

# Exploring Food-Related Coercion in Intellectual Disabilities: A Study on Challenges and Support in Norway

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**Introduction:** This article explores the use of coercion to address significant food-related challenges among individuals with intellectual disabilities in Norway. The goal was to examine how food-related coercion differs from non-food coercion and to document the challenges and support methods, given the limited information available on this topic. The study aims to enhance understanding and potentially reduce the use of coercion.

**Methods:** The study analyzed coercive decision documents from municipalities using quantitative cross-sectional and cohort-longitudinal designs. The cross-sectional design included 120 decisions from 2020, comparing food-related (44) and non-food-related (76) coercion. The cohort-longitudinal design tracked the 44 individuals subjected to food-related coercion from 2018 to 2021, identifying characteristics of these decisions over four years.

**Results:** In the cross-sectional analysis (n=120), food-related coercive measures were linked to overweight, diagnoses of stomach and intestinal issues, and general somatic health challenges. The average age was higher. The cohort-longitudinal study (n=44) highlighted a distinction between challenges related to consuming food and managing food itself. There was limited support and follow-up from general practitioners and clinical dietitians.

**Discussion:** The study discusses the relationship between health knowledge and behavioral challenges in implementing coercion to regulate access to food and drink. It also addresses how behavior regulation can overshadow the need for measures related to preventing and managing lifestyle challenges.

**Conclusion:** There is a need for comprehensive expertise in health and lifestyle diseases within services for people with intellectual disabilities. The lack of follow-up from general practitioners and dietitians, along with the absence of systematic interventions, indicates a significant gap in support for issues related to obesity, overeating, and uncritical food intake. Legislation aims to prevent significant damage and the use of coercion but may overshadow underlying lifestyle diseases by focusing on behavioral challenges without addressing lifestyle issues.

**Keywords:** intellectual disability, coercion, food related challenges, municipal services, executive skills, nutrition

## Introduction

Norwegian services for people with Intellectual disabilities (ID) are community-based, provided in private homes. Like the general population, people with ID face a wide range of food choices that can lead to lifestyle challenges and diseases.<sup>1</sup>

Food is a basic need, not only for nutrition but also for various daily activities.<sup>2,3</sup> Restrictions on access to food present ethical challenges. When others make overarching about food-related challenges, it deprives individuals of their freedom to choose and act as a causal agent in one's own life.<sup>4,5</sup> The ethical dilemmas revolve around providing professionally sound services, determining what is best for the person, and respecting their right to self-determination and autonomy.<sup>6</sup>

The purpose of Chapter 9 of the Health and Care Services Act is to prevent individuals with ID from causing significant damage to themselves or others and to limit the use of coercion. Services should be provided in collaboration with the individual, and municipalities are obligated to minimize the use of coercion. Other solutions must be tried before implementing coercive measures. Coercion can only be used when it is professionally and ethically justifiable. The assessment should emphasize how intrusive the measure is for the individual, ensuring it is necessary and proportionate to the purpose. Coercion can only be used to prevent or limit significant damage.

Coercion may be used in the following cases: a) Harm-preventing measures in emergency situations b) Planned harm-preventing measures in repeated emergency situations c) Measures to meet the user's basic needs for food and drink, clothing, rest, sleep, hygiene, and personal safety, including education and training measures.<sup>7</sup>

This study is based on c) measures to meet the user's basic needs for food and drink.

The risk for overweight and obesity is higher in the population of ID than in the general population.<sup>8–10</sup> The risk increases with mild or moderate ID, having ID and Down syndrome or other diagnosis-specific syndromes (eg, Prader-Willi, Williams syndrome, Smith-Magenis syndrome),<sup>11–14</sup> using medication that causes weight gain, not participating in physical activities and consuming high- sugar, fast food and high- energy/low nutrient food. Those with more severe ID face an increased risk of malnutrition and underweight.<sup>15–17</sup>

Studies on food intake among people with ID often focus on specific syndromes and their relation to nutrition.<sup>11–13</sup> Other studies examine physical barriers to food intake, such as swallowing problems, respiratory issues, dental health, and the danger of choking.<sup>18,19</sup> Some studies look at meal support, where restrictions are placed on caloric intake or the type of food consumed.<sup>18,20</sup>

In studies from the UK, Sweden and the Netherlands, in-home carers were interviewed about food access restrictions in their services to people with ID.<sup>20–22</sup> These studies refer to restrictive practices such as offering predetermined choices, locking refrigerators, regulating the amount and type of food and drink, and storing food out of reach. These interventions were not described as restrictions or coercion but as necessary care. Despite limiting self-determination, these practices did not fall under legislation regulating the use of coercion.

## Eating Behavior and Executive Functions

Eating activates the brain's reward system, which involves "liking" and "wanting". These drives relate to the pleasure and motivation to eat, known as the hedonic system. "Liking" refers to the pleasure that affects the reward system, while "wanting" is the desire triggered by the sight and smell of food, motivating a person to seek a reward. Unhealthy foods (mainly sugary and fatty foods) and the pleasure derived from eating them can often override the homeostatic system—a self-regulating system that maintains energy balance and appetite regulation—leading to increased food intake even when the body is full.<sup>23,24</sup> Overcoming this hedonic override requires individuals to direct their thoughts and actions towards their own goals through self-regulation to resist the immediate reward that food provides.<sup>25</sup>

Making food choices involves being rational, reflective, and determined. These management qualities are related to executive functions which are crucial for flexibility and purposeful behavior.<sup>26</sup>

Diagnostic characteristics of ID include challenges with executive functions and adaptive skills in various areas of life, with different degrees of challenges depending on the degree of ID and the support provided to manage different aspects of life.<sup>27–30</sup> People with ID are considered more vulnerable, with a reduced capacity to make rational dietary choices and to understand the long-term consequences of the relationship between diet and disease.<sup>31</sup> As such, people with ID often depend on regulatory support from their surroundings.<sup>32</sup>

Despite the increased vulnerability of people with ID to developing lifestyle diseases, research on physical health conditions among this population is sparse and studies examining the complexity of health challenges is limited. This results in a lack of strategies for prevention and treatment.<sup>2,12,19,33–35</sup> Moreover, municipal services lack specialized expertise on nutrition for persons with ID.<sup>36</sup> Consequently, few interventions have been designed for people with ID, where the theory of managing nutrition and weight (obesity and malnutrition) is translated into practical

implementation.<sup>14</sup> The ultimate consequence of the lack of preventive and treatment interventions is a shortened life due to poor health.<sup>14,37</sup>

Due to the scarcity of standardized interventions, we know little about the amount and quality of follow-up provided in services for people with ID. There are few studies that specifically examine the regulation of food for people with ID, the challenges related to nutrition, and how to provide support for these challenges.<sup>38</sup>

In Norway, food restrictions are defined as deprivation of autonomy and self-determination, and thus, are classified as coercion if regulated. Any use of coercion requires an individual decision, where the services must professionally and ethically justify why coercion is necessary, what has been done to prevent its use, and what is being done to minimize or end the use of coercion.<sup>7,39</sup> If a person with ID is at risk of developing significant damage due to dietary health challenges and opposes follow-up, the municipality can collaborate with the Habilitation Specialist Health Service and the State Administrator to decide on the use of coercive measures to prevent or address the significant damage.<sup>7</sup> Significant damage that comes from food related challenges is described as development of diabetes, cardiovascular diseases, immobility, obesity, malnutrition, strain injuries and decreased participation in activities and work.<sup>2,7</sup>

The Norwegian Health and Care Services Act regulates municipal health and care services, and Chapter 9 specifically addressing the use of coercion towards persons with ID.<sup>39</sup> The legislation mandates continuous efforts to reduce the use of coercion, including challenges related to food regulation.

In 2021, a total of 1,794 individuals with ID were subjected to coercive decisions in Norway. Of these, 581 (32%) experienced coercive measures that limited their access to food and drink.<sup>40</sup> Limiting access to food and drink is one of the most common coercive measures for people with ID in Norway.

Studies focusing on food and coercive regulation are scarce, while research on food, specific diagnoses, and related lifestyle challenges is well-represented. However, regulation through coercion is not the main theme in these studies. Given the limited data on the use of coercion in response to food-related challenges, our study provides a unique opportunity to explore the content of such coercive decisions and practices in central Norway.

This study aimed to describe the coercive decisions that regulate food challenges, in private homes for adults with intellectual disabilities. The research questions were as follows:

- 1) What differentiates food-related coercion compared to non-food coercion decisions?
- 2) What characterizes coercive decisions that limit access to food in a 4-year period?

## Methods

### Study and Sample

The decision template for coercive use is a standardized document with headings for areas to be documented by the municipal services.<sup>41</sup> The template does not include checkbox columns and is instead based on free text. In this study, free texts were converted into statistically measurable variables.

In both study designs, some variables were derived from headings in the decision template and the circular to the legislation.<sup>7</sup> Additionally, all text in the decisions was reviewed and variables and values were designed based on the information in the texts.<sup>42,43</sup> A coding scheme with guidelines for each variable was prepared, meeting five requirements: reflecting the purpose, being exclusive, exhaustive, independent, and derived from a single classification principle.<sup>44</sup> These guidelines ensured measurement validity and reliability, making sure that information in the free text was interpreted and recorded according to the guidelines for each variable. Random samples were taken to ensure consistency between interpretation and coding, within the research group.

This method resulted in a large amount of data variables. To minimize the data material, an analysis was performed to consolidate information into concepts, where the content could combine several variables into dichotomous values (yes/no) for occurrence in the decision. When preparing the coding scheme and variables, missing documentation in the coercive decisions was recorded as “no” for the selected variable. Therefore, there are

no omissions in the selection. The data collection timeframe of this study was one year (2021–2022), and data analysis was performed in 2023. The sample consist of population data (people with ID) where the municipality exercises coercive decisions against these individuals. The sample for this study is from the central region of Norway, represented by 38 municipalities, including Trondheim, which is the fourth largest Norwegian municipality. Similarities in demographics between the central region and other regions in Norway mean that the study can be generalized, also considering the distribution of type of coercive decisions and content.<sup>45</sup>

Using a cross-sectional design, this study compared food-related coercion decisions with all other coercion decisions in terms of crosstabulation with a range of potential predictors. The sample comprised all approvals for coercive measures (n=120) by the State Administrator in the central region of Norway in 2020. In this sample, 44 persons had been exposed to coercion measures that restricted their access to food, and 76 experienced other types of coercion decisions. The aim was finding out if and what significant differences there was between the two groups.

A Cohort-longitudinal design was used to follow the 44 persons (with food related coercive decisions in 2020) for 4 years (from 2018 to 2021). Quantitative content analyses were used to identify characteristics, and descriptive frequencies were used to track these characteristics from year to year in the 4-year period.

The participant inclusion criteria for both designs were (1) having a formal diagnosis of intellectual disability; (2) being subjected to a decision on coercion as part of the services in the municipality; and (3) not actively withholding consent (by either the client or the client's representative).

## Cross-Sectional Design Comparing Food-Related Coercion and Non-Food-Related Coercion

Data from 23 items on the coercion approval form for each decision were extracted for analysis. These items covered reported diagnoses, Undiagnosed health challenges, milieu therapy and Health follow-up from GP, as shown in Table 1.

The items were developed through coding the texts and only include information documented in the decisions. All diagnoses were recorded as they were present, except for self-harm and pain. These diagnoses either had detailed descriptions or were simply labeled as “self-harm” or “pain”. For example, a diagnosis of self-harm could be detailed (eg, hitting the head, pounding the head, biting oneself) or simply labeled as “self-harm”. The same applied to “pain” (chronic pain condition, muscle pain, skeletal pain, neuropathy). Self-harm and pain were converted to a yes/no diagnoses regardless of the description.

Undiagnosed health challenges included somatic health and mental health challenges. For somatic health challenges, we noted any mentioned challenges without a confirmed diagnosis. These were categorized based on the type of challenge described (eg, skin, dental health, muscle, heart, pain, self-harm, walking function/balance, sleep, metabolism, stomach and intestinal issues, overweight, and obesity). Mental health challenges were also categorized (eg, depressive episodes, anxiety, dementia, compulsive behavior, delusions, stress, and psychosis). All variables were later converted to yes/no based on whether they were somatic or mental health challenges.

For milieu therapy, we checked if there was documented participation from the user and guardian in designing measures, and if the person opposed the coercive measures. We also recorded if there was a separate topic on self-determination and if exemptions from the educational requirement were granted by the State Administrator, (exemptions mean that the legal requirement for trained personnel to be present during coercive measures is waived). Guidance from the Habilitation service included whether there was guidance beyond the mandatory guidance when writing the coercive decision.

Follow-ups from the GP were registered for 2020. If the decision document referred to the year of the last GP consultation, we also recorded whether there was documented GP follow-up from 2018 to 2020.

**Table 1** Comparing the Population with Food-Related Coercion (n=44) to the Population with Other Coercion Measures (n=76) in the year 2020

	Food Restrictions N=44	%	Other Coercive Restrictions N=76	%	Chi-Square /t-Test	P Value
Female	18	40.9	29	38.2	0.089	0.766
Male	26	59.1	47	61.8		
Age	Mean= 47. SD=12.8),		Mean=36.9 SD=13.8		T=4.034	<b>0.001</b>
<b>ID severity</b>						
Mild and Moderate ID	16	36.4	29	38.2	0.390	0.981
More severe ID	15	34.1	25	32.9		
Unspecified	13	29.5	22	28.9		
<b>Diagnosis</b>						
Autism	15	34.1	30	39.5	0.344	0.557
Behavioral and emotional disturbance	1	2.3	11	14.5	4.609	<b>0.032</b>
Anxiety	7	15.2	7	9.2	1.213	0.271
Affective disorders	4	9.1	4	5.3	0.656	0.418
Diabetes	3	6.8	2	2.6	1.223	0.269
Cerebral palsy	2	4.5	11	14.5	2.844	0.092
Self-harm	6	13.6	7	9.2	0.565	0.452
Obesity	10	22.7	5	6.6	6.644	<b>0.010</b>
Stomach and intestinal challenges	7	5.8	3	2.5	5.220	<b>0.022</b>
Pain	3	6.8	4	5.3	0.123	0.726
<b>Undiagnosed health challenges</b>						
Somatic health challenges	20	45.5	19	25	5.315	<b>0.021</b>
Mental health challenges	13	29.5	18	23.7	0.500	0.480
<b>Milieu therapy</b>						
User involvement	8	18.2	9	11.8	0.921	0.337
Guardian Involvement	22	50	38	50	0.000	1.000
Recipient opposing the coercive measure	3	6.8	15	19.7	3.648	0.056
Self-determination	19	43.2	24	31.6	1.632	0.201
Exemption from the educational requirement	22	50	42	55.3	0.310	0.578
Guidance from the Habilitation service during the decision period (more than once)	16	36.4	41	53.9	3.455	0.063
<b>Health follow- up from GP</b>						
Follow-up by a GP in 2020	14	31.8	22	30.3	0.109	0.741
Follow-up by GP from 2018 to 2020	23	52.3	33	43.4	0.887	0.349

**Notes:** Significant differences in bold numbers. P-value testing (2-sided).

## Cohort-Longitudinal Design for What Characterizes Coercive Decisions That Limit Access to Food in a 4-year Period

To gain insight into food-related coercion, we examined the described challenges, the types of coercion used, other supportive methods employed alongside coercion, and the health and nutrition follow-ups conducted during the period. We used descriptive frequencies for each year to analyze these aspects. Since the categories were in free text, we created variables based on the types of challenges described in the decisions. The analysis involved categorizing the information, allowing multiple variables to be combined into a single dichotomous variable with yes/no values for their occurrence in the decision.

## Challenges Related to Food

### Category 1: Overweight, Overeating, Uncritical of Food Type

In this category, the challenge was related to the intake of food, both in quantity and type. The decisions described the person as overweight, consuming excessively beyond their nutritional needs, and being uncritical of whether the food was prepared or not. Examples included eating frozen food, spices, and bagged food.

### Category 2: Malnutrition Causing Health Damage

In this category, employees monitored food intake at specific times, carefully tracking calorie intake to ensure the person maintained proper nutrition. This was necessary because the person resisted nutritional intake in various ways.

### Category 3: Challenges with Handling Food

This category involved issues with food destruction and waste disposal, such as throwing food in the toilet, out of the window, or emptying it on the floor.

### Category 4: Compulsive Behavior Towards Food

The decisions described compulsive and/or ritualistic behavior related to food. The food had to be stored, counted, sorted by size, subject, or content, and handled in a specific order compulsively. The person's focus on these rituals could become so intense that it overrode other desired activities.

## Types of Coercive Measures

### Category 1: Storage of Food Outside the Person's Apartment

In this category, food was stored outside the person's apartment. There were no restrictions on the type or quantity of food, only on access to it.

### Category 2: Locked Refrigerator, Storeroom, Food Cupboards, or Kitchen Door Inside the Apartment

This category involved locking the refrigerator, storeroom, food cupboards, or kitchen door inside the apartment. Like Category 1, there were no restrictions on the type or quantity of food, only on access.

### Category 3: Portioning or Limiting Certain Types of Food

In this category, both the types and quantities of food were regulated. This involved portioning food or limiting certain types of food.

## Methods Used for Support, in Addition to Coercive Measures

We focused on methods to support individuals with food-related challenges. The template heading is "solutions other than coercion" requiring detailed descriptions. The study examined whether the decision included documentation of any support provided and the type of support given.

### Category 1: No Additional Interventions

No extra support measures were documented.

### Category 2: Meal Plans

Meal plans were either documented with the phrase "we use meal plans" or included detailed descriptions and guidance for support.

### Category 3: Communication Training

This training aimed to reinforce vocabulary on food-related topics. It involved training and/or practice on words to describe food and to choose between foods and products.

### Category 4: Cognitive Therapy

The decisions mentioned participation in cognitive therapy but did not specify what the therapy was intended to address or who performed it. It was only stated that the person had cognitive therapy related to food challenges.



## Health Follow-Up by GP and Clinical Dietitians

Follow-up was categorized into “yes” or “no” for each year. In the coercive decisions, follow-up by the GP and dietary specialist was either documented as having been carried out, or no information was provided about follow-ups. When no information was given, we interpreted this to mean that no follow-up had been provided and categorized as “no”.

## Ethical Approval and Compliance with the Declaration of Helsinki

This study was conducted in accordance with the principles set forth in the Declaration of Helsinki. It was also approved by an independent ethics committee to ensure all ethical standards were upheld. All participants were informed about the study’s purpose, procedures, potential risks and benefits, and their right to withdraw from the study at any time without consequences. Information about the study was sent to the client’s appointed guardian, who assessed the participant’s consent competence. Out of the 132 eligible participants, 12 chose not to provide consent, resulting in a total of 120 participants.

The documents used in this study constitute clinical data that are routinely collected to monitor healthcare quality. The decision records are stored in the State Administrator’s data archives. Access to the archives requires approval from both the Regional Ethics Committee (REK) and the State Administrator (REK ref: 203815). The study itself was also approved by REK. In addition, we also needed informed consent to access the records from the person with ID or the person’s guardian.

The coercive decisions were accessed online from a secure server and all extracted data were de-identified and anonymized prior to analysis.

## Analysis

All data were manually loaded into an SPSS file (version 27) for analysis and extracted by the first author, from the electronic files. There were no missing data on any variable, meaning that we had access to all documents and the variables in use.

In the cross-sectional design, the analyses were conducted using crosstabulation with Chi-square/*t*-test and P-value testing (2-sided)<sup>46</sup> to compare populations exposed to food and non-food coercive measures.

In the cohort-longitudinal design, which presented the sample qualities between 2018 and 2021, descriptive frequencies of the variables were used for each year to characterize the decisions over the 4-year period.

## Results

### Cross-Sectional Design Comparing Food-Related Coercion and Non-Food-Related Coercion in 2020

The year 2020 was chosen as a starting point for comparison with the population (*n*=120). The average age was higher in people subjected to food-related coercion, with a mean of 47.2 years (*SD*=12.8), compared to 36.9 years (*SD*=13.8) for those subjected to non-food coercion (*P*= 0.001). Diagnoses of obesity, stomach and intestinal challenges, and general health issues were more prevalent in the food-related coercion group. In contrast, diagnoses of behavioral and emotional disturbances were significantly higher in the group exposed to non-food-related coercion (Table 1).

### What Characterizes Coercive Decisions That Limit Access to Food in a 4-year Period (2018–2021)?

There are no statistical analyses linked to the variables, but a frequency that is interpreted as less or more occurrence for each year. This only shows the number registered between the years. The starting point was the 44 persons with food related coercive measures in 2020. Following these persons’ coercive records showed that the number of persons who experienced food-related coercion varied in the period of 2018–2021, from the least (*n*=34) in 2018 to the most (*n*=44) in 2020. The challenges with overweight, overeating, and uncritical intake increased

**Table 2** 4-year Follow-Up; Descriptions of Challenges, Type of Coercion, Methods Used in Addition to Coercion, and Follow-up from a GP and Clinical Dietitians

	<b>2018 (n=34)</b>		<b>2019 (n=41)</b>		<b>2020 (n=44)</b>		<b>2021 (n=41)</b>	
<b>Subcategories</b>	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>
<b>Challenges related to food</b>								
1. Overweight, Overeating, and uncritical intake	<b>24</b>	70.5	<b>33</b>	80.5	<b>35</b>	79.5	<b>33</b>	80.5
2. Malnutrition	<b>2</b>	5.8	<b>1</b>	2.4	<b>3</b>	6.8	<b>2</b>	4.9
3. Destruction of food and food waste	<b>3</b>	8.9	<b>3</b>	7.3	<b>3</b>	6.8	<b>3</b>	7.3
4. Compulsive relationship with food	<b>3</b>	8.9	<b>4</b>	9.8	<b>3</b>	6.8	<b>3</b>	7.3
5. Not stated the food challenges	<b>2</b>	5.8	<b>0</b>	0	<b>0</b>	0	<b>0</b>	0
<b>Type of coercive measures used</b>								
1. Storing food outside the apartment	<b>14</b>	41.2	<b>11</b>	26.8	<b>13</b>	29.5	<b>9</b>	22
2. Locked refrigerator, cupboard or kitchen	<b>12</b>	35.3	<b>13</b>	31.7	<b>16</b>	36.4	<b>19</b>	46.3
3. Portioning of food and types of food	<b>8</b>	23.5	<b>17</b>	41.5	<b>15</b>	34.1	<b>13</b>	31.7
<b>Methods used for support, in addition to coercion</b>								
1. No additional interventions	<b>10</b>	29.4	<b>10</b>	24.4	<b>12</b>	27.3	<b>13</b>	31.7
2. Meal plans	<b>18</b>	52.9	<b>25</b>	61	<b>24</b>	54.5	<b>20</b>	48.8
3. Communication training	<b>4</b>	11.8	<b>5</b>	12.2	<b>6</b>	13.6	<b>6</b>	14.6
4. Cognitive therapy	<b>2</b>	5.9	<b>1</b>	2.4	<b>2</b>	4.5	<b>2</b>	4.9
<b>Follow-ups from GP and Clinical dietitians</b>								
1. Follow-ups from GP on food challenges	<b>11</b>	32.3	<b>10</b>	24.3	<b>11</b>	25	<b>12</b>	29.2
2. Follow-ups from Clinical dietitians	<b>7</b>	20.5	<b>5</b>	12.1	<b>6</b>	13.6	<b>5</b>	12.1

**Notes:** The number of persons is highlighted.

from (n=24) in 2018 to (n=33) in 2021. There was also a change in the type of coercive measures that were carried out. While storing food outside of the apartment decreased, measures to control access to food within the individual's own apartment increased (either through food being locked away or through the portioning of food). The numbers are stable in terms of other type of challenges, support measures and follow-up from GPs and clinical dietitians, as shown in Table 2. The table also shows that about a quarter of the population lack documented support measures and follow-up for health and nutrition challenges, despite most of the persons having challenges in overweight, overeating, and uncritical intake of food.

## Discussion

The significant findings of this study show that individuals subjected to decisions limiting access to food face greater health challenges, both diagnosed and undiagnosed, and are older than those subjected to other types of coercion. Conversely, those subjected to other types of coercive measures have a significantly higher incidence of behavioral and emotional disturbance.

Among the population with restricted access to food, most individuals have challenges related to overweight, overeating, and uncritical intake of food. Despite these issues, they have limited access to health and nutritional follow-



up. The significant findings of this study show that individuals subjected to decisions limiting access to food also have greater health challenges, both diagnosed and undiagnosed, and are older than those subjected to other types of coercion.

When there is a significant prevalence of health-related challenges, it requires good competence in general somatic health, somatic health related to ID, specific syndromes, and knowledge of lifestyle diseases. Individuals with ID often rely on others' assessments regarding their health due to their cognitive abilities and competence to recognize and report health challenges themselves<sup>30</sup>. Most participants in our study were overweight, which often leads to lifestyle diseases. Recognizing early symptoms and having knowledge of preventive work is necessary to prevent lifestyle diseases, which, if untreated, develop into significant health challenges. Significant damage related to food challenges is exemplified in the National Professional Guidelines,<sup>47</sup> with the development of diabetes, cardiovascular diseases, immobility, overweight, underweight, and lack of participation in activities.<sup>2,48</sup> These examples are related to the development of lifestyle challenges and lifestyle diseases.

In a study by Plasil et al (2024) they interviewed doctors and family members, conducted focus group interviews with staff from a cardiac ward, home care staff, and obesity clinic staff about barriers to preventing, diagnosing, and treating individuals with ID related to cardiovascular disease. The study results show that cardiovascular challenges are not detected as symptoms are attributed to characteristics of the ID diagnosis. The study also shows that home care staff lacked competence and focus on lifestyle diseases, and few individuals with ID received treatment for cardiovascular challenges and overweight.<sup>49</sup> The attributed characteristics is referred to as diagnostic overshadowing cardiovascular disorders and the ID diagnosis.

Diagnostic overshadowing is a known phenomenon when it comes to individuals with ID exhibiting challenging behavior, where the behavior is attributed to the ID diagnosis and overshadows mental disorders such as anxiety and depression.<sup>50</sup> Knowledge of diagnostic overshadowing is important for uncovering, distinguishing, and understanding different symptoms, as well as following up on the areas that stand out. In our study, where those with food regulation have significantly more extensive health challenges, both diagnosed and undiagnosed, these individuals should also have had significantly higher follow-up from their GPs. However, there are no significant differences between food-related and non-food-related coercive decisions. The lack of documentation of health follow-up may indicate that the measures of keeping food out of reach and portioning out food overshadow other possible solutions and follow-ups for the challenges related to obesity, overeating, and uncritical consumption of food. Although it is not a question of diagnostic overshadowing, it seems to be a barrier that overshadows methodological work related to lifestyle challenges.

A question that must be addressed in further research is whether the measures in the coercive decisions contribute to overshadowing underlying lifestyle diseases.

Services for individuals with ID need professional improvement to meet evidence-based practice,<sup>51,52</sup> as the lack of an evidence-based approach can be reflected in the significant differences in health challenges our study has uncovered.

The fact that individuals subjected to food-related coercion have a higher average age can be due to several reasons. Kolset (2020) points out that services wait too long to implement measures, not until significant health damage has occurred. Developing significant health damage takes time and can contribute to the explanation of the higher average age (Kolset, 2020). However, it may also indicate that it is difficult to alter lifestyle, which means that the coercion decisions are continuously maintained. At the same time, it may be that the person subjected to coercion does not have the executive skills to assess and self-regulate food intake, so the need for external regulation persists.<sup>30</sup> On the other hand, it is difficult for staff to balance between a paternalistic approach and the person's right to self-determination<sup>6</sup>. Lifestyle diseases develop over time, and there will be situations that do not constitute significant damage in the present and therefore difficult to regulate according to the legislation.<sup>7</sup> The legislation is intended to prevent significant damage but also to prevent the use of coercion. Other solutions must be attempted before a coercion decision can be made. Prevention and other solutions need more attention in services for individuals with ID, especially when it comes to having a professional focus on lifestyle and diseases. It is the preventive work that can lead to less use of coercion. Again, it comes back to staff's knowledge of health and preventive work. This knowledge must also be shared with the person facing the challenge through adapted

education and decision support. Adapted education and decision support are necessary to make informed choices about one's situation.<sup>51</sup>

On the other hand, those subjected to other types of coercion have a significantly higher prevalence of behavioral and emotional disorders. This distribution is natural as it involves very different issues and challenges. This is also the case in research on the topic. Challenging behavior<sup>53,54</sup> and coercion are well represented in research. Both prevalence studies, different types of behavior, different types of coercion, and interventions.<sup>55–60</sup> This contrasts with research on food and the use of coercion.

## What Characterizes Coercive Decisions That Restrict Access to Food Over a 4-year Period (2018–2021)?

### Challenges Related to Food

In 2020, data was collected from 44 individuals subjected to coercive measures related to food. Of these, 34 had measures in place for three consecutive years, and some for four years, indicating that few measures are terminated within a four-year period. The main challenges was;

Obesity, overeating, and uncritical intake: Nearly 80% of cases from 2019–2021 were related to these issues. Food destruction, food waste, and compulsive behavior: Approximately 15% of cases fell into this category. Malnutrition: This accounted for approximately 5% of the cases.

Despite the prevalence of these issues, there is no specific research on coercive measures related to food and compulsive routines for individuals with ID. However, there is extensive research on autism spectrum disorders, rigid and compulsive behavior<sup>61</sup> and autism and sensory sensitivity.<sup>62</sup> The challenges described in these measures may be related to compulsive behavior and sensory sensitivity. The significant damage to be prevented includes substantial economic challenges due to food waste and food destruction, as well as alleviation of stress and discomfort associated with compulsive behavior. These economic challenges and the alleviation of stress and discomfort require further research in coercion practices.

### Type of Coercive Measures Used

Regardless of the type of challenge referred to, keeping food away from the person or regulating their intake was the methods in use. It is challenging to determine whether these methods are the most effective for managing significant damage related to food issues. The measures in place do not address the underlying challenges highlighted in the documents. Restricting access to food may prevent immediate problems, but it does not address the root causes. With so many individuals facing issues like obesity, overeating, and uncritical food intake, there is a lack of assessment regarding whether these individuals have eating disorders such as overnutrition, undernutrition, or binge-eating disorder.<sup>63</sup> This gap in evaluation highlights the need for a more comprehensive approach to understanding and treating food-related challenges.<sup>64</sup>

### Methods Used for Support, in Addition to Coercion

Meal plans are used to support individuals, but fewer people have such plans compared to the number of individuals facing food intake challenges, including both overnutrition and undernutrition.

Meal plans can help structure meals and provide an overview of what and how much food should be consumed throughout the day. Some meal plans also include activities of daily living (ADL), such as planning and conducting shopping and preparing food.<sup>31,65</sup> Training and systematic interaction on health, nutrition, and cooking are beneficial for individuals with ID, bridging gaps in healthcare and helping prevent lifestyle challenges.<sup>66</sup>

Lack of support method descriptions included Approximately 25% of the decisions. This may reflect a lack of follow-up methods for food related challenges.<sup>14</sup> It may also indicate that it is easier to regulate than to invest time and resources on other solutions.<sup>60</sup>

A 2020 study shows that challenges with obesity and lack of physical activity are two distinct lifestyle challenges. The study also indicates that these two underlying challenges require completely different methodological approaches. It

suggests that physical activity is more important than regulating food to avoid early death among adults with ID.<sup>67</sup> There are also no assessments of underlying eating disorders, despite descriptions of challenges that can be linked to classic diagnostic symptoms and behaviors associated with eating disorder diagnoses.<sup>68–70</sup> Support methods for lifestyle-related challenges are not described in the coercive decisions. Despite the lack of documentation in the coercive decisions, other solutions may have been attempted previously without achieving desired results. It is concerning that methodological approaches are not described in the coercive decisions, which is a legal documentation requirement.<sup>7,41</sup>

## Follow-Ups from GP and Clinical Dietitians

Follow-up from general practitioners and clinical dietitians has been limited, with only 23 individuals receiving follow-up from a GP over four years. Health and nutritional challenges requiring special measures, where coercive measures must be considered special measures, should be included in annual check-ups with a GP.<sup>47,48,71</sup> In addition, the circular for the legislative states that

people who overeat do not necessarily cause significant damage within the meaning of the law. There is therefore no reason to use coercion to stop overeating with the intention of slimming the person or getting the person in better shape. If coercive measures are to be accepted in such contexts, it must be a prerequisite that the eating, according to a health professional assessment, may cause significant damage. This should be assessed by the GP.<sup>7</sup>

Lack of follow-up from GP and clinical dietitians is a widespread issue in services for individuals with ID.<sup>12,34,36</sup> A multidisciplinary approach is important for both preventive and treatment practices related to lifestyle challenges.<sup>35,72</sup> A multidisciplinary approach, involving regular follow-ups and comprehensive assessments by healthcare professionals, is crucial for effectively managing lifestyle challenges. This approach ensures that individuals receive the necessary support and interventions to address their health and nutritional needs.

## Reporting of Coercion

When reporting coercion and statistics on the extent and type of coercive measures, different challenges related to food regulation are not distinguished. The annual reports from the Health Inspectorate use the broad heading “regulation of access to food and drink.” This contrasts with other types of coercion, where there are 22 categories to highlight the specific type of coercion. These categories include alarm systems in beds, doors, windows, GPS, alarms via sound or image, and physical regulations such as holding, laying down, and guiding. Detailed categories are used to monitor the types of coercion performed and the specific challenges involved.<sup>40,45,73,74</sup> However, under the category “regulation of access to food and drink”, there is no detailed information on the number of individuals with health-related or other challenges related to food.

The Health and Care Services Act, Chapter 9, does not cover medical treatment against the person’s will. If the person is assessed as lacking decision-making capacity to give informed consent and opposes medical treatment that leads to significant health damage, this is regulated by the Patient Rights Act.<sup>75</sup> Legally, there is a clear distinction between medical treatment and behavior modification, but in practice, the distinction can be more ambiguous. A dilemma with the Health and Care Services Act Chapter 9, which addresses behavior, is that health is not the primary challenge, while health challenges are highly related to the issues described in the coercive decisions. This creates a complex situation where the legal framework may not fully align with the practical needs of individuals facing these challenges.

## Strengths and Limitations

One of the key strengths of this study is the detailed analysis of actual coercive decisions. The study included all 120 decisions from 2020 and all decisions on food related coercion from 2020, followed over a four-year period (2018–2021) where consent was given. This comprehensive inclusion eliminates selection bias. The study aimed to differentiate between food-regulated and non-food-regulated coercive decisions and to gain insights into the characteristics of these decisions, including the documented challenges, types of coercive measures used, methods of support, and follow-ups. This information was previously unknown in coercive research. The findings could contribute to more advanced statistical analyzes, identifying significant patterns or temporal relationships in further research.

The study faced several limitations. The number of participants was relatively small, making generalization difficult. There was also significant variation in the details of the documentation. The content of the compulsory decision document template was not standardized across the municipalities studied, with document lengths varying from 7 to 40 pages, including appendices. A notable weakness was that the content of the decisions did not consistently reveal the same information, despite using the recommended decision template from the State Administrator. For example, the documentation of GP follow-up was inconsistent; in some decisions, it was not stated whether there had been a follow-up. When follow-up was not mentioned, it was recorded as not followed up by the GP, which may not accurately reflect reality but only what was documented.

The decisions were based on free text within the template headings. This free text format posed challenges for statistical analysis, as interpretation inevitably involves some subjectivity. The subjectivity that can affect validity and reliability was mitigated by the coding criteria used in the study.

## Conclusions

The study highlights that individuals subjected to food access restrictions face significant health challenges, both diagnosed and undiagnosed, and tend to be older than those experiencing other types of coercion. This underscores the need for comprehensive expertise in general somatic health, mental health, ID-related health, specific syndromes, and lifestyle diseases.

Current methods, such as restricting food access, do not address the root causes of issues like obesity, overeating, food destruction, food waste, compulsive behavior, and malnutrition. There is a lack of documented assessments of possible underlying explanations. Better assessment of eating disorders and more comprehensive support methods, like meal plans and health and nutrition training, are needed. Follow-up from healthcare professionals is also lacking.

The legal framework does not fully align with practical needs, making it difficult to address these challenges effectively. Current practices may overshadow underlying lifestyle diseases by focusing on behavior problems. The study shows that “regulation of access to food and drink” is more complex than the measure template suggests. More research and a multidisciplinary approach are needed to improve the situation.

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## Author Contributions

All authors made significant contributions to the work reported, including the development of the study, design, conduct and acquisition of data, as well as analysis and interpretation of the data. Each author participated in the preparation, revision and critical review of the article, and all approved the final version to be published in this journal. All are collectively responsible for all aspects of the work.

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The author(s) have no conflict of interests to declare.

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