

Effect of calcium and vitamin D on growth, rickets and Kashin Beck disease in a 0-5 year old cohort living in rural area of Central Tibet.

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Preliminary data:

- Lhasa prefecture: endemic area for Kashin-Beck Disease (KBD)
- High prevalence of clinical rickets (up to 65%)
- Very low intake of calcium and vitamin D (less than 50% of the Dietary Reference Intake)



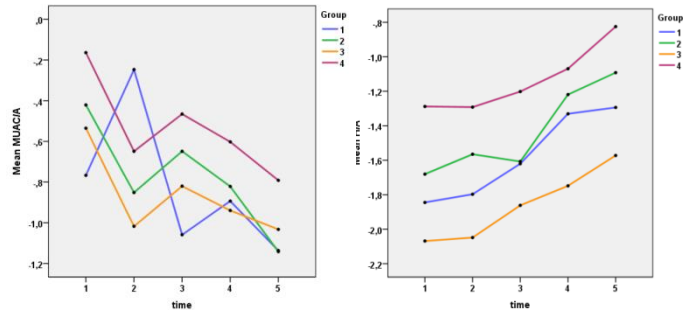
Methodology:

- Prospective study from January 2010 to January 2013
- 4 groups in 4 different places, not randomized
- Ca: oral carbonate calcium, 1500 mg daily
- Vitamin D: oral solution, 25000UI monthly
- Yearly follow up of clinical and anthropometric data

	Income T ₀	12 months T ₁	24 months T ₂	36 months T ₃	Supplement
Group 1	59	56	53	53	Vitamin D + Ca
Group 2	40	39	37	37	None
Group 3	55	44	46	44	Calcium
Group 4	53	48	46	45	Vitamin D
Total	207	187	182	180	

Results on growth, rickets and KBD:

- No impact of the supplement
- Strong effect of the time
- Improving of height for age, prevalence of KBD
- Worsening of the weight for age and height, skin folds, brachial circumference and rickets



Results on dental health:

- No difference between the 4 groups on January 2010
- After three years, children with more than two carries, represent 4% of the group Ca - Vit D, 48% of the group control, 28% of the group Ca and 20% of the group Vit D

Conclusions and perspectives:

- Global supplement of calcium and vitamin D for the target population thanks to dental impact
- Increase total energy intake to improve growth and rickets
- KBD fund programs have to continue: global positive impact

