



Nail biting: A body-focused repetitive behavior case report

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ABSTRACT

The psyche of an individual is influenced by his/her interactions with the society. The socio occupational - personal functioning of the individual henceforth result from such interactions. Body-focused repetitive behavior is one psychological phenomenon, a symbolic representation of unresolved unconscious conflicts or maladaptive behavior triggered by distorted or unhelpful thoughts generated in certain situations and maintained by positive or negative reinforcement. One such condition is of nail biting (NB) in which a patient shows self-harming potentials, due to surrounding stressful and social conditions. Such behaviors act as a coping mechanism for patients during stressful conditions. This paper is a review and case report of a patient experiencing dental problems, found to have NB as a causative factor on in-depth exploration. The dental and psychological management of the case is discussed and the need for more research in the domain of NB is emphasized from a multidisciplinary angle.

KEY WORDS: Body focused repetitive behaviors, cognitive, psychodynamic, nail biting

INTRODUCTION

Human populations display a marked diversity in their patterns of health and disease. This diversity does not arise simply from differences in health status among individuals, but are sometimes associated with causes not completely in the hands of the individual. "Body focused repetitive behaviors (BFRBs)" is one such condition, in which the individual shows self-harming potential. Such behaviors act as a coping mechanism for patients during stressful conditions.

The term "BFRBs" is used for collection of motoric acts that are difficult to suppress; which gradually become habitual and thereby functionally impairing. BFRBs are a group of problematic, destructive, and apparently non-functional behaviors directed toward the body [1,2]. They are recurrent, undesired, and often designed to remove part of the body (e.g., a hair, scab, or nail) [2]. For e.g., trichotillomania, onychophagia (NB), cuticle biting, lip-biting, nail biting (NB) and cheek biting are some of the conditions included under this term [3]. Individuals with BFRBs report inability to control their behavior [4] and a range of physical and psychological sequelae along with maladaptive emotion regulation (ER) mechanism [5].

NB is a habit of insertion of the fingers into the mouth, with contact between the nails and teeth. Many individuals occasionally use the teeth to replace nail clippers in grooming,

however, severe or clinical NB involves biting past the nail bed and cuticles, drawing blood and resulting in chronic scarring, or in red, sore, and infected fingers [6,7]. It is considered an impulse control disorder in the DSM-IV-R and is classified under obsessive-compulsive and related disorders in the DSM-5. The ICD-10 classifies it as "other specified behavioral and emotional disorders with onset usually occurring in childhood and adolescence [8]." NB is accepted if it does not have any negative or distressing consequences. However, it falls into the category of BFRBs when it leads to social problems or to significant tissue or nail damage [9].

NB as a habit is generally first seen at the age of 3-4. From here the incidence rate increases between the ages of 4 and 6; it stabilizes from 7 to 10 and increases considerably during adolescence, perhaps because this period is, almost as a biological determination, a time of crisis [10]. With respect to gender, the incidence of NB is relatively equal up to 10 years of age, but thereafter significantly fewer girls than boys are nailbiters [11]. NB may be related to behavioral problems, stress, and anxiety or as a result of boredom [8]. Such children exhibit an evolutionary disturbance linked to the oral stage of psychological development.

The sparsity of research about NB as compared to other psychiatric disorders may reflect the perception that it is less severe than are other conditions, and may account for delays

and deficits in research and treatment [12]. However, it is quite prevalent with serious physical and psychological consequences. The most common are severe damage to the cuticles and nails, paronychia and secondary bacterial infection, self-inflicted gingival injuries, and dental problems [13]. Temporomandibular dysfunction has also been reported as a consequence of chronic NB. In addition, NB may lead to psychological problems in some patients (e.g., significant distress) [14]. Although the physical sequelae of this habit are significant, the social and psychological consequences are also of major concern.

Many conditions have been associated with children having NB habit such as attention deficit hyperactivity disorder, oppositional defiant disorder, separation anxiety disorder, enuresis, tic disorder, obsessive compulsive disorder, major depressive disorder, mental retardation, and pervasive developmental disorder [15].

To an observer, NB is difficult to rationalize. It appears to be painful and produce physical consequences that results in shame and distress. However, for the patient, this habit seems to satisfy an urge and deliver pleasure or gratification and does not necessarily cause physical pain. Psychological models for BFRBs have sought to include each of these elements in the explanation of the development and maintenance of the behavior.

This paper is a case report and discussion of the condition commonly called as “NB” and how it adversely affects the overall health of the individual.

CASE REPORT

An 18-year-old patient reported to the outpatient department, with the chief complaint of generalized sensitivity to hot and cold, in relation to 11, 12, 21, 22 and 31, 32, 41, 42. Oral examination revealed multiple fracture lines in the mandibular anteriors along with generalized attrition [Figure 1]. The toothache was diagnosed to be dental hypersensitivity. Overall examination revealed habit of NB, along with presence of multiple laceration and wounds on fingers [Figures 2-5]. On further interview, the patient revealed that she had a habit of NB and peeling of dead skin of fingers. She explained that initially, she uses to just bite the nails but gradually, she started enjoying peeling of dead skin of fingers. Now she mostly peels the dead skin of fingers, rather than biting nails that often. Although initially, this habit was associated with her reaction to a stressful condition, gradually it had become more habitual and unconscious; wherein she would revert back to this habit whenever she would be in a process of thinking. No other parafunctional habit such as bruxism was detected. She had initially tried the method of physical restraint, application of an obnoxious agent on fingers; but she would revert back to the habit again, after a few days. Her behavior was assessed as a case of “BFRBs.” Symptomatic relief, starting from fluoride application, followed by application of dentin bonding agent to seal the fracture line, was provided to the patient for dental problems. The patient was advised to use desensitizing toothpaste instead of regular toothpaste. After 15 days only, considerable reduction in pain and sensitivity was evident.



Figure 1: Intraoral view: Anterior teeth with severe attrition



Figure 2: Condition of left and right thumb due to skin biting



Figure 3: Condition of fingers of left hand

Since there was no evident fracture of teeth, any extensive treatments like endodontic therapy and crowns were deferred. Simultaneously, the patient was sent for psychological counseling followed by therapy, so as to make her get over this habit.



Figure 4: Condition of fingers of right hand



Figure 5a: Condition of fingers due to skin biting



Figure 5b: Condition of fingers due to skin biting

DISCUSSION

Individuals with BFRBs report that episodes of body-focused behavior are likely to occur during sedentary activity [16] or in the presence of specific emotions [12], as seen in this case. It is difficult to come to a particular conclusion in assessing

the cause of NB. Some relate it to anxiety and stress, while others to family trend, whereas, some root for psychodynamic disturbance. In general, it is not a concern-raising habit, as it disappears spontaneously with age. However, when associated with other problems, it becomes more complex, requiring specialized help [10].

Individuals who bite their nails may have red, infected, and scarred fingertips, and may be self-conscious and reluctant to show their hands [17]. These patients may avoid seeing doctors or dentists out of shame or fear of discovery, resulting in an exacerbation of medical problems associated with it [18]. Such patients are prone to viral infections like paronychia, stomach infections, etc., although it was not evident in this case. These patients are also associated with underlying psychological disorders.

Forceful and continuous chronic NB causes alveolar destruction in the area of the involved teeth. It can also produce small fractures at the edges of the incisors, as was evident in this case. These fracture lines generally run from enamel to dentin, making dentin and pulp more sensitive and reactive to any external stimulus. Hence in such cases, patient generally complains of sensitivity to hot and cold, as was evident in this case. Once this habit is discontinued and these fracture lines are sealed, pulpal changes happen on its own with formation of reparative and reactionary dentin. No intentional root canals are required for such patients, as was evident in this case.

Most important aspect in the management of this habit is assessment of the root cause followed by therapy.

Psychological models for BFRBs give a range of explanations for the development and maintenance of this particular habit and behavior. Etiological models based on the psychoanalytic perspective consider BFRBs as a symbolic representation of unresolved unconscious conflicts [19], or as the result of disrupted psychosexual development [20].

Psychodynamic models based on object relations propose that BFRBs represent an effort to cope with real or threatened object loss [21]. Behavioral models for BFRBs explain how this behavior is maintained by learning, practice, and repetition. Cognitive-behavioral models add that NB and other maladaptive behaviors are often triggered by distorted or unhelpful thoughts. These thoughts are generated in certain stressful situations, and subsequently trigger negative emotions and/or maladaptive behavior. This particular behavior is further maintained by positive or negative reinforcement. The three submodels comprehensive behavioral (ComB) model, the ER model, and the stimulus regulation (SR) model have been used to explain maladaptive behavior.

The ComB model [22,23] does not attempt to explain why the individual initially begins to bite nails. Rather, it takes into consideration the internal and external triggers for episodes of BFRB, factors that facilitate or inhibit the behavior, and positive and negative reinforcements, once it has been initiated. External triggers for episodes of NB include implements (e.g.,

tweezers) and settings (e.g., the bedroom). Internal triggers may be sensory, motor, cognitive, or affective. Sensory triggers include physical sensations such as the texture of a hard scab, or the rough edge of a hangnail. Cognitive and meta-cognitive triggers are thoughts that provoke the urge to bite. Affective triggers include states such as frustration, depression, boredom, anxiety, or tension. Facilitators and inhibitors are objects, places, people, thoughts, and emotions that respectively encourage or discourage an episode of NB.

ER refers to the ways in which an individual identifies and responds to emotional experiences [24]. This model focuses on negative reinforcement. The function of NB is presumed to be relief from negative emotions; this relief reinforces and further perpetuates the behavior. This model combines the role of uncomfortable emotional experiences in triggering an episode of NB; the role of this particular habit in modulating emotional arousal, and the role of relief from negative emotional arousal in further maintaining and reinforcing the habit. Individuals with BFRBs have difficulty controlling and managing certain emotions and engage in body-focused behavior to avoid, decrease, or attenuate aversive affect. NB persists despite negative consequences because they are negatively reinforced by distraction or escape from undesired emotions or difficult events.

The ER model fails to explain the initial development of the use of BFRBs as a means of regulation. Penzel hypothesized that individuals with BFRBs experience malfunctions in nervous system mechanisms that balance internal levels of stress and gave SR model. According to this model, BFRBs represent an effort to externally regulate an internal state of sensory imbalance. Although individuals with BFRBs are exposed to the same levels of environmental stimulation as are individuals without BFRBs, the former group's nervous systems have a different threshold for physiological stimulation [25]. The model proposes that individuals with BFRBs experience pleasure from behavior that others consider painful.

The SR model adds to the ER model by explaining why individuals resort to this particular behavior to regulate levels of stimulation. According to Penzel [25] BFRBs develop because: (a) hair, skin, and nails are plentiful and are within reach at all times; (b) hair, skin, and nails are very stimulating to touch; (c) genetic predispositions to BFRBs may be present; (d) BFRBs can be extremely rewarding and pleasurable; and (f) BFRBs can be performed both alone and in the company of others.

Based on various models identifying the causative factors for BFRBs, various treatment approaches have been tried. A couple of them include dialectical behavior therapy (DBT) and acceptance and commitment therapy (ACT). DBT [26] is a cognitive behavioral approach based on the dialectic between validation/acceptance of client experience and helping clients change. DBT combines mindfulness and acceptance of uncomfortable or negative internal experiences with concrete, step-by-step skills and strategies for tolerating distress and regulating emotions. Originally developed to treat individuals with borderline personality disorder, DBT has been effective with a variety of conditions characterized by impulsivity and ER

problems. ACT [27] used in the case discussed is a treatment approach that discourages emotional control strategies and promotes acceptance of private events, including thoughts, emotions and urges. Using ACT the client was taught to observe thoughts and feelings as objective external events, in order to gain awareness of the process of thinking and develop the ability to disengage from thoughts. The client was taught to disengage from thoughts using the demonstration and practising of mindfulness exercises in the therapeutic sessions [28]. ACT facilitated the client to accept the conditions one is facing and then being objectively able to search for solutions.

CONCLUSION

NB as a behavior cannot be ignored, given the type of circumstances and stress present in today's life. The form of therapy used for this case was particularly useful in making the patient accept her internal as well as external conditions. A multidisciplinary approach helped in building up the child's self-confidence and self-esteem. Although the present paper talks about a single case, it would be beneficial to explore the NB phenomenon using a larger sample and establish a clearer link between the physical and the psychological correlates of this body focused repetitive behavior.

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