

rate among children <5 years old of ~36% in the state of Maharashtra. Malnutrition increases this rate almost fourfold. During the rehabilitation phase of severe acute malnutrition (SAM) management, a diet based on energy-dense local foods (EDLF) along with multivitamin and multimineral supplements given at regular intervals under supervision, with counseling and play therapy, results in rapid weight increases (>10 g/kg per day) in children with SAM in 14 days. This weight gain facilitates early discharge from inpatient care, reducing chances of secondary infections and subsequent mortality. This study aimed to determine catchup growth in children with SAM treated with EDLF, our “magic potion,” in a hospital-based nutrition rehabilitation center (NRC).

METHODS: We conducted a prospective hospital-based interventional study at the NRC of a tertiary teaching government hospital in Pune, India. Data are from July 2012 to August 2013. We enrolled children between the ages of 1 and 60 months who met World Health Organization criteria for SAM. The children were started on a specially prepared food consisting of puffed rice, sugar, milk powder, oil, groundnut powder, and water in predetermined proportions to provide 75, 100, and then 150 to 200 kcal per 100 mL. Supervised feedings with daily weight monitoring and structured play therapy were implemented. The data were analyzed to assess the effect of this diet on the daily weight gain in each child.

RESULTS: Of the 120 children with SAM, 70% were girls, and the mean age was 14 months (range 1–60 months). Underlying systemic illness was seen in 73%; the most common were pneumonia and diarrhea with dehydration and shock. Risk factors for SAM were inappropriate feeding habits (60%; odds ratio [OR] = 2.02; 95% confidence interval [CI], 0.68–5.94), incomplete vaccination (55%; OR = 1.30; 95% CI, 0.45–3.72), and poverty (39%; OR = 2.28; 95% CI, 0.78–6.69). Mean weight gain on the prescribed diet (EDLF) was good (>8 g/kg per day) in 52%. Weight gain was higher by almost 40% in the absence of underlying systemic illness in any week. No mortality was noted during the study period. All mothers and caretakers confidently prepared the diet themselves at the time of discharge. Follow-up at 6 months showed steady weight gain in all.

CONCLUSIONS: The diet of EDLF was found to be suitable and cost-effective for nutrition rehabilitation of children with SAM, with good weight gain, as recommended by the World Health Organization. The cost of 100 g of this special feed is only 10 rupees (<25 cents) per 130 kcal, and it can be used for community management of SAM.

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Fecal Calprotectin During Treatment of Severe Infantile Colic With *Lactobacillus reuteri* DSM 17938: A Randomized, Double-Blind, Placebo-Controlled Trial

BACKGROUND AND OBJECTIVES: Fecal calprotectin level has been reported to correlate with inflammation in inflammatory bowel disease in adults, and recently its relationship with infantile colic has also been described. Fecal calprotectin is elevated in infants with hematochezia and possible allergic colitis. The objectives were to evaluate fecal calprotectin at the time of enrollment and its variation after 3 weeks of therapy with a probiotic (*Lactobacillus reuteri* DSM 17938) in infants with severe infantile colic admitted to our hospital for either hematochezia, food allergy, or eczema. This study also aimed to compare fecal calprotectin values in infants with infantile colic and symptoms of food allergy with those in healthy infants.

METHODS: Forty-three patients with severe infantile colic, diagnosed according to the Wessel definition, were prospectively enrolled; 25 received a probiotic and 18 received placebo. The study population was composed as follows: 23 (48%) boys, mean age at enrollment in the study 36.6 ± 11.9 days, 36 (75%) exclusively breastfed. At enrollment, mothers were told to avoid cow's milk in their diet. Clinical responders after study period were considered infants who had reduced crying time per day and whose calprotectin decreased by $\geq 50\%$ compared with baseline. We measured fecal calprotectin levels in fresh stools of these patients before and after 3 weeks of therapy by using the Quantum Blue Calprotectin Rapid Test (Bühlmann Laboratories AG, Schönenbuch, Switzerland). During treatment clinical symptoms were assessed by parents, who used a diary to record time of infantile crying per day and stool characteristics. A group of 19 healthy controls were enrolled only to provide calprotectin values for comparison.

RESULTS: Forty-three infants (*L. reuteri* group, 25; placebo group, 18) completed the trial. A sustained clinical response after treatment with probiotic was observed in 17 (65.4%) treated patients; the average values of fecal calprotectin were 601 $\mu\text{g/g}$ after therapy versus 920 $\mu\text{g/g}$ before induction ($P < .05$). Posttreatment fecal calprotectin was significantly lower in responders than in nonresponders ($P = .012$). The control group showed a mean calprotectin value of 100 $\mu\text{g/g}$, significantly different from that of the colicky group ($P < .005$).

CONCLUSIONS: The administration of *L. reuteri* DSM 17938 significantly decreases crying time and fecal calprotectin level. Colicky infants have significantly higher calprotectin levels than healthy controls. Finally, fecal calprotectin assay after probiotic treatment with *L. reuteri* DSM 17938 can be

used to predict sustained clinical response and monitor gut health in infants.

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A Systematic Review of Computer-Based Remedial Programs for Primary Schoolchildren Diagnosed With Dyslexia: Results From Medline

BACKGROUND AND OBJECTIVE: Dyslexia affects up to 15% of children and is the most prevalent learning disability. With information technology devices being common in the primary school classroom, advances in computer-based remedial programs offer potential benefits in helping dyslexic children improve their reading skills. However, a previous systematic review (Strong et al 2010) found that Fast ForWord, a commonly used computer-based program, gave no extra benefit. The objective was to determine whether computer-based programs provide significant benefits beyond traditional remedial programs in dyslexic primary schoolchildren.

METHODS: A systematic review was designed and conducted by using items from the Preferred Reporting Items for Systematic Reviews and Meta-Analyses statement. Medline was searched in July 2014 for controlled trials of computer-based programs involving primary schoolchildren aged 6 to 12 years, with no restriction on publication date or language.

RESULTS: After screening titles, abstracts, and full articles using preestablished inclusion and exclusion criteria, we included 6 studies in the review. The studies involved 605 children and were conducted in the United States (3), Finland (1), France (1), and the Netherlands (1) between 2008 and 2013. The studies were heterogeneous, studying various programs and therefore precluding meta-analysis. Two studies included Fast ForWord, and both studies showed no significant benefit. The Finnish study tested their self-developed software, GraphoGame, and found significant benefits in all tested outcomes in the study group. The French group also tested a self-developed computer-based program (developed by Magnan et al 2004) and found that the experimental group progressed significantly more than the control group in all subsets of reading tests. The Dutch study also showed significant results of their computer-based program, with the study group achieving the reading ability of nondyslexic children. Another US group used 2 computer-based programs (RWT, Herron 1995, and LIPS, Lindamood and Lindamood 1998) in their study. They found that the experimental group gained significant progress compared with the control group.

However, the computer-based programs were supplementary to teacher-led instruction, and the study did not provide a specific control for the computer-based programs.

CONCLUSIONS: Although there are studies suggesting that computer-based programs offer benefits to dyslexic schoolchildren beyond traditional interventions, the evidence is far from conclusive. More controlled trials are needed to assess effectiveness of computer-based programs. Fundamentally, a more coordinated effort among researchers is needed to develop effective computer-based programs to assist dyslexic children.

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The Effect of a Modular Education Program Related to Children With Epilepsy and Their Parents on Disease Management

BACKGROUND AND OBJECTIVE: Epilepsy is chronic neurologic disease and affects both the child with epilepsy and his or her family. We conducted a randomized controlled trial to evaluate the effect of a modular education program on disease management for children with epilepsy and their parents.

METHODS: This study was conducted at the Child Neurology Polyclinic of Akdeniz University Hospital in Turkey between February 2014 and June 2014. For both experimental ($n = 42$) and control ($n = 50$) groups, children 7 to 18 years old with epilepsy and their parents were included in the study. Both parents and children provided informed consent. The content of the modular education program used in the study was developed as a result of an extensive literature review. The intervention was given to children with epilepsy and their parents through interactive teaching methods. Before and after the program, data related to the children in experimental and control groups were collected by a researcher using the Epilepsy Knowledge Test for Children in face-to-face interviews. Data for parents were collected on a family information form.

RESULTS: After the modular education program, mean scores on the knowledge test increased in the children and their parents in the experimental group and decreased in the children in the control group. The differences between the mean scores of these groups were statistically significant ($P < .001$). Also, after the modular education program, the children and their parents interviewed in the experimental

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