

# Taibah University

# Journal of Taibah University Medical Sciences



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# Original Article

# Factors influencing promotive behaviours in mothers of Indonesian children with avoidant restrictive food intake disorder



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Received 18 April 2019; revised 24 July 2019; accepted 26 July 2019; Available online 19 September 2019

#### الملخص

أهداف البحث: تهدف هذه الدراسة لتحديد التنبؤات بالسلوكيات التعزيزية عند الأطفال الذين يعانين من اضطراب تجنب تناول الطعام المقيد من منظور

طرق البحث: تم توزيع هذا المسح الوصفي المقطعي على ٢٤٥ من الأمهات اللَّتي يقمن برعاية أطفال يعانين من اضطراب تجنب تناول الطعام المقيد. تم تجميع المعلومات بواسطة استبانة تعبأ شخصيا. استخدم اختبار ت- المستقل، واختبار مان-ويتني، وتحليل التباين بطريقة واحدة (أنوفا) كروسكال- والس، والانحدار الخطى المتعدد لتحليل البيانات الوصفية.

النتائج: تجسدت العوامل المرتبطة بالسلوكيات التعزيزية في الأبوة والأمومة المتبادلة، خصوصا من حيث رعاية الطفل والتفاعل مع الأطفال. بالإضافة إلى ذلك، أظهر الانحدار الخطي المتعدد أن الأبوة والأمومة المتبادلة استمر في نطاق التواصل، حيث الأطفال هم المتنبئون الرئيسين، بينماعدد الأطفال تتأثر السلوكيات التعزيزية

الاستنتاجات: حددت هذه الدراسة عدد الأطفال والأبوة والأمومة المتبادلة في التفاعل مع الأطفال كعوامل رئيسة تؤثر على السلوك التعويضي للأمومة. نقترح أن الرعاية التداخلية ممكن أن تحسن السلوك التعويضي للأمومة عند الأطفال الذين يعانين من اضطراب تجنب تناول الطعام المقيد.

الكلمات المفتاحية: اضطراب تجنب تناول الطعام المقيد؛ الأبوة والأمومة المتبادلة؛ السلوك التعويضي

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#### Abstract

Objectives: This study aimed to identify predictors of promotive behaviours in mothers of Indonesian children with avoidant restrictive food intake disorder (ARFID).

Methods: A cross-sectional descriptive survey was administered to 245 mothers who were caring for children with ARFID. Data were collected with a selfadministered questionnaire. For descriptive data analysis, independent t-test, Mann-Whitney U test, one-way analysis of variance, Kruskal-Wallis, and multiple linear regression were employed.

**Results:** The factors related to promotive behaviours in these mothers were embodied in mutual parenting, especially in terms of childcare (p = 0.001 < 0.05) and interaction with children (p = 0.001 < 0.05. Additionally, multiple linear regression showed that mutual parenting remained at the communication domain, with children as the primary predictor ( $\beta$  0.401, p 0.001), where the number of children ( $\beta$  -0.201, p = 0.008) influenced the promotive behaviours.

Conclusions: This study found that the number of children and mutual parenting in interacting with children were key factors that influenced promotive behaviours in mothers of children with ARFID. We suggest that nursing interventions can potentially improve promotive behaviours in this population.

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**Keywords:** Avoidant restrictive food intake disorder (ARFID); Mutual parenting; Promotive behaviours

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#### Introduction

Avoidant restrictive food intake disorder (ARFID) is a new term for a feeding disorder commonly experienced by infants and toddlers. The extreme consequence that may be found due to the occurrence is malnutritional disorders, such as stunting. In Indonesia, stunting has shown fluctuating and escalating trends between 2007 and 2010. This is supported by data on the incidence of stunting in Indonesia: 36.8% in 2007, 35.6% in 2010, and 37.2% in 2013. 4.5

Good mutual parenting has been found to reduce tension in the care of children with ARFID.<sup>6</sup> In less stressful situations, parents are most likely able to interpret any signs that their children show. Parental sensitivity refers to an interactive process in which parents a) recognize signs from infants, b) decode the signs adequately, c) provide the most appropriate response, and d) provide the most fit and proper response to the occurrence. The more stressed the parents are, the more likely their children are to exhibit behavioural disorders, and vice versa. Less parental cooperation can also potentially lead to familial conflict. In addition, educational background may also be a factor in work-family conflict and mental health problems. Individuals with a higher level of education have been shown to have more work-family conflicts. This finding is apparently due to a heavier workload and longer work hours compared with those with a lower level of education. Among individuals with a higher level of education, the total prevalence rate of children with the highest risk of familial conflict constituted 33%.<sup>10</sup>

Avoidant restrictive food intake disorder is a new term to describe a feeding disorder experienced by infants and toddlers that involves refusal to eat, irregular eating patterns, inability to show the eating skills that are fit and proper for their appropriate stage of development, <sup>11</sup> and less interest in eating. Sensory-based food avoidance involves the avoidance of food based on appearance, smell, and taste, and dysphagia (a medical term for swallowing difficulties). Both sensorybased food avoidance (the avoidance of food based on appearance, smell, and taste) and dysphagia (a medical term for swallowing difficulties)<sup>1-3</sup> are demonstrated in children with ARFID. 12-14 Ideal cooperation between parents may lead to health promotive behaviours in parenting, especially in children with ARFID. One previous study<sup>1</sup> reported that parental cooperation is influenced by good interactions between parents and children and is part of the process of protecting children from their parents' negative behaviour.

Health promotion is an attempt to empower individuals, groups of individuals, and society to preserve, improve, and

take care of health.<sup>16</sup> To actualize a perfect standard of health (in physical, mental, and social dimensions), societies are to be able to recognize and objectify their aspirations and needs, and change or maintain their environments.<sup>17</sup> One sort of health promotion mothers can engage in is to improve their children's health by paying close attention to their behaviours. Parents are to undergo healthy lifestyles, because their health behaviours influence and impacts their children's own health behaviour. One method is to get them accustomed to eating at regular times.<sup>18</sup>

Mothers with many children were more likely to exert dominant control over them, to communicate less with them, and be less able to fulfil their feeding needs. Control of the children's feeding style and feeding habits by insisting that the children eat and limiting the children's access to tasty foods resulted in counterproductive effects on the children's self-management development and worsened their nutrition. <sup>19</sup>

Aims

Therefore, this study aimed to identify predictors of promotive behaviours in mothers of Indonesian children with ARFID.

#### Materials and Methods

Study design

This was a cross-sectional descriptive survey study.

Setting and sample characteristics

The study was conduct in Malang District, Indonesia, between August 2018 and February 2019. The sample size was determined based on the rule of thumb in structural equation modelling, which is to multiply the total number of parameters by 5 or  $10^{20}$  Normally, there are 10 parameters included; thus, the total sample would be  $10 \times 10$ , which would equal 100 participants (minimum number). There were 245 potential participants. Multistage sampling was employed to gradually determine the final size of the sample. The inclusion criteria for respondents were as follows: mothers who care for children with ARFID, did not have chronic diseases, and without congenital defects that affected eating.

### Questionnaire

Data were collected with a questionnaire. The questionnaire included eight questions on mutual parenting with three primary indicators: 1) caring for children (3 items), 2) fulfilment of children's elimination needs (2 items), 3) interaction with children (3 items). The questions for the first indicator enquired about mutual parenting in serving, feeding, and providing accompaniment during play. The questions for the second indicator enquired about providing assistance to the children during urination and defecation. The questions for the third indicator enquired about

providing one's opinion on specific difficulties involving the children, discussing the children's needs, and actively interacting with the children. All responses were based on a 5point Likert scale (1 = 'never', 2 = 'seldom', 3 = 'sometimes', 4 = 'often', and 5 = 'always'). The values for validity were as follows: question 1 = 0.699, 2 = 0.799, 3 = 0.769, 4 = 0.795, 5 = 0.775, 6 = 0.551, 7 = 0.580,and 8 = 0.471, with Cronbach's alpha value = 0.842. In addition, the questionnaire for promotive behaviours included 11 questions with the following indicators: 1) asking the correct questions, 2) accomplishing tasks, 3) early examination, 4) contacting medical staff, 5) capabilities, 6) defining strategies for change, 7) implementation of the strategies, 8) performing healthy lifestyle, 9) searching for health information, 10) defining strategies for maximum health, and 11) providing strategies for child's development. For all indicators, responses were based on a 5-point Likert scale (1 = never.2 = seldom, 3 = sometimes, 4 = often, and 5 = always). The values for validity were as follows: question 1 = 0.383, 2 = 0.424, 3 = 0.725, 4 = 0.642, 5 = 0.484, 6 = 0.715, 7 = 0.720, 8 = 0.574, 9 = 0.650, 10 = 0.743, and 11 = 0.664,with Cronbach's alpha value = 0.830.

#### Data collection

The data were collected between August 2018 and February 2019, with the aid of eight researcher's assistants. The questionnaire was administered at integrated health service posts and/or a residence on the targeted area. There were a total of 245 participants.

## Data analysis

All the data were conducted using IBM SPSS Statistics 23.0 software (IBM Corp., Armonk, NY, USA) with p < 0.05 as the significance level. Demographic data on the mothers and children were presented as frequency distributions (percentages). The data on mutual parenting and promotive behaviours were presented as mean values (standard deviation). The Pearson correlation coefficient was used in the analysis of the correlation between mutual parenting and promotive behaviours. Multiple linear regression was used to examine the influences of mutual parenting on the promotive behaviours of mothers caring for children with ARFID.

#### Results

#### Demographic characteristics

Table 1 presents the demographic characteristics of the mothers and children who participated in the study. Half of the mothers (56.3%) were aged between 26 and 35 years. With regards to level of education, most had attended senior high school (36.3%). Half of the mothers (57.6%) had more than one child. Half of the mothers (51.4%) had an income of 1–2 million Indonesian rupiahs per month. With regards to children's ages, it was evident that ARFID occurred most in toddlers (64.5% in the study).

Table 1: Demographic characteristics of the mothers and children. Variable n (%) Mother's Age 17-25 years old 62 (25.3) 26-35 years old 138 (56.3)36-45 years old 45 (18.4) Mother's Level of Elementary school 50 (20.4) Education Junior high school 75 (30.6) Senior high school 89 (36.3) Higher education 31 (12.7) Number of Children 104 (42.4)141 >1 (57.6)Income <1 Million Indonesian 56 (22.9) rupiahs 1-2 Million Indonesian 126 rupiahs (51.4)>2 Million 63 (25.7) Child's Age Infant 19 (7.8) Toddler 158 (64.5)Preschool 68 (27.7)

Table 2: Correlation between mutual parenting and promotive behaviours (r/p).

Variable(s)	Promotive Behaviours
Mutual Parenting	0.286/0.000
Caring for Children	0.211/0.001
Fulfilment of Children's Elimination	0.117/0.067
Needs	
Interaction with Children	0.378/0.000

The correlation between mutual parenting and promotive behaviours

Table 2 presents the results of the analysis on the correlation between mutual parenting and the promotive behaviours of the mothers. The correlation was adequate

Table 3: Multiple linear regression analysis of influencing factors corresponding to promotive behaviours.

Variable(s)	$\boldsymbol{B}$	SE	$\beta$	t	$p^*$
Constant	33.004	3.762		8.773	0.000
Mother's Age	-0.008	0.109	-0.006	-0.070	0.944
Child's Age	-0.446	0.449	-0.059	-0.995	0.321
Number of Children	-2.164	0.806	-0.210	-2.683	0.008
Caring for Children	-0.031	0.281	-0.010	-0.112	0.911
Fulfilment on Children's	-0.227	0.320	-0.056	-0.711	0.478
Elimination Needs Interaction with Children	1.325	0.245	0.401	5.404	0.000

(with r=0.286). The factor related to cooperation that corresponded to the mothers' promotive behaviours was embodied in mutual parenting, especially taking care of children (with p=0.001<0.05) and interaction with children (p=0.000<0.05).

The influences of factors related to promotive behaviours

Table 3 presents the results of the multiple linear regression analysis. The factors that may influence the mothers' promotive behaviours are the number of children and mutual parenting in terms of interaction with children. The former was found to negatively affect the mothers' promotive behaviours (with  $\beta=-0.210$  and p=0.008<0.05). Further, mutual cooperation in terms of interaction with children was assumed to contribute positively to the mothers' promotive behaviours (with  $\beta=0.410$  and p=0.000<0.05).

#### Discussion

The study showed that there was a correlation between mutual parenting and promotive behaviour among mothers of children with ARFID. This finding was due to the fact that good mutual parenting reduced tension and stress levels in the mothers. Parents caring for children with ARFID often experience parenting-related tension. In addition, good mutual parenting can provide these mothers with physical and psychological support, which can decrease the tension.

The decrease in tension may result in the mothers being more active in their parenting role and exhibiting more promotive behaviours. In addition, good mutual parenting could decrease the level of tension experienced in caring for children with ARFID.<sup>6</sup> When their stress level was low, mothers were found to be more sensitive to the signs their children had shown. *Maternal sensitivity* refers to an interaction process where the parents a) recognize their child's signs, b) decode the behavioural signs adequately, c) identify the best responses, and d) perform the responses based on the situation.<sup>7</sup> A high level of maternal stress can lead to behavioural problems in children.<sup>8</sup>

The results of this study indicated that the influencing factors of promotive behaviours in mothers caring for children with ARFID were the number of children and mutual parenting in terms of interaction with children. This was due to parenting practices. Parents with more children are more likely to apply a responsive pattern. The pattern was closely interconnected to the interactional pattern between mothers and children. In a responsive pattern, parents were allowed to provide the children with the best nutrition. These caregivers are truly aware of when food is to be consumed by the children, where, and how much, <sup>22</sup> and encourage the children to responsively eat, by making the food more tempting and eye-catching and giving pleasant praise. <sup>23</sup>

Such a feeding pattern positively affects children in terms of controlling the limit of food, applying the proper way of eating, and responding to a good way of eating. These caregivers appreciate their children's success in eating and do not force them to eat. The effectiveness of this pattern is evidence by the fact that children whose parents apply this

pattern are likely to love eating fruits and vegetables so much. <sup>22,24,25</sup> Parents who use an authoritative feeding style provide good examples to their children and serve as primary role models, especially with regards to proper eating. Children of parents who apply this style learn how to eat healthy and limit their amount of junk food. <sup>26</sup>

The characteristics of the above-mentioned pattern included warm interaction between caregivers and children, support and freedom for children, transparent interaction, affection, and rational logic. It has been suggested that these characteristics instil positive eating behaviours in children, particularly independence, social responsibility, and good adaptation.<sup>27</sup> The authoritative feeding style enhances the sensitivity of the caregiver with regards to the child's behaviour, without the threat of punishment, but rather with warmth, kindness, and intimacy,<sup>28</sup> and with respect for the child's opinions within normal limits.<sup>29</sup>

The controlling feeding style is similar to the authoritarian feeding style; however, parents are very demanding with their children, especially with regards to consuming nutritious food. These parents are less responsible, <sup>24,28,30</sup> are less supportive, highly demanding (for reasons that could not be understood by the children), <sup>31</sup> and *overprotective*. <sup>32</sup> There is either a lack of warmth in the relationship between the parents and their children, or the caregivers exercise full control over the children in feeding (insisting, pressing, or restricting the nutrition). <sup>33</sup>

The scope of the study area is a limitation of this study. Malang Regency has 39 public health centres spread across 33 subdistricts. However, this research was conducted in 3 subdistricts and 3 community public health centres in the Malang District.

#### Conclusion

This study highlighted the importance of mutual parenting in children with ARFID, in terms of the promotive behaviours in the mothers of these children. Mutual parenting was found to correspond with promotive behaviours in the mothers. In addition, mutual parenting may have provided support to these mothers by reducing their level of stress and tension. The reduction in stress and tension may have allowed these mothers to take a more active role in caring for their children. When the level of stress was lowered, parents were more sensitive to behavioural signs from their children. Higher levels of parental stress can generate behavioural problems in children. In sum, the number of children and mutual parenting in interaction with children were found to be the most influencing factors of promotive behaviours in these mothers.

#### Recommendations

Further qualitative research should be conducted to improve the results of this study and to further explore the issue of parental collaboration.

## Source of funding

This project was supported by the University of Muhammadiyah Malang.

#### Conflict of interest

The authors have no conflict of interest to declare.

#### Ethical approval

Ethical approval was received from the research ethics committee of the Faculty of Public Health, Airlangga University (number 333-KEPK). All participants provided written informed consent. Privacy and confidentiality were guaranteed.

#### **Authors contributions**

YBP designed the study, conducted the research, provided the research materials, and collected and organized the data. ADK interpreted the data and wrote the final draft of the manuscript. NLM analysed and interpreted the data. NN analysed the data. AA organized the data and wrote the manuscript. KK critically revised the manuscript for important intellectual content. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

### Acknowledgment

The authors would like to thank Airlangga University and the University of Muhammadiyah Malang for supporting this research.

#### References

- Fisher MM, Rosen DS, Ornstein RM, Mammel KA, Katzman DK, Rome ES, et al. Characteristics of avoidant/ restrictive food intake disorder in children and adolescents: a "new Disorder" in DSM-5. J Adolesc Health 2014; 55(1): 49– 52.
- Kostro K, Lerman JB, Attia E. The current status of suicide and self-injury in eating disorders: a narrative review. J Eat Disord 2014; 2: 19.
- Nicely TA, Lane-Loney S, Masciulli E, Hollenbeak CS, Ornstein RM. Prevalence and characteristics of avoidant/ restrictive food intake disorder in a cohort of young patients in day treatment for eating disorders. J Eat Disord 2014; 2(2 SUPPL. 1): S38.
- Badan Penelitian dan Pengembangan Kesehatan. Riset Kesehatan Dasar (RISKESDAS) 2013. Lap Nas 2013; 2013. pp. 1–384.
- Kementerian Koordinator Bidang Kesejahteraan Rakyat. Kerangka Kebijakan Gerakan Nasional Percepatan Perbaikan Gizi dalam Rangka Seribu Hari Pertama Kehidupan (Gerakan 1000 HPK); 2013. p. 71.
- Frank SJ, Roubal KC, Breitzer GM, Godin JL. Separating the effects of child problems and parent-child interactions on caregiver strain. J Child Fam Stud 2016: 1–14.
- Lavallée A, Aita M, Bourbonnais A, De Clifford-Faugère G. Effectiveness of early interventions for parental sensitivity following preterm birth: a systematic review protocol. Syst Rev 2017; 6(1): 62.
- 8. Verkleij M, van de Griendt E-J, Colland V, van Loey N, Beelen A, Geenen R. Parenting stress related to behavioral problems and disease severity in children with problematic severe asthma. J Clin Psychol Med Settings 2015; 22(2–3): 179–193.

- Griep RH, Toivanen S, van Diepen C, Guimarães JMN, Camelo LV, Juvanhol L, et al. Work—family conflict and selfrated health: the role of gender and educational level. Baseline data from the Brazilian longitudinal study of adult health (ELSA-Brasil). Int J Behav Med 2016; 23(3): 372—382.
- Wang G, Divall S, Radovick S, Paige D, Chen Z, Ji Y, et al. Prevalence and community variation in harmful levels of family conflict witnessed by children: implications for prevention. Prev Sci 2015: 311(6): 587–596.
- Davies WH, Satter E, Berlin KS, Sato AF, Silverman AH, Fischer E a, et al. Reconceptualizing feeding and feeding disorders in interpersonal context: the case for a relational disorder. J Fam Psychol 2006; 20(3): 409-417.
- Kenny L, Walsh BT. Avoidant/restrictive food intake disorder (ARFID). Eat Disord Rev 2013; 24(3): 1–4.
- Strandjord SE, Sieke EH, Richmond M, Rome ES. Avoidant/ restrictive food intake disorder: illness and hospital course in patients hospitalized for nutritional insufficiency. J Adolesc Health 2015; 57(6): 673-678.
- Strandjord SE, Sabik J, Nahra A, Abdulkader Z, Sieke EH, Worley S, et al. Avoidant/restrictive food intake disorder: treatment choice and outcome in the outpatient setting. J Adolesc Health 2016; 58(2): S37—S38.
- Gullan RL, LeRoy M, Boxer P, Mahoney A. Interaction between the parenting alliance and parent-child activities in a clinic-referred sample of 2 to 18-year-olds. J Child Fam Stud 2014; 23(2): 303-311.
- Efendi F, Makhfudli M. Keperawatan Kesehatan Komunitas Teori dan Praktik dalam Keperawatan. Jakarta: Salemba Medika; 2009.
- Huriah T. Metode student center Learning: Aplikasi pada pendidikan Keperawatan. Ed.Pertama. Jakarta: Prenadamedia Group; 2018.
- Notoatmodjo S. Promosi Kesehatan Teori dan Aplikasinya. Jakarta: Rineka Cipta; 2010.
- Savage JS, Rollins BY, Kugler KC, Birch LL, Marini ME. Development of a theory-based questionnaire to assess structure and control in parent feeding (SCPF). Int J Behav Nutr Phys Act 2017; 1–11.
- Azman AHN. Structural equation modeling (SEM): confirmatory factor Analysis (CFA) 2017; 72(1): 1–11.
- 21. Taherdoost H. Sampling methods in research methodology; how to choose a sampling technique for research. SSRN Electron J 2018; 5(2): 18–27 (January 2016).
- 22. Kerzner B, Milano K, MacLean WC, Berall G, Stuart S, Chatoor I. A practical approach to classifying and managing feeding difficulties. **Pediatrics 2016**; 135(2): 70.
- 23. Van Der Horst K, Sleddens EFC. Parenting styles, feeding styles and food-related parenting practices in relation to toddlers' eating styles: a cluster-analytic approach. PLoS One 2017: 1-17.
- 24. Zubatsky M, Berge J. Longitudinal associations between parenting style and adolescent disordered eating behaviors. Eat Weight Disord - stud Anorexia. Bulim Obes 2015: 187–194.
- 25. Sjarif DR, Yuliarti K, Wahyuni LK, Wiguna T, Prawitasari T, Devaera Y. Effectiveness of a comprehensive integrated module using interactive lectures and workshops in understanding and knowledge retention about infant feeding practice in fifth year medical students: a quasi-experimental study. BMC Med Educ 2016; 1–9.
- Hansson LM, Heitmann BL, Larsson C, Tynelius P, Willmer M, Rasmussen F. Associations between Swedish mothers' and 3- and 5-year-old children's food intake. J Nutr Educ Behav 2016; 48(8): 520-529.e1.
- 27. Kimble AB. The parenting styles and dimensions; 2014.
- 28. Ebrahimi L, Amiri M. Attachment styles, parenting styles, and depression; 2017. pp. 1064–1068.

- 29. Cyril S, Halliday J, Green J, Renzaho AMN. Relationship between body mass index and family functioning, family communication, family type and parenting style among African migrant parents and children in Victoria, Australia: a parent-child dyad study. BMC Public Health 2016: 1–10.
- **30.** Fairley L, Santorelli G, Lawlor DA, Bryant M, Bhopal R, Petherick ES, et al. The relationship between early life modifiable risk factors for childhood obesity, ethnicity and body mass index at age 3 years: findings from the Born in Bradford birth cohort study. **BMC Obes 2015**: 1–12.
- 31. Van Der Geest KE, Mérelle SYM, Rodenburg G, Mheen D Van De, Renders CM. Cross-sectional associations between maternal parenting styles, physical activity and screen sedentary time in children. BMC Public Health 2017: 1–10.
- 32. Bao P, Jing J, Jin Y, Hu X, Liu B, Hu M. Trajectories and the influencing factors of behavior problems in preschool children:

- a longitudinal study in Guangzhou , China. BMC Psychiatry 2016: 1-11.
- 33. Power TG, Hughes SO, Goodell LS, Johnson SL, Duran JAJ, Williams K, et al. Feeding practices of low-income mothers: how do they compare to current recommendations? Int J Behav Nutr Phys Act 2015: 1–11.

How to cite this article: Prasetyo YB, Kurnia AD, Masruroh NL, Nursalam N, Hargono R, Ahsan A, Kumboyono K. Factors influencing promotive behaviours in mothers of Indonesian children with avoidant restrictive food intake disorder. J Taibah Univ Med Sc 2019;14(5):454–459.