Audit of Vitamin D prescription for 6 week old Infants

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AIMS

1. To discover if infants consume Vitamin D supplements in accordance with HSE 2010 guidelines.
2. To determine if GPs and Nurses are aware of Infant Vitamin D Supplementation Guidelines and if they advise parents in this matter.

INTRODUCTION

Vitamin D plays an important role in intestinal calcium absorption. It is available by synthesis in the skin by the action of UVB light and from limited dietary sources.

Deficiencies of Vitamin D can cause osteomalacia, rickets and future osteoporosis [1]. Recent resurgences of rickets in developed countries[2,3], have resulted in the development of Vitamin D supplementation guidelines[4-7]. 20 cases of Rickets were described in Dublin Children Hospitals from 2001-2006. Specific Risk groups for deficiencies include dark-skinned individuals and babies breastfed > 6 months. The HSE advise supplementation for the first 12 months for all Irish infants due to our limited sun exposure, inadequacy of UVB rays at our latitude and limited infant dietary sources[7].

This project intended to establish if health professionals were aware of guidelines in this area and to audit if infants are prescribed vitamin D supplements in accordance with national guidelines.

METHODS

An audit was performed on the records of 6 Week Checks for all infants born after 31/5/2010 in the 3 General Practices of a Primary Healthcare Centre.

• Audit Criteria:

•Each chart was examined for evidence of records in each of the following areas:

Feeding Type at 6 weeks	Ethnicity
Birth Order	Vitamin D Supplementation
Quantity of Vitamin D	Recorded Vitamin D Advice

•The inclusion criteria for the audit were Infants born after 31/5/2010 and record of the type of feeding at 6 weeks,

•The exclusion criteria were infants born before the implementation of HSE Guidelines and infants with no record of their type of feeding at 6 weeks.

•30 Supplemental Questionnaires were provided to Practice Nurses (PN) and GPs who see parents at infant 6 week checks and to Public Health Nurses (PHN) to gauge their knowledge of Vitamin D Guidelines.

•Expedited ethical approval was granted from the CREC of Cork Teaching Hospitals.

•PASW-18 was used for chart construction and crosstab analysis.

RESULTS

AUDIT

•133 infant charts were audited.

•**No** Infant chart recorded vitamin D supplementation or advice given to parents.

•**Ethnicity**: White Irish- 85.7%, European- 7.5%, Black- 4.5%, Unknown-2.3%

•**Birth Order:** was difficult to establish in 2 of the 3 practices due to the style of patient records.

•**Feeding Type**: Breastfed- 24.1%, Bottle-fed- 67.7%, Breast and Bottle-fed- 8.3%.

No relationship existed between infant ethnicity, birth order or the type of feeding and the prescription of Vitamin D or advice given to parents about it.

QUESTIONNAIRE

•20/30 questionnaires were returned- 15 from Doctors and 5 from Nurses equalling a response rate of 66.67%.

•Vitamin D Supplementation was advised Never- 10%, Rarely- 10%, Sometimes 45% and Always-35%.

•Reasons for not advising Vitamin D included: No experience of doing so, believing that milk is adequate, individual needs of babies, only recent guidelines.

•Reasons for advising Vitamin D included: Guidelines (70%) and/or individual needs of babies (30%)

•70% were aware of Vitamin D Infant Supplementation Guidelines.

•Within practices awareness of guidelines varied from 50% - 100% of healthcare professionals.

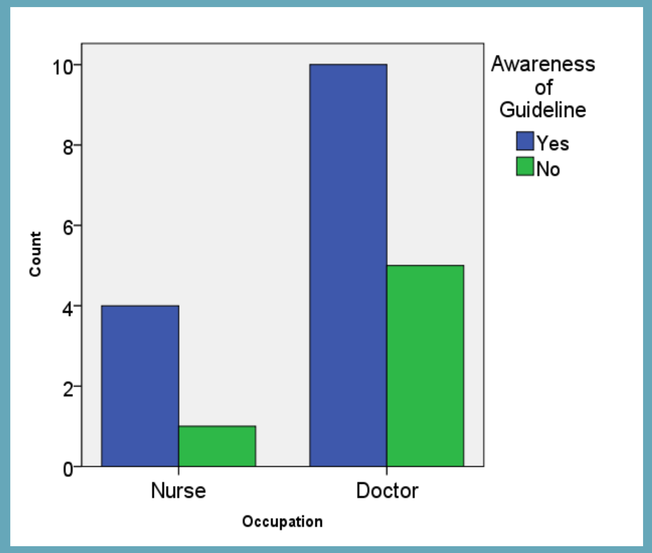


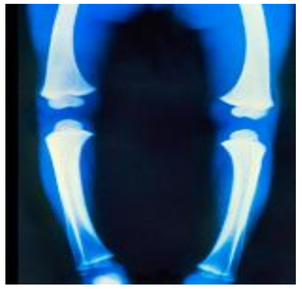
Figure 1: Awareness of Vitamin D Supplement Guidelines according Occupation

DISCUSSION

The aims of this project were to establish if infants are receiving Vitamin D supplements as per HSE Guidelines and whether General Practice staff are aware of the guidelines and if they are advising parents about this matter. The results of the audit indicate that neither of these is occurs.

Vitamin D is not supplemented as per HSE recommendations. No 6 week check indicated that vitamin D supplements were consumed or advised. Doctors say they advise the supplement in accordance with guidelines and or the individual infant. There is no evidence from this audit that supports this. Not even at risk groups such as dark skinned infants are being targeted for Vitamin D supplementation. This raises concerns about the possibility of future Rickets and other deficiency conditions in this population[1].

Most but not all GPs and Practice Nurses are aware of the HSE Guidelines. In contrast to this all Public Health Nurses are aware of them. Further education of General Practice staff in this area would increase awareness of the guidelines. Parents may receive inconsistent messages because of the disparity of knowledge that exists between GP settings and PHNs. An educational campaign in this area may help remind GPs of the importance of Vitamin D and explain why this new initiative has been implemented.



80% of respondents sometimes or always advised vitamin D but this was not reflected in the chart audit. This illustrates how detailed record keeping of consultations including of advice given is necessary for audit and research purposes to monitor the success of these guidelines and possibly the health outcomes for these infants.[7]

Limitations: Vitamin D is available over the counter and is not covered under GMS thus parents could be administering Vitamin D to their infants without the knowledge of their GP. Questioning parents directly would clarify this matter.

The inclusion of Ethnicity as an audit criteria was deemed to be an important item but not all patient records included explicit ethnic record.

The sample size was small thus a larger size may have produced different results.

CONCLUSIONS

HSE guidelines for Vitamin D supplementation of infants are not known by all staff who perform 6 week checks. If advice is given about vitamin D it is not recorded in patient notes.

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