

POSTER SESSION 03

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Development of the Japanese Version of the Nine Item Avoidant/Restrictive Food Intake Disorder Screen (NIAS)

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INTRODUCTION

Eating disorders are among the psychiatric disorders with the highest mortality rates and have received increasing attention in terms of early intervention and prevention. While anorexia nervosa and bulimia nervosa with body image distortion are widely recognized as eating disorders, Avoidant/Restrictive Food Intake Disorder (ARFID) has been added to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as an eating disorder without body image distortion. ARFID is characterized by avoidance or restriction of eating due to the sensory characteristics of food, loss of interest in food, or fear of aversive consequences. As such, this disorder is difficult to measure with traditional eating disorder scales. One of the scales that measures ARFID symptoms is the Nine Item Avoidant/Restrictive Food Intake Disorder Screen (NIAS; Zickgraf & Ellis, 2018). NIAS is an effective screening tool for ARFID when used in conjunction with traditional eating disorder scales. A scale for measuring ARFID is needed to understand its epidemiological characteristics and actual status, but such a scale does not exist in Japan. Therefore, this study aimed to develop the Japanese version of the NIAS and examine its reliability and validity.

METHOD

Participants included 361 Japanese university students (121 males, 217 females, 1 other; 22 non-respondents; mean age 20.08 years, SD = 1.33). Of these, 118 participated in the retest after two weeks.

Participants completed the following scales: (1) Japanese version of the NIAS, (2) Food Neophobia Scale, (3) Simplified Nutritional Appetite Questionnaire, (4) Visceral Sensitivity Index, (5) Eating Disorder Examination Questionnaire (EDE-Q), and (6) Depression Anxiety Stress Scales 21 (DASS-21).

RESULTS

Confirmatory factor analysis showed a three-factor structure of picky eating, appetite, and fear, suggesting a structure similar to the original version. Cronbach's alpha coefficient was found to be 0.63 for the picky eating subscale, 0.51 for the appetite subscale, 0.77 for the fear subscale, and 0.73 for the total, indicating moderate to good internal consistency except for the appetite subscale. Further, the two-week test-retest reliability was significant, indicating temporal stability of the Japanese version of the NIAS. Regarding validity, the significant correlations among the Japanese version of the NIAS, body mass index (BMI), and DASS-21 showed criterion-related validity. Convergent and discriminant validity were also demonstrated as each subscale of the Japanese version of the NIAS significantly explained each validity criterion when controlling for other eating disorders as measured by the EDE-Q.

DISCUSSION

Although the results indicate a certain degree of reliability and validity, it is necessary to re-examine the equivalence of each item of the Japanese version of the NIAS with the original version and consider the addition of items for internal consistency. Additionally, the criterion-related validity remains unclear since no scale measuring ARFID was employed. Therefore, it is necessary to compare the scores in clinical and non-clinical populations using clinical diagnosis as the validity criterion. Future studies should examine the cutoff scores unique to the Japanese version of the NIAS and adapt it to younger age groups.

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Background

WHAT is ARFID ?

Eating disorder which is characterized by food avoidance/restriction due to **sensory characteristics** of food, **loss of interest** in food, or **fear of aversive consequences**.

(NOT by body image distortion)

☞ It is difficult to measure ARFID with using traditional eating disorder scales.

Nine Item Avoidant/restrictive food intake disorder Screen (NIAS: Zickgraf & Ellis, 2018)

- One of an effective screening tool for ARFID.
- NIAS measures **picky eating**, **appetite**, and **fear** in ARFID.
- The NIAS is a 6-item Likert scale (0. strongly disagree - 5. strongly agree), which allows for quantitative analysis. **such a scale does not exist in Japan...**

Aim of Study

To develop Japanese version of NIAS and examine its reliability and validity.



Method

Procedure

- Survey 1 was conducted between October and November 2022, and survey 2 was conducted two weeks after responses to survey 1.
- Both surveys were conducted online using Qualtrics.

Measures

- NIAS-J
- Eating Disorder Examination Questionnaire
- Simplified Nutritional Appetite Questionnaire
- Visceral Sensitivity Index
- Food Neophobia Scale
- Depression Anxiety Stress Scales 21

Participants'



Analysis

- Confirmatory factor analysis
- Hierarchical Multiple Regression

Result & Discussion

Confirmatory factor analysis & Cronbach's alpha

Table 1 Confirmatory factor analysis loadings and factor correlation

Item	F1	F2	F3	
Factor 1: Picky Eating (n = .63)				
2. 私は他の人たちが食べるほとんどのものが好きではない	.719	.090	.000	
1. 私は偏食だ	.588	.000	.000	
3. 私が好きな食べ物と食べるリストは、食べない物のリストより短い	.558	.000	.000	
Factor 2: Appetite (n = .51)				
6. 本当に好きな食べ物を食べているときでも、食事のときに十分な量を食べることは難しい	.000	.818	.000	
5. 私は、1日の中で無理して規則正しく食事をとるようにしている、または食事のたびに無理して十分な量を食べるようにしている	.000	.420	.000	
4. 食べることにあまり興味が無い。私は他の人たちよりも食欲が低いようだ	.000	.384	.000	
Factor 3: Fear (n = .77)				
9. 私は不快感や悪苦しさ、嘔吐が心配で、食べることを避けたり先送りにする	.000	.000	.863	
7. 私は不快感や悪苦しさ、嘔吐が起こるのが心配で、特定の食べ物を制限している	.000	.000	.780	
8. 不快感や悪苦しさ、嘔吐が心配で、少しの量しか食べない、およびまたは規則正しく食べない	.000	.000	.629	
	Factor correlation	F1	.363	.407
		F2	1.000	.546

$\chi^2(24) = 46.35, p = .004, CFI = .969, RMSEA = .051, SRMR = .041, GFI = .972$
Total $\alpha = .73$

- CFA showed a three-factor structure of picky eating, appetite, and fear.
- ☞ suggesting a structure similar to the original version.
- Two-week test-retest reliability was significant ($ICC(1, 2) = .82, p < .001$)

Conclusion & Limitation

- Although NIAS-J has a certain degree of reliability and validity, it is necessary to re-examine the equivalence of each item between Japanese version and original version.
- it is necessary to compare the scores in clinical and non-clinical populations using clinical diagnosis as the validity criterion.

Hierarchical Multiple Regression

Table 2 Convergent/discriminant validation: eating behavior of analogue clinical group

Measure/Subscale		Step1	Step2
		(NIAS only)	(controlling for EDE-Q)
		β	β
Food neophobia scale	PE	.443*	.471*
	AP	-.253	-.313
	FE	-.070	-.002
	EDE-Q		-.263
Simplified nutritional appetite questionnaire	PE	-.221	-.197
	AP	-.709*	-.739*
	FE	-.424*	-.385*
	EDE-Q		-.156
Visceral sensitivity index	PE	.177	.178
	AP	.220	.218
	FE	.609*	.611*
	EDE-Q		-.006

PE: picky eating, AP: appetite, FE: fear, EDE-Q: Eating disorder examination questionnaire
* $p < .10$, ** $p < .05$, *** $p < .01$

- It demonstrated that each subscale explained validity criterions even when controlling for other eating disorders symptoms.
- ☞ NIAS in combination with other scales measuring eating disorders may provide a more precise screening for eating disorders.



PDF of the comparison of original version and back-translation

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発表概要報告書

私はWCCBTにおいて、私はボディイメージの歪みや痩身願望を伴わない摂食症の一つである回避・制限性食物摂取症（avoidant/ restrictive food intake disorder, 以下、ARFID）のスクリーニングツールであるNine Item ARFID Screen（以下、NIAS）の日本語版の作成を試みた研究についてポスター発表を行った。発表では、ARFIDの特異性や日本においてARFID症状を量的に測定するツールがないことを背景として述べ、NIAS日本語版の因子構造、内的整合性、再検査信頼性、および収束的・弁別的妥当性の検討結果を示した。また、国際学会でこそ項目文のバックトランスレーションと原版の項目文の等価性について議論が可能であると考え、比較用のPDFを用いてネイティブの意見を取り入れることも意図した。

先述した通り、国内におけるARFIDの測定の困難であることも影響して、ARFIDについての研究は症例報告等にとどまっている。一方で、国外では大規模の疫学的研究やRCTからARFIDについて知見が広がっており、WCCBTでの発表においてもARFIDについてより専門的な視点から議論されると想定していた。しかし実際には、ポスターを閲覧した参加者の中でARFIDという疾患自体を聞いたことがあるという方は少なく、頻繁に他の摂食症との違いや具体的な症状について説明していた。これについて、英語での説明が求められたため、はじめは知っている単語を並べて理解してもらおうと必死になっていた。しかし、説明を重ねていくごとに、この言葉を用いた場合に相手の理解した様子が見られるといった言葉の選び方を学び、最終的にはより簡潔な説明が可能となった。

また、本学会では日本からの参加者の中でARFIDの症例に携わった経験のある方と意見交換ができた。尺度作成を行う中で先行研究や質問紙項目への回答からARFIDへの理解を深めている私にとって、現場での臨床像について体験的な知識を提供していただいたことは、これまでの自身の見解をより裏付けること、および新しい視点を得ることの両側面に影響をもたらした。このような科学者—実践家モデルを体現するような経験ができたことも学会参加において印象的なものであった。

私にとって、WCCBTは国内外を問わず発表者として参加する初めての学会であった。言葉を的確に扱うことも難しい中で理解してもらえようとする説明をしようと工夫する経験は、今後の研究活動において扱うテーマをより深く理解することの重要性を改めて認識させるものとなった。また、ポスター発表でのディスカッションから、自身の研究テーマであるARFIDが世界的に研究途上であることも実感した。これらのことから、作成した尺度を使用したこの先の研究活動にあたって、一つ一つの研究を慎重に進めながらエビデンスを蓄積していく必要があると考える。

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