

BODY-FOCUSED REPETITIVE BEHAVIORS DURING COVID-19: A MANAGEMENT GUIDE

Sana Rehman & Saad bin Tahir

Humanities and Social Sciences Department, GIFT University, Gujranwala, Pakistan

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Summary

Body-focused repetitive behaviour refers to nonfunctional, destructive and problematic body directed behaviours that emerge to cope with stressful situations like COVID-19. The damages of body-focused repetitive behaviour are devastating and perilous for the physical and mental health of people. No comprehensive study has been carried out to investigate the global level prevalence rate of BFBRs during COVID-19. However, the incidence of BFBRs is reported to be prevalent in a few countries of the world. Furthermore, the management modalities to reduce or overcome the BFBRs are limited in the literature. The current study aimed at highlighting the prevalence, aetiology and management modalities of BFBRs within pre and post pandemic stage. The findings of the study have been discussed in terms of counseling.

Keywords: *Body-focused repetitive behaviours, COVID-19, Management modalities*

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INTRODUCTION

The surge of mental health issues during COVID-19 increased to an alarming extent. The literature is enriched with empirical studies highlighting the prevalence of anxiety, depression, delusional, bipolar and dissociative disorders (Javed et al. 2020 Rehman, 2021). However, the literature about body-focused repetitive behaviour (BFBRs) is scarce. The frequent or persistent symptoms of BFBRs may cause significant distress and impairment in personal, social and occupational functioning (American Psychiatric Association 2013: Madan et al., 2023).

In addition, the severity of symptoms may lead to more obnoxious mind-body consequences (Xiong et al. 2020, Rehman et al 2021). Hence it is important to highlight the prevalence and magnitude of the BFBRs during stressful phases of COVID-19. Furthermore what factors led to frequent episodes of BFRs and what sort of therapies can be effective for the management of BFBRs is also vital to discuss (Okumuş & Akdemir, 2023). Therefore, the current study intends to elaborate on the prevalence rate, the aetiological factors and the most relevant management modalities to mitigate the frequent episodes of BFBRs.

PREVALENCE AND MAGNITUDE OF THE PROBLEM

The body-focused repetitive behaviours refer to non-functional, destructive and problematic body-directed behaviours, comprised of trichotillomania, nail-biting,

teeth grinding and skin pulling. The problem is prevalent but no survey has been conducted on a global level to investigate the prevalence of trichotillomania, nail-biting or skin-pulling disorders during COVID-19.

However, the country wise prevalence is mentioned below. The published data regarding the prevalence was found from three countries of the world. A few more articles were found regarding BFBRs etiology, treatment and others aspects. The prevalence based data was not found. The overall prevalence of self-reported subclinical BFRB was reported to be 59.44% and pathological BFBRs ratio found 12.27 % among US college students (Houghton et al 2018). The gender discrepancies were also observed in the ratio as females (69.3%) were higher on both pathological and sub-clinical BFBRs compared to males (30.6%). However, the type wise prevalence of BFBRs is mentioned below.

Types of BFBRs and Prevalence

The data regarding the prevalence of BFBRs based on its types are scarce. Only a few studies highlighted the magnitude of the problems. However, types were discussed concerning the prevalence. The University of Minnesota Institutional Review Board United States reported a 39.3% prevalence of trichotillomania among university students during COVID-19 (Pathoulas et al. 2021). However, the incidence of skin-picking disorders during COVID-19 was found to be 28.9% (Pathoulas et al. 2021). Around 20-30% USA population reported being indulged in nail-biting behaviour (Halteh et al 2017).

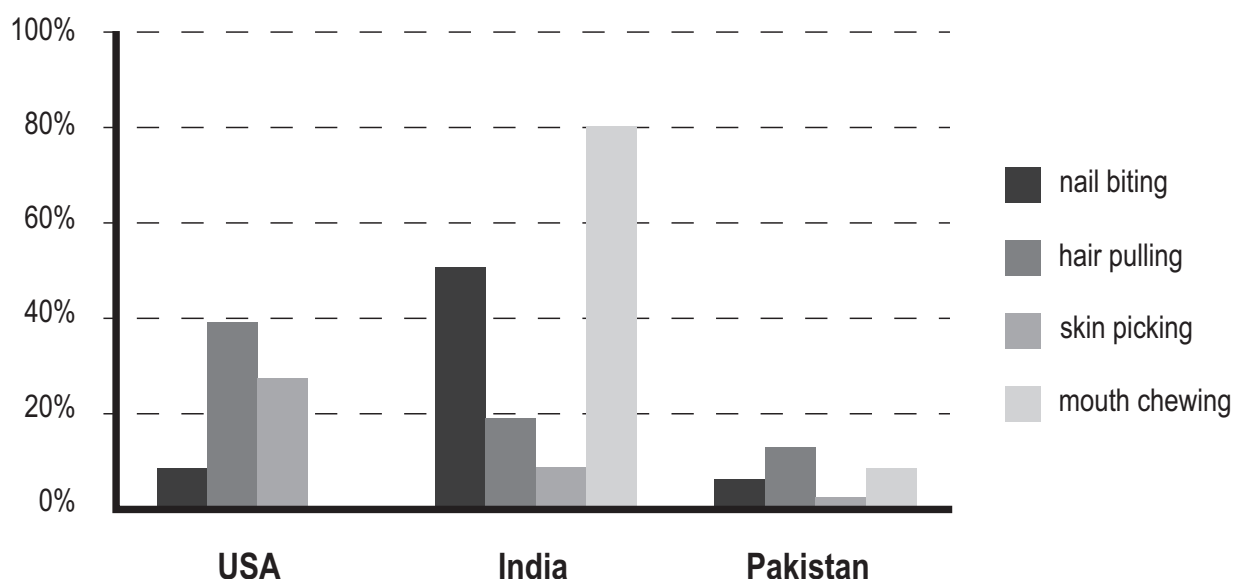


Figure 1: The prevalence of common BFRBS in three countries of the world

A study has been carried out in Ranchi Jharkhand Indian adolescents. The findings revealed that hair pulling (19%), mouth chewing (81%), nail biting (52%) and skin picking issues (9%) were the most prevalent type of BFRBS among students (Sailly et al 2020).

As far as the prevalence of BFRBS in Pakistan is concerned: the incidence in different cities found to be diverse. The data from three educational institutes of Karachi i.e. Dow Medical College, Agha Khan University and Sindh Medical College revealed a prevalence of BFRBS found to 22%. Furthermore, females were found to be higher (13.9%) on BFRBS compared to males (8.1%). All the participants were 18 years or above. As far as the type of BFRBS is concerned so dermatillomania (9.0%), trichotillomania (13.3%) and onychophagia (6.2%) were reported (Siddiqui et al., 2012).

In another city of Pakistan i.e. Peshawar, the prevalence rate of lip chewing was found to be 66.5%. The mean age of the participants was 20.7 ± 1 . No age-wise discrepancies were observed in the entire study. As far as gender difference is concerned, males were higher on pushing a wall or females in chewing lips (Khan et al 2018). In contrast, no significant gender difference was observed in other types of BFRBS such as biting nails, biting cheeks, clenching teeth, scratching skin, pulling hair, deliberately self-cutting, punching walls or another object, and hitting and burning self.

The damages that emerge from body-focused repetitive behaviour are devastating and perilous for the physical and mental health of the people. Trichotillomania leads to hair fall or baldness and is not only limited to pulling off head hairs (Grant 2019). In many cases, the

pulling of the lid and other body parts is found to be common among patients with BFRBS. Similarly, persistent skin picking leads to blemishes, rough, dry or loose patches and other similar damage to the skin (Houghton et al 2018).

The person becomes preoccupied with nail-biting which disrupts his normal functioning. These behaviours become problematic when disrupt a person's social, personal and occupational functioning (American Psychiatric Association 2013). The diagnosis is given to the patients when the symptoms are diagnosed without the effect of any substance abuse or general medical condition. However, the prognosis of the patients with BFRBS was found to be strong.

AETIOLOGY OF BODY-FOCUSED REPETITIVE BEHAVIOURS

The aetiology of body-focused repetitive behaviours suggested an interesting picture of BFRB cases. Three models are considered crucial for the development of BFRBS. According to the biological model, brain function and structural abnormalities are responsible for developing body-focused repetitive behaviours. The evidence is limited in this regard, however, a study recommended that cortical thickness be found to be negatively correlated with the severity of the skin-pulling disorder (Harries et al. 2017). Furthermore, the abnormal activities of neurotransmitters lead to abnormal body-focused repetitive behaviours. Pharmacological studies demonstrated that direct or indirect-acting dopamine agonists are shown

to induce stereotypical repetitive behaviours (Lewis and Kim 2009).

The learning model recommends BFBRs emerge as nervous habits in response to tension or stress (Azrin's Behavioral Model). The massive body of research suggested that during stressful situations, people release their stress or anxiety through multiple coping mechanisms (Lewis and Kim 2009). In particular, body-focused repetitive behaviours were found to be the common method of releasing stress. The reward and punishment model of learning also suggests that in response to stressful thought the client often experiences repetitive behaviour as a convenient way to release anxieties and stress.

The learning model also recommended that people learn BFBRs through modelling. The cognitive model illustrates that the faulty or error-based thinking pattern leads to compulsions and the person feels driven to perform the same behaviour repeatedly for releasing their anxiety. In short, the biological, cognitive and learning models provided a clear and comprehensive picture of the etiological factors of BFBRs. COVID-19 is stressful for the entire world, hence it is imperative to highlight the effective management modalities that control the ratio of BFBRs.

MANAGEMENT

Dealing with difficult emotions during a stressful situation is quite challenging. In particular, natural and man-made disasters found to be associated with the surge of mental health issues, trauma and PTSD. Similarly, infectious diseases have also been found consistent with multiple mental health issues (Rehman & Lela 2020).

The literature is enriched with evidence-based studies highlighting the magnitude of mental health issues during previous infection outbreaks (Rehman et al. 2021). Usually, people adopt unhealthy behaviours to combat their difficult emotional states. Body-focused repetitive behaviours are found to be the most stressful way to combat unhealthy emotions. While multiple therapeutic interventions reported to be effective to control body-focused repetitive behaviours (Whiting et al. 2023). The web-based intervention and e-therapies are gaining tremendous popularity considering the need for quarantine time (Rehman & Lela 2020). However, the most effective therapies are mentioned under the advancement of internet-based assistance.

COMPREHENSIVE BEHAVIORAL TREATMENT

The Comprehensive behavioural treatment (comB) employed a structured and in-depth assessment to investigate the exclusive pattern of cognitive, sensory and motor factors that serve to trigger BFRB (Falkenstein et al. 2016). After the identification of unique triggering factors, the individualized plan is developed to assist the client to build control over their impulsive or repetitive behaviours. The individualized plan is developed or structured considering the needs of the patients (Bottesi et al. 2020). Their consent considering the person-centred approach for setting goals and freedom of choice to participate or withdraw is given full consideration during the therapeutic session (França et al. 2019). The literature is enriched with evidence-based studies that highlighted the effectiveness of the person-centred approach during therapies (Walther et al, 2010).

After setting goals, the client is informed about the possible alternative ways to deal with their difficult emotions during stressful events. Alternative ways to deal with their emotions are taught to them to mitigate the conduct of BFBRs. Once the client learned to release their negative emotions or energy in some other ways, the therapist strives to continue the learned skills to strengthen the client's behaviour for a long-time period (Rehman, 2021). The literature is enriched with evidence-based studies that recommended the ComB treatment as an effective way to control BFBRs (Walther et al, 2010; Bottesi et al 2020).

However, some contradictory studies reported ComB treatment as the least effective way to control BFBRs as it is quite challenging for clients to understand the nature of their problems and adapt to alternative ways. Furthermore, it is time-consuming and patients often skip sessions before complete recovery. Despite the drawbacks, the ComB considers effective and must be designed electronically. So that clients can identify and modify their repetitive behaviour using internet-based psychological services.

HABIT REVERSAL THERAPY

Habit reversal therapy is another very effective for the management of body-focused repetitive behaviour. The HRT is based on learning principles and helps the clients to modify their behaviour through reward and punishment

(Skurya et al. 2020). The effectiveness of HTR cannot be denied as the literature is enriched with studies that support HTR efficiency. The findings of the meta-analysis depicted that 18 intervention-based studies recommended HRT as an effective treatment modality for BFRBs with a large effect size ($d=0.80$) (Bate et al. 2011). Habit reversal therapy comprised several steps such as challenging habits performance, competing for response practice, awareness training, generalising training and developing motivation to control habits (Lee et al. 2019). Habit reversal therapy is an effective way to reduce BFBR but the relapse ratio is quite higher in this therapy. However, there is a dire need to concert traditional HTR into web-based therapy. During viral diseases like CIVID-19, clients cannot visit a psychologist. For physical as well as mental safety digital habit reversal therapies must be introduced. The recent empirical data of a non-randomized control trial illustrates that habit reversal therapy yielded a significant reduction in BFBRs in 16 years and above participants (Moritz et al 2022).

COGNITIVE BEHAVIOUR THERAPY

The fundamental sources of pain among people with BFRBs are shame. The vicious cycle of body-focused behaviour is quite challenging to break. People with body-focused repetitive behaviours often struggle to combat their stressful thoughts and find repetitive behaviour as a way to release anxieties (Franklin et al. 2011). The Beck depression model indicates that to break the vicious cycle of repetitive behaviours, the client be aware of the unhealthy thoughts pattern. This automatic thought leads to unusual feelings and as a result, a person feels driven to perform repetitive behaviours to satisfy his thoughts and feelings (Snorrason et al. 2015). The CBT model is very effective to control the BFBRs. However E-CBT model would be effective to test in future experimental studies.

The cognitive-behaviour model is an effective framework that covers all the aspects of human thinking that leads to healthy or unhealthy behaviour. However, the practitioners are rare and can use the CBT management model skillfully to help the clients for modifying their behaviour or control their thinking (Toledo et al. 2015). How to say no to automatic negative thoughts is very challenging and needs consistent efforts of both, therapist and client. Once the client learns to say stop their thinking or gain mastery in this art, they lead a very healthy life due to their quick adaptation to the environment skill.

CBT is quite challenging as the high skills of the therapist and persistent efforts from the client are required to promote fruitful results. Also, it works better in one-to-one sessions and the affectivity in internet-based models is least. The literature indicated that CBT was found to be effective for skin picking (Xavier et al 2020) and trichotillomania (Snorrason et al 2015).

AN INTERNET-BASED SELF-HELP INTERVENTION

The Internet-based self-help Intervention is very effective for the management t of BFRBs. Unfortunately, the literature is scarce and only two empirical studies have been carried out to investigate the effectiveness of BFBRs. The first study recommended that the implementation of internet-based management caused significant improvement in 63% of patients and they reported fewer episodes of BFBRs (Flessner et al., 2007). Another study has been carried out to investigate the impact of an internet-based intervention for the management of skin picking disorder and 74% of participants reported the management plan effective for controlling the symptoms of BFBRs (Gallinat et al., 2019). The internet-based intervention comprised four steps. The first step comprised psycho-education of participants about the nature, severity and thought processes behind skin picking disorder.

The second step is revolving around the self-management modules and three sub-modules. The sub-modules of self-management consist of information material and online exercises (Skills), Downloading material for offline training (Tools) and online exercise on emotional regulations (Emotions) to reduce the episodes of skin picking and enhance self-management. The third step focuses on supportive monitoring with the motivational message to follow the self-management regularly and sending the short monitoring questionnaire in the evening combined with the automatically generated feedback messages.

The last step of the internet-based intervention is counselling via internet chat for service takers for any ambiguity and relevant questions. Literature provides substantial evidence about the effectiveness of internet-based management plans. However, a few limitations have been observed in the module. The population living in the least developed geographical locations cannot avail of the services. Furthermore, lack of awareness about technological use is another reason for its least effectiveness.

ACCEPTANCE AND COMMITMENT THERAPY

Acceptance and commitment therapy focuses on promoting valued life goals, willingness to accept private experiences, creating diffusion from the literal meaning of language and finding alternative ways of behaving in response to unpleasant private experiences (Walther et al 2010). The ACT was found to be effective in promoting healthy behaviours (Zhang et al 2018). Acceptance commitment therapy promotes acceptance of subjective experiences which sometimes develops rigidity to alter the emotions. However, according to recent data, more effective results can be achieved if the ACT is used with habit reversal therapy (HRT) and Acceptance-enhanced behaviour therapy (AEBT) (Walther et al 2010).

MEDICATION

Medication is also very important for the management of BFRB symptoms. Selective serotonin reuptake inhibitors are the primary medication used to treat trichotillomania and skin-picking symptoms. Apart from selective serotonin reuptake inhibitors, mood stabilisers, N-acetylcysteine, glutamate modulators and inositol (B-Vitamin) are effective in the reduction of BFRB episodes (Greenberg et al. 2023). The combination of psychotherapy along with medication may produce better results in severe to moderate cases (Sani et al 2019)

CONCLUSION

The body-focused repetitive behaviours are hazardous but literature in this regard was found to be scarce during COVID-19. More phenomenological and prevalence-based studies should be carried out to investigate how COVID-19 was found to be associated with it. Literature recommended that people often manifest BFBRs symptoms when encountering stressful situations. An in-depth analysis should be carried out to investigate why people adopt unhealthy ways to release stress. Furthermore, thematic studies should be conducted to investigate more healthy ways to release stress. The researchers, psychologists and psychiatrists must identify the surge of BFBRs during COVID-19.

Furthermore, comprehensive behaviour treatment, habit reversal therapy, cognitive behaviour therapy, acceptance-based therapy, and medication are being used effectively to mitigate the symptoms of BFBRs. More effective therapies must be introduced based on experimental research and people must be guided on alternative ways to deal with stressful situations.

Ethical Considerations: Does this study include human subjects? NO

Conflict of interest: No

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Mr. Saad Bin Tahir – Literature searching, compiled data

References

- American Psychiatric Association. *Diagnostic and statistical manual of mental disorder* (5th ed.) <https://doi.org/10.1176/appi.books.9780890425596>
- Bate KS, Malouff JM, Thorsteinsson ET, Bhullar N. The efficacy of habit reversal therapy for tics, habit disorders, and stuttering: a meta-analytic review. *Clin Psychol Rev.* 2011; 31: 865-71.
- Bottesi G, Ouimet AJ, Cerea S, Granzio U, Carraro E, Sica C, Ghisi M. Comprehensive Behavioral Therapy of Trichotillomania: A Multiple-Baseline Single-Case Experimental Design. *Front Psychol.* 2020; 11: 1210. doi: 10.3389/fpsyg.2020.01210.
- Falkenstein MJ, Mouton-Odum S, Mansueto CS, Golomb RG, Haaga DA. Comprehensive Behavioral Treatment of Trichotillomania: A Treatment Development Study. *Behav Modif.* 2016; 40: 414-38.
- Flessner CA, Mouton-Odum S, Stocker AJ, Keuthen NJ. Stop-Picking.com: Internet-based treatment for self-injurious skin picking. *Dermatol Online J.* 2007; 13;13: 3. DOI: 10.5070/D31DX97474
- França K, Kumar A, Castillo D, Jafferany M, Hyczy da Costa Neto M, Damevska K, Wollina U, Lotti T. Trichotillomania (hair pulling disorder): Clinical characteristics, psychosocial aspects, treatment approaches, and ethical considerations. *Dermatol Ther.* 2019; 32 :e12622. doi: 10.1111/dth.12622.
- Franklin ME, Zangrabbe K, Benavides KL. Trichotillomania and its treatment: a review and recommendations. *Expert Rev Neurother.* 2011;11:1165-74.
- Gallinat C, Moessner M, Haenssle HA, Winkler JK, Backenstrass M, Bauer S. An Internet-Based Self-Help Intervention for Skin Picking (SaveMySkin): Pilot Randomized Controlled Trial. *J Med Internet Res.* 2019; 20; 21. <https://doi.org/10.2196/15011>

- Grant JE. Trichotillomania (hair pulling disorder). *Indian J Psychiatry*. 2019; 61: S136-S139.
- Greenberg EL, Geller DA. Cautious Optimism for a New Treatment Option for Body-Focused Repetitive Behavior Disorders. *Am J Psychiatry*. 2023; 180:325-327.
- Halteh P, Scher RK, Lipner SR. Onychophagia: A nail-biting conundrum for physicians. *J Dermatolog Treat*. 2017; 28:166-172.
- Harries MD, Chamberlain SR, Redden SA, Odlaug BL, Blum AW, Grant JE. A structural MRI study of excoriation (skin-picking) disorder and its relationship to clinical severity. *Psychiatry Res Neuroimaging*. 2017; 30: 269-26-30.
- Houghton DC, Alexander JR, Bauer CC, & Woods, DW. Body-focused repetitive behaviors: More prevalent than once thought?. *Psychiatry research*, 2018; 270: 389-393.
- Javed B, Sarwer A, Soto EB, Mashwani ZU. The coronavirus (COVID-19) pandemic's impact on mental health. *Int J Health Plann Manage*. 2020; 3: 993-996.
- Khan SA, Khan MA, Khan M, Sethi MR, Irfan M. Frequency of body-focused repetitive behaviours in medical students of Peshawar. *J Postgrad Med Inst* 2018; 32: 283-7.
- Lee M T, Mpavaenda DN, Fineberg NA. Habit Reversal Therapy in Obsessive Compulsive Related Disorders: A Systematic Review of the Evidence and CONSORT Evaluation of Randomized Controlled Trials. *Front. Behav. Neurosci*. 2019; 13. doi.org/10.3389/fnbeh.2019.00079
- Lewis, M, and Kim SJ. The pathophysiology of restricted repetitive behavior. *J Neurodev Disord*. 2009; 1(2): 114-132.
- Madan SK, Davidson J, Gong H. Addressing body-focused repetitive behaviors in the dermatology practice. *Clin Dermatol*. 2023; 41: 49-55.
- Moritz S, Penney D, Ahmed K, Schmotz S. A Head-to-Head Comparison of Three Self-Help Techniques to Reduce Body-Focused Repetitive Behaviors. *Behav Modif*. 2022; 46: 894-912.
- Okumuş HG, Akdemir D. Body Focused Repetitive Behavior Disorders: Behavioral Models and Neurobiological Mechanisms. *Türk Psikiyatri Derg*. 2023; 34: 50-59.
- Pathoulas JT, Olson SJ, Idnani A, Farah RS, Hordinsky MK, Widge AS. Cross-sectional survey examining skin picking and hair pulling disorders during the COVID-19 pandemic. *J Am Acad Dermatol*. 2021; 84:771-773.
- Rehman S, Lela U. Psychological aid to covid-19 pandemic: A mental health response to crises management. *Psychiatr Danub*. 2020; 32: 262-265.
- Rehman S, Lela U. Pharmacological treatment during CoViD-19 and mental health issues. *Riv Psichiatri*. 2021; 56: 53-55.
- Rehman S, Muzammil A, Lela U. The new world 2020: a crucial paradigm for meeting fast changing world demands in pakistan after covid-19 outbreak. *Psychiatr Danub*. 2020; 32: 262-265.
- Rehman S, Laila U, Rothmann S, Naz S. Dark Tetrad Personality during COVID-19: An Overview of Psycho-somatic Therapies for Managing Mental Health Response. *Psychiatr Danub*. 202; 33: 106-108.
- Rehman, S. Challenges among Children during Three Phases of COVID-19 in Pakistan. *The Qualitative Report* 2021; 26: 3870-3885.
- Sani G, Gualtieri I, Paolini M, Bonanni L, Spinazzola E, Maggiora M, Pinzone V, Brugnoli R, Angeletti G, Girardi P, Rapinesi C, Kotzalidis GD. Drug Treatment of Trichotillomania (Hair-Pulling Disorder), Excoriation (Skin-picking) Disorder, and Nail-biting (Onychophagia). *Curr Neuropsychopharmacol*. 2019;17: 775-786.
- Siddiqui EU, Naeem SS, Naqvi H, Ahmad B. Prevalence of body-focused repetitive behaviors in three large medical colleges of karachi: a cross-sectional study. *BMC Research Notes*. 2012 November 614.
- Skurya J, Jafferany M, Everett GJ. Habit reversal therapy in the management of body focused repetitive behavior disorders. *Dermatol Ther*. 2020; 33: 13811. <https://doi.org/10.1111/dth.13811>
- Snorrason I, Berlin GS, Lee HJ. Optimizing psychological interventions for trichotillomania (hair-pulling disorder): an update on current empirical status. *Psychol Res Behav Manag*. 2015; 7: 105-13.
- Toledo EL, De Togni Muniz E, Brito AM, de Abreu CN, Tavares H. Group treatment for trichotillomania: cognitive-behavioral therapy versus supportive therapy. *J Clin Psychiatry*. 2015; 76: 447-55.
- Walther MR, Ricketts EJ, Conelea CA, Woods DW. Recent Advances in the Understanding and Treatment of Trichotillomania. *J Cogn Psychother*. 2010; 24: 46-64.
- Whiting C, Azim SA, Friedman A. Updates in the Treatment of Body-Focused Repetitive Disorders. *J Drugs Dermatol*. 2023; 22: 10. <https://doi.org/10.36849/JDD.NVRN1023>
- Xiong J, Lipsitz O, Nasri F, Lui LMW, Gill H, Phan L, Chen-Li D, Iacobucci M, Ho R, Majeed A, McIntyre RS. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *J Affect Disord*. 2020; 277: 55-64.
- Xavier ACM, de Souza CMB, Flores LHF, Bermudez MB, Silva RMF, de Oliveira AC, Dreher CB. Skin picking treatment with the Rothbaum cognitive behavioral therapy protocol: a randomized clinical trial. *Braz J Psychiatry*. 2020; 42: 510-518.
- Zhang CQ, Leeming E, Smith P, Chung PK, Hagger MS, Hayes SC. Acceptance and Commitment Therapy for Health Behavior Change: A Contextually-Driven Approach. *Front Psychol*. 2018; 8: 2350. <https://doi.org/10.3389/fpsyg.2017.02350>

Correspondence:

Ms Sana Rehman

Department of Psychology,

GIFT University, Sialkot Bypass, Lohian Wala,

Gujranwala, Punjab 52250

sanarehmanpk@gmail.com / 03456214005

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