

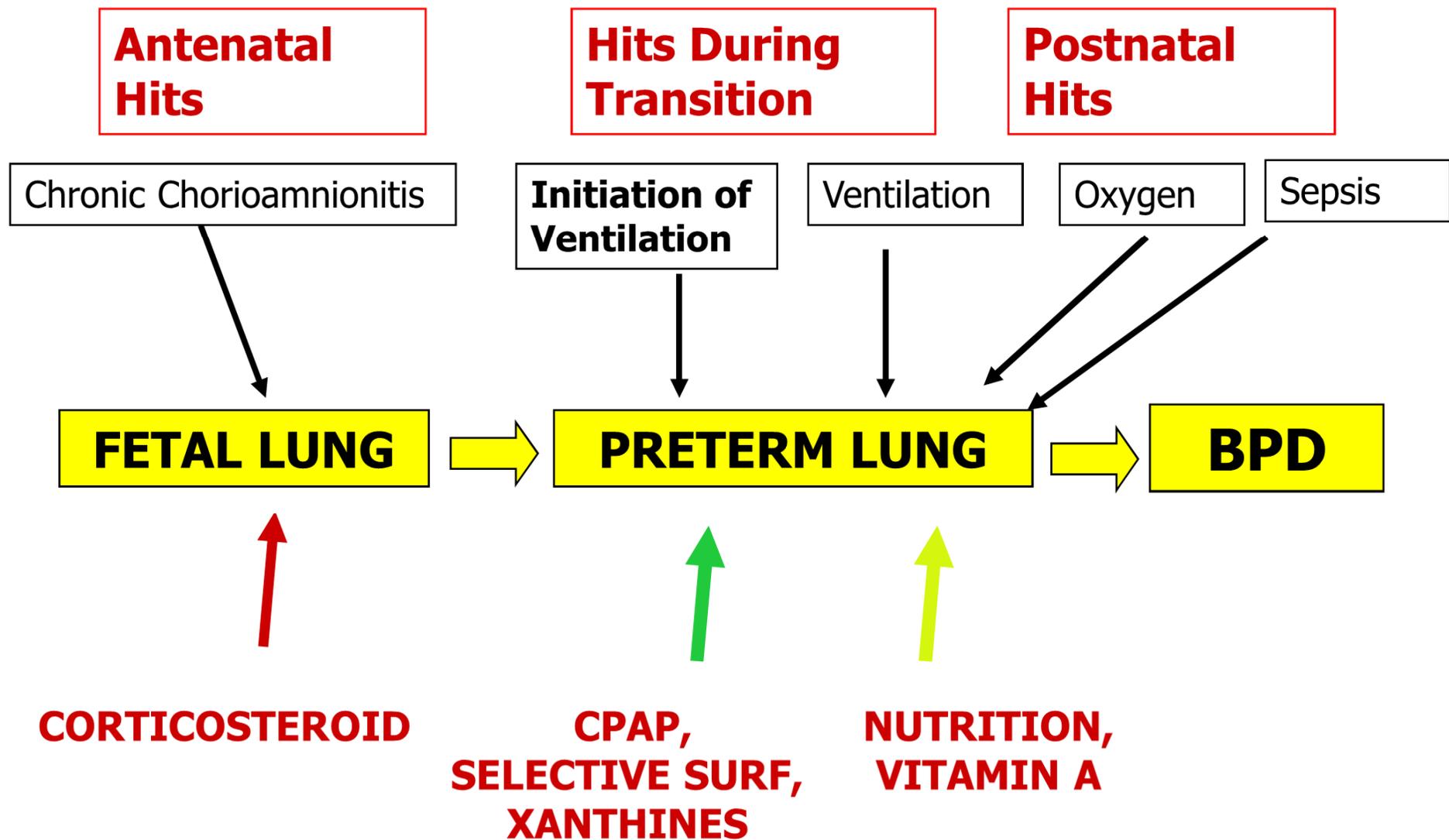
# **VITAMIN A SUPPLEMENTATION FOR PREVENTION OF BRONCHOPULMONARY DYSPLASIA**

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DR. VU THI MAI UYEN







# Vitamin A

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- Involved in the regulation of lung development and injury repair.
- Low levels associated with increased BPD.



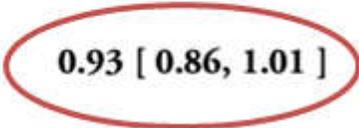
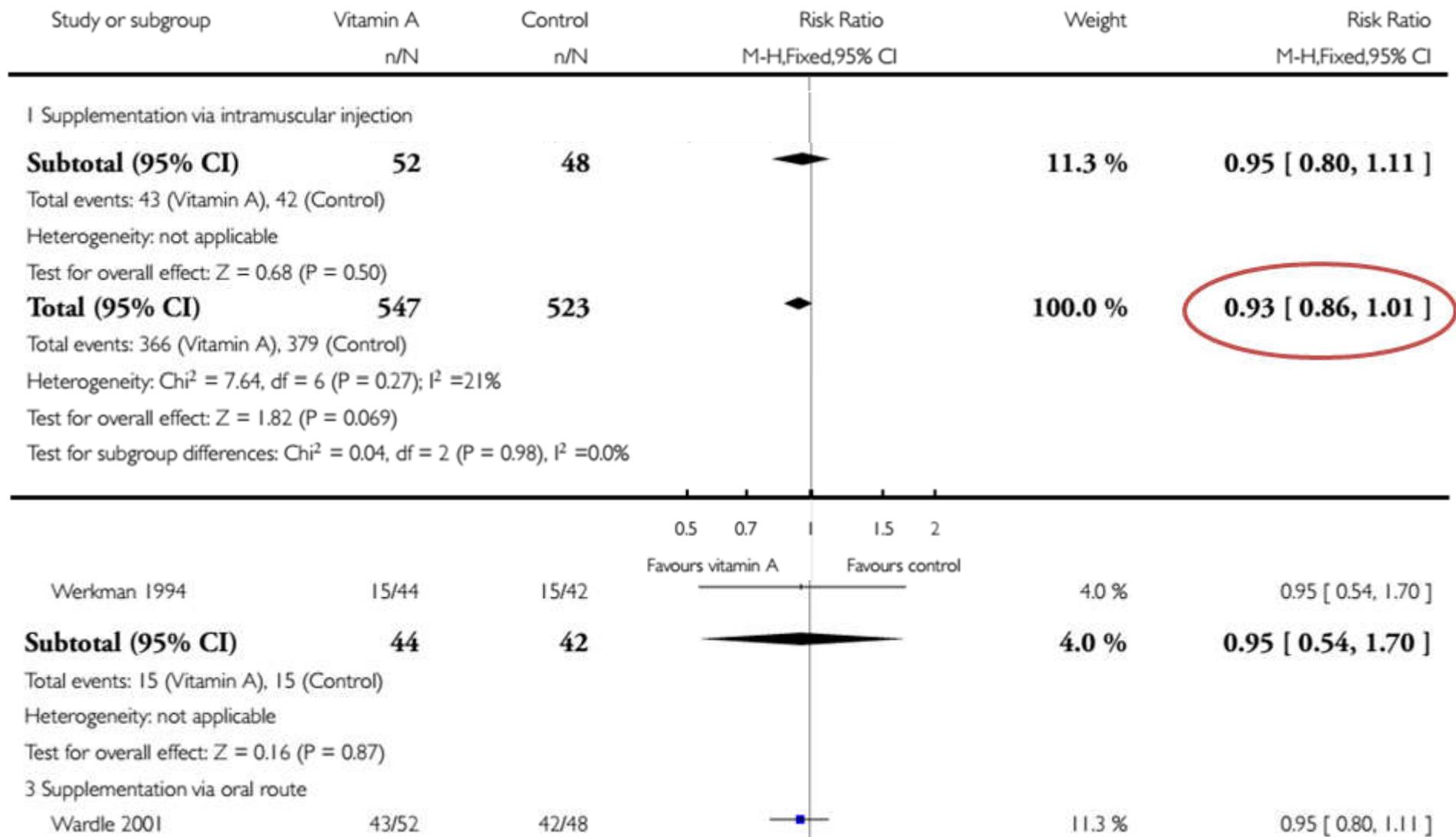
# **Vitamin A supplementation to prevent mortality and short- and long-term morbidity in very low birthweight infants (Review)**

Darlow BA, Graham PJ

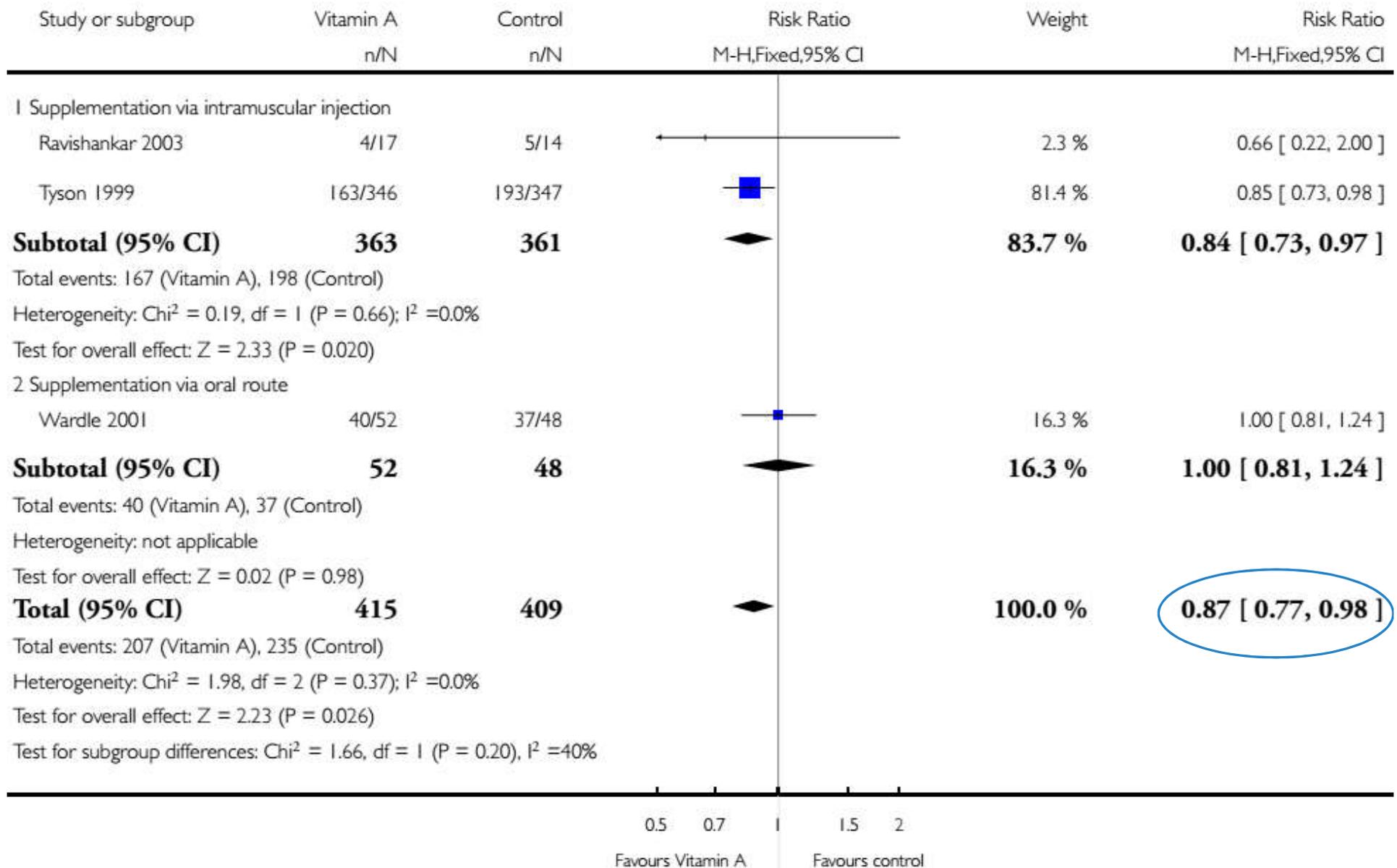


**THE COCHRANE  
COLLABORATION®**

**Analysis 1.2. Comparison 1 Supplemental vitamin A vs no supplementation, Outcome 2 Chronic lung disease (oxygen use at 1 month in survivors).**



**Analysis 1.5. Comparison 1 Supplemental vitamin A vs no supplementation, Outcome 5 Chronic lung disease (oxygen use at 36 weeks' postmenstrual age in survivors).**



## Vitamin A Supplementation for Extremely Low Birth Weight Infants: Outcome at 18 to 22 Months

**TABLE 2.** NDI or Death Among Vitamin A Trial Participants by Treatment Group

Outcome*	Vitamin A Group	Control Group	Adjusted RR Vitamin A Versus Control (95% CI)†	P Value‡
Death, <i>n/N</i> (%)	73/405 (18)	76/402 (19)	0.95 (0.69–1.28)	.8
NDI in survivors, <i>n/N</i> (%)	117/272 (43)	128/266 (48)	0.90 (0.73–1.08)	.3
NDI/death, <i>n/N</i> (%)	190/345 (55)	204/342 (60)	0.94 (0.80–1.07)	.3

→ Long-term follow-up of infants at 18–22 months could not demonstrate any improvement in mortality, neurodevelopmental impairment, or respiratory outcomes from treatment with Vitamin A.

**Vitamin A supplementation to prevent mortality and short-  
and long-term morbidity in very low birthweight infants  
(Review)**

**Conclusion:** Whether clinicians decide to utilize repeat intramuscular doses of vitamin A to prevent chronic lung disease may depend upon the local incidence of this outcome and the value attached to achieving a modest reduction in this outcome, balanced against the lack of other proven benefits and the acceptability of treatment. Information on long-term neurodevelopmental status suggests no evidence of either benefit or harm from the intervention.

## Vitamin A Status After Prophylactic Intramuscular Vitamin A Supplementation in Extremely Low Birth Weight Infants

**Table 2.** Clinical Outcome of Extremely Low Birth Weight Infants in the Vitamin A–Supplemented (VAS) and Unsupplemented (No-VAS) Groups.

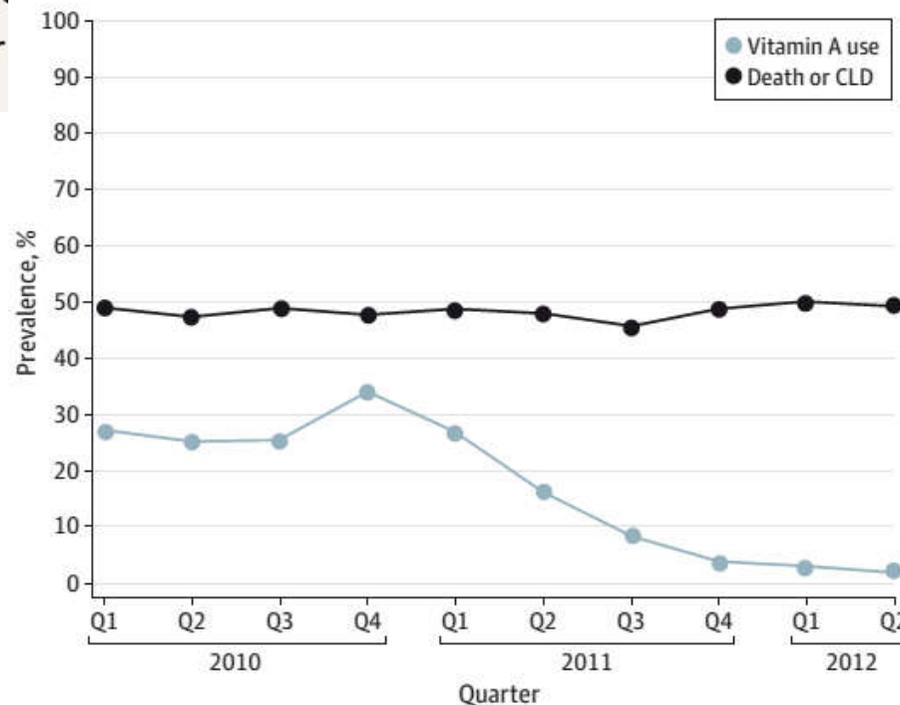
Characteristics	VAS	No-VAS	<i>P</i> Value
BPD, No. (%)	15 (42.8)	15 (46.8)	.80
Died <36 wk GA, No. (%)	1 (2.8)	2 (6.2)	.60
Died at any time, No. (%)	2 (5.7)	3 (9.3)	.30

# The Effect of the National Shortage of Vitamin A on Death or Chronic Lung Disease in Extremely Low-Birth-Weight Infants

**DESIGN, SETTING, AND PARTICIPANTS** Retrospective cohort study of 7925 infants with birth weights between 401 and 1000 g who were cared for in US neonatal intensive care units managed by the Pediatrix Medical Group. Infants were discharged between January 1, 2010,

**CONCLUSIONS AND RELEVANCE** Vitamin A supplementation was unaffected by the recession and remains an important risk factor

Figure. Prevalence of Vitamin A Supplementation and Death or Chronic Lung Disease During the Study Period



disease appears to be an important risk factor for death or chronic lung disease appears to be an

# The Effect of the National Shortage of Vitamin A on Death or Chronic Lung Disease in Extremely Low-Birth-Weight Infants

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**DESIGN, SETTING, AND PARTICIPANTS** Retrospective cohort study of 7925 infants with birth weights between 401 and 1000 g who were cared for in US neonatal intensive care units managed by the Pediatrix Medical Group. Infants were discharged between January 1, 2010,

**CONCLUSIONS AND RELEVANCE** The occurrence of death or chronic lung disease appears unaffected by the recent shortage of vitamin A. However, the center of birth appears to be an important risk factor for these infants' outcomes.

# Vitamin A Supplementation for Prevention of Bronchopulmonary Dysplasia: Cornerstone of Care or Futile Therapy?

Annals of Pharmacotherapy

1-5

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This large observational evaluation calls into question the place of vitamin A in BPD prevention. **Conclusions:** VAS has been identified as a strategy to decrease the incidence of BPD. Initial large-scale prospective evaluations have shown clear benefit of VAS in reducing the incidence of CLD or death. However, changing definitions of BPD and implementation of noninvasive

# Route & dosage

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- Mostly IM.
- 2000 IU IM every other day for 28 days.
- 5000 IU IM 3 times weekly for 4 weeks.

# Conclusions

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- BPD still remains a very important complication of neonatal intensive care.
- Vitamin A have been shown to reduce the incidence of BPD.
- Little is known about the optimal intake or the mode of VA delivery in preterm infants, especially in ELBW babies.