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Title: Dietary supplementation of thiamine and pyridoxine-loaded vanillic acid-grafted chitosan microspheres enhances growth performance, metabolic and immune responses in experimental rats

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**Dietary supplementation of thiamine and pyridoxine-loaded vanillic acid-grafted chitosan microspheres enhances growth performance, metabolic and immune responses in experimental rats**

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### Highlights

- Thiamine and pyridoxine loaded vanillic acid-grafted chitosan microspheres (TPVGC) was synthesized and effect on growth, metabolic and immune responses in Wistar strain albino rats was studied.
- Rats supplemented with TPVGC had higher weight gain %, higher specific growth rate, lower blood glucose level and higher respiratory burst activity.
- Activity of metabolic enzymes and antioxidant enzymes were observed to decrease with a gradual increase in the inclusion level of TPVGC in the diet.
- The dietary supplementation of thiamine and pyridoxine loaded vanillic acid-grafted chitosan enhanced the growth performance, metabolic and immune responses in the animal-model.

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