



Promoting introduction of peanut in the first year using an SMS- and smartphone-based application (SmartStartAllergy)

A randomised controlled trial

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Background

- ASCIA Guidelines for infant feeding and allergy prevention recommend introducing peanut and other common food allergens before 12 months of age¹.
- **SmartStartAllergy (SSA)** is a novel SMS and smartphone-based application² implemented in collaboration with general practices to promote Guideline recommendations by **delivering health promotion messages** to parents via SMS when their child is 6 and 9 months old.
- SSA also **monitors allergen introduction and parent-reported allergic reactions** via web-based questionnaires when babies are 6, 9 and 12 months old.

Aim: To determine if delivering targeted health promotion messages to parents using SmartStartAllergy (intervention) increases the proportion of children eating peanut by 12 months of age (primary outcome)

Methods

- We conducted a **randomised controlled trial across 28 WA general practices**.
- Eligible participants were parents of 6-month-old infants who attended one of the practices between September 2018 and September 2020
- Participants were randomised 4:1 to intervention or control.
- The intervention group received SMSs when their child was 6, 9 and 12 months old asking whether their child has eaten peanut. If the parent answered "no", an SMS was sent with a link to online resources (**Figure 1**).
- Control participants received SMS at the 12-month timepoint only.
- A questionnaire, accessed via link from SMS, collects additional information about infant feeding and food allergy.
- The Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) was determined for postcode as a proxy for the socioeconomic status (SES) of participants.
- Chi-squared test was used to assess the primary outcome.
- Sensitivity analyses addressed bias from higher completion rates in the intervention group amongst those who had already eaten peanut at 6 months.

Figure 1: SMS sent to SSA intervention group

SAMPLE MEDICAL CENTRE.
Food allergy is increasing in infants and we are trying to understand why. Please help us with a few simple questions. Has Alexis started eating solid food? Please reply with 'Y' for Yes, 'N' for No or 'STOP' to opt out

Y

Great! Has Alexis eaten foods with peanut? Again please just reply with 'Y' or 'N'

N

Thanks for your response! Allergy prevention guidelines suggest giving peanut paste before 12 months. See www.preventallergies.org.au or speak to your GP

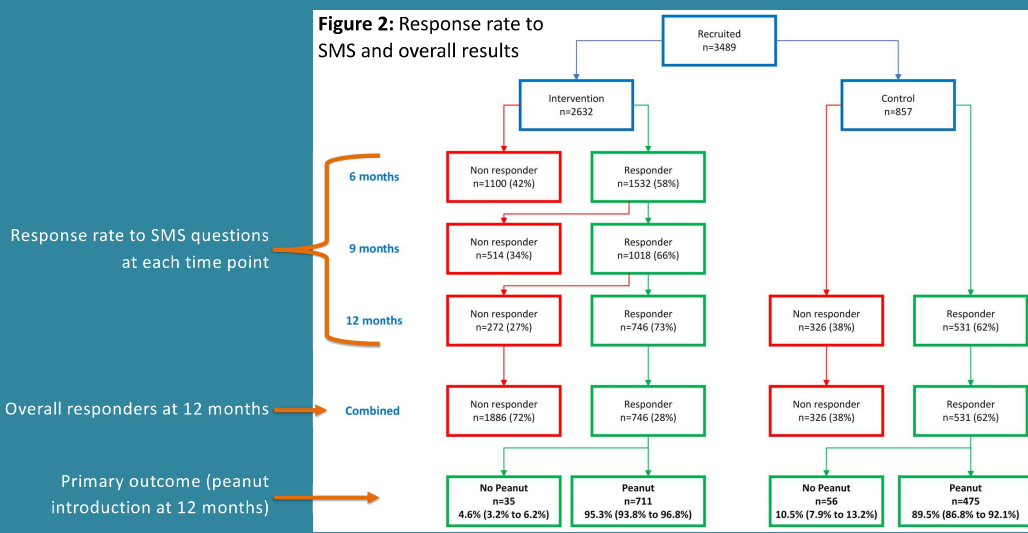
Has Alexis had an allergic reaction to any foods? Please reply Y or N

Y

To help allergy research please tell us more about Alexis by clicking here (max 3 mins) <https://alg.smartvax.com.au/?id>

Results:

- Parents of 3489 infants were invited to participate; 2063 (59%) responded to at least one SMS.
- Proxy measures for SES of participants were similar between intervention and control groups.
- Amongst responders at 12 months, **a greater proportion of infants had eaten peanut in the intervention group compared to the control group** (711/746 [95.3%, 95% confidence interval 93.8–96.8%] vs 475/531 [89.5%, 95% CI 86.8–92.1%]; p<0.001 – Figure 2).
- The difference remained significant after adjusting for the higher completion rate at the 12-month timepoint amongst those in the intervention group who had introduced peanut before 6 months



Conclusion: Parents who engaged with SSA and received health promotion messages when their child was 9 months of age were more likely to introduce peanut by 12 months of age than parents receiving standard care. **SSA is an efficient, effective and scalable platform to support infant feeding and allergy prevention in collaboration with GPs.**

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References

1. <https://www.allergy.org.au/hp/papers/infant-feeding-and-allergy-prevention>
2. O'Sullivan M, Vale S et al. SmartStartAllergy: a novel tool for monitoring food allergen introduction in infants. Med J Aust 2020;212(6):271-5.