

BMJ Open Healthy Start vitamins—a missed opportunity: findings of a multimethod study

Alison McFadden,¹ Josephine M Green,² Jenny McLeish,³ Felicia McCormick,² Victoria Williams,⁴ Mary J Renfrew¹

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¹College of Medicine, Dentistry and Nursing, University of Dundee, Dundee, UK

²Department of Health Sciences, University of York, York, UK

³Freelance, Tunbridge Wells, UK

⁴Food Matters, Brighton, UK

Correspondence to

Dr Alison McFadden;
a.m.mcfadden@dundee.ac.uk

ABSTRACT

Objective: To evaluate and provide a real-life view of the operation of the Healthy Start vitamins scheme.

Setting: The study took place in primary care and community settings that served rural, urban and ethnically diverse populations, in two sentinel sites: London, and Yorkshire and the Humber. An online consultation and stakeholder workshops elicited views from across England.

Participants: 669 health and social care practitioners including health visitors, midwives, public health practitioners, general practitioners, paediatricians and support staff participated in focus group discussions (n=49) and an online consultation (n=620). 56 participants representing health and social care practitioners, policymakers, service commissioners, and voluntary and independent sectors took part in stakeholder workshops.

Methods: Three-phase multimethod study comprising focus group discussions, an online consultation and stakeholder workshops. Qualitative data were analysed thematically and quantitative data from the online survey were analysed using descriptive statistics.

Results: Study participants were concerned about the low uptake of Healthy Start vitamin supplements and the consequences of this for health outcomes for women and young children. They experienced Healthy Start vitamin distribution as logistically complex, requiring the time, resources and creative thinking of a range of local and regional practitioners from senior strategists to administrative support workers. In the light of this, many participants argued that moving to universal provision of vitamin supplements would be more cost-effective than the current system.

Conclusions: There is consistency of views of health practitioners that the current targeted system of providing free vitamin supplements for low-income childbearing women and young children via the Healthy Start programme is not fulfilling its potential to address vitamin deficiencies. There is wide professional and voluntary sector support for moving from the current targeted system to provision of free vitamin supplements for all pregnant and new mothers, and children up to their fifth birthday.

INTRODUCTION

To minimise the risk of poor health outcomes, pregnant and breastfeeding women,

Strengths and limitations of this study

- This study included in-depth views of a range of practitioners from different localities serving diverse populations, enabling exploration of issues in specific contexts; thus, we are able to provide a real-life view of the operation of the Healthy Start vitamin scheme.
- Stakeholder workshops enabled us to gain the perspectives of those with national, regional and local responsibility for Healthy Start, and to present recommendations developed through a transparent process and discussed by those with an interest in their implementation.
- This study did not aim to evaluate the impact of Healthy Start on health outcomes for women and young children or to conduct an economic evaluation. Therefore, further research is needed.

and young children in the UK are recommended to take vitamin supplements.^{1–6} Folic acid supplementation starting prior to conception and continuing up until 12 weeks of pregnancy has been shown to reduce the incidence of neural tube defects.⁷ In the UK, vitamin D deficiency in women during pregnancy and lactation is a key concern^{1 8–10} because poor maternal vitamin D status during pregnancy is associated with vitamin D deficiency in infancy.¹ Small amounts of vitamin D can be obtained from foods such as oily fish and fortified margarine; however, dietary sources alone are insufficient and the main source of vitamin D is through the action of sunlight on the skin.¹¹ Although there is no national UK information on the vitamin D status of pregnant and breastfeeding women, several studies in inner city areas with high minority ethnic populations report increased rates of rickets and hypocalcaemic seizures in infancy.^{12–15} Those at highest risk of vitamin D deficiency include pregnant and breastfeeding women, infants and young children under 5 years old, those who have limited skin exposure to summer sunlight,

those with darker skin (ie, South Asian, African, Caribbean or Middle Eastern descent)⁶ and those who are obese.³

Currently, the UK government has a two-pronged policy approach to vitamin supplementation for pregnant and breastfeeding women, and young children. The first comprises universal recommendations that all women receive advice from early pregnancy about the benefits of taking vitamin D (throughout pregnancy and lactation) and folic acid supplements (before conception and during the first 12 weeks of pregnancy).^{4 6} It is recommended that children from 6 months old receive supplements of vitamins A, C and D.⁶ However, there is evidence that these universal recommendations are not being followed by women and that this is contributing to health inequalities.^{10 16} The second policy approach is the targeted provision of free vitamin supplements for women and children from low-income backgrounds through the Healthy Start scheme.

Healthy Start is a statutory means-tested scheme that aims to improve the diets and provide a nutritional safety net for low-income families.¹⁷ Beneficiaries of Healthy Start receive food vouchers and coupons for vitamin supplements. The food vouchers can be exchanged at registered retail outlets for plain fresh/frozen fruit and vegetables, plain cows' milk or infant formula. Registered outlets include all the major supermarkets and many smaller food shops and pharmacies. The claim rate of Healthy Start is about 80% of those eligible and 90% of vouchers are redeemed.

Healthy Start vitamin coupons can be exchanged for women's vitamin tablets (containing folic acid and vitamins C and D) and children's vitamin drops (containing vitamins A, C and D). The responsibility for distributing Healthy Start vitamins rests with clinical commissioning groups/primary care trusts (PCTs), local trusts or Health Boards¹⁸ resulting in variable local arrangements. Some areas provide Healthy Start vitamin supplements via specific health clinics and/or children's centres, while in other areas they are distributed by midwives and health visitors. Consequently, there is confusion among many health practitioners and families about where Healthy Start vitamins can be accessed in the local area.¹⁹ Local National Health Service (NHS) organisations may choose to provide free Healthy Start vitamins to women and children who are not eligible for Healthy Start. However, this has to be funded from existing local NHS budgets. These arrangements make the administration of the scheme difficult due to complex ordering and reimbursement processes, difficulties in maintaining supply and storage, as well as the challenges of making the supplements available for families. At the time of our study, Healthy Start vitamins could also be sold to women and children who were ineligible for Healthy Start. However, from April 2013, the regulations no longer allow the sale of Healthy Start vitamins.

The uptake of Healthy Start vitamins is extremely low among eligible families, and at the time of our study, the

highest rates reported by PCTs (which no longer exist) across England was less than 10%. The low uptake is confirmed by the latest Infant Feeding Survey²⁰ which found that 3% of mothers said they had taken Healthy Start vitamin supplements and a further 3% had taken vitamin D supplements during pregnancy. As vitamin D supplements are readily available for purchase outwith the Healthy Start scheme, this suggests that poor access and availability are not the only causes of low supplementation rates. At stage 3 of the survey (when babies were 8–10 months old), 19% of mothers who were registered with Healthy Start were giving their babies vitamin drops.²⁰ A recent qualitative study suggested that low uptake of Healthy Start vitamins was due to lack of awareness of the importance of vitamin supplements among eligible families and some health professionals, lack of motivation to take vitamin supplements and inaccessibility of Healthy Start vitamins.¹⁹

To make recommendations for how the uptake of Healthy Start vitamins could be increased, a real-life view of the scheme's operation from the perspectives of those on the front line of its implementation is needed. This study aimed to evaluate the current targeted system of providing Healthy Start vitamins to very low-income women and children from the perspectives of healthcare providers and NHS staff with strategic and administrative responsibility for the scheme.

METHODS

This paper reports the views and experiences of health and social care providers, NHS staff, service commissioners, national and local policymakers and advocacy groups, of the provision of Healthy Start vitamins. These findings are drawn from focus group discussions, an online consultation and stakeholder workshops that were part of a multimethod evaluation of the wider Healthy Start programme undertaken in 2011/2012. The views of low-income families and healthcare providers of the wider Healthy Start programme are reported elsewhere.¹⁷ The qualitative work was conducted in Yorkshire and the Humber, and London, chosen because of their large, multiethnic, urban and rural populations. The study was approved by an NHS ethics committee (ref. 11/YH/0272), 12 NHS Trusts and one local authority.

Forty-nine healthcare practitioners attended six focus group discussions in one rural and two inner city localities in Yorkshire and the Humber, and in three inner city localities in London. Purposive sampling was used to achieve a diverse sample of practitioners involved in the management and operation of Healthy Start (see [table 1](#)). Local Healthy Start leads invited 6–10 practitioners involved in operationalising Healthy Start to participate in the focus group discussions. Between 6 and 11 participants attended each group. As participants were recruited by gatekeepers, we do not know how many practitioners refused to participate. However, we

Table 1 Summary of practitioner focus group participant roles

	Yorkshire and the Humber			London			Totals
	1	2	3	1	2	3	
Health visitor	2		1	2	2	2	9
Midwife	1	1	2			2	6
Public health practitioner	1	1	1	1	1	2	7
Dietician			1				1
Infant feeding specialist	1	1				1	3
Support worker/administrator	2		4	1	2	1	10
Early years practitioner	1			1	1		3
Service manager, for example, health visitor co-ordinator, midwifery manager	2	1	1	1			5
Children's centre manager	1	1					2
GP				1			1
Other		1 (Data analyst)		1 (Family nurse)			2
Totals	11	6	10	8	6	8	49

GP, general practitioner.

do know that in London it was reported that it was difficult to recruit midwives because of workloads, and that one general practitioner (GP) who had indicated she would attend gave apologies, again because of workload issues.

The focus group discussions were held in primary healthcare settings and were facilitated by two researchers: one to moderate the discussion (AM or JMG) and the other (JM or FM) to take detailed contemporaneous field notes. The discussions were facilitated using a topic guide based on different aspects of the scheme including general questions about the scheme such as providing information about Healthy Start, eligibility and the application process, and specific questions about Healthy Start vitamins such as knowledge and beliefs about the value and need for vitamin supplements for women and children and barriers to and strategies for improving the uptake of vitamin supplements. The discussions lasted from 40 to 60 min.

Audio-recordings of discussions were listened to by one member of the research team (AM) who added information and illustrative quotes to the field notes which were then reviewed by the two researchers who were present at that group. Analysis was conducted by two researchers and involved reading the notes from each group, identifying common themes and categorising the comments into the main themes based on the study objectives and aspects of the Healthy Start scheme. Each main theme was then organised into subthemes which included descriptive comments, perceptions of barriers and strategies for overcoming the barriers.

For the online consultation, a semistructured web-based questionnaire was developed based on the study aims and objectives and the preliminary findings of the practitioner focus group discussions. The questionnaire contained one section that related to Healthy Start vitamins. This section comprised eight statements that respondents were asked to grade on a five-point Likert

scale of 'strongly agree' to 'strongly disagree'. The statements were drawn from the findings of the practitioner focus groups which had the highest level of consensus and addressed: levels of awareness of the importance of vitamins among practitioners and local families (3 statements); whether Healthy Start vitamins were promoted to eligible families, and if practitioners and local families knew where they could be obtained in the local area (3 statements) and whether participants thought Healthy Start vitamins should be provided for all pregnant women, new mothers and children under 5 years old (2 statements). Open questions asked about barriers, strategies for improvements and examples of good practice related to Healthy Start vitamins.

The web link to the questionnaire was circulated by email to all Regional Directors of Public Health, Regional Local Supervising Authority Midwifery Officers, Professional Associations (Royal College of Midwives, Community Practitioner and Health Visitor Association, Royal College of General Practitioners, Royal College of Paediatrics and Child Health, Royal Society for Public Health) and User-led advocacy organisations, requesting circulation to colleagues, staff and membership of professional associations. The consultation was open for 6 weeks during July and August 2011.

The final number of responses (N=620) exceeded the anticipated number of around 500. Analysis of the data comprised descriptive statistics for the quantitative components (conducted by AM and JMG). Thematic analysis was used for the qualitative responses (conducted by AM and JM).

The 620 respondents included a diverse range of healthcare practitioners, support workers and user representatives from all English health regions (see tables 2 and 3).

Triangulation of thematic analysis of data from the focus groups and open text responses of the online consultation, and descriptive analysis of the quantitative data

Table 2 Summary of national electronic consultation participant roles

	N
Health visitor	217
Midwife	134
Public health practitioner	53
Dietician	26
Infant feeding specialist	22
Support worker/administrator	27
Early years' practitioner	11
Nutritionist	9
Nurse	8
Paediatrician	8
Voluntary sector supporter/user representative	8
General practitioner	7
Service commissioner	7
Other	82
Total answered question	619

from the consultation, informed draft recommendations relating to the provision of Healthy Start vitamin supplements. These recommendations were taken forward to stakeholder workshops.

Two stakeholder workshops, one in London and one in Yorkshire, employed a robust, structured process to discuss, ratify and prioritise the study recommendations. We aimed to include approximately 30 participants in each workshop ranging from very senior to junior and from all relevant sectors to include a broad range of health and social care practitioners, policymakers, commissioners, voluntary and independent sectors including those from areas where the scheme was working well. Those who had been involved in the earlier stages of the evaluation were invited. At the time of organising the stakeholder workshops, the regional Healthy Start leads were no longer in post and so invitations were also sent by email to Directors of Public Health, Infant Feeding Coordinators and Local Supervising Authority Midwifery Officers to achieve representation from all English

Table 3 Online consultation respondents by geographical region

	N
North West England	187
Yorkshire and the Humber	109
London	66
East of England	52
South East England	44
East Midlands	40
South West England	36
North East England	32
West Midlands	31
South Central England	15
Other UK country	7
Total answered question	618

regions. Fifty-six participants attended the workshops (see [table 4](#) for further details).

The all-day workshops were held in external conference facilities and were facilitated by an independent consultant who managed the process, encouraged participation and kept all activities to the allotted time scale. Following a presentation of the previous components of the evaluation, participants worked in small groups to: (A) discuss who participants thought should be responsible for implementing each recommendation; (B) provide two group scores of between 0 and 10 for each recommendation, one for importance and one for feasibility (where 0 was the least important/feasible and 10 was most important/feasible) and (C) discuss barriers to and strategies for implementation. The groups were invited to modify, combine and add new recommendations as they thought relevant. Each group had a facilitator and a scribe from the research team who noted the key points of the discussions and recorded the scores. Finally, each group was asked to prioritise the top five overall recommendations according to their importance. A plenary session at each workshop reached final agreement from all participants as to the top five priority recommendations.

Materials from the workshops, which comprised facilitator notes, flipcharts of discussions of barriers, strategies and priority recommendations along with completed tables of scores for importance and feasibility, were synthesised and summarised. The scores for each recommendation by different groups across both workshops were combined.

RESULTS

Overall, it was evident that health practitioners were very concerned about the low uptake of Healthy Start vitamin supplements, and there were clear and consistent themes about the problems and potential solutions.

Table 4 Summary of participants at the cross-sectoral workshops

Role	Workshop 1 (Leeds)	Workshop 2 (London)
Public health specialist	10	12
Health promotion specialist	1	
Infant feeding specialist		6
Midwife	5	5
Health visitor	2	
Dietician	1	
Service manager	2	
National policymaker		3
Paediatrician		1
Administrator		1
Voluntary sector		3
Family support worker		1
Other		3
Total	21	35

The findings are presented in three themes: barriers to uptake of Healthy Start vitamins, suggested strategies for improving uptake and the recommendations derived from the stakeholder workshops.

Barriers to uptake of Healthy Start vitamins

The low uptake of Healthy Start vitamin supplements for women and children was a priority concern for all participants, many citing prevalence of vitamin D deficiency as particularly significant. One recurrent theme was that many women and children who would benefit were ineligible for Healthy Start. Furthermore, applying the Healthy Start eligibility criteria to vitamin supplements was felt to undermine local health promotion efforts because it appeared to link vitamin D deficiency with poverty and poor diets. This was an important issue for many of our participants who were worried that practitioners and families might assume that a healthy diet could provide sufficient vitamin D negating the need for supplements.

There was consensus about the key barriers to uptake of vitamins both within and across the different localities and data sources. Practitioners overwhelmingly expressed frustration at the challenges of getting Healthy Start vitamins to mothers and children. Barriers included complex ordering and reimbursement systems. Local healthcare provider organisations (PCTs and successor organisations) reported that they had to find funding to order the vitamins, record how many were distributed to eligible women and children and then claim reimbursement from the Department of Health, providing proof of use in the form of the vitamin coupons. The bureaucratic effort required was perceived to be not commensurate with the small amounts of money involved. In addition, our participants reported that the vitamins supplied had a short shelf life meaning that they were often out of date before they were used. An additional issue was that, at the time of the study, the 'vitamin coupon' was part of a letter that accompanied the Healthy Start food voucher and that many women did not recognise it as a coupon for vitamin supplements. Since our study, this had changed and a separate vitamin coupon is provided. Maintaining supplies of vitamins was also problematic.

They are almost rationed because demand exceeds supply. We might put in an order for 100 bottles of adult vitamins and the suppliers restrict it to 20 at a time and it is not enough (London focus group participant).

PCTs had to decide where and how they would make Healthy Start vitamins available to families. In some localities, the vitamins were reportedly made available at one health centre at limited times. Participant commented that it was unrealistic to expect women and families to make an extra journey, often of some distance, to collect vitamin supplements at specified times. Participants suggested that children's centres were more

effective venues for distributing vitamin supplements but were concerned that many were being closed. In some areas, midwives and health visitors were distributing the vitamin supplements, but in other areas, practitioners were confused about whether current regulations allowed midwives and health visitors to distribute vitamin supplements. Participants reported that some GPs prescribed proprietary vitamin supplements for pregnant women and young children in low-income families, either because they were unaware of Healthy Start or because they thought provision of vitamin supplements was unreliable.

The scheme is the most complicated one to implement that I have ever come across. Until we have cracked the supply chain and distribution issue, we cannot promote uptake of the vitamins (Consultation respondent).

At the time of our study, the statutory responsibility for distributing Healthy Start vitamins rested with PCTs and in some areas this made it difficult for midwives, who are employed by hospitals, to obtain vitamins for pregnant women.

A common theme was that because the scheme was logistically difficult to deliver, even with resource intensive administration it was still only achieving low uptake. Many participants had the perception that this was not cost-effective.

We have me spends a lot of time on it, a public health adviser who spends a lot of her time on it, someone working just on the distribution and trying to set up the monitoring. That is a lot of money and funding for the free ones and still it is not great (London focus group participant).

Suggested strategies to improve uptake of vitamin supplements

The most frequently mentioned strategy to increase the uptake of Healthy Start vitamins was to provide free vitamin supplementation for all pregnant women and young children. Many participants thought that this could be a more cost-effective approach.

The cost of the admin that goes into deciding who can and can't have them is more than providing them to all pregnant women (Yorkshire focus group participant).

Seventy per cent of online consultation respondents agreed/strongly agreed that there should be provision of free Healthy Start vitamins to all pregnant women and young children.

Many participants felt there should be more accessible distribution outlets. In particular, it was emphasised that vitamin supplements should either be given out routinely by midwives and health visitors, or they should be widely available at places where women go regularly: for example, supermarkets, pharmacies, children's centres and GP practices.

Participants reported pilot schemes or plans to distribute vitamin supplements through all children's centres and health clinics. In one area, a pilot was planned to make Healthy Start vitamins available in local pharmacies as part of the 'minor ailments' scheme. However, this entailed additional cost in the form of payment to pharmacies, and the practicalities of getting the vitamins to the pharmacies were challenging.

Recommendations from cross-sectoral workshops

Both workshops culminated in agreement that the priority recommendation for the Healthy Start scheme was to make free vitamin supplements available for all pregnant women, postnatal women and children up to their fifth birthday. This recommendation was rated as high importance in terms of its potential to improve health outcomes and high feasibility because it was perceived that there could be considerable financial savings in reduced costs of complex administration and treating vitamin deficiencies.

Participants at both workshops suggested separating the food voucher and vitamin supplementation components of Healthy Start because the eligibility criteria miss many of those at risk of vitamin D deficiency. Provision of universal free vitamin supplementation could thereby be an excellent vehicle for meeting vitamin D policy aims. In the light of the administrative complexity involved, it did not make sense to participants that Healthy Start vitamins were only a means of providing free supplements to those who could not afford to purchase them.

It was also agreed that supplementation for pregnant women needed to start earlier than is achievable within the current process for registering for Healthy Start. This was reported to be because pregnant women cannot apply for Healthy Start before 10-week gestation and the application process takes several weeks. Thus, by the time women receive their coupons for vitamin supplements, it is too late for folic acid supplementation to be effective.

A suggestion relating to this recommendation was to develop process and performance indicators, for example, a target for the percentage uptake of vitamin supplements measured at antenatal booking visit, birth and first immunisation.

DISCUSSION

Our study found that health practitioners experienced Healthy Start vitamin distribution as logistically complex, requiring the time, resources and creative thinking of a range of local and regional practitioners from senior strategists to administrative support workers. It was clear from our findings and other research¹⁶ that the current targeted approach is reaching very few of those eligible for Healthy Start or who are at risk of vitamin deficiency. This highlights a disconnect between the aspirations of the national Healthy Start programme and the local

logistics of delivering it. Furthermore, the current system leads to a 'postcode lottery' because different localities have adopted different approaches to vitamin distribution. Our study culminated in the recommendation for an alternative approach.

This multimethod study included the views of over 750 health practitioners with a range of professional backgrounds and roles, from all regions of England, and who were involved in implementing the Healthy Start programme. However, it was disappointing that so few GPs participated in the study. Other respondents suggested that many GPs are not convinced of the value of vitamin supplementation for women and children and/or are unaware of the Healthy Start scheme. It is likely that GP working arrangements make it difficult for them to attend events such as focus group discussions and workshops. The research team were also disappointed at the low participation rate for health visitors in the cross-sectoral workshops as they are a key professional group involved in implementation of Healthy Start. We can only assume that the low attendance was due to pressure of work and difficulty in taking a day out to attend.

Triangulation of data from the various study methods and participants revealed strong agreement regarding the key barriers to increasing uptake of Healthy Start vitamins. There was no dissent about the key barriers and no evidence was provided that the current system is working or valued by those involved in its implementation. The study recommendations are the outcome of a robust, structured process that ensured they were well grounded in the experiences of the stakeholder workshop participants and reflected a real-life view of the operation of the scheme. However, this study did not aim to evaluate the impact of Healthy Start on health outcomes for women and young children and further research is needed. Several suggestions for policy change were made by study participants. One was to separate the vitamin supplements from the Healthy Start food voucher programme. This was suggested to avoid mixed messages around the eligibility criteria for Healthy Start and those at high risk of vitamin deficiencies, particularly vitamin D. It would also reduce delays in starting vitamin supplementation in early pregnancy. The major recommendation from our study was to provide free vitamin supplements for all pregnant women, new mothers and children up to their fifth birthday. Key stakeholders judged this recommendation to be important, feasible and a public health priority.

A policy of universal provision of free Healthy Start vitamins for pregnant and breastfeeding women, and young children in Birmingham has achieved an uptake rate of 17% and, more importantly, has reduced the cases of symptomatic vitamin D deficiency in children by 59% (case incidence rate fell from 120/100 000 to 49/100 000).¹² These encouraging results from a before and after study suggest that universal provision of vitamin supplements is potentially a cost-effective public health intervention.

In October 2013, the Chief Medical Officer for England recommended that the National Institute for Health and Care Excellence (NICE) examines the cost-effectiveness of changing the Healthy Start vitamin programme from a targeted to a universal provision.²¹ The experiences of participants in our study suggest that any economic evaluation of vitamin supplementation should take into account the opportunity cost of efforts to implement the current targeted programme, which appear not to be inconsiderable. However, a change to universal provision alone may not be sufficient to increase the uptake of Healthy Start vitamins. According to our participants' experiences, problems with the supply chain need to be addressed. Others have suggested that training and education of health professionals and the public is also needed.^{12 19}

Our findings complement those of Jessiman *et al*,¹⁹ providing evidence not only of the barriers to uptake of Healthy Start vitamins but also to the efforts being made by a wide range of practitioners to make the current system work. It demonstrates widespread professional support for a policy of universal vitamin supplementation. However, practitioners participating in our study could have been those with an interest in and awareness of issues surrounding vitamin supplementation for women and young children. There may be lower awareness or scepticism about the need for universal supplementation among some practitioners.

CONCLUSION

This study has provided evidence of consistency of views of health practitioners regarding the current targeted system of providing free vitamin supplements for low-income childbearing women and young children via the Healthy Start programme. We found wide professional and voluntary sector support for provision of free vitamin supplements for all pregnant and new mothers, and children up to their fifth birthday that could address current concerns about vitamin D deficiency. The study methods provided a rigorous and transparent means of developing public health recommendations that are grounded in practitioner experiences.

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Contributors AM conceived and designed the study, collected, analysed and interpreted the data, and drafted the manuscript. JMG conceived and designed the study, collected, analysed and interpreted the data. VW designed the study and collected, analysed and interpreted the data. JM collected, analysed and interpreted the data. FM collected and analysed the data. MJR conceived and designed the study and interpreted the data. All authors revised the manuscript for intellectual content and approved the final version.

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