Better Quality for Better Impact

Optimized packaging and appearance of maternal multiple micronutrient supplements for pregnant women in Indonesia

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Micronutrient deficiencies in pregnant women are common in low- and middle-income countries, as these countries are often characterized by limited consumption of animal products, fruits, vegetables and fortified foods.¹ In Indonesia, maternal daily consumption of foods rich in micronutrients is insufficient to fulfill dietary requirements; the average consumption of fruits and vegetables is low in urban and rural areas alike.² While many countries are considering transitioning to multiple micronutrient supplements (MMS), several challenges remain within iron and folic acid (IFA) programs that could affect the health impact of MMS, including – as seen in many programs – low adherence. Factors influencing this low adherence include perceptions concerning the benefits of supplements, their availability, the manner in which they are promoted, reminders to consume them, and their organoleptic properties, appearance and packaging.³

The SUMMIT study

The Supplementation with Multiple Micronutrients Intervention Trial (SUMMIT) conducted in Indonesia was the first large-scale randomized double-blind MMS trial in pregnant women designed to assess impact on mortality. Because the study was integrated into the existing government maternal care system, all factors that could enhance compliance in a programmatic setting were optimized to promote adherence. Therefore, before manufacturing of the supplements commenced, the investigators at the Summit Institute of Development (SID) conducted over 50 focus groups using interactive qualitative methods to assess the preferences of pregnant women regarding the appearance and packaging of supplements. This resulted in the GMP production of more than 30 million supplements as 1.5 cm pink capsules, individually wrapped in 10-count foil blister packs with Halal certification. In one of the first such examples of cus-
Here we report the data from 407 respondents who articulated their preferences with Likert-scale ratings for either bottle or blister packs, and for a supplement count of either 30 or 180 per package. Ratings of 1 and 2 were interpreted as disliked, 3 as neutral, and 4 and 5 as liked; the reasons for the choices were also recorded and coded. Overall, 60.3 percent of the respondents were 20–29 years of age and 25.3 percent were 30–39, with 52.3 percent living in rural areas and the remainder in urban settings.

**Results**

The results of the survey showed that 48.4 percent of women liked bottle packaging, while 25.3 percent disliked it, with 26.3 percent being neutral about it. Positive comments for bottle packaging included “higher capacity,” “recyclable container” and “safer.” Drawbacks included “less practical to carry” and “higher contamination potential.” For blister packs, 40.5 percent of respondents liked them, and 24.1 percent disliked them, while 35.4 percent were neutral. Advantages included “more hygienic,” “seeing or feeling the product without opening the packaging” and “helps to prompt consumption,” with one disadvantage being “easily damaged if carried around.”

With regard to the number of supplements per package, a count of 30 was liked by 45.0 percent of women and disliked by 32.9 percent, with 22.1 percent being neutral. Advantages expressed included “more hygienic,” “more practical to carry around,” “helps to prompt consumption” and “as an incentive for the number of hungry children.”

**Adherence to supplement consumption in SUMMIT was high, at more than 85 percent**

Based on this experience, and that of market research conducted by vitamin manufacturers, transitioning to MMS must take into account women’s preferences regarding packaging. Their views should help manufacturers, both local and global, to deliver a product that appeals to women, thereby fostering adherence and impact (see Box 1).

**BOX 1: Key features of the survey**

In pursuit of this goal, and in order to develop a methodology, SID designed a survey and information platform comprising proctored web surveys, SMS and chatbots, and conducted a national survey of preferences concerning packaging type and supplement count per package.
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References


“A product designed to optimize adherence, though costing more, may provide a more favorable cost–benefit ratio”

Suggested recommendation
Based on the results so far, a suggested recommendation could be that either bottles or blister packs would be suitable, with a strong preference for 30 supplements per package, and for Halal supplements. Additional data from the ongoing survey specify color and shape, and other attributes, as well as cost preferences. Although the foregoing recommendation does not take account of the cost of production, it is noted that distribution of the low-cost packaging options may not be optimal. Rather, a product designed to optimize adherence, though costing more, may provide a more favorable cost–benefit ratio. Assessment of the direct impact of different packaging formats and measurement of consumption would be warranted. There is also a need for implementation research to determine the best context-specific balance of price, packaging, and social and behavioral change campaigns, with a view to increasing MMS acceptance and compliance. Moreover, further work on rolling out the survey to other populations in order to assess regional and global preferences would support the goal of attaining high-impact, cost-effective and sustainable maternal MMS programs.
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