10 years of pediatric clinical experience
 - 57.7% treat on average more than 60 patients/week

Steroid prescription:

- 47.5% estimated they prescribed corticosteroids to 10-30% of their patients and 7.5% to over 30% of their patients

Tapering-off of steroids:

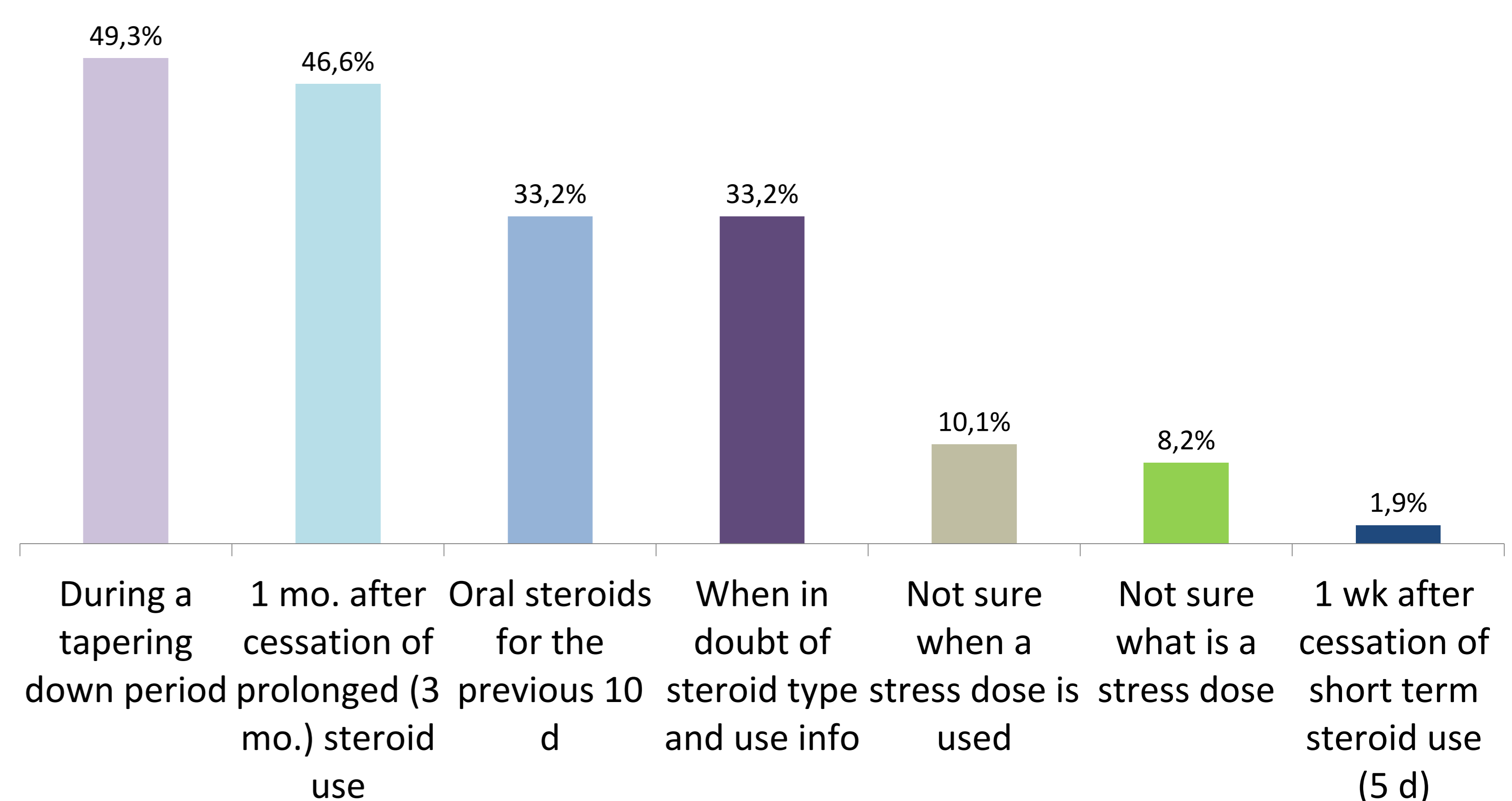
- 4.1% responded 'not sure' when 'tapering of' steroids is required

Stress dose:

- 8.3% responded 'not sure' what 'stress dose' refers to
- 10.1% responded 'not sure' when stress dose is required

Which of the following scenarios requires a stress dose administration?

Respondents chose 1 or more answers



VARIABLES ASSOCIATED WITH CORTICOSTEROID PROFICIENCY

Parameter	B	SE	95% Wald Confidence Interval		P
			Lower	Upper	
Age (reference, <30 y)					
30-50 y	0.650	1.538	-2.364	3.665	0.672
50-67 y	0.839	1.765	-2.619	4.297	0.634
> 67 y	-0.786	1.929	-4.567	2.994	0.683
Sex (reference, male)					
Female	-0.435	0.444	-1.305	0.435	0.327
Medical school (reference, Israel)					
Abroad	-1.059	0.503	-2.044	-0.074	0.035
Years in pediatric practice (reference, < 5 y)					
5-10 y	1.548	0.695	0.185	2.911	0.026
10-20 y	0.690	0.725	-0.732	2.111	0.342
> 20 y	0.079	1.065	-2.010	2.167	0.941
Medical training (reference, general pediatrics)					
Pediatric endocrinology	2.271	1.060	0.193	4.350	0.032
Other pediatric subspecialties	-0.183	0.831	-1.811	1.445	0.826
Medical practice (reference, general pediatrics only)					
General pediatrics & subspecialty	2.023	0.823	0.411	3.636	0.014
Subspecialty only	1.909	0.9319	0.083	3.736	0.041

Regression coefficients are unstandardized

Pediatric endocrinologists scored higher on all knowledge-based items compared to general pediatricians and other subspecialists:

- mean total score: 11.3 ± 2.5 vs. 7.9 ± 2.6 vs. 7.0 ± 2.7 ($P < 0.001$)
- and in each of the subscores ($P < 0.001$)

Overall, 96.2% of respondents felt it would be helpful to participate in continued medical education sessions.

CONCLUSIONS

Substantial practice gaps exist between pediatric endocrinologists, general pediatricians and other subspecialists in both corticosteroid prescription practice and knowledge.

Continued medical education programs on the topic of corticosteroids are warranted to improve clinician competence and performance and patient outcomes.

