

## UPDATE ARTICLE

# Body dysmorphic disorder and olfactory reference disorder: proposals for ICD-11

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The article reviews the historical background and symptoms of body dysmorphic disorder (BDD) and olfactory reference disorder, and describes the proposals of the WHO ICD-11 Working Group on the Classification of Obsessive-Compulsive and Related Disorders related to these categories. This paper examines the possible classification of BDD symptoms in ICD-10. Four different possible diagnoses are found (hypochondriacal disorder, schizotypal disorder, delusional disorder, or other persistent delusional disorder). This has led to significant confusion and lack of clear identification in ICD-10. Olfactory reference disorder can also be classified as a delusional disorder in ICD-10, but there is no diagnosis for non-delusional cases. The Working Group reviewed the classification and diagnostic criteria of BDD in DSM-5, as well as cultural variations of BDD and olfactory reference disorder that include Taijin Kyofusho. The Working Group has proposed the inclusion of both BDD and olfactory reference disorder in ICD-11, and has provided diagnostic guidelines and guidance on differential diagnosis. The Working Group's proposals for ICD-11 related to BDD and olfactory reference disorder are consistent with available global evidence and current understanding of common mechanisms in obsessive-compulsive and related disorders, and resolve considerable confusion inherent in ICD-10. The proposals explicitly recognize cultural factors. They are intended to improve clinical utility related to appropriate identification, treatment, and resource allocation related to these disorders.

**Keywords:** Body dysmorphic disorder; olfactory reference disorder; ICD classification

## Introduction

Body dysmorphic disorder (BDD) has its historical roots in the description of dysmorphophobia by Italian psychiatrist Enrico Morselli in 1891.<sup>1</sup> Morselli described dysmorphophobia as a “subjective feeling of ugliness or physical defect which the patient feels is noticeable to others, although the appearance is within normal limits. The dysmorphophobic patient is really miserable; in the middle of his daily routines [...], everywhere and at any time, he is caught by the doubt of deformity.” This is quite similar to the current conceptualization of BDD as characterized by a preoccupation with ugliness or a perceived defect(s) in appearance based on flaws that are not noticeable to others, or appear only slight. The condition produces significant distress and significant interference with life.

Individuals with BDD typically experience a high degree of self-consciousness as well as ideas of self-reference. Individuals frequently experience a distorted body image or a “felt impression” of how they believe they appear to others.<sup>2</sup> This can often be communicated in a self-portrait of how a person believes he or she looks. They may fear

rejection, humiliation, or, in some cultures, causing offense to others. Any part of the body may be the focus of the perceived defect, but it is most commonly the face (especially the facial skin, nose, hair, eyes, teeth, lips, chin, or face in general). However, there are frequently multiple perceived defects.<sup>3,4</sup> Usually the focal feature is regarded as flawed, defective, asymmetrical, too big/small, or disproportionate; or the complaint may be of thinning hair, acne, wrinkles, scars, vascular markings, pallor or ruddiness of complexion, or insufficient muscularity. Sometimes the preoccupation is vague, or consists of a general perception of ugliness or being “not right” or being too masculine/feminine. Sufferers may respond by trying to verify how they look by repeatedly checking in reflective surfaces, seeking reassurance, or questioning others; or they may attempt to camouflage or alter their feature. Alternatively, they try to avoid public or social situations to prevent the consequences they fear.

BDD is more common than previously recognized, with a prevalence of about 2% in the general population.<sup>5,6</sup> It is a chronic disorder, which persists for many years if left untreated.<sup>4,7</sup> It is also associated with a high rate of psychiatric hospitalization, suicidal ideation, and completed suicide.<sup>8,9</sup> It is poorly identified in psychiatric populations where, because of shame and stigma, patients apparently often conceal their difficulties or present with symptoms of depression, social anxiety, or

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obsessive-compulsive disorder (OCD) when their main problem is BDD.<sup>7</sup> Individuals with BDD may receive unnecessary dermatological procedures and cosmetic surgeries, which waste resources by failing to address the underlying problem.<sup>10-12</sup>

BDD may present in young people as well as in adults. However, in young people BDD is thought to present on more of a continuum from normal adolescent self-consciousness. Compared to adults, adolescents with BDD had higher lifetime suicide rates and more delusional beliefs.<sup>13</sup> They may also be impaired by school refusal, family discord, and social isolation. Lastly, and rarely, BDD by proxy may occur,<sup>14</sup> in which an individual is preoccupied by a perceived defect occurring in another, usually a loved one.

### BDD in ICD-10

The diagnosis of BDD or dysmorphophobia was not separately classified in ICD-10,<sup>15</sup> but was listed or described under four different diagnoses. It is unclear how these are differentiated. The first of the possible diagnoses for BDD in ICD-10 is hypochondriacal disorder (F45.2), for which BDD is listed as an inclusion term. For hypochondriacal disorder there must be either “a persistent belief, of at least 6 months duration, of the presence of at least one serious physical illness underlying the present symptom, even though repeated investigations and examinations have identified no adequate physical explanation” or “a persistent preoccupation with a presumed deformity or disfigurement.” There is a further requirement of a “persistent refusal to accept the advice and reassurance of several different doctors that there is no physical illness or abnormality underlying the symptoms.” This last requirement is designed for people with concerns about illness or somatic symptoms and is not sufficiently specific for BDD. While people with BDD may interact with the health care system by seeking repeated cosmetic procedures from dermatologists or surgeons, this behavior is by no means universal and is dependent on the specific form of BDD, financial means, and culture.

Symptoms of BDD are also specifically mentioned in the ICD-10 description of schizotypal disorder (F21), which is “characterized by eccentric behavior and anomalies of thinking and affect which resemble those seen in schizophrenia.” One of the examples provided for schizotypal disorder is “obsessive ruminations without inner resistance, often with *dysmorphophobic* [emphasis ours], sexual or aggressive contents.” Alternatively, symptoms of BDD are also mentioned in the ICD-10 description of delusional disorder (F22.0), in which an individual expresses “a single delusion or set of related delusions, which are persistent and sometimes lifelong [...] Often they are persecutory, hypochondriacal, or grandiose, but they may be concerned with litigation or jealousy, or express a conviction that the individual’s body is misshapen.” Lastly, symptoms of BDD are also mentioned under the diagnosis of other persistent delusional disorder (F22.8). This was a residual category

for any persistent delusional disorder that does not meet the criteria for delusional disorder (F22.0), and may include delusional dysmorphophobia.

ICD-10 is therefore very confusing for the clinician seeking guidance on how to best classify symptoms of BDD. The lack of a separate diagnosis of BDD also causes problems when trying to identify cases or audit outcomes on computerized systems that use ICD-10. Secondly, not having a separate diagnosis contributes to the lack of recognition of BDD and to the use of unhelpful treatments such as antipsychotic medication<sup>16</sup> or other forms of therapy that are not effective for BDD.<sup>17</sup>

### History of BDD in DSM

In DSM-IV, BDD was classified within the section on somatoform disorders. In DSM-5, BDD has been moved to the section on obsessive-compulsive and related disorders (OCRD).<sup>18</sup> While the DSM-IV criteria referred to an “imagined defect,” this has been helpfully clarified in DSM-5 to refer to a preoccupation with “perceived defects or flaws.” Like most conditions, the symptoms must be either significantly distressing or interfering with one’s life.

DSM-5 has also added an additional criterion requiring that the person have performed repetitive behaviors or mental acts in response to the appearance concerns at some point during the course of the disorder. Avoidance behavior is described as an associated feature. In DSM-IV, if the beliefs regarding physical defects were considered to be delusional in intensity, an additional diagnosis of a delusional disorder could be assigned. DSM-5 regards such delusional beliefs regarding physical defects as an indication of the severity of BDD, so that an additional diagnosis of delusional disorder is not indicated.<sup>19</sup> This makes the diagnostic algorithm for BDD more consistent with disorders such as anorexia nervosa or OCD: for these conditions, an additional diagnosis is not assigned to denote delusional beliefs that are part of the disorder. Instead, DSM-5 has provided an additional specifier for the degree of insight to be added to the diagnosis of BDD. It has also added a specifier for “muscle dysmorphia” to be used in cases that involve an individual being preoccupied with his or her body being too puny or insufficiently muscular.

### ICD-11 proposals for BDD

The paper will now discuss considerations for how BDD should be described and classified in the ICD-11, based on the discussions of the WHO ICD-11 Working Group on the Classification of Obsessive-Compulsive and Related Disorders. The Working Group was appointed by the WHO Department of Mental Health and Substance Abuse and reports to the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders.

The Working Group agreed that ICD-11 should include a separate diagnosis of BDD, based on evidence regarding the validity of the disorder and the issues of

clinical utility described above. It is clear that clinicians are currently using the BDD diagnosis even though no such separate category exists in ICD-10. Furthermore, the Working Group agreed that BDD should be included in the grouping of OCRD, based on similarity of phenomenology with other disorders in the same section. Describing BDD clearly within ICD-11 should assist health professionals of other relevant fields such as general practitioners, dermatologists, dentists, or cosmetic surgeons in recognizing the clinical features of BDD and help to reduce the risk of inappropriate treatment. It may also facilitate research and audit in health systems that use the ICD-10 by resolving confusion in the categorization of symptoms of BDD.

The Working Group recommendations are to describe the diagnostic features as including preoccupation (for example, at least 1 hour a day at the forefront of the mind) with a perceived defect(s) or flaw(s) in appearance or ugliness in general that is either unnoticeable to others or only slightly noticeable. It was also recommended to include the characteristic of an excessive self-consciousness, typically with ideas of self-reference, and a description of how the coping behavior is manifested. This is either by repeated verification of how exactly one looks or how bad the defect is (for example, by checking in reflective surfaces or by comparing the feature with others); or, by attempts to camouflage or alter the defect; or, by attempts to avoid public or social situations or other situations or stimuli that increase distress. The group noted that the coping behavior(s) in response to the perceived defect were either repetitive or avoidance behaviors or both (rather than just repetitive behaviors), and that behaviors include mental acts such as comparing. Furthermore, these coping behaviors have a clear function that enables the clinician to understand them in the context of the disorder.

The Working Group is also proposing a specifier to enable identification of individuals who exhibit no insight regarding the possibility that their beliefs about their appearance might be false (i.e., these beliefs may appear delusional in fixity and intensity). However, the Working Group has not proposed including a specifier for muscle dysmorphia, believing that concerns about muscular size and definition were not sufficiently different from other perceived defects in BDD to be able to make a case for the clinical utility of an additional specifier.

### Differential diagnoses for BDD

One aspect of the material that WHO asked the Working Group to draft was guidance on how each disorder in the grouping can be differentiated from other diagnoses or exist as a comorbid diagnosis. This was particularly important in relation to BDD, given that BDD is a new diagnosis proposed for ICD-11 and the confusion about the nature of BDD symptoms that characterized ICD-10. Among the disorders for which the Working Group provided guidance on differentiation from BDD were those described below.

### *Eating disorders*

A preoccupation predominantly focused on being “too fat” or overweight is not part of BDD. A distorted body image is a feature of both BDD and certain eating disorders, such as anorexia nervosa, and they may also share other clinical features, including body dissatisfaction, distress, or poor insight. Thus, a person with an eating disorder may also check reflective surfaces frequently or camouflage their body. A diagnosis of both BDD and an eating disorder should be assigned only when an individual meets the diagnostic requirements of one of the eating disorders and is also preoccupied and distressed by perceived defects in her or his appearance unrelated to weight or shape.

An individual who is preoccupied by being insufficiently muscular or lean would be most appropriately diagnosed as having anorexia nervosa if the preoccupation is accompanied by the other clinical features of that disorder, including significantly low body weight (body mass index (BMI) less than 18.5 kg/m<sup>2</sup> in adults), a persistent pattern of restrictive eating or other behaviors that are aimed at establishing or maintaining abnormally low body weight, and low body weight being overvalued and central to the person’s self-evaluation, or the person’s body weight being inaccurately perceived as normal. Those with the muscle dysmorphia form of BDD may also exhibit unusual eating behaviors (e.g., excessive protein consumption) or engage in excessive exercise (e.g., over an hour a day), but without these other characteristics. Even though there may be overlap of symptoms associated with alteration or restriction of eating behaviors between the conditions, the motivation or core psychopathological characteristics for such behaviors are different. If low body weight and shape idealization are central to the symptomatology, then a diagnosis of feeding and eating disorder rather than BDD should be considered.

### *Depressive episode*

BDD is differentiated from depression by the content of the preoccupation and by repetitive behaviors. However, BDD is often associated with symptoms of depression, and should still be diagnosed even if symptoms of depression reach a diagnostic threshold. An individual with BDD will commonly state that if he or she did not have symptoms of BDD, then they would not be experiencing symptoms of depression to a degree that would prompt them to seek help. Occasionally, a diagnosis of major depressive episode might better account for the symptoms of BDD if the preoccupation is limited to mood-congruent ruminations during a depressive episode.

### *Social anxiety disorder*

BDD is often associated with marked and excessive fear or anxiety in social situations, leading to avoidance or to social situations being endured with intense anxiety. People with BDD and social anxiety disorder may fear the

same consequences of negative evaluation by others (e.g., they would be humiliated, severely embarrassed, offend others, or be rejected). If the fear is because of a perceived physical defect or ugliness, then a diagnosis of BDD is made. When the fear is that he or she would act in a certain way or exhibit anxiety symptoms (such as blushing or trembling), then a diagnosis of social anxiety disorder should be made. In addition, people with BDD are more likely to engage in repetitive behaviors such as mirror checking.

A comorbid diagnosis of social anxiety disorder with BDD should only be made when the person both displays a broader fear that he or she will show anxiety symptoms or act inappropriately (e.g., “be boring”) in a way that will then be negatively evaluated and reports a perceived defect in their appearance.

### *OCD*

In BDD, there may be a preoccupation with order and symmetry in appearance, which is very similar to OCD – for example, wanting one’s hair to be symmetrical and to feel “right.” A comorbid diagnosis of OCD is only given when the obsessions are not restricted to concerns about appearance or if there are other unrelated symptoms of OCD.

### *Skin-picking disorder and trichotillomania*

Skin-picking disorder is characterized by repetitive skin picking resulting in skin lesions and in significant distress or impairment. The diagnosis should not be made if the picking is solely attributable to a desire to improve one’s appearance or to efforts to correct or “put right” a defect (e.g., removing acne or other perceived blemishes of the skin). A similar issue occurs with trichotillomania, in which, very occasionally, the hair pulling or plucking is designed to improve the appearance by removing normal facial or bodily hair. Some individuals may also start with BDD, but their picking then causes “real” defects. However, the natural history of skin-picking disorder and BDD has not been sufficiently researched, and this would still be regarded as BDD.

### *Adjustment disorder*

A person with a noticeable acquired physical defect (e.g., facial burns) who has difficulty adapting might receive a diagnosis of an adjustment disorder. An adjustment disorder consists of a maladaptive reaction, which has developed within one month of an identifiable psychosocial stress, such as a physical deformity, and tends to resolve within 6 months unless the stressor persists. If the definitional requirements are met for another disorder (e.g., major depressive episode), that disorder should be diagnosed instead of adjustment disorder. An example is provided in DSM-5 of “body dysmorphic disorder like symptoms with actual flaws.” This occurs when the flaws are clearly observable by others (i.e., they are more noticeable than slight), but the preoccupation with such

flaws is excessive and fulfills the diagnostic criteria for BDD. The Working Group did not think there was sufficient evidence in the literature for such a diagnosis, and, more importantly, believed it might confuse the field when the core clinical feature of BDD is a preoccupation with a perceived defect.

### *Delusional disorder*

Many people with BDD are regarded as having beliefs about being ugly or being defective that are untrue or not shared by others, and are totally convinced that their view of their appearance is correct (lack of insight). Similarly, ideas of reference are common in BDD. However, in BDD with untrue or unshared beliefs, there are no other features of psychoses (e.g., thought disorder, hallucinations, or disorganized behavior).

No alternative coding is proposed for ICD-11 to distinguish BDD and delusional disorder depending on the strength of beliefs and insight (as occurred in ICD-10). In ICD-11, if an individual lacks insight about their feature(s) being defective or ugly, then they would be coded as having BDD. The Working Group’s proposal for ICD-11 is to code the degree of insight using a qualifier, with the “no insight” level corresponding to complete conviction, all or almost all of the time, that the beliefs are true.

### *Body integrity identity disorder*

Body integrity identity disorder (BIID) is a term used to describe individuals who desire one or more digits or limbs to be amputated, as they believe these are not part of their “self.”<sup>20</sup> BIID does not exist as a separate diagnosis in ICD-10 or DSM-5, and there are no plans to include it in ICD-11. In BIID as it has been described, the preoccupation is focused not on a feeling of defectiveness or the appearance of the limb or digit, but on the sufferers’ expectation that they would be much more comfortable if one or more limbs or digits were amputated or paralyzed. Individuals with this condition do not believe their limbs to be defective or ugly (as in BDD), nor do they wish to alter the limb cosmetically.

### *Personality disorder*

Body image concerns that may amount to symptoms of BDD are relatively common in personality disorder, particularly when personality pathology is more severe.<sup>21</sup> Body image concerns that are less specific and less prominent and do not meet the diagnostic requirements of BDD may be regarded as an aspect of the identity disturbance that characterizes severe personality disorder, and do not warrant a separate diagnosis. When the full diagnostic requirements for both disorders are met, both may be assigned.

### **BDD: cultural issues**

Taijin Kyofusho is a culture-bound syndrome found in Japan and other parts of Asia that consists of an intense

fear of offending or embarrassing or hurting others through improper or awkward social behavior, movements, appearance, or body odor. Four types of Taijin Kyofusho have been described: a fear of blushing, a fear of eye-to-eye contact, a fear of having a deformed body, and a fear of emitting a foul body odor.<sup>22</sup> A survey of 48 individuals with Taijin Kyofusho found that the most common manifestations were fear of blushing (40%), of appearing tense (21%), of emitting a body odor (17%), of having a blemish or physical deformity (10%), or of staring inappropriately (4%).<sup>23</sup> The fear of having a deformed body (shubo-kyofu) would appear to correspond closely to BDD. Taijin Kyofusho has traditionally been divided into two subtypes: the nervous (phobic) type and the convinced (delusional) type. As discussed above, an insight specifier is planned for BDD to denote fixed conviction. Other types of Taijin Kyofusho, especially the nervous (phobic) type with fears of blushing, sweating, appearing tense, or staring inappropriately, appear to be more consistent with the proposed social anxiety disorder diagnosis in ICD-11.

Another cultural variation of body image disorder is Koro or suo-yang,<sup>24</sup> a disorder that occurs mainly in Asia and, to a lesser extent, in Africa. It is also known as genital retraction syndrome. This refers to the fear or belief that the penis is shrinking or retracting into one's body. Koro can also occur in populations without a Chinese influence, as well as in women, when it refers to fears that the breasts and labia are shrinking. It is usually a transient state of acute anxiety and avoidance. The individual anticipates impotence or sterility, or even death. Moreover, the immediate family becomes convinced of the same outcome and may hold onto the sufferer's genitalia manually or with special instruments. Some authors have suggested that Koro is a cultural variant of BDD<sup>24</sup>; however, the main differences between them is that, in Koro, others in the immediate family share the same beliefs and the anxiety is usually marked but transient.

### Olfactory reference disorder

Olfactory reference disorder has its historical roots in late 1800s.<sup>25-31</sup> It was first described as the term olfactory reference syndrome in a case series.<sup>32</sup> Olfactory reference disorder is characterized by a preoccupation with emitting a foul or offensive body odor that is not perceived by others. The person also may or may not be able to smell their body odor.<sup>33</sup> This odor might originate from the mouth (halitosis), genitals, anus (including flatus or feces), feet, underarms, urine, or sweat. Occasionally, there are reports of non-bodily odors (e.g., old cheese, rotten eggs, or ammonia).

Sufferers fear or are convinced that others who notice the smell will reject or humiliate them. A fear of offending others due to the perceived smell may also be part of the clinical picture, especially in some Asian cultures. The condition produces significant distress and significant interference with life. Individuals suffer a high degree of self-consciousness and typically experience ideas of

reference. Olfactory reference disorder may occur with or without insight.<sup>33,34</sup> Individuals with olfactory reference disorder often experience ideas or delusions of reference and believe that others refer to them by rubbing their nose, in reference to the odor, or turn away in disgust. They may try to verify how bad the odor is by repeatedly smelling their body or clothing or by seeking reassurance, or they may attempt to camouflage their perceived odor by excessive use of perfume, gum, deodorant, mints or mouthwash; frequent showering and laundering of clothes; dieting/unusual food intake; or brushing of teeth.<sup>34</sup> To reduce the risk of smelling, they often try to avoid being close to others or avoid being in public or social situations. When preoccupied by the possibility of emitting flatus, they may control their diet or eat unusual foods. In one study, symptoms of olfactory reference disorder had caused about half of the subjects to avoid occupational, academic, or other important role activities, or to be completely housebound.<sup>19</sup>

The prevalence of olfactory reference disorder is not known, as there is no available epidemiological research. Begun<sup>33</sup> found a total of 84 case reports (52 male and 32 female) in the literature. In 41 of the reports (49%), events were described that the authors regarded as significant. These fell into two broad categories: a) sources of unrelated stress at the time that the disorder developed; and b) smell-related key experiences, which launched the patient's concern about smelling. Authors of the reports expressed doubts or reservations about their belief in slightly under half of the cases.

In olfactory reference disorder, as in BDD, the lack of a separate diagnosis causes problems when trying to identify cases for research or auditing of computerized records. Also as in BDD, not having a separate diagnosis contributes to a lack of recognition and to unhelpful treatments that are not specific for olfactory reference disorder. The phenomenology of olfactory reference disorder (e.g., repetitive checking, reassurance-seeking and seeking of medical treatment, and avoidance behaviors) is more similar in form to that of OCRD than to that of delusional disorder. These phenomena also function as a way of trying to keep the person safe – in this case, from humiliation, rejection, or causing offense to others.

### Olfactory reference disorder in ICD-10 and DSM

In ICD-10 and DSM-IV, delusions about emitting a bad odor would most likely have been identified as symptoms of delusional disorder. In addition, DSM-IV implicitly refers to olfactory reference syndrome in its wording for social phobia, and the DSM-IV section on the culture-bound syndromes also refers to olfactory reference syndrome under the rubric of Taijin Kyofusho. Thus, it has never been classified separately, and there was no diagnosis for those individuals who had some insight into their condition. Olfactory reference syndrome has been described as a discrete syndrome or disorder across many cultures for more than a century.<sup>19,35</sup> In DSM-5, olfactory reference syndrome is now mentioned as an example of not otherwise specified on the OCRD section,

but has not been given a separate diagnosis. The argument for classifying olfactory reference disorder in the OCRD section involves: a) their similarity in phenomenology in terms of preoccupation and repetitive behaviors; b) the fact that OCD is a common comorbid condition for people with olfactory reference disorder<sup>36</sup>; c) the fact that patients are more likely to receive a trial of pharmacological and psychological treatment used for OCRD rather than for a delusional disorder; that d) although the diagnosis appears uncommon, like BDD, patients may be highly ashamed of their symptoms and present with more acceptable symptoms, such as depression, OCD, or social anxiety<sup>7,8</sup> (when a separate diagnosis is available, this raises awareness of the condition and the likelihood of asking specific questions about olfactory reference disorder); and that e) a separate diagnosis will encourage auditing and research into the condition and better clinical care for such patients.

### ICD-11 proposals for olfactory reference disorder

The Working Group has proposed that ICD-11 include a separate diagnosis of olfactory reference disorder in the grouping of OCRD for reasons parallel to those described above for BDD.

The characteristic features of olfactory reference disorder are parallel to those of BDD, most centrally involving a preoccupation with a perceived foul or offensive body odor or breath (halitosis). The perceived body odor is either unnoticeable to others or appears very slight to an observer, so that the concerns are completely disproportionate to the smell, if any. An individual with olfactory reference disorder typically tries to verify how he or she smells by repeatedly checking his or her body, changing clothes, seeking reassurance; attempts to camouflage the perceived odor by using perfume or deodorant, or prevent it by frequently bathing or brushing teeth, or by changing clothes, or by dieting or unusual food intake; or avoids situations or activities that are anxiety-provoking (e.g., being close to another person). Lastly, the symptoms should result in significant distress or impairment in function.

### Differential diagnoses for olfactory reference disorder

Olfactory reference disorder can be differentiated from the diagnoses described below.

#### *Social anxiety disorder*

Like BDD, olfactory reference disorder is often associated with social anxiety and fears of negative evaluation, rejection or humiliation, or causing offense to others. When the symptoms are focused on concerns about the perception of emitting an offensive odor, then a diagnosis of olfactory reference disorder is made. A comorbid diagnosis of social anxiety disorder could be made when the person displays a broader fear that he or she will show anxiety symptoms (e.g., they will blush, tremble, or

“be boring”) that will be negatively evaluated and they will act in a way that will be humiliating, embarrassing, or offend others. Lastly, the beliefs in olfactory reference disorder tend to be more delusional than those seen in social anxiety disorder.

#### *OCD*

A comorbid diagnosis of OCD is only given when the obsessions are not restricted to concerns about smelling.

#### *BDD*

The focus in BDD is on perceived defects in appearance, and not on emitting a foul or offensive body odor. A comorbid diagnosis of BDD is only given when the preoccupation with appearance concerns is not restricted to smell.

#### *Delusional disorder*

If an individual has a delusional conviction about emitting a foul odor, then they would be coded in ICD-11 as olfactory reference disorder. However, as in the case of BDD, those with a delusional belief about smelling can be coded on their degree of conviction, which would be coded as “no insight” if the individual is completely convinced that the beliefs are true all or almost all of the time.

### Olfactory reference disorder: cultural issues

As discussed above, Taijin Kyofusho is a culture-bound syndrome of Japan and Asia that may consist of an intense fear of offending or embarrassing or hurting others. One of these fears is that of emitting a foul body odor (jiko-shu-kyofu) and, similar to shubo-kyofu (BDD), it has been categorized as the convinced (delusional) type in the traditional Japanese diagnostic system of Taijin Kyofusho. Asian individuals with jiko-shu-kyofu of Taijin Kyofusho feel that they upset social harmony by offending others through inappropriate and unpleasant body odors. In contrast, patients with social anxiety disorder in the West are likely to fear negative evaluation by others in social or performance situations. ICD-11 is therefore planning to better consider Taijin Kyofusho, characterized by fear of emitting a foul body odor and causing offense to others, as part of olfactory reference disorder in ICD-11.

### Conclusion

The Working Group has proposed the inclusion of both BDD and olfactory reference disorder in the ICD-11, including explicit recognition of cultural variations of these disorders as part of the diagnoses. These proposals are consistent with available global evidence and current understanding of common mechanisms in OCRD, and resolve considerable confusion inherent in ICD-10. The proposals move in the direction of increased similarity, though not complete redundancy, with DSM-5. The proposals are intended to improve clinical utility related to appropriate identification, treatment, and resource

allocation related to these disorders. Increased recognition should also facilitate future research and auditing of these neglected disorders, which would benefit both clinicians and patients.

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