Maas *et al. Journal of Eating Disorders* (2025) 13:42
https://doi.org/10.1186/s40337-025-01227-9

Journal of Eating Disorders

RESEARCH **Open Access**

Knowledge and attitudes of Dutch psychiatry residents towards anorexia nervosa

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Abstract

Background Stigma significantly hinders treatment seeking, adherence to treatment, referrals, and can prolong recovery, while increasing the risk of relapse due to social exclusion and stress. Stigmatizing attitudes towards anorexia nervosa are widespread, and not only held by the general public, but also by professionals.

Objective As stigmatizing attitudes towards mental disorders often develop early during education and training, the study's objective was to investigate stigmatizing attitudes towards anorexia nervosa among Dutch psychiatry residents, as well as their mental health literacy.

Methods In this pilot study, Dutch psychiatry residents ($N=61$) were surveyed, with a 49% response rate, using a comprehensive questionnaire that included nine parts, covering multiple stigma domains, disease prestige, knowledge, and professional training.

Results Anorexia nervosa was ranked 18th in disease prestige with a mean score of 6.23. Although most stigmatizing attitudes were not widely endorsed by psychiatry residents, there were a few notable exceptions, especially attitudes related to blame, fragility and social distance. They characterized patients as insecure, controlling, sad, and defensive, and reported feeling worried, incompetent, pessimistic and anxious when dealing with patients with anorexia nervosa. Only 37% felt confident in diagnosing anorexia nervosa.

Conclusion There is a critical need for further research on the social value ranking of psychiatric disorders and the development of a comprehensive stigma scale, as well as targeted educational interventions. Addressing stigma through focused training programs could lead to better patient outcomes, improved treatment satisfaction, and reduced barriers to care for individuals with anorexia nervosa.

Plain English summary

Stigmatizing attitudes towards anorexia nervosa are not only held by the general public, but also by professionals and often develop early during education and training, likely due to insufficient knowledge. Stigmatization can hinder treatment participation and adherence, potentially worsening illness duration and severity, delaying recovery, and increasing relapse risk. The current pilot study examined several stigma domains as well as knowledge about anorexia nervosa. Furthermore, satisfaction with psychiatry residents' training was investigated. Results revealed that most stigmatizing attitudes towards anorexia nervosa were not widely endorsed by many psychiatry residents. However, several stigmatizing attitudes in the blame, fragility and social distance stigma

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categories were prominent. More research is needed regarding the social value ranking of psychiatric disorders and the development of a comprehensive stigma scale, as well as educational interventions.

Keywords Stigma, Anorexia nervosa, Disease prestige, Psychiatry residents' education

Background

Anorexia nervosa (AN) is an eating disorder (ED) that, according to the 5th edition of the Diagnostic and Statistical Manual [1], is characterized by a severe restriction in energy intake compared to requirements, resulting in a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. Severity is based on body mass index (BMI), where BMI ≥ 17 kg/m^2 is considered mild, BMI 16–16.99 kg/m^2 is considered moderate, BMI 15–15.99 kg/m^2 severe and BMI less than 15 kg/m^2 extreme. However, individuals with atypical AN (included in the DSM category 'other specified feeding and eating disorders') meet all the qualifications, except the severe underweight. In both cases, AN involves severe health risks and significant psychological and psychosocial distress. AN has the highest mortality rate among all psychiatric disorders [2, 3] and prognosis is poor. In their review, Van Hoeken and Hoek [4] mentioned that 62–70% inpatients and 35% outpatients still met (full or partial) diagnostic criteria at long-term follow-up. This same review shows the high rate of psychiatric comorbidity associated with AN, leading to elevated treatment costs and substantial disease burden. Help-seeking behavior for AN symptoms is delayed; there may be 2 to 5 years between symptom onset and seeking treatment [5]. This delay may be due to the ego-syntonic nature of AN—where sufferers might not acknowledge their illness—and obstacles like low mental health literacy and stigma [6–8]. Stigmatization can hinder treatment participation and adherence, potentially worsening illness duration and severity, delaying recovery, and increasing relapse risk [9, 10]. Internalized stigma has also been linked to less favorable attitudes toward recovery [11]. A recent review including 46 studies indeed found negative effects of stigma on well-being, the ED itself, as well as treatment-seeking behavior [12].

Societal attitudes toward AN tend to be a mix of irritation and, perhaps paradoxically, admiration [13]. Both reactions can be understood by looking at the psychological and sociocultural causes often attributed to EDs, such as cultural pressures to be thin. The ability to control weight is viewed as desirable from this standpoint. Patients with EDs are perceived as having more control over the onset of their disorder and behavior than patients with other psychiatric disorders [13, 14]. When an individual's disorder is viewed as under that individual's own control, it is more likely to elicit anger and neglect [15], and this indeed seems to be true for individuals with AN [14]. Additionally, having more stigmatizing attitudes is associated with greater individual responsibility for the development of the disorder [16]. The ego-syntonic nature of AN might contribute to its perception as a personal choice, although the symptoms are often beyond the patient's control [17]. The DSM -IV diagnostic criteria framed the disorder as a "refusal to maintain body weight at or above a minimally normal weight", implying personal responsibility. However, the DSM-5 has improved upon this by acknowledging the *inability* to maintain body weight.

Unfortunately, the view that AN is under one's own control extends beyond the general public. In a study by Roehrig and McLean [18], psychology students perceived individuals with EDs as more responsible for their condition and more attention-seeking than those with depression. Simultaneously, they acknowledged potential benefits and expressed admiration for certain aspects of EDs, such as weight control. This paradoxical admiration is found to be specific to AN [19], contrasting with perceptions of bulimia nervosa and binge eating disorder [12]. Additionally, self-blame and perceptions of vanity in patients with AN have been noted [11, 13]. A study with undergraduates showed that participants viewed individuals with AN and depression less positively than those with schizophrenia and mononucleosis, often attributing AN to personal weakness or character flaws [20]. Another study also highlighted that individuals with EDs were seen as more fragile compared to those with depression [18]. In addition to attitudes and emotional reactions, behavior is also an important component of stigma [21], such as social distance, which has been identified as a proxy measure for discriminatory behavior [19, 22].

Studies have shown that even among healthcare professionals, stigmatizing attitudes towards AN prevail [23]. Research focusing on medical health professionals has revealed stigmatizing attitudes and negative emotions among general practitioners, gynecologists, hospital doctors, and psychiatrists. In these studies, AN was (indeed) primarily associated with the themes personal responsibility, trivialization of illness, attention-seeking, selfishness/vanity, and admiration for patient's characteristics such as strong willpower and control over weight and exercise [13, 18, 24–30]. Other prevailing stigmatizing attitudes towards mental illness from the literature are categorical views on mental illness, distrusting people with mental illness/evaluating them as incompetent, disclosure concerns about mental illness, pessimistic views on recovery, and poor decision-making competence [31].

Related terms important to the discussion of stigmatizing attitudes in healthcare professionals are mental health literacy and disease prestige. Mental health literacy refers to "knowledge and beliefs about mental disorders which aid their recognition, management, or prevention" [32], while disease prestige pertains to the collective perception of a disease's 'worthiness' in medical culture [33]. The concept of disease prestige introduces a classification of diseases based on their informally determined value or esteem, indicating that medical professionals share an unwritten consensus on the ranking of diseases, which medical students and young doctors often emulate during informal education processes [34]. Diseases and specialties associated with technologically sophisticated, immediate, and invasive procedures in vital organs, especially in the upper parts of the body, are assigned high prestige scores [35]. Diseases with low prestige often face greater stigmatization in healthcare settings and receive relatively less research funding, likely perpetuating further stigmatization [35]. Healthcare professionals tend to rank AN low in prestige, although higher than conditions like fibromyalgia and anxiety neurosis [33].

Research suggests that negative attitudes towards mental disorders, including AN, often develop early during education and training, due to insufficient knowledge [36], next to the already mentioned informally determined value. Medical students typically attribute sociocultural factors as the primary cause of AN with genetic and biological factors considered less frequently [24, 37, 38]. This gap in knowledge is consistent with findings that even psychiatrists vary widely in their understanding of EDs, affecting their confidence in diagnosis and treatment [39]. Notably, it has been found that attitudes towards AN become less stigmatizing with increased experience and seniority [39].

In summary, in the context of medical education and practice, stigmatization is multifaceted and complex. It is linked to structural stigma, which is rooted in institutional policies, procedures, knowledge building, training systems, and the distribution of resources [40, 41], as well as to professional or provider stigma. Provider stigma is defined as the negative attitudes, beliefs, and behaviors of mental health providers toward their patients, whether these attitudes are implicit or explicit, and whether the behaviors are overt or subtle [21]. It is most prevalent among early-career healthcare professionals. Psychiatry residents, who are future educators for subsequent residents, are particularly important as they will ultimately take responsibility for patient care in their future careers and play key roles in multidisciplinary teams. Therefore, this study aimed to investigate the level of knowledge and stigmatizing attitudes towards AN among psychiatry residents in the Netherlands, as most previous research on stigma and AN has been conducted in the United Kingdom, Canada, and Australia, where differing cultural norms, healthcare systems, and mental health education may limit the relevance of these findings to the Dutch context. To our knowledge, this is the first Dutch study to explore stigmatization towards AN. To understand AN-related stigma, it is important to examine the specific medical and cultural settings in which psychiatry residents are trained and provide care, as provider stigma differs from public stigma and must be viewed within the context of service delivery. Many provider and structural factors driving stigma remain understudied, yet likely affect the success of interventions aimed at reducing it. Providers are central to the healthcare system and may perpetuate structural stigma through stigmatizing practices, even without holding personal negative attitudes. Structural stigma often manifests in unwritten norms and behaviors, shaped by the organization's culture, resources, and policies [41]. As Goffman [42] already noted, stigma is a social phenomenon embedded in relationships and influenced by societal structures. Cross-country comparisons [43–45] suggest that cultural beliefs, healthcare systems, medical training, and perceptions of a disease's 'worthiness' within medical culture may all shape mental health staff attitudes towards psychiatric disorders.

Specifically, the current pilot study combined all relevant facets of stigma into one survey: disease prestige, stigmatizing attitudes towards AN, attributed characteristics, emotional reactions to patients with AN, opinions on the etiology, and mental health literacy. Furthermore, satisfaction with psychiatry residents' training was investigated.

Methods

Participants and procedure

Psychiatry residents ($N = 61$) from the Consortium South Netherlands-North were approached for this pilot study during a class in 2017. Participants were briefed on the study's structure and given time to consider their participation before providing consent. They had the option to withdraw their consent at any point during the completion of the questionnaire. This study complied with all applicable regulatory and institutional rules and guidelines. Thirty residents responded, yielding a response rate of 49%.

Materials

The questionnaire (see S1) encompassed several facets of stigma and was divided into nine parts. Completing the questionnaire took 20 to 30 min.

In the first part, respondents provided demographic information (e.g., sex, age, ethnic background), along with details about their work setting and seniority.

The second part, based on Album and Westin [33], addressed disease prestige. Respondents ranked 30 diseases individually on a scale from 1 (lowest prestige) to 10 (highest prestige), according to how they believed their fellow psychiatry residents would rank them, to minimize socially desirable responses.

In the third part, residents rated 45 statements on attitudes towards AN from 1 (totally disagree) to 5 (totally agree). The statements were categorized into 11 stigma categories, with corresponding Cronbach's alphas: blame (9 items, Cronbach's alpha = 0.74), triviality (6 items, Cronbach's alpha = 0.46, but improved to 0.57 after deletion of one item), vanity (6 items, Cronbach's alpha = 0.76), envy/admiration (only two items – Cronbach's alpha cannot be calculated), social distance (5 items, Cronbach's alpha = 0.87), fragility (5 items, Cronbach's alpha = 0.66), distrust/incompetence (5 items, Cronbach's alpha = 0.79), categorical beliefs about mental illness/AN (3 items, Cronbach's alpha = 0.59), decision-making competence (2 items - Cronbach's alpha cannot be calculated), disclose concerns (1 item - Cronbach's alpha cannot be calculated), pessimistic view (1 item - Cronbach's alpha cannot be calculated). Items were created based on previous literature and existing questionnaires, more specifically the Eating Disorder Stigma Scale [24], Social Distance Scale [46], Depression Stigma Scale [47], opinions about people with mental health illnesses from Crisp et al. [31], attitude questions from Mond et al. [19], Dutch MICA [48], and CBQ scales [49].

Part four was based on the Characteristics Scale [50] to assess characteristics attributed to patients with AN, featuring 22 bipolar adjective pairs (e.g., boring/interesting, defensive/open, etc.) rated on a 7-point scale with 4 as neutral. We added four items to the original items (items 19–22, see S1). The total score's Cronbach's alpha was 0.87. Previous research has shown good internal consistency as well [50], and the scale has been previously used to evaluate stigmatization of AN (e.g [24, 51]).

Part five was based on the Affective Reaction Scale [50]. The original scale comprises 10 bipolar adjective pairs to measure emotional reactions when interacting with patients with AN (pessimistic/optimistic, nervous/calm, etc.). We added seven items to the original scale (items 11–17, see S1), reflecting affective reactions often elicited by patients with AN(51–52). The total score's Cronbach's alpha was 0.89, and similar to previous research [50].

Part six included knowledge questions based on Jones et al. [39] and national ED guidelines. The questions addressed diagnostic criteria, physical complications, and management of AN. Both DSM-IV and DSM-5 criteria were included because at the time of this study (2017), both classification systems were still in use in clinical practice. Additionally, as DSM-5 introduces significant improvements in reducing the likelihood of stigmatizing attitudes, we considered it important to include both criteria sets. The questions were reviewed by four clinicians and educators specialized in psychiatry and EDs. These reviewers evaluated the relevance of the questions for assessing knowledge related to diagnosis, physical complications, prognosis, and adherence to the guidelines mentioned. Because the total score's Cronbach's alpha was low (0.53), results regarding knowledge are only presented descriptively, and are not included in the correlation analyses. Two additional questions probed the confidence in diagnosing and treating AN (yes/no).

Part seven focused on the use of the Mental Health Act (MHA), and was also based on Jones et al. [39].

Part eight, based on Ebneter and Latner [16], Crisafulli et al. [24], and Stewart et al. [53], assessed AN's etiology through 16 statements on a 5-point scale. We only included the five items regarding 'sociocultural etiology' in the correlation analysis, addressing the societal role of women, the slimness ideal in media as a causal factor for AN, extreme dieting as a significant risk, AN as a contemporary illness, and AN as a Western culture syndrome. This subscale had a Cronbach's alpha of.77.

Part nine inquired about residents' training, satisfaction with training, and willingness to work with patients with AN in the future, following Williams [36] and Jones et al. [39].

Statistics

Means and standard deviations were calculated for all stigma domains as represented in the questionnaire. For disease prestige, diseases were ranked based on the means. For stigmatizing attitude, characteristics, affective reactions, and the etiological statements, next to the means and standard deviations of the separate categories, we presented the percentage of residents who agreed or fully agreed (score 4 or 5 on a 5-point Likert scale [or 1 or 2 for mirrored items], and score 5–7 on a 7-point Likert-scale [or 1–3 for mirrored items], respectively) on the separate items. Items with 30% or more endorsement were considered notable. Finally, bivariate correlations were calculated between all 11 stigma categories, disease prestige, characteristics attributed to and affective reactions elicited by patients with AN, and agreement with AN's sociocultural etiology. As the present study is a pilot study, only large correlations (≥ 0.50) are presented, and no additional statistical tests were carried out.

Results

Respondents

All sample characteristics are presented in Table 1.

Disease prestige

The mean scores for all disease prestiges varied from 3.47 to 8.80. AN was ranked on the 18th place with a mean

Table 1 Sample characteristics

		n	%
Sex	Male/other	< 10	
	Female	21	70.0
Age	20–30	19	63.3
	31–50	10	30.0
Current work setting	General adult psychiatry	26	86.7
	Other	< 10	
Seniority (number of years of experience in psychiatry)	0–3 years	19	63.3
	4–10 years	11	36.7
Frequency of contacts with patients with AN (per year)	0–1	11	36.7
	2 >	19	63.3
Private contacts with AN	Family/friends	< 10	0.0
	Personal experience	0	

Note: the exact number for cells with less than 10 respondents is removed and, where possible, categories have been merged to protect participants' confidentiality

score of 6.23. Specifically highlighting the mental disorders, results show that residents ranked schizophrenia, bipolar disorder, dementia and depression as the top four conditions and AN, anxiety neurosis, borderline personality disorders and drug addiction as the bottom four. Table 1 in S2 details all diseases in rank order from most to least prestigious as rated by the psychiatry residents, including the mean scores and standard deviations (*sd*) for each disease.

Stigmatizing attitude

Psychiatry residents rated their attitudes towards AN on a 5-point Likert scale, generally disagreeing with stigmatizing statements. The mean scores across various stigma categories, such as blame (2.6, $sd = 0.4$), triviality (1.2, $sd = 0.4$), vanity (2.2, $sd = 0.6$), envy/admiration (2.0, $sd = 0.7$), social distance (2.2, $sd = 0.7$), fragility (2.4, $sd = 0.6$), distrust/incompetence (2.4, $sd = 0.7$), categorical beliefs (2.2, $sd = 0.5$), and decision-making competence (3.3, $sd = 0.8$), show a trend towards neutral to disagreeing attitudes. Decision-making competence had the highest mean, indicating a 'neutral' stance. Table 2 in S2 shows the percentage of residents who agreed (score 4) or fully agreed (score 5) with the items for every category. For reversed items also scores representing disagreement (score 2) and full disagreement (score 1), are included as well.

Residents exhibited a significant agreement with blaming patients for their condition, with a notable majority (83.3%) rejecting the notion that patients with AN can't improve how they feel. Specific stigmatizing perceptions were also observed in certain areas, but with only single statements in categories like vanity, social distance, fragility, and distrust/incompetence receiving substantial endorsement. For example, a considerable number of residents viewed patients with AN as focusing on themselves to the exclusion of others (33.3%) and considered patients with AN as physically and psychologically fragile (89%). A universal agreement among residents that anyone can develop a psychological problem was also noted, challenging the stigmatizing belief in categorical differences between those with and without mental health issues. However, less consensus was found on issues of triviality and envy, with no items in these categories receiving strong endorsement.

Characteristics of patients with AN

The psychiatry residents were asked to attribute characteristics to patients with AN. The majority characterized patients with AN as 'insecure' (96.6%), 'controlling' (90%), 'sad' (90%), and 'defensive' (83.3%). Additionally, about half of the residents described patients as 'demanding', 'emotional', 'manipulative', and 'shy'. Other negative characteristics mentioned by at least 30% of the residents were 'unsociable' (36.7%), 'weak' (36.7%), 'naïve' (30%), and 'unsuccessful' (30%). Notably, none of the residents rated patients with AN as 'unintelligent' (0%). For the full list, see S2, Table 3.

Affective reactions towards patients with AN

The psychiatry residents were asked to rate their affective reactions towards patients with AN. The results showed that many residents reported feeling 'worried' (70%), 'incompetent' (60.0%), 'pessimistic' (56.7%), and 'anxious' (50.0%) when interacting with patients with AN. Other notable negative emotions included feeling 'hopeless' (43.3%), 'apprehensive' (40.0%), 'nervous' (36.7%), 'manipulated' (36.7%), and 'tense' (33.3%). No residents reported feeling 'disgust' towards patients with AN. For the full list, see S2, Table 4.

Use of the mental health act

Regarding the Mental Health Act (MHA), 72.4% of the respondents felt it was "appropriate that the MHA enables compulsory re-feeding of patients with AN", whereas only 13.8% believed that "the MHA should not be used to enforce admission to hospital for patients with AN", and 6.7% of psychiatric residents believed that "the MHA should not be used when patients clearly believe that the advantages of AN outweigh the disadvantages". These results show that residents are quite uniform in their opinion regarding the MHA. However, there was less agreement on the statement that "the MHA should be used more frequently to protect the health and safety of patients with AN", where 34.5% agreed and opinions were divided.

Etiology

A significant majority of residents agreed that personality factors play a certain role in the etiology of AN (90.0%) and that teasing, bullying, trauma, and abuse are important factors (87.7%). Additionally, 80.0% agreed that extreme dieting is a crucial risk factor for the disorder. Most residents viewed AN as a multifactorial neuropsychological disorder with an unknown etiology (75.9%), and 60.0% believed that the culturally determined thinness ideal in the media is a causal risk factor. Over half of the residents recognized that individuals with AN are heterogeneous regarding etiology, severity, and prognosis, and 51.7% considered the disorder a syndrome of Western culture. Less residents attributed AN to factors like identity crises in puberty (40.0%), societal roles of women (36.7%), dysfunctional family dynamics (30.0%), and genetics (26.6%). A small number (10.0%) associated AN with weak or manipulative personalities, while none believed it to be a phase that resolves naturally.

Knowledge, training and satisfaction

On the knowledge quiz, only one of the respondents correctly answered more than half of the questions. With a maximum possible score of 5, the mean score of all residents was 0.58 (*sd* = 0.88). Only one respondent correctly answered the first question, and five correctly answered the second question which both addressed the diagnostic criteria for AN. The third question, about physical complications of AN, was correctly answered by four respondents. The fourth and fifth question concerned prognosis and recommended treatments, respectively, with three respondents answering the fourth question correctly and only one the fifth.

Thirty-seven% of the residents (*n* = 11) expressed confidence in correctly diagnosing AN, while only 10% (*n* = 3) felt confident in their ability to manage the disorder. A vast majority (83%) were dissatisfied with their level of training received for EDs.

Of the 30 respondents, 56.7% were not interested in working with patients with AN in the future. The most cited reason for this was insufficient knowledge and skills (80%), followed by interest in another subspecialty (56.7%), frustration associated with AN treatment (50%), high risks for medical/somatic complications (43.3%), and the emotional stress associated with AN (43.3%).

Correlational analyses

Because the current study is a relatively small pilot study, only large associations (correlations ≥ 0.50) are described in the text below. The full correlation table can be found in S2, Table 5.

Large positive correlations appeared between blame and triviality. Similarly, fragility was positively associated with triviality, vanity, and social distance, indicating that viewing patients with AN as fragile is linked to viewing the disease as trivial, viewing patients as fragile and the desire to maintain distance from patients with AN. The desire to maintain distance from patients with AN, as well as viewing patients as fragile, were furthermore correlated with distrust, categorical views on mental illness, as well as with negative characteristics attributed to patients with AN. Fragility was also correlated with a pessimistic view regarding recovery, more negative characteristics attributed to and negative affective reactions elicited by patients with AN. Vanity showed a large correlation with negative characteristics. Large correlations also appeared between distrust on the one hand and categorical views on mental illness and negative characteristics on the other hand. Categorical views on mental illness were also linked to more negative characteristics attributed to and more negative affective reactions elicited by patients with AN. Lastly, negative affective reactions were correlated with attributing more negative characteristics to patients with AN.

Discussion

This pilot study aimed to investigate the level of knowledge, disease prestige, and stigmatizing attitudes towards AN among psychiatry residents. It sought to build on existing research that until now has primarily focused on mental health professionals in the United Kingdom, Canada, and Australia.

In terms of disease prestige, residents ranked AN 18th out of 30, higher than in previous research by Album and Westin [33], where it was ranked on the 32nd out of 38. Although this study included more diseases, AN was ranked 21st out of 25 when considering only the diseases included in our study. With a mean score of 6.23 out of 10, AN received a medium disease prestige score, again higher compared to Album and Westin, where it scored only between 3.5 and 3.7, depending on whether the sample comprised physicians or medical students. Mental disorders in general were ranked higher compared to Album and Westin. However, schizophrenia, bipolar disorder, dementia and depression were ranked higher than AN in contrast to Album and Westin, where AN was ranked higher than depression and schizophrenia. Fleming and Szmukler [54] also found that medical and nursing students held patients with EDs more responsible for their illness than patients with schizophrenia [54]. An eight-week psychiatric training in treatment of EDs did not decrease this stigma, but it rather increased their liking of those with schizophrenia.

This variation in ratings may be explained by a professional psychiatric subculture possible disfavoring AN compared to conditions currently categorized as 'severe mental illnesses' [55]. The reason could be attributed to various factors, such as the lack of adequate training, along with the problem that research on ED is less visible due to less funding compared to other psychiatric fields [56]. Indeed, with not enough funding it is challenging to produce high-quality evidence for disorders with low prevalence such as AN that could be published in high-impact journals. Furthermore, it has been asserted that the source of potential stigmatization may originate within the ED field itself, as some ED clinicians and researchers may lack understanding of the molecular and genetic determinants of AN [55, 57]. On the other hand, in a medical-somatic subculture where high prestige is granted to conditions that are most clearly defined in (bio)medical and acute terms, AN may be seen as a lethal disease with clear diagnostic signs (e.g., dangerous low weight and somatic complications). Also, for somatic doctors, the active treatment of complications from AN (for example, refeeding syndrome and hypoglycemia), leading to a rapid and relatively effective recovery, can be awarded higher prestige than that of its psychiatric counterparts.

Although our study is a preliminary exploration of disease prestige and its link to stigmatization among psychiatric residents, our findings underscore the importance of further research into how psychiatric disorders' social value is ranked across professional subcultures. Future research may wish to investigate the ranking of somatic and psychiatric disorders, with a particular focus on AN and the (sub)specialties working with these patients. In parallel with research in the medical community, it will be valuable to explore disease prestige within the general population, among various health professionals, policymakers in health, and research funding bodies. Additionally, exploring the impact of potential explanatory variables could provide valuable insights and inform interventions aimed at increasing the prestige of AN among health professionals who intervene with patients with this disorder. This may improve the quality of care and reduce stigma in clinical settings.

In our survey, although most stigmatizing attitudes were not widely endorsed by psychiatry residents, there were a few notable exceptions. First, many residents *disagreed* with the statement in the blame category that 'patients with AN *can't* do anything to improve how they feel' (as this is a reversed item, this means that they *agree* that they *can* improve how they feel). This item was taken from Crisp et al. [31] and means to reflect blame. In Crisp's original version the statement "can't do anything to improve how they feel" was used as one end of a dimension with "could pull themselves together if they wanted to" at the other end. We used the statement on its own and therefore reading the statement without the opposite ("could pull themselves together if they wanted to") may be understood by some as reflecting empowerment and the view that patients have a sense of agency in treatment engagement and recovery, rather than reflecting blame. Indeed, half of the residents endorsed the opinion that "patients can do a lot to control their symptoms", while a third endorsed the item "negative consequences caused by their eating disorder are their fault". This duality and contradiction underscore the challenges in measuring stigma: While there may be a belief in patient empowerment, it can also be accompanied by blame, which complicates efforts to address and reduce the stigma attached to AN. In a study by Easter [26], 90% of women with EDs believed that attributing the cause of their condition to genetics could significantly reduce stigma related to personal responsibility and control. However, while many appreciated the reduction of blame and guilt, about half of the respondents still wished to maintain some sense of personal agency, even if it meant accepting some stigma. This highlights concerns among patients with AN that framing ED as genetic might lead to a sense of fatalism and hinder their recovery by promoting a mindset of genetic excuse. Second, most residents agreed with the statement that "patients with AN are physically and psychologically fragile". About half of the psychiatry residents endorsed the item "I would not like my children or other relative to marry a person with AN", reflecting social distance as a proxy measure for discriminatory behavior. Our results seem to align with research identifying blame/volitional stigma as a prevalent stigmatization of AN among health professionals [28, 38, 58]. Contrary to prior studies [10, 11, 18, 24, 28], trivialization and attention-seeking stigma were less observed, which could suggest an evolving understanding of AN's seriousness. Encouragingly, most residents were optimistic about recovery, although this may indicate limited exposure to severe AN cases [29].

Nevertheless, it can be viewed as concerning that only about half of the psychiatry residents concurred that most patients with AN are capable of making decisions regarding their treatment and medication given the diagnosis AN itself does not mean a person is incompetent. Like previous finding among British psychiatrists [39], 34.5% (29.8%) residents believed that "the MHA should be used more frequently to protect the health and safety of patients with AN" although opinions were divided. This finding suggests some lack of knowledge and experience along with lack of consensus surrounding enforced admission and force-feeding in AN. Indeed, although controversial, compulsory treatments may sometimes be necessary and justifiable, as they are often required to administer life-saving interventions. However, not all patients with AN require compulsory treatment. For instance, in a large Danish sample of adult inpatients with AN, involuntary measures were needed in only 18% of cases [59]. Notably, the use of compulsory treatments may be influenced by stigmatizing attitudes from providers who adopt a paternalistic approach, as well as by policies focused on risk reduction, the systemic separation of physical and mental health, and institutional care [40]. Although many studies and literature reviews have examined compulsory treatment of AN from various perspectives—including empirical data, ethical, philosophical, and legal principles [60]—the association between stigma and compulsory treatments remains underexplored [61]. Future research should investigate this relationship to better understand the complexities of relevant variables, such as structural and provider stigma, in the context of the ongoing debate surrounding the risks and benefits of coercive and compulsory treatment.

Despite the low reliability of the knowledge quiz, meaning that we must be careful drawing conclusions based on its results, it was apparent residents scored low. More specifically, only one of the respondents correctly answered more than half of the questions. The knowledge quiz was based on Jones et al. [39], who found similar results. The significance of a knowledge gap was supported by the fact that 57% of residents who were not interested in working with patients with AN in the future cited insufficient knowledge and skills (80%) as their main reason. This dissatisfaction with training reflects trends noted in previous research [36] and is not exclusively related to EDs [39]. This highlights a broader issue in the education and training of psychiatry residents, emphasizing the need for improved and more comprehensive training in managing EDs. In line with previous research [61–63], the majority of residents reported negative affective reactions, including worry, incompetence, pessimism and anxiety, and attributed negative characteristics (most frequently endorsed were: insecure, controlling, sad, and defensive) to patients with AN. This is likely rooted in their level of knowledge and experience, as well as the degree to which they endorsed stigmatizing beliefs. However, due to the small sample size, we cannot confirm this speculation. Therefore, further research is needed to explore these issues more thoroughly.

Limitations

The study has a few notable limitations. Firstly, the sample size was small, and with a response rate of only 49%, the representativeness of the findings is limited. Although this response rate is comparable to previous similar research, it restricts our ability to generalize the results, indicating a need for replication to validate the findings. Additionally, although this study used questions like previous studies with the same objective, they have not been validated. Also, translating the questions from English to Dutch may have caused discrepancies in wording, especially in the 'triviality' and 'categorical beliefs about AN' subscales, as indicated by the relatively lower Cronbach's alpha score in the Dutch version compared to earlier studies using the same questions [24, 28]. Nevertheless, it can be considered a strength that this study integrates the many existing aspects of stigma into one study. Future research is needed into further development and validation of a questionnaire assessing the different dimensions of AN-related stigma. In addition, we did not conduct a formal pilot test or validity assessment for the knowledge quiz due to the exploratory nature of the research and its focus on obtaining preliminary insights. Future research should include a formal pilot testing phase and a comprehensive validity assessment, taking into account updated knowledge about AN and corresponding guidelines.

Clinical implications

While most stigmatizing attitudes towards AN were not widely endorsed by many psychiatry residents, and the disorder received a medium level of disease prestige, several stigmatizing attitudes were more prominent than others, particularly in the blame, fragility and social distance stigma categories. Given that the blame category has been linked to feelings of anger and neglect [14, 15], it is essential to educate psychiatry residents and other healthcare professionals about AN. This education should emphasize that the ego-syntonic nature of the disorder does not imply a personal choice by the patient. Fifty-seven per cent of the residents were disinclined to work with patients with AN in the future, with 80% pointing to insufficient knowledge and skills. Future research should aim to identify the specific knowledge gaps so that targeted educational programs can be developed. Given that educational interventions have proven effective in reducing stigma towards AN, addressing these gaps is a crucial step towards improving treatment outcomes, enhancing treatment satisfaction, and reducing barriers to seeking treatment. The existence of a disease prestige order as an intrinsic aspect of medical culture has significant implications for understanding and addressing stigma among medical specialists and residents. To combat this, interventions could be launched to raise the prestige ranking of AN. These efforts might include increasing awareness of the complexity and severity of AN, promoting research and advancements in treatment, and enhancing the medical and psychological expertise. Emphasizing the need for collaboration among healthcare professionals to address the multifaceted nature of AN could also help elevate its prestige.

Finally, it is important to consider Walton's [64] and Crisp's [65] typology of students and doctors: the 'physically minded', with convergent/reductionist thinking, who seek certainty and focus on the concrete, measurable aspects of medicine, and the 'psychologically minded', with divergent/lateral thinking, who better tolerate and even embrace uncertainty and subjectivity in human problems. We must teach young doctors to navigate both approaches for the benefit of their patients when addressing internal and external causal attributions of AN. By addressing both types of attributions, doctors can provide more holistic care and more effective treatment, while emphasizing patient autonomy and offering choices within treatment. This approach could ultimately reduce stigma and decrease the need for compulsory treatment. Indeed, multifactorial or holistic explanations of AN, as opposed to solely biological or sociocultural explanations, incorporate factors both within and outside a person's control [66]. Such explanations may help reduce perceived blame and encourage greater individual effort in treatment and recovery, as the ongoing struggle with AN would be viewed as a demonstration of the hard work and resilience of those with the disorder, rather than as a refusal to be cured or as irresponsibility [26].

Conclusion

This study provides valuable insights into stigma among psychiatry residents towards AN, including disease prestige. Our findings underscore the importance of further research into how psychiatric disorders' social value is ranked across professional subcultures, as well as future research into the development of a stigma scale, including all different stigma domains. There is also critical need for enhanced educational interventions, given that stigmatizing attitudes and low disease prestige could influence interactions between the patient and healthcare professional, as well as medical decisions [39]. The existence of a disease prestige order has important implications for our understanding of stigma among health professionals. Addressing stigma through targeted training programs could therefore lead to better patient outcomes, improved treatment satisfaction, and reduced barriers to seeking care for individuals with AN. As psychiatry residents are future mental health care leaders, equipping them with the necessary understanding and skills to effectively treat and support patients with AN is essential for advancing mental health care. If psychiatry residents are equipped with the necessary knowledge and skills, as well as a holistic understanding of the complexity of AN now, they will be able to disseminate their knowledge to their colleagues in the future and fight stigma at an interpersonal and structural level.

Abbreviations

AN	Anorexia nervosa
BMI	Body Mass Index
ED	Eating disorders
MHA	Mental Health Act

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s40337-025-01227-9.

Supplementary Material 1

Acknowledgements

n/a.

Author contributions

Joyce Maas: Data curation; Formal analysis, Investigation; Methodology; Project administration; Writing – original draft; Writing – review & editing. Mladena Simeunovic-Ostojic: Conceptualization; Methodology, Supervision; Writing – original draft; Writing – review & editing. Pia Burger: Writing – original draft; Writing – review & editing. Nynke Bodde: Supervision; Writing – original draft; Writing – review & editing. Theodoor Veerman: Conceptualization; Data curation; Formal analysis, Investigation; Methodology; Project administration.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethical approval and consent to participate

The study was conducted in the Netherlands and was determined to be non-WMO (non-Medical Research Involving Human Subjects Act) research. The WMO is a Dutch law that regulates medical research involving human subjects, particularly studies that include medical interventions or procedures with associated risks. As the study did not fall under the scope of the WMO, it was classified as non-WMO research. Consequently, the study was not reviewed or approved by a Medical Ethics Review Committee (METC), as ethical approval is not required for studies that are non-WMO. Our Institutional Review Board (Commissie Wetenschappelijk Onderzoek GGZ Oost Brabant, Helmond, the Netherlands) did review and approve the study. Participants provided informed consent prior to participation, ensuring that ethical guidelines were followed to protect their rights and well-being.

Consent for publication

n/a.

Competing interests

The authors declare no competing interests.

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Received: 27 June 2024 / Accepted: 23 February 2025

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