VITAMIN D PREPARATIONS: WHAT'S IN THE BOTTLE?

Aims The UK incidence of vitamin D prescribing in children has increased by 26-fold in recent years. Public Health England recommends that children over 1 year take a daily vitamin D supplement. But the availability of over 200 different vitamin D products can be confusing for parents and clinicians. Our study aimed to assess the usage of licensed and unlicensed vitamin D only (VDO) preparations across primary care in England, and to compare measured and labelled vitamin D content of VDO preparations marketed in England.

Methods
- Analysis of the vitamin D content of randomly selected VDO preparations using reversed-phase high performance liquid chromatography.
- Retrospective trend analysis of prescription reimbursement data for VDO prescriptions from 2008 to 2018.

Results Licensed and unlicensed VDO preparations were available in a wide range of dose strengths from 400 to 50,000 IU. The number of licensed VDO preparations increased from 4 to 32 between 2008 and 2018, along with an increase in the proportion of VDO prescriptions fulfilled by licensed preparations. However, prescriptions of unlicensed preparations remained high and accounted for 42% of the prescription items in 2018. The 11 unlicensed preparations analysed had vitamin D concentrations ranging from 41.2 ± 10.6% to 165.3 ± 17.8% of the declared content, with only one meeting the acceptable criteria of 90–125%. The 2 licensed preparations met the required standards. There was no association between the preparation dose strength and the magnitude of percentage difference between measured and labelled contents (r=0.41, p =0.17). Unlicensed liquid preparations in dropper bottles showed the greatest inter-sample variability suggesting there may be a lack of uniformity in drop volume delivered which could lead to dose variability.

Conclusion Despite the increasing availability of licensed preparations with assured quality, use of unlicensed preparations to fulfil VDO prescriptions has continued in primary care in England. Unlicensed VDO preparations marketed showed wide variations between measured and declared vitamin D contents. Younger children who are more vulnerable to harm are thus exposed to unnecessary risks of under- and over-supplementation.
G539(P) ARE WE REQUESTING TOO MANY STOOL CULTURES IN PAEDIATRICS? AN EXPERIENCE FROM PRIMARY AND SECONDARY CARE

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\textbf{Aims} Finding the causative organism does not usually change the management of acute infective gastroenteritis, hence investigations such as stool culture should only be performed in selective cases. We intended to find if General Practitioners and Paediatricians were requesting stool cultures appropriately as recommended by the NICE guidelines for the diagnosis and management of diarrhoea and vomiting caused by gastroenteritis in children under 5. The guidelines recommend the performance or consideration of performance of stool microbiological investigations in specific cases, for instance in the presence of blood and/or mucous in stool.

\textbf{Methods} Data was collected retrospectively from children under 5 years of age who had stool cultures performed over a period of 6 months (May 2018 to October 2018) in their local hospital or GP practice. The list of patients was provided by the laboratory and the information about the clinical indications and results was collected via the Information Technology system shared between primary and secondary care. The information about management was obtained from GP surgeries and hospital records.

\textbf{Results} A total of 334 stool samples (GP practices=260 and Hospital=74) were sent for culture. The requests were inappropriate for the majority of patients with an overall of 58% (62% in community vs. 45% in hospital). Bacterial growths were observed in 7 samples (3 salmonella and 4 campylobacter). From all the appropriate requests (139), 4.3% were positive for bacterial growth and 0.7% were treated with antibiotic therapy. From the inappropriately requested samples (195), 0.5% were positive for bacterial growth with no patient receiving antibiotic treatment.

\textbf{Conclusion} A significant number of stool culture requests by primary and secondary care did not follow the NICE recommendations. Inappropriate requests were more prevalent in primary than secondary care. There is a scope to investigate the reason for this difference. The probability of diagnosing a bacterial growth in a stool culture was significantly increased by approximately 8 times where recommendations were followed. Requesting investigations appropriately would also decrease unnecessary workload and reduce the burden on NHS finances.