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An exploration of factors influencing attrition from a pediatric weight management intervention

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Summary Pediatric obesity is a public health concern. High attrition from treatment negatively impacts outcomes, particularly among lower income and ethnic minority populations. NOURISH+ is a parent-exclusive childhood weight management treatment targeting at-risk children aged 5—11 years who are overweight or obese. The current study sought to enhance understanding of attrition among at-risk families. NOURISH+ participants completed a survey assessing barriers to treatment adherence. Among low-income, racially diverse families, practical barriers are pressing concerns. The NOURISH+ parent-exclusive approach, although empirically supported, appears inconsistent with caregivers' expectations. Minimizing practical barriers and enhancing child engagement might reduce attrition and improve outcomes.

Introduction

Pediatric overweight and obesity affect over 30% of children in the U.S. [1]. African American and Hispanic children, as well as children from low-income households, are at disproportionate risk of these conditions [2,3]. Family-centred interventions are

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the most effective approaches to pediatric obesity treatment [4,5]. Moreover, for young children, parent-only approaches demonstrate efficacy and are cost-effective [6]. However, although effective pediatric obesity treatments are available, attrition and poor adherence remain significant barriers to positive outcomes [7]. Attrition is particularly high among ethnic/racial minority and low-income families, groups which experience disproportionate risk of obesity [8,9].

Nourishing **O**ur **U**nderstanding of **R**ole modeling to **I**mprove **S**upport and **H**ealth (NOURISH+) is a parent-focused, randomised controlled trial targeting racially diverse families with overweight and obese children aged 5—11 years [10]. (Please refer to Mazzeo et al. [10] for details on the trial design, including descriptions of intervention and control groups.) NOURISH+ uses several strategies to enhance treatment engagement, including implementing culturally sensitive intervention approaches, providing graduated incentives for completing assessments, making frequent participant contact (e.g. reminder calls and mailings prior to sessions and assessments), offering treatment in convenient locations, and providing childcare [11—13]. Despite these efforts, many families do not attend all group sessions and others are lost to follow up or do not attend post-testing (see *Participants* section for specific attrition details). This study investigated treatment barriers experienced by caregivers previously enroled in NOURISH+ to inform future iterations of the program and related obesity interventions targeting this high-risk population.

Material and methods

Participants

Caregivers previously enroled in the NOURISH+ intervention (waves 1—15 of this ongoing trial), were re-contacted for this study (regardless of whether they had completed post-testing). NOURISH+ includes baseline assessment, six group sessions, and post-assessment (as well as follow-ups, which are not reviewed in this manuscript). In this study, treatment engagement was operationalised as the number of sessions attended (0—6). Among eligible caregivers, only 7.7% did not attend any sessions following baseline assessment. Session attendance rates were as follows: 31.7% attended at least 50% of the sessions (3 of 6), 68% of eligible caregivers attended at least four of the six sessions, and 19.2% attended all six intervention sessions. The average number of sessions attended was $M = 3.9$, $SD = 1.8$. Additionally, 84.6% of eligible caregivers attended post-assessment. Fig. 1 presents the flow of participants through NOURISH+ and this study.

Procedure

Caregivers were contacted using their preferred method as indicated at NOURISH+ enrolment. Primary contact was predominantly by phone; e-mail was used when phone calls did not yield contact with participants. After four unsuccessful primary and secondary contact attempts, communication attempts ceased. Caregivers who consented to the current study's questionnaire are subsequently referred to as ''participants'' and those who declined or could not be contacted are referred to as ''non-participants.''

Measure

The questionnaire used in this study included both quantitative and open-ended items [14], and was based, in part, on an assessment used in an Australian investigation of attrition from an adolescent obesity intervention [14]. Additional items for this study were generated by investigators and informed by existing pediatric obesity literature. These 41 items (see Table 1) assessed eight categories of potential barriers to participation: research demands, treatment approach, program components and strategies, clinical factors, comfort participating, practical barriers, individual and family demands, and health and well-being. Participants indicated whether each item represented a barrier to their participation on a 3-point scale ranging from 0 (not at all) to 2 (a lot). Qualitative data were obtained via six open-ended items that explored participants' perspectives on barriers and facilitators to treatment engagement (Table 2).

Analyses

SPSS v22 was used for analyses. Frequencies, independent samples *t*-tests and Mann Whitney U tests were conducted to determine if participants differed significantly from non-participants on demographics (race, parent body mass index [BMI], child BMI percentile, household income, and parental education).

Descriptive analyses were conducted for each item. Frequency ratings indicated how often each item was perceived as a barrier to attendance (rat-